

**Grit Levels and Academic Performance in Emirati Male  
and Female College Level Students in the Emirate of  
Dubai**

مستويات المثابرة والأداء الأكاديمي لدى الطلاب والطالبات الإماراتيين في  
مرحلة التعليم الجامعي في إمارة دبي

by

**Nayela Mohammad, M.Ed.**

**A thesis submitted in fulfilment  
of the requirements for the degree of  
DOCTOR OF PHILOSOPHY in EDUCATION**

at

**The British University in Dubai**

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**Grit or no Grit this is the Question**

**An Explanatory Study on the Relationship between Grit and  
Academic Performance (GPA) of Emirati Tertiary Level  
Students in Dubai**

by

Nayela Mohammad

A thesis submitted to the Faculty of Education  
in fulfilment of the requirements for the degree of  
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at

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September 2016

Thesis Supervisor  
Dr Solomon Arulraj David

Approved for award:

-----  
External Examiner

Professor Sufian Forawi  
Internal Examiner

-----  
Dr Hanan Taleb  
Chair of Examiners

-----  
sor Abdullah Alshamsi  
Chair of Research Degree Committee

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## **ABSTRACT IN ENGLISH**

Many researchers argue that grit a non-cognitive skill is important for students to perform better academically and to improve their skills. It is also believed that once students have grit, they will be able to overcome their setbacks and cope up with failure, because they believe that they can improve their abilities and succeed. However, being a new scientific study there has been a few studies in this field.

The purpose of this thesis is to draw the attention to the importance of grit as a non-cognitive skill that enables students to overcome setbacks and cope with failure. Also, grit enables students to believe in their abilities that they can improve and succeed. This can be considered important for educational policy makers to focus on grit as an equal to cognitive skill, in order to develop grit in students to become high achievers.

The data which was collected and analysed from Emirati tertiary level students both male and female in Dubai attempted to give an idea about the level of grit in the Emirati sample- if they are gritty or not- and the way they overcome setbacks and failure. The samples in this study are male and female Emirati students studying at a tertiary institution in Dubai, United Arab Emirates (UAE). These include students studying at different majors and are at different levels or years of study.

The methodology used in this study is mixed methods and is an explanatory sequence, which starts with a quantitative method with an online questionnaire to find if there is a relationship between grit and academic performance in Grade Point Average (GPA). The second part of the methodology is the qualitative method, which uses a semi-structured interview and the approach being narrative. The narrative approach is used to understand the meaning of the participants' experience regarding grit. The findings of this study have slightly the same findings and results to similar studies conducted by Duckworth and other scholars and researchers, which is that there is a relationship between grit and academic performance, where this study focused on students' current GPA. However, the participants of this study are Emirati tertiary level students both male and female studying in different majors and levels and this is the difference with other major studies conducted in this field.

## **DEDICATION**

I dedicate this thesis to my family, without whose sacrifice, understanding, patience, caring and most importantly love, this work would not have been completed.

I dedicate this thesis to my parents, who have always encouraged me to aim for the skies and keep education as my priority, who have always wanted me to proceed with my higher education and obtain a PhD.

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## TABLE OF CONTENTS

### Chapter

	Pages
1. Introduction	
1.1 Background to the Study .....	7
1.2 Problem Statement .....	9
1.3 Purpose of the Study and Objectives .....	10
1.4 Research Questions and Hypothesis .....	11
1.5 Significance and Relevance of the study .....	12
1.6 Structure of the Dissertation .....	13
2. Literature Review	
2.1 Conceptual Analysis .....	14
2.1.1 Grit .....	14
2.2 Theoretical Framework .....	29
2.3 Cognitive Theory .....	29
2.3.1 Cognitivism Theory .....	30
2.3.2 Cognitive Behavioural Theory .....	31
2.3 Non-cognitive Skills .....	42
2.4 Positive Psychology .....	54
2.5 Self-efficacy, Growth and Fixed Mind-set and Grit Scale.....	58
2.5.1 Hermeneutics and Lived experience .....	65
2.5 Related Literature .....	65
2.6 The History of Higher Education in The UAE an Overview .....	66
2.7 ‘My Vision’ .....	67
2.8.1 Male and Female Academic Performance .....	70

2.8.2 Self-efficacy.....	73
2.8.3 Motivation Attitude, Aptitude and Academic Performance.....	74
2.8.4 Intrinsic and Extrinsic Motivation.....	75
2.8.5 Aptitude .....	76
2.8.5 Other Factors Affecting Students Academic Performance .....	76
2.8.6. Mind-set .....	77
2.8.7 Mental Toughness .....	82
2.8.8 The Effect of Videogames on Academic Performance .....	85
2.8.9 The Effect of Social Media on Academic Performance .....	85
2.9 Theoretical Consolidation.....	86
 3. Research Approach and Methodology	
3.1 Research Approach .....	90
3.1.2 Mixed Methods .....	90
3.1.3 Philosophical World Views .....	91
3.1.3.1 Postpositivist .....	91
3.1.3.2 Constructivism .....	92
3.2 Research Design .....	93
3.2.1 Types of Quantitative Methods .....	100
3.2.2 Site .....	101
3.2.3 Participants Selection and Sample .....	101
3.2.4 Questionnaire .....	107
3.2.5 Question Order .....	108
3.2.6 Advantages of Questionnaires .....	109
3.2.7 Disadvantages of Questionnaires .....	109
3.2.8 Instrument: Grit Scale .....	111
3.2.8.1 Methodology Instrument .....	113
3.2.9 Data Analysis .....	114

3.2.10 Dependent and Independent Variables .....	116
3.2.11 Statistical Analysis .....	116
3.2.12 Parametric and Non-parametric .....	118
3.2.13 Interview .....	118
3.2.14 Documents .....	121
3.3 Limitations and Delimitations .....	122
3.4 Reliability, Validity and Trustworthiness .....	125
3.4.1 Reliability .....	125
3.4.2 Validity .....	126
3.4.3 Threats to Validation.....	127
3.4.4 Trustworthiness .....	128
3.4.5 Instrument Translation.....	128
3.5 Ethical Considerations .....	130
3.6 The Role of the Researcher .....	131
4. Results, Analysis and Discussion .....	134
4.1 Descriptive Analysis .....	134
4.2 Questionnaire Analysis (SPSS).....	135
4.2.1 Chi-square .....	135
4.2.2 Independent t-test .....	139
4.2.2.1 Independent t-test Based on Gender .....	139
4.2.2.2 Intendent t-test Based on Students' GPA.....	142
4.2.3 Questionnaire Open-ended Questions .....	145
4.2.4 Further Comments from Open-ended Questionnaire Questions ...	147

4.3 Interview Results .....	148
4.3.1 Intrinsic Motivation.....	149
4.3.2 Extrinsic Motivation.....	156
4.3.3 Extrinsic and Intrinsic Motivation.....	167
4.4 Chapter Summary .....	169
5. Conclusion .....	171
5.1 Summary of the Study .....	171
5.2 Key Findings.....	172
5.3 Implications of the Study .....	173
5.4 Recommendations .....	174
5.5 Further Research Plan.....	175
5.6 Concluding Note.....	175
References .....	178
Bibliography.....	199
Appendices	
Appendix 1.....	200
Appendix 2.....	211
Appendix 3.....	218
Appendix 4.....	234
Appendix 5.....	475
Appendix 6.....	481
Appendix 7.....	485
Appendix 8.....	486

## LIST OF TABLES

Table	Page
Table 1.....	46
Table 2.....	78
Table 3.....	79
Table 4.....	102
Table 5.....	111
Table 6.....	117
Table 7.....	149

## LIST OF ILLUSTRATIONS

Figure	Page
Figure 1.....	30
Figure 2.....	39
Figure 3.....	42
Figure 4.....	100
Chart	
Chart 1.....	40
Chart 2.....	41

## **Chapter One: Introduction**

### **1.1 Background to the Study**

The term grit is a new and recent concept in the field of positive psychology. Although a general idea about grit existed prior to this and other studies, however, in the early stages grit was generally referred to as a non-cognitive skill (Egaltine & Miles 2015; Heckman & Rubinstein 2001; Kautz et al. 2014; Rosen et al. 2010; Terman & Oden 1947 cited in Duckworth et al.2007; West et al. 2015). Then this term evolved to be considered positive psychology (Seligman 1998, 2002, 2004; Seligman et al. 2009). Later, Bandura (1995,1997) presented the idea of self-efficacy where an individual believes in their abilities which eventually lead to success, therefore, when a person is convinced that they could achieve and succeed then they will achieve.

Subsequent to Bandura's self-efficacy, Dweck (2006) introduced the concepts of growth mind-set and fixed mind-set. In this, Dweck explained that when a person believes in their abilities and that they could succeed, and then this indicates the individual acknowledges that their abilities and capabilities are flexible which can be changed and improved. In other words, this means that they have a growth mind-set that helps them to achieve. However, at the same time, the opposite of a growth mind-set is when a person is convinced that their abilities and capabilities are fixed, which means that they cannot change or improve no matter how hard they try, and this term is known as fixed mind-set. Hence, having a fixed mind-set makes the person trapped in believing that there are limits to their abilities, and that their skills cannot be improved.

Based on the explanation of grit, self-efficacy and growth mind-set these three terms overlap and complete each other. Bandura's self-efficacy was the base for Dweck's concept of growth and fixed mind-sets, as well as Duckworth's concept of grit. As Bandura explained that a person's belief in their own abilities to achieve will help them to accomplish, and based on that, Dweck argued that an individual with a growth mind-set believes in their abilities to grow and achieve.

This belief enables the individual to succeed, because a person with a growth mind-set is aware of their abilities to learn and improve and this exhibits individuals with self-efficacy.

However, individuals who have low or no self-efficacy, who do not believe in their abilities and this is similar to a fixed mind-set who do not believe in their abilities to achieve and succeed.

Based on that, it shows that the concepts of self-efficacy and growth or fixed mind-sets were found before the concept of grit. Duckworth based her concept and theory of grit on self-efficacy and growth mind-set. This means that a person should have a high level of self-efficacy and a growth mind-set in order to be gritty. Since, self-efficacy and growth mind-set are part of and related to grit. There is a need for high levels of self-efficacy and growth mind-set to achieve and be gritty, because if a person does not believe in his/her abilities they will not be able to improve their knowledge and at the same time, this will negatively affect grit. As a result, a low level of grit hinders individuals from facing setbacks and failure and overcoming them. Yet, grit consists of more concepts, other than those two mentioned in this part.

There is another term, which is related to grit, is called mental toughness. However, mental toughness it is slightly different from grit, because of its focus on sports and athletics. This term was introduced and developed in the 1980s by Loerhr. Mental toughness began in the field of sports and most of the studies that were found; were in that field and based on athletics (Clough & Strycharczyk 2012).

Based on the previous development in the field of non-cognitive skills and positive psychology, a new term was 'coined' and this term included all of the above terms and at the same time added to it. Duckworth presented this new term named 'grit' which concluded being a non-cognitive skill that focuses on positive psychology and self-efficacy—in thinking positively about a person's abilities and skills that they could be improved.

In addition to that, it also involved having a growth mind-set by recognising that one's ability could be improved because a person's skill and ability is considered flexible, could be enhanced and developed, which will result in success and achievements. To this point, grit shares common fundamental believes with these terms (non-cognitive skill, positive psychology, self-efficacy and growth mind-set), however, grit also expanded the understanding of non-cognitive skill and

positive psychology to include having a tough character (Duckworth 2007, 2016). This means that, when a person has a tough character they will be able to face challenges and failures, and will be able to overcome setbacks. It also indicates that a person could cope with failure. Since the individual is able to overcome setbacks, then they are resilient, persistent and have perseverance. Therefore, these characteristics will enable them to overcome setbacks and cope with failure. Moreover, the term that Duckworth presented which is 'grit', shows that a person should have passion and commitment to long-term goals. This is because success and achievement may take long period of time, if not years to achieve.

With the term grit, Duckworth (Duckworth 2007; Duckworth 2013; Duckworth et al. 2007; Duckworth 2016; Duckworth & Quinn 2009; Duckworth & Seligman 2005) believes that it is a compensation for low achieving students to improve their academic performance. The students can perform well, by spending more time practising until mastering the skills needed to succeed, yet this does not mean that smart people are gritty, because most of the smart individuals will surrender to setbacks and failure. Moreover, they will not have resilience and persistence or perseverance, this is because they have a fixed mind-set and believe that their abilities are fixed. Therefore, grit is focused on personality, perseverance, persistence and resilience and not only about being smart.

## **1.2 Problem Statement**

Generally, Duckworth found that in education the focus is mainly on the level of IQ and the cognitive skill that students possess. Yet, most recently, the focus is on non-cognitive skills. While the non-cognitive skills are ignored and neglected, this is based on personal experience, where the focus is mainly on memorisation to pass exams. When students are presented with questions that need students to apply a certain concept that they had studied, they will be lost and find difficulty to answer such questions, or even to relate or find the connection between information studied or application of these information and knowledge. Moreover, they might claim that they did not cover these materials.

In the years that the researcher taught, it was found that most faculty and teachers praise students' cognitive skill and getting the right answer, when students' effort and hard work should have been addressed or praised. There are times that students are told working hard is not efficient enough to

receive a grade of an A. The effort, trial and the time spent to get to the right answers were not considered, and students feared of making mistakes because they were concerned of what others might think of them –not being clever or smart- and to save face as they did not want to be laughed at by their peers.

Based on previous experience as well, when students got the wrong answer their peers would laugh at them – even if they are repeatedly reminded not to laugh at each other, and this would make them refrain from trying or not trying to learn from their mistakes. The way to encourage students to try even if their answer was wrong; is to inform them that they are close to the right answer and they need to think to get closer answers; even if their answer is wrong and not close to the right and correct answer. This method is to give students some confidence to try repeatedly even if the answer is wrong and learn from their mistakes. In this case, they would be able to eliminate the wrong answers to reach to the correct answer, and it reduces if not stops students laughing at their classmates or colleagues if they got the wrong answer.

Observing the importance of grit as a non-cognitive skill, there is a lack of focusing on it or giving it any importance. Therefore, there should be more focus and emphasis on it. It should be developed in students, because they will need this skill not only in their academic lives, but they also need it in their careers later once they graduate.

### **1.3 Purpose of the Study and Objectives**

The rationale of this mixed methods study is to emphasise on the importance of grit as a non-cognitive skill, this does not mean to neglect cognitive skills or consider it unimportant. As grit can improve students' cognitive skills, it requires more focus. Moreover, the main purpose of this study is to determine if there is a relationship between grit and academic performance, through investigating students' Grade Point Average (GPA). In other words, this thesis aims to find if there is a relationship between grit and academic performance, which will be evaluated through students' GPA and their levels of grit.

In addition, this study attempts to explore the experience of the participants and give meaning to their experience when they faced with setbacks and failures. It also tries to investigate if setbacks and failure could hamper their progress in their academic lives; and shows how students overcome setbacks and cope with failure, for example, completing a task or a project. However, based on

the participants' interview results this study attempts to investigate their experience that they will share based in their experience, and themes will emerge and these themes will give meaning to their experience; as a result, this will give voice to these participants. Hence, this will shape their experience from small parts to a whole. This study therefore, will also focus in their challenges, failures, setbacks and the way they overcome them. While the objective of this study is as follows:

- 1- To find if there is a relationship between grit and students' academic performance GPA
- 2- To explore the factors those, influence the level of grit in tertiary level students in addition to their experience
- 3- To investigate the methods the students, deploy to overcome setbacks

#### **1.4 Research Hypothesis and Questions**

The hypothesis of this study is to find if there is a relationship between grit and academic performance (GPA). This means if students possess high level of grit this will positively affect their academic performance and they will have high GPAs while, if they had low levels of grit then this will impede their academic performance and they will have low GPAs.

However, the research questions focused on the students sharing their stories and experience to give it meaning. The main question was:

For this study the research questions revolved around the way students overcome their setbacks and cope with their failure. The questions given to the students were:

- 1- What are your success stories? What were the factors that made you successful?
- 2- What are your failure stories? What were the factors that made you fail?
- 3- How do you overcome failure and setbacks?

The second part of the questions focused on distractions, to explore if these distractions affected their focus and grit; these questions were:

1. What are the students responsibilities? Do these responsibilities affect your task and project completion?
2. What is the role of social media in distracting students from completing their projects?

3. What is the role of video games in distracting students from completing their projects?

The main question was how the students overcome failure and setbacks. For this question to be answered students were first asked to share a story about their success, what caused their success. Then they were asked to share a story about their failure and the reasons for such failure. In order to observe their level of grit they were asked to share their stories and experience about a time when they succeeded and the factors that helped them succeed. After that, they shared their stories and experience about a time when they failed and the factors that contributed to their failure. While, the other way to measure grit was by asking them about the way they adopt to overcome setbacks. They were also asked to share if they had any responsibilities -like family- and if these responsibilities impede their focus on projects or tasks. To give meaning to their experience, they should overcome any barrier that obstructs their progress. Finally, they were asked about the use of social media and video games and if these distracted them from completing their projects.

### **1.5 Significance and Relevance to the Study**

The significance of the study can be found in three points. First it focuses on Emirati participants while, previous studies focused on American, British, one Turkish and another Latino samples and not in the United Arab Emirates (UAE). All of these studies showed that there is a relation between grit and academic performance, while in the Latino community it showed that the individual who had higher levels of hope, they also exhibited a higher level of grit (Vela et al. 2015)

Second, it will add to the body of literature and fill the gap regarding the Emirati sample. It will also show that non-cognitive skills such as grit are equally as important as cognitive skills. This is because grit enables individuals to reach to the same level of proficiency as individuals who depend only on their cognitive skills. In addition to that, grit also develops cognitive skills. Moreover, grit also develops cognitive skills as explained by Duckworth.

Finally, the other significant factor to the UAE is increasing the awareness of the importance of non-cognitive skills along with cognitive skills. This will enable students to overcome any failure

in their academic and professional lives, and not to surrender to failure or setback. They will be able to take the initiative of their own learning. It will also push and encourage students to believe in themselves and try harder; which will make learning more significant to them. Moreover, it promotes having a growing mind-set which encourages students to learn from their failure to succeed. Once they have learnt from their mistakes; their non-cognitive and cognitive skills will improve and develop. Therefore, having grit will enable them to perform better especially in challenging situations. Eventually they will be successful in their studies and then in their careers, because they will commit to their long-term goals, achieve and then succeed.

However, it was found that test-based education leads to failure and academic competencies is not enough to succeed and be prepared for the workforce, therefore, they need a challenge, especially in their activities (Laursen 2015). This indicates that grit is not only an indicator of academic success but also of career success, which students need to accomplish. In the light of the above, grit is important and it should be encouraged.

## **1.6 Structure of the Dissertation**

This thesis is organised in five chapters. Chapter One focuses on the background of the study, problem statement, purpose of the statement and objectives, research questions and hypothesis, significance and relevance of the study. Chapter Two discusses about conceptual analysis, theoretical framework, related literature to the study and theoretical consolidation where the gap is identified. While, Chapter Three explains the research approach which is mixed methods, research design that includes site, sample data collection and data analysis methods, then the limitations are presented and the reliability, validity and trustworthiness of the instrument and data. Moreover, ethical consideration and the role of the research is also discussed. Chapter Four discusses and analyses the results. Finally, Chapter Five, which is the conclusion consists of the summary of the study, key findings, implications of the study, recommendations and further studies. The following chapter will present the literature review section.

## **Chapter Two: Literature Review**

The purpose of this chapter is to provide an overview of relevant literature to the purpose and objective of this thesis pertaining to grit. This chapter surveys selected literature that have been conducted in the field of grit. This Chapter is divided into four sections. Section One begins with the conceptual framework, the conceptual analysis of grit and other related concepts. Section Two presents the theoretical frame of the study. Section Three discusses about the related literature and finally, the fourth section provides the theoretical consolidation where a gap is identified.

### **2.1 Conceptual Analysis**

Prior to discussing the concept of grit, there are a few terms that are related to grit; this will be highlighted and they will be further discussed in this section. These related concepts are non-cognitive skills as grit is considered to be a form of non-cognitive skills. The other concept is positive psychology which is having self-esteem to accomplish and this is crucial for gritty individuals, because by deploying self-esteem they will have the confidence to succeed. Moreover, self-efficacy is also related to grit because it involves believing in one's abilities to succeed. Mind-set is related to grit, especially growth mind-set because individuals with a growth mind-set believe that they can improve their skills and abilities to develop and improve which is part of grit. However, the Grit will be discussed elaborately before explaining the other related concepts.

#### **2.1.1 Grit**

There are two kinds of people in this world the gritty and the non-gritty. If a person possesses grit, she or he will be successful in both academic and real life. While those who do not possess it, will surrender to failure and setbacks, hence becoming failures in both academic and real life. Grit, then is the will power of a person to proceed in life and to learn from mistakes. It is not the end of the world if one failed; however, one should proceed with one's goals; have motivation, belief, persevere to reach one's goals and to be committed to them, regardless of what the individual could

encounter. Therefore, one thing that a person requires is grit which is to never quit, despite the hardship that one faces, one should be focused on achieving one's goals.

Myriad of factors affect grit, and among these factors that affect and influence grit and academic performance; which will be discussed in the literature review are gender, living in a dormitory, family size, language, major in high school, private or public school -mainly in an Emirati context- (Hilmi 2013). While generally other factors include peer influence, hard work, discipline, parents' education, income, self-motivation, attitude, attendance, health, age and learning habit (Christiana 2014; Habibullah & Ashraf 2013; Harb & El-Shaarawi 2007; Joo et al 2011; Nelson & Smith 2001).

Grit is also considered as an indicator of academic performance and it is suggested that the older and the more educated a person is the grittier he or she will be. Therefore, this thesis will explain and explore the possibility of a relationship between grit and the academic performance by looking at Grade Point Average (GPA) of male and female Emirati higher education level students in Dubai, United Arab Emirates (UAE). This study will attempt to explain the relationship between grit and students' academic performance through their GPA, which is to look at the elements that caused the phenomenon (Blaikie 2003; Palys 199), and it is to explain why participants think or behave the way they do (Balanaues & Caputi 2001). This will be conducted by using the 12 Grit-Scale developed by Duckworth to measure the relationship between two factors (grit and academic performance). Based on Duckworth's et al. (2007) study she found that grit a non-cognitive skill is as important as a cognitive skills, and that there is a significant relationship between grit, age, education and academic performance which will be further discussed in the framework, literature and methodology. Then this study's hypothesis is that there could be a possibility of a significant relationship between those two factors (grit and academic performance, GPA) in an Emirati context.

As for the ethics approval, it was handed to participants before the actual distribution of the instrument- as for the questionnaire which was online the first page was the consent form and if they agreed they could click to proceed and if they did not, then they will not start the survey. As for the interview participants were given the consent form prior to conducting the interview- (please check Appendix 1 and 2 it includes the instrument in both English and Arabic, research protocol, consent form and ethics approval) this will further be discussed in the ethics section.

While the theoretical framework will focus on the theories used by Duckworth and others who conducted studies in this field, Duckworth developed the scale and validated it, therefore it is a valid and reliable instrument to be used. A quantitative method uses positivist or post positivist approach which focuses on cause and effect or finds the causes that affect the outcome (Creswell 2014; Field 2009; Palys 1997). Therefore, this research will follow a post positivist approach-focus on cause and effect. The other part of this research will focus on qualitative interviews to gain more depth and rich information. The qualitative will follow a narrative approach; it will allow the participants to tell their stories about facing setbacks and failure. However, the main focus of the study will be quantitative. The other aspect of this paper is the importance of this study, which lies in it being a relatively new study in the region and world-wide. This is going to be an explanatory study; it will also shed the light on the importance of non-cognitive skills.

This part will mention the different stories of gritty people, which against all of the odds there are people who will survive harsh environment or a situation that possibly no one has survived before. ‘True Grit’ (Grylls 2014) shared the stories of 20 different individuals who most of them survived incredible situations; that for most people they would be considered dead if they were in the same situation. These men and women all had something extra in common when compared with ordinary and normal people and that was grit. They refused to surrender in the face of challenges and setbacks and they tried relentlessly even when their attempts failed at the beginning.

Moreover, they had other skills that helped them survive, such as endurance, never surrendering to hardship that they ended up in. These stories took place in different places and terrains. Some were in the mountains and jungles, while others were in warzones and the Antarctic. Although not all of the people in these stories survived, and even when some of them perished they were still considered gritty for at least trying to follow their dreams and challenge the obstacles that they faced.

These individuals did not only have luck on their sides to survive, but along with it they had grit, they had courage and they were persistent. They had set their goals prior to the adventure that they confronted. Moreover, they were resilient and had endurance; they also used grit to survive and to reach their goals. In conclusion they used grit to survive and overcome the challenges that they were faced with. Therefore, these stories could be shared with students so that they would be able

to generally learn about grit. These stories also help students to understand that they are able to overcome setbacks and obstacles like these people in the stories.

Nonetheless, most people wonder the reason for some people succeeding, while others are failing in life, academia or even at careers. There is a simple answer to that; and that is successful people have grit. Halvorson (2012) summarised the actions that successful people take in nine points.

These points are:

- 1- Getting specific: and this means to know what the person wants and to set SMART ( Specific, Measurable, Achievable, Realistic and Time bound) goals. Once these goals are set, then it should be applied.
- 2- Like Gladwell (2008) which will be discussed later, a person should take advantage of the opportunities presented in front of him or her. Even, when individuals are faced with distractions, they should overcome them.
- 3- From time to time one should monitor and check his or her progress.
- 4- Have the willpower and be 'optimistic and realistic' this is relevant to Bandura's self-efficacy as being the predictor of success, because individuals believe in themselves. Moreover, individuals should be persistent and put the effort in their work and be careful at planning, in addition to that selecting of the right strategies, that helps individuals to succeed.
- 5- Focusing or getting better and not only being good. Even when faced with obstacles they should think seriously on the way to overcome these setbacks. Once that is achieved, the individual will increase the level of confidence making them believe in their abilities to achieve. This all revolves around positive thinking. Moreover, the person should believe that they can change and improve their abilities, which is Dweck's growth mind-set to succeed and they should avoid anxiety because that will hinder their productivity. It is also believed that when people are allowed to make mistakes, then they will make less mistakes.
- 6- Having grit: the definition of grit given by Halvorson (2012) was adopted from Duckworth's own definition of grit, which will be discussed later. It showed that individuals with higher educational qualifications had more grit and higher GPAs.

Therefore, one needs grit to succeed, this means that the formula to success is to put the effort and planning then being persistent, having good strategies and grit that will lead to success. It also should be taken into consideration that gritty people believe that they can improve their abilities and succeed. In addition to that, practice helps the individual to master the skills and they also should have the knowledge. This is why grit is needed.

7- Having will power and self-control.

8- A person should take one challenge at a time and not more than that, and if the person got distracted then they should find a way to get them back on their original track. In this case they should prioritise the most important challenge. They should focus on it first and then on others one by one.

9- Focusing on what the person wants to do, while avoiding things that they will not do.

Therefore, in order to be successful one should make ‘smart choices’ to their goals with the right strategies that leads to success. Successful people are also focused on what they want and they believe in their abilities. They think of the way to improve and make progress and not only being perfect. These abilities are believed to be developed (Halvorson 2012) which makes them gritty in the face of setbacks and challenges.

At the same time, it is important to have a tough character in order to overcome setbacks and failure. Grit gives the individual courage which is important for resolution and fortitude to strive in both personal and professional lives, however, the term grit in this context was referred to generosity, responsibility, integrity and truth (Sudbrink 2015). Though that this understanding did not include all of the aspects of grit, it just added to it by showing that people with grit have a tough character(Sudbrink 2015)..

Having grit enables people to want change and realise that change is a choice. It also inspires the individual to excel. Grit is for the the person who wants to work, and it is not only work but also it is the time spent practising (Sudbrink 2015). As Gladwell (2008) emphasised the more time spent on practising a certain skill, preferably 10,000 hours the better the performance he will get.

It should be taken into consideration that an individual would not be always able to control what happens to them, however, the way they would react to it can be controlled, in addition to their

attitude towards failure. They can also learn from their own experience. Yet, if the person is non-gritty individuals will tend to blame others or bad luck (Sudbrink 2015). This indicates that having grit will enable students to have a positive reaction to failure and view it as an opportunity to learn and excel.

In order to overcome setbacks one should be positive and not negative. Yet, mind-set is related to grit via individuals trying to do their best and by looking at themselves at a deeper level (Sudbrink 2015). Then by having a positive and a growth mind-set, students will be able to develop grit. Therefore, grit is a form of exercise that helps the mental equipment to develop, grit also enables the brain to be in the best shape to overcome failure and setbacks (Sudbrink 2015). This needs positive and growth mind-set to achieve in addition to self-efficacy and positive psychology.

There are many steps to accomplish grit and that first step is to change the person's mind-set. The individual should avoid negativity and embrace positivity. A person should set goals and priorities. Grit is not the idea of being perfect, but it is to try hard and learn from mistakes. Thus, grit will help to overcome failure and setbacks that impede and hamper success. It also lies in looking at the right strategy and positive attitude to overcome setbacks. These steps to be followed towards change and having grit are as follows:

- 1- One should be positive and be aware of the opportunities around them.
- 2- The desire and motivation to change.
- 3- Having the knowledge to know how to change.
- 4- Then comes the action, behaviour and plan to cope and accommodate the change
- 5- Perseverance in the face of setbacks

Therefore, one should learn from the chameleon to adapt to the environment that they are in (Sudbrink 2015). These strategies exhibit that there are certain steps to follow in order to be gritty, the first step is to change the mind-set to a positive one and search for opportunities and not be passive or placid. Once that is achieved then change will be easy, yet one should be aware of the way to change and later to adapt and plan for this change. Finally, since it is necessary for grit to be persistent and have perseverance in the face of challenges and setbacks, following these strategies will enable the individual in general and students in particular to do that and be gritty.

The hypothesis for this research suggests that there is a relationship between grit and the academic performance of the participants, which is the higher the level of grit, the better they will perform academically and will have better results. As a result, the grittier the person the more persistent and resilient he/she will be in facing failures and setbacks, and not giving up when faced with challenges or difficulties. For that reason, grit helps people to pursue with their goals, regardless of the hardship or failure that they might face. It will also show that non-cognitive skills such as grit are as important as cognitive skills, because grit will enable individuals to improve their cognitive skills, overcome setbacks, face failure and pursue with their goals. This study will also recommend that policy makers should focus on grit and strategies to develop it. Therefore, this study will test if there is a relationship between grit and academic performance and if this hypothesis is proved, then the null hypothesis will be rejected (there is no relationship between grit and academic performance). The other part of this study will try to explore grit, and how people overcome failure or challenges that they encounter.

The approach of this study is psychological, and the gap found in the literature is that there are no studies conducted in the UAE, the majority of the studies were conducted in American, British, Latino and one study in Turkish contexts. Therefore, based on the information above using the Grit-Scale will help gather information about an Emirati both male and female sample. Also based on the research hypothesis – there is a possibility of a relationship between grit and level of academic performance by looking at students' GPA- quantitative and qualitative method will best suit to collect the data, which will be further discussed in the methodology section.

Duckworth became interested in studying traits (grit), which is different from intelligence, that help some students succeed. The gritty individuals stick to their goals, whereas others might be distracted by 'boredom', 'failure', or 'adversity'. Therefore, grit makes students more resilient to face difficulties and challenges (Mangan 2012) and eventually succeed.

Grit was first presented by Martin Seligman the founder of the field 'Positive Psychology' as 'sturdy perseverance' other attributes included the following: 'self-control', 'optimism', 'zest', 'curiosity', 'social and emotional intelligence', 'joy' and resilience' (Steiner-Adair 2013) and non-cognitive skill (Terman & Oden 1947 cited in Duckworth et al. 2007) which means grit being a term developed by Duckworth, the idea and concept of grit existed throughout time, however, either it was given a different name like 'positive psychology' or even 'mental toughness',

however, the difference that the term grit makes is that it is the umbrella that the other concepts come under and it is expanded in its definition to cover areas that the other terms did not cover. Yet, one term which was found missing from these terms non-cognitive skills, positive psychology, self-efficacy, growth mind-set and grit was patience. This is because, in order to be persistent and have perseverance an element of patience is needed to be achieved.

It is generally believed (Duckworth et al. 2007) that most people do not use their full potential. They only use a very small percentage of their abilities and capabilities, although Duckworth et al. (2007, p.1087) explained that high achievers have many qualities such as 'creativity, vigour, emotional intelligence, charisma, self-confidence and emotional stability' and 'cognitive intelligence'. The only factor that she believed could help high achievers succeed no matter what their field is - 'grit'.

There are many definitions for the word grit; however, for this thesis the focus will be on Duckworth's definition of the term grit, because other researchers depended on her definition to explain the term. Thus, Duckworth defined it as being a non-cognitive skill, which is as important as the cognitive one. This skill provides perseverance, persistence and resilience to face setbacks, cope and recover from them. In addition to that, hard work, zeal, passion, ability and avoiding distraction are also needed. This all leads to a strong commitment to pursuit towards long-term goal and stick to them for many years. Therefore, these goals do not change, even if a negative feedback is given, consequently this makes gritty people successful (Arslan, Akin & Çitemel 2013; Bashant 2014; Duckworth et al 2007; Duckworth 2016; Goodwin & Miller 2013; Hoover 2012; Mangan 2012; Pappano 2013; Perkins-Gough 2013; Russo 2014; Tough 2013; In Association for Supervision and Curriculum Development 2013). This suggests that nothing deters gritty people from reaching their goals, achieving and succeeding, it is the sturdiness, positive and growth mind-set in addition to stamina in their characters that help them to do all that.

While, in nursing field grit has gained popularity as in one study it showed that grit can be nurtured and developed, but it needs support initially and to focus on gritty individuals to unravel the reasons and factors that made them gritty (McCabe, 2016).

It was found that most of students' lack grit, which plays a key role in success however, sometimes tenacity is also needed. Grit is a person's attitude, yet grit is also illusive. However, there are five key characteristics to grit and they are:

Courage: overcome the fear of failure, Conscientiousness: focus on achievements, Long-term goals and endurance: follow and not give up, Resilience, optimism, confidence and creativity, Excellence and not perfection. Grit can be developed however, one should be passionate about the work, spend many hours practicing and this will help individuals to succeed (Mocjari 2014; Peril 2013; Sherman 2014). It is also important in the field of nursing leadership (Sherman 2014).

Generally, it is believed that hard work, ambition and ability will lead to success, for example in order to be successful; a person should spend 10, 000 hours of practice to achieve (Gladwell 2008). Nevertheless, other factors that Gladwell (2008) believed those helped successful people were their culture, luck, taking the right opportunities and the time of year and the year they were born in, these are not the focus of this study, therefore, they will not be discussed in details or any further.

However, Duckworth (2013) in a Ted Talk, discussed that in education IQ is measured, however IQ is not related to success because her smart students were not doing well. She suggested that her Grade Seven students should learn the concept of working harder to succeed. The one most significant trait that leads to success is grit, and it is not the 'IQ level, social intelligence good looks or even physical activity'. It was simply having the passion and perseverance to work hard and having the commitment for long-term goals. This concept is relatively new, but it was found that talent does not mean that the individual will have grit. Yet, grit needs to be built and developed through growth mind-set which was developed by Dweck. Moreover, students should know that failure is not a permanent state, but it is a challenge that helps them to develop and grow. It is also an opportunity to learn from their mistakes.

There has been a query regarding the reason for some being more successful than others are even though the other individuals have the same level of intelligence if not more. The answer found was that successful individuals had a personal trait, which was called grit. Grit was defined by Bashant (2014) and her definition was also based on Duckworth's definition and she explained that individuals should have certain qualities that enable them to be hard working to keep to their goals and passion (Bashant 2014).

Given that grit helps individuals not only in schools but also in life. Resilient, which is a part of grit and if individuals who get bored give up their passion and goals then they are not resilient and as a result not gritty. On the contrary, gritty ones keep their passion and goals on and do not give

them up. It is also believed that grit is a better predictor of success in college rather than IQ and SAT scores, and that gritty people perform better. Moreover, self-discipline is required to reach to a 'positive outcome', and conscientiousness a Big Five factor was a predictor of success as well. A gritty person's character helps also to be a hard worker and sometimes students reach a certain level of achievement and then they cease to improve; they would work less hard than their colleagues, this has a dire consequence on their performance and will cause a decline in their grit and consequently in their performance and achievements and accomplishments. However, those individuals who focus on pure learning then they would be able to accomplish more than their colleagues. Being gifted also does not mean that the person is hard working or passionate, on the contrary, it is the ambitious and gritty people who are hardworking and passionate. Most teachers would praise students for getting the right answer while ignoring the other students' efforts who got the wrong answer, however, in Dweck's study it was found that praising students for their intelligence damages their motivation and performance. Therefore, Bashant (2014) suggested that schools should invest in developing the skill of grit and its levels in students, because this will help them achieve their goals. Students should be supported to control their emotions and behaviour this will empower them to pursue their goals and therefore, they will triumph in achieving their full and maximum potentials (Bashant 2014).

Another study was conducted in a western context to find if there was a relation between grit and current academic performance. It was found that there was a relationship between grit and current academic degree of doctoral students. It is assumed that grit is not a good predictor of first year because first year is considered a short-term goal. However, it was also found that older students were grittier than younger students were. Moreover, grittier students spent more time working on their projects and tasks (Cross 2014).

However, Goodwin and Miller (2013, p 74) consider that many tried to define grit (Duckworth, 2013; Shechtman, DeBarger, Dornsife, Rosier, & Yarnall, 2013); yet it was loosely defined as 'persistence overtime to overcome challenges and accomplish big goals'. Therefore, the list below was identified as the qualities that help student succeed, which also represents and is relevant to the concept of grit. Then they suggested that grit comprises of traits and behaviours, such as:

1. Goal-directedness (knowing where to go and how to get there).
2. Motivation (having a strong will to achieve identified goals).

3. Self-control (avoiding distractions and focusing on the task at hand).
4. Positive mind-set (embracing challenge and viewing failure as a learning opportunity).

Grit then is important because as Duckworth describes what her research has shown about the relationship between grit and achievement, she reflects on the importance of helping students develop grit and other non-cognitive traits (Perkins-Gough 2013). This is because, grit will help students succeed in their lives, studies and careers, they can also develop their cognitive skills. Therefore, it is not only about one aspect of their lives it is an intertwined triangle of what their lives revolve around. Yet, Duckworth wondered if grit is being taught because it is relatively a new and developing science, yet some teachers claim to teach it (Russo 2014). However, others (Laursen 2015) argue that grit can be taught through reading about grit, then students should search for examples of people who exhibited grit and faced setbacks, they can set them as role models and at the same time they can learn from them.

Duckworth's work was replicated by many researchers; like Pappano (2013) who used 8-item grit which originally measures resilience, self-control and persistence that research shows matters more than academic performance. He found that there is correlation between grit, academic success and perseverance, but few researches show that grit and perseverance can be increased in children. Research shows that students perceive and shape their abilities in relation to the outcome and completion of a task. Duckworth suggested for strategies to be found that allow students to practice character traits such as persisting in the face of difficulty (Pappano 2013). This could help in the increase of students being enrolled in a college because non-cognitive skill will be another set of skills to be measured for students.

Generally, Duckworth believes that grit differentiates between people who possess similar 'level of intelligence'. However, they fail to be successful like their gritty peers (Duckworth 2007; Duckworth 2016). In addition to that, gritty people achieve and succeed and overcome obstacles despite the hardship they face, because they are interested in what they do (Duckworth et al. 2007; Duckworth 2016). Other Studies (Duckworth et al. 2007; Duckworth 2016; Duckworth & Quinn 2009) have also consistently proved that there is a strong and a positive relation between grit and academic success. At the same time grit is considered to be a significant predictor of academic success (Duckworth et al. 2007; Duckworth 2016).

However, a study conducted in 1982 by Dubey to investigate the effect of persistence on academic achievement and performance; found that students whether they were male or females and had high levels of persistence outperformed the ones with less persistence. Moreover, persistence is also related to grit.

Another study that used Duckworth's work was a Turkish study (Arslan, Akin & Çitemel 2013) the purpose of this study was to examine the relationship between metacognition and grit. In this study, the Metacognitive Awareness Inventory and the Grit Scale were used. The relationship between metacognition and grit were examined using correlation analysis and multiple regression analysis. In correlation analysis, grit was found positively related to metacognition. According to results the two-dimensions of grit (consistency of interest and perseverance of effort) predicted metacognition positively (Arslan, Akin & Çitemel 2013).

One more study that used grit was by Silvia et al. (2013). She found that grit, a recently proposed personality trait associated with persistence for long-range goals, predicts achievement in a wide range of important life outcomes. Forty young adults completed The Short-Grit Scale and worked on a self-paced mental effort task. The findings proved "gritty" people pursue goals. While, in a Latino community it showed that the individual who had higher levels of hope, they also had a higher level of grit (Vela et al. 2015). Similarly, a study conducted in the UK (Rimfeld et al. 2016) used grit scale and Big Five measurement and they found that grit has stronger prediction to academic performance and achievements; compared to personality traits.

All of the studies conducted show that grit is positively related to a better academic performance and higher GPA. In contrast, a Canadian Study (Bazelais, Lemay & Doleck 2016) conducted in Quebec found an unexpected result when they used the grit scale to measure whether grit influences academic achievements with the use of regression analysis. The results showed that grit was not an indicator to academic achievement and GPA, however, previous academic performance was the indicator.

Grit was also used in other fields such as military (Maddi et al 2012) and training in pharmaceutical company (Phillips 2003) showing that grit was important, also in business, confidence and self-belief is important to achieve when faced by challenges even if a person fails they should learn from their mistakes (Barckly's 2014; Gideon, Markman, Baron, & Balkin, D 2005; Netshivhambe 2013). Finally, it was also found that grit was being adopted and is important in the

field of nursing (Sherman 2014) However, this is not the focus of this study therefore it will not be further discussed; except this shows that grit could be applied to different fields other than education.

Duckworth et al. (2007) believes that grit is an indicator of achievement especially in challenging situations and is different from talent (cited in Duckworth & Quinn 2009). Duckworth also proposed that grit is different from Big Five conscientiousness and it focuses on stamina. Particularly, grit helps to maintain both effort and interest in projects that need longer time to complete, it is also the need to achieve. However, Duckworth et al. (2007) did not examine whether either factor predicted outcomes better than did the other (Cited in Duckworth & Quinn 2009).

Her results showed that perseverance –which is part of grit- was a better predictor of GPA. Yet, other factors that influence GPA are extracurricular activities, and (inversely) television watching among adolescents in her Study 4. In contrast, Consistency of Interest was a better predictor (inversely) of career changes among adults in her Study 1 and of final round attained among National Spelling Bee finalists in her Study 6. Further, evidence was found that individuals may need both perseverance of effort and consistency of interest – which are the two main categories in grit- to succeed in the most challenging fields, circumstances or situations.

In Duckworth's Study 2, grittier adults proceeded in their education and made fewer career changes, controlling for age and Big Five factors including Conscientiousness. While, in her Study 3, correlations among self-report, peer report and family member report Grit–Scale scores were medium to large, indicating that grit can be reliably assessed by informants. Finally, in Study 4, grittier adolescents received higher GPAs and watched less television (Duckworth & Quinn 2009).

Limitation of Study 2 and Study 6, Grit Scale predicted outcomes over and beyond conscientiousness, another self-report measure that is susceptible to the same effects. Participants in Studies 2 and 3 were largely female, possibly limiting the generalisability of the factor structure of the Grit–Scale. Yet, there was no significant gender differences in Grit–Scale scores, but because the factor analysis was conducted using mostly women, the hierarchical structure of the Grit–Scale might not hold in more representative samples- (Duckworth 2016; Duckworth & Quinn 2009). In conclusion, it was found that the Grit–Scale was a more efficient tool to measure grit (Duckworth 2016; Duckworth & Quinn 2009), showing that this scale was validated and could be used in other studies, hence this also makes it reliable.

Tough (2013), Dweck's (2006) mind-set concept and Duckworth, all argue that 'real success' does not always correlate with intellectual ability, which means that it is not always that smart people succeed. Success requires hard work, determination, and self-control or non-cognitive skill or in other words grit. Therefore, there should be a strategy to teach students to develop grit skills to help them succeed both in their academic and personal lives (Fink 2013). Then they can use those grit skills to succeed in their careers and professional lives.

It is believed that (Fink 2013 ; Sharrock 2013) one of the strategies that make students work harder even when they encounter challenges is to include their passion in activities and tasks that are prepared. Other strategies (Fink 2013, pp. 26-31) include the following:

1. Students' motivation i.e. what motivated students should be taken into consideration.
2. Students' strength i.e. teachers should be aware of and nurture their student's strength.
3. Students should be challenged to help them grow, because if students are not challenged they would think that success is effortless.
4. Growth mind-set should be taught, because people with growth mind-set believe that they are able to develop their abilities and skills, unlike fixed mind-set who believe that their abilities and skills cannot be developed.
5. Students should know that struggle is a normal part of learning.
6. Gritty people practice more.
7. Grades should also be given to effort.
8. Praise should be on effort and not only on intelligence.
9. Students should be able to have a positive reaction to failure and they should learn from it.

Since gritty people and students practice more, students should be encouraged to spend longer time practising so that they improve and develop their skills. Similarly, students should see a direct value to what they study, otherwise they will lose interest. Sharrock (2013) also argued that Duckworth and Sligman (2005) believed self-discipline is a better predictor of academic performance than IQ, Duckworth also found that grit leads to success. Sharrock, however, used

Duckworth's grit-scale and suggested a study of grit pre- and post- project. They found that self-determination or motivation correlates with higher grit scores (Sharrock 2013).

It was also found that the grit-scale is divided into two categories. The first category focused on resilience to setbacks and hard work. While, the second category focused on consistency of interests over a long period of time. He also argued that grit is both the ability to face failure and the ability to commit to long-time goals over many years. It is also a predictor of success yet it is not a talent. He argued that grittier people perform better than non-gritty ones. He also suggested that talent and grit could be related indirectly (Perkins-Gough 2013), which is something that Duckworth argued against.

Regarding academia, students who are obsessed with an A grade just try to get that grade, however, once they reach that level they stop trying to improve, because to them there is nothing to improve and these are the non-gritty students. In contrast, the gritty students do not limit themselves to only reaching a goal, they always think of ways to improve themselves. Therefore, they perform better (Perkins-Gough 2013) and perhaps this is what could be required in students in general.

Yet, Duckworth warned educators to think that cognitive skills clash with non-cognitive skills, it should be understood that learning, effort and confusion are not easy. However, scores are not the indicator of students' abilities and there has been a shift and focus on non-cognitive skills and ways to improve them. One measuring tool is the Grit Scale which is divided into categories such as perseverance, persistence to overcome failure and commitment to a long-term goal. This means that the gritty students are not necessarily always the smart ones. However, the gritty ones perform better in 'challenging situations' (Hoover 2012) and this is one of the requirements in the job market these days, overall these are also the traits referred to in 'My Vision' by His Highness Sheik Mohammad Bin Rashid Al-Maktoum (2012). Based on this, grit is clearly observed when a challenging or a difficult situation is provoked.

A lot of 'accomplished graduates' lack skills such as building relationships; motivation and life-long learning, and these are the skills that students need to achieve and accomplish. This is a challenge that educators face, but it is not impossible to teach those skills (Steiner-Adair, 2013). Similarly, underachieving students lack 'cognitive training', 'verbal and mathematical stimulations', therefore, those students should develop a different set of skills like grit to achieve and outperform (Tough, 2013).

It is an American belief that if one works hard; one will succeed. It is also believed (Tough, 2013) that educators do not focus on the right set of ‘skills and abilities’ such as ‘optimism, resilience and social agility’ (Tough, 2013 p 52). Those skills can make students determined to finish a task and focus on following a plan thoroughly. These abilities and skills are required not only in schools, colleges, but also in workplace and daily life (Tough, 2013). Therefore, these set of skills are an asset to every student to succeed and achieve. In addition to that, this is a new trend in education to focus on non-cognitive set of skills to help underperforming students succeed, therefore, these skills should be developed in students.

Duckworth said that the problem is not with schools but with students. Learning can be fun and not discouraging, hard and daunting. Low-performing but intelligent students need to be helped to first recognise their character and skills to be at least as important as intellect. Duckworth also found that self-control was not what motivated people to succeed; however, it was grit-qualities and commitment to a single goal which was the drive to succeed. Consequently, students need a growth-mind-set, grit, hard work; time management and effort to succeed. While, graduating from college is the indicator of strength of character and not only being smart. Moreover, researchers believe that strength of character is influenced by the environment that one grows in (Tough, 2013). However, self-control and grit are related, yet they are distinct. Self-control emphasises on the actions to focus on a valued goal and avoid any distractions or temptations even alternatives, while grit is the pursuit after a single challenging goal regardless of the obstacles and setbacks faced by the individual; or even the years that it might take them to achieve their goals (Duckworth & Gross 2014; Nayela 2015).

## **2.1 Theoretical Framework**

This section will discuss the theoretical framework of this study. This theoretical framework is divided into two main sections, the first is cognitive theory and the second is non-cognitive theory. The first section will explain cognitive theory and the different topics under it. Then the non-cognitive theory will be discussed. The relation between the cognitive and non-cognitive is being intertwined and complex, as they are both related to each other and complement one another. It is difficult to isolate one from the other as cognitive is associated to non-cognitive skills.

## Cognitive Theory:

Cognitive psychology is defined as using the mind in order to process the information that the person receives. This is reductionist approach because any behaviour regardless of its level of complexity can be rendered and reduced to the simplest cognitive process; and an example is memory and perception. Cognitive behaviour theorists emphasise on the internal process and not the external stimulus to behaviour which behaviourists believe. Therefore, it is believed that cognition and mind affect and influence behaviour and response because any behaviour is the result of the way the mind operates (McLeod 2015). The figure below explains the difference between cognitive theory and behaviourist theory.

### Behaviourist Model (only study observable / external behaviour)



### Cognitive Model (can scientifically study internal behavior)



**Figure 1: A comparison between behaviourist model and cognitive model** (Adapted from McLeod 2015, p.1)

The difference between behaviourists model and cognitive model is as follows. The behaviourist believes that stimulus comes from the environment and the black box which is the mind cannot be studied because it is difficult to observe what happens in the mind, and the response to the stimulus is observed through behaviour. However, the cognitive model explains that the mind or brain is like a computer, that needs an input and this input is processed in the mind through meditation and finally based on this process the result will be an output which is behaviour (McLeod 2015). Yet, the critics of cognitive psychology such as Skinner argue that cognitive psychology is measured scientifically, however, meditation process cannot be measured scientifically and only external

stimulus can be measured scientifically (McLeod 2015). Although the behaviourist model and the cognitive model look similar, when it comes to the stimulus or the input coming from the environment and their output or response which is behaviour or reaction, the only difference is in the middle of these processes. In the behaviourist model, in the middle process which what happens in the brain is considered vague and cannot be studied; this is because behaviourist believes that whatever happens in the mind cannot be observed therefore, it difficult to study it. However, the cognitive model believes that one can study what happens in the mind and it is not a mere black box or vague, therefore, cognitive behaviour theorists argue that what happens in the brain is considered a meditational process and it is a mental event which affects the behaviour and the reaction of the individual.

### **Cognitivism Theory:**

Cognitivism means that learning occurs through unobservable mental actions within the mind or brain, that are influenced by the learner's own thoughts and experience.' (Irby *et al* 2013, p.105). The process in a cognitive operation is through human sensory, which is transformed, reduced, elaborated, stored, recovered and used.' (Irby *et al* 2013, p.105).

Yet, cognitivism is the opposite of behaviourism, as cognitivism theory does not restrict human interaction and reaction to the environment, however, in a cognitivism theory it is argued that individuals plan their reaction in order to change their environment. In addition to that, they are able to solve problems and structure their own learning. They also believe that the process of learning occurs in the mind or brain. On the other hand, there are also factors that could influence this theory and they are motivation and self-efficacy (Irby *et al* 2013). Hence, cognitivism theory argues that an individual's behaviour is not only by environment, but also by the individual and they explain this as the person being able to plan the way they will react and there is aimed at changing the environment.

### **Cognitive Behavioural Theory:**

Cognitive behaviour indicates that people have faulty beliefs about themselves that affects their behaviour and hinder the progress and development of their psychopathology – which is the mental health of a person. Yet, cognition is one's beliefs and cognitive behaviour is the perceptions based

on those beliefs about the situations and events. This indicates that cognition is a general term while cognitive behaviour is more specific to the function of cognition. Therefore, cognitions refer to beliefs, schemas, attributions, perceptions, or mental representations of events (Coyne, Burke and Freeman 2008, p. 694). While, cognitive-behavioural theory is phenomenological in that it assumes that behavioural responses are a function of an individual's perception of events, rather than the events themselves. In other words, an individual's world is imbued with meaning and respond to them in terms of these meanings. Attributions we make about the world may be more or less accurate and, similarly, more or less helpful in directing our behaviour' (Coyne, Burke and Freeman 2008, p. 694).

Behaviour is geared and controlled by thought (Coyne, Burke and Freeman 2008), which means the way a person behaves is dictated by his or her thoughts. Therefore, once changes occur in a thought a change will occur in behaviour. Students also need to be able to apply the knowledge and skills that they have acquired in new situations. Students first need to be aware of their beliefs and if there were any faulty thoughts or negative beliefs about themselves then they should dispute these negative beliefs. They should write positive statements next to their negative beliefs and this could be looked at as problem solving technique (Coyne, Burke and Freeman 2008).

Cognitive-behavioural theory then is the assumption that thought, emotion and behaviour are linked to each other and influence each other. This means that a person's thoughts shape emotions and as a result a person's thoughts influence behaviour. Then Cognitive theory, therefore, refers to the person's thought about oneself and eventually this will shape emotions and behaviour. The next step is, once the person is aware of his or her beliefs, thoughts and emotions are behaviour and this is to give meaning to their world and environment; this meaning is based on individual experience, knowledge and memory.

Since the meaning is based on the person's environment, experience and knowledge, then he or she is able to elicit information from their surrounding environment, then process this information to direct emotion and behaviour to reach their goals. Therefore, this experience, knowledge and environment directs the behaviour to achieve the goals that were set.

Part of Cognitive-Behaviour theory is cognitive meditation. This implies that the meanings that people select from their experiences, will shape their feelings and the way they respond to a certain situation. Accordingly, once a person is able to modify his/her thoughts, then he/she will be able

to change their beliefs and behaviour. Thus, this change will lead to reaching their goals. Despite, all that people rarely reflect on their thought process, which leaves them being unaware about the problem.

In a nutshell, it is believed that cognitive-behavioural theory is not only about thoughts, beliefs, attitudes, assumptions, perceptions, interpretations, attributions, self-statements, scripts, rules for living, values, expectancies, narratives, cognitive distortions, schemas, narratives, and private meanings. Based on that cognitive theory involves more than that. It indicates that professionals play a vital role in the progress of their clients or in this case, students. Cognitive-behavioural theory also reveals methods that help individuals to reflect on their own thinking and beliefs, in order reflect better and make the choices to modify their thoughts and beliefs and their thought process. This will eventually enable individuals to reach their goals and meet their needs.

Then cognitive-behavioural theory is based on three concepts, these are cognitive activity which influences behaviour, cognitive ability can be monitored and altered, and finally desired behaviour change is achieved through cognitive change.

While, mediational model explains that once there is an issue of a person's behaviour and reaction to a certain problem then this reveals a negative thought or belief which led to this certain behaviour. This is similar to Dweck's interpretation of self-talk, as she explained it through growth and fixed mind-sets. She also added that when some students fail they would tell themselves that they are failures and stupid, while other students would tell themselves to work harder and find their mistakes and learn from them, the latter exhibits persistence and perseverance which are part of grit. Therefore, it is essential to be aware of one's thinking to understand their cognitive process. Thus, this understanding will predict negative and positive thought or the person's negative or positive behaviour (Nurius & Macy 2008).

Moreover, Vygotsky's theoretical framework approach focused on three themes and they are a 'reliance in a genetic developmental method, the claim that higher mental process in the individual have their origin is social process and the claim that mental process can be understood only if the tools and signs that mediate them' (Irby *et al* 2013; Wertsch 1985 p. 14).

As for 'the fundamental claim in Vygotsky's genetic developmental analysis is that human mental process can be understood only considering how and where they occur'. He also attempted to

‘analyse psychological phenomena without regard for their place in development. He also argued that research provides description not explanation’ (Irby *et al* 2013; Wertsch 1985 p. P 17).

Along with process of organic growth and maturation, a second line of development is clearly distinguished- the cultural growth of behaviour. It is based in the mastery devices and means of cultural behaviour and thinking’ (Wertsch 1985 p. 23). Therefore, ‘to understand the individual, one must first understand the social relations in which they exist’(Wertsch 1985 p. 58). He also emphasised on the importance of measuring the level of potential development as is to measure the level of the individuals’ actual development (Irby *et al* 2013;Wertsch 1985 p. 68).

On the other hand, according to Piaget (Collins 1950 ;Irby *et al* 2013) behaviour is based on two aspects, one is affective aspect and the other is cognitive aspect. Hence, feelings provide a goal towards behaviour, while intelligence provide a technique to a certain behaviour. Yet, considering behaviour’s structure, it is based on three factors and they are perception, effector-function and intelligence.

These feelings are either a set of regulations of internal energies such as interests or of factors exchanging of energy in with the external environment such as values. Yet, ‘affective life and cognitive life, then, are inseparable although distinct. They are inseparable because all interaction with the environment involves both the structuring and valuation, but they are nonetheless distinct, since these two aspects of behaviour cannot be reduced to one another’ (Collins 1950 p. 6). Moreover, ‘intelligence itself does not consist of an isolated and sharply differentiated class of cognitive process.... it is the form of equilibrium towards which all structures arising out of perception, habit and elementary sensori-motor mechanism tend’ (Collins 1950 p.7).

Thus, part of intelligence is adaption and this occurs in the face of difficulties as individuals attempt to modify their actions. Intelligence is also a mental adaption of new circumstances. ‘ It is important, therefore, in order to arrive at the real functioning of intelligence, to reverse this natural movement of the mind and to revert thinking in terms of action itself: only in this way will the role of this internal action, the operation appears in a clear light” (Collins 1950 p. 36).

Although past experience plays an important role in reasoning, it is considered a secondary role. Since Piaget beleives that ‘experience does not introduce meaning into thoughts except as a

function of present organisation.’ (Collins 1950 p. 67) Furthermore, habits do not enhance or improve intelligence, yet intelligence slightly enhances and improves habits.

Based on Piaget’s argument and study, there are four stages of cognitive development and these are: the first stage is Sensorimotor and this stage is found in during infancy. While, the second stage is Pre-operational stage is found in toddlers and early childhood stages, whereas the third stage is Concrete operation stage and this is found in elementary and early adolescence, and finally the fourth is formal operational stage which is found in adolescence and adulthood. However, individuals will differ in their progress. Nonetheless, the criticism to Piaget’s stages is that the focus of this theory is mainly on children and this is considered as a form of developing not learning. Moreover, Vygotsky criticised Piaget’s theory for ignoring the effect of social context in cognitive development. In addition to that there is the bias aspect involved in Piaget’s data collection, as he collected them alone. However, Piaget’s cognitive theory consists two aspects, one is schemata which is the building blocks and the other is equilibrium that is assimilation and accommodation and this is transition from one stage to the other (Collins 1950).

On the contrary, Skinner argued that there are many factors that determine human behaviour and these factors are based on the history of what has been done to the individual during their life-time. Furthermore, the behaviour that could be explained in past or present through the environment which is nurture; is explained through genes that is nature. It was the concern of what made people behave and act in the way that they do. Skinner emphasised on the effect of life history on the individual, however, rats and humans have some aspects in common. Most critics of Skinner claim that he based his experiment and observation on rats and pigeons and these behaviours cannot be generalised to human behaviour, this means that if a person is aggressive towards another person then their behaviour is explained through aggression in that person’s life history (Toates 2009; Irby *et al* 2013).

However, Skinner believes that positive reinforcement increases helps increase positive behaviour. Furthermore, he believes that these reinforcements are crucial for behaviour change. If positive reinforcement is used to increase a desired behaviour, then negative reinforcement is used to decrease or even terminate a negative or unwanted behaviour. Hence, any behaviour is the result of the history of whether the person received a positive or a negative reinforcement. Skinner also stated that positive reinforcement is part of culture and to change a society then a change should

be made to contingencies of reinforcement. He also added that the environment affects one's behaviour. In order to understand behaviour, Skinner looked for events in the environment – stimuli- and the reaction to the events –responses. This explains that behaviour is the result of the environment the individual is living in and the way the person reacts and responds to those different events. Although Skinner believed in positive reinforcement, he emphasised that receiving rewards easily weakens resilience. In this regard, Skinner wanted to abandon praise (Toates 2009). This states that positive reinforcement is crucial and vital to increase a desired or a wanted behaviour, yet at the same time praising individuals will reduce their level of resilience and also their grit.

It is believed that individuals differ in the basis of their motivation. As for Ryan and Deci, they emphasised that intrinsic motivation is 'self-determined rather than a response to demands from outside' (Toates 2009 p.79). Nevertheless, 'behaviour is under control of two different kinds of process. The first of these is direct, reflexive like automatic, whereas the second is indirect, cognitive and involves conscious deliberation. These two processes can act in collaboration in determining behaviour but they can be also un competition for control.' (Toates 2009 p. 87). Thus 'the process of reinforcement would appear to act simultaneously at the two levels of the hierarchy. At a low level, reinforcement would strengthen tendencies to behave in a fairly automatic fashion. At a high level, reinforcement would be a process that would teach certain cognitions about the world, e.g. what leads to what' (Toates 2009 p. 88). Skinner stated that positive reinforcement is 'what increases the frequency of behaviour' (Toates 2009 p. 91). He also argued that behaviour is the result of genes and environment. Moreover, he believed that psychology 'can be studied in relation to the external environment, avoiding internal cognitive terms.' In addition to that, Skinner stated that free will is considered 'a hindrance to the progress of behavioural science.' (Toates 2009 p. 93). At the same time critics of Skinner argued that studying cognitive is crucial to understand individual's behaviour and mind.

The main belief of Skinner is that psychology should improve human conditions and the way people interact with each other. He also found that verbal stimuli influence behaviour, therefore, the history of reinforcement predicts the development of behaviour. This history provides a better understanding of human behaviour and 'better description of the person in interaction with his or her environment' (Toates 2009 p. 108). Observing any behaviour reveals its strength and weakness in the context which are found. Therefore, instead of blaming oneself, one should attempt to change

the environment. Skinner also stated that praise works wonders, however, criticism ‘breeds resentment and negative emotions’ (Toates 2009 p. 112). He also believed that culture influences behaviour. Moreover, Skinner argued that controlling a behaviour is relevant to resisting a temptation and that positive reinforcement improves behaviour. While, Piaget focused on intrinsic factors (Toates 2009). Thus, Skinner added that culture plays an important role in one’s behaviour and also affects an individual’s behaviour.

This study also focuses on students’ behaviour and the purpose of behaviourism is to study the human behaviour part of this focuses on motivation of behaviour. It also focused on positive and negative reinforcement of behaviour (Irby *et al* 2013) which was based on Skinner’s theory of positive and negative reinforcement. In this, pleasant stimulus and a positive reinforcement is needed to increase a desired behaviour and decrease an unwanted behaviour, while an unpleasant stimulus is used as a negative reinforcement to increase a desired behaviour and to decrease an unwanted behaviour (Irby *et al* 2013).

The theory of behaviourism ‘embodies that the notion to the behaviour can be explained as a reaction to the environmental rewards or punishments’ (Irby *et al* 2013, p.94). Therefore, learning is explained by behaviourists as ‘a result of the connection between the behaviour and an environmental response.’ (Irby *et al* 2013, p. 94), this is because behaviourists only focus on observable events (Irby *et al* 2013).

Finally, there are myriad of elements that affect human behaviour. One of them is disposition and it means individuals behave in a certain way when they are under certain circumstances. Hence, disposition consists of values and moral. The other element is motivation, which can influence human behaviour. It is also believed that intrinsic motivation is more powerful than extrinsic motivation (Irby *et al* 2013).

Yet, the theories this thesis will be based first on Duckworth’s theory of grit and the scale that she developed and used in her studies. She found that there is a relationship between grit and academic performance. Nevertheless, there were different studies that used Duckworth’s grit-scale, one is Pappano (2003) who also used the Duckworth’s grit-scale to measure resilience, self-control and persistence or in other words grit and he found that there was a correlation between grit and academic performance. Duckworth *et al.* (2007) in her third study using the grit-scale instrument found a significant relationship between grit and academic performance that resulted in grit being

a factor of success. At the same time Duckworth and Quin (2007) and Tough (2013) share the same results. Moreover, grit was found to improve academic performance in college students (Wolters & Hussain 2015) therefore; all came to the same conclusion that there is a relationship between grit and academic performance. Moreover, Dubey (1982) found the same results with persistence and used a different set of questionnaire which was available at the time.

Duckworth and Quin (2007), Duckworth, and Seligman (2005), Tough (2013), Duckworth, Peterson, Mathew, and Kelly (2007) and Pappano (2013) all used the grit-scale to find if there was a relationship between grit and academic performance, and their results showed that there was a significant relationship between grit and academic performance, which eventually leads to success.

While, in the qualitative section of the study Van Manen (1990) model will be used; Van Manen suggested that narrative can capture the experience of participants, and participants give meaning to their experience, however, the data collected qualitatively cannot be generalised (1990). In this study a selection of students will talk about overcoming setbacks and failure; this will be their experience and it will be relevant to them. Their story (narrative) will capture their experience of success after failure in their studies. The qualitative section of this study will also use Gadamer's (1992, 2011) Hermeneutics for the participants' narratives on personal experience and it will also use the Hermeneutics cycle which means that small parts of their experience will form the whole experience. This means that, stories that they will share about facing setbacks, will form the whole experience of grit of these participants.

Duckworth based her work on Bandura's (1995, 1997) self-efficacy concept which is related to grit, Bandura believes that self-efficacy leads to better performance and achievement. He also argues that the key to success is to have high levels of self-efficacy, because self-efficacy indicates a person's performance and capabilities. Also Dweck (2006) argues that growth mind-set helps people to overcome setbacks and failure. This shows that self-efficacy and growth mind-set are related to grit. Grit was also related to the famous experiment The Marshmallow Experiment or Project. This project was originally investigated by the psychologists Walter Mischel and in this experiment children were given the chance to either eat one piece of sweet or wait for a longer period of time mostly 15 minutes and then receive two pieces of sweets. Mainly it was a marshmallow, yet other kinds of sweets were used as well. Surprisingly, some children waited to get two instead of one sweet (Goodwin & Miller 2013; Tough 2013). This experiment shows that

the children who waited longer to get more sweets were grittier because they could be persistent and waiting, not to be distracted and focused on their ultimate long-term goal which was to get more sweets. This indicates that the children who could wait were different and they were grittier. As a results they received better rewards than the ones who did not wait. Therefore the ones who did not wait were not gritty.

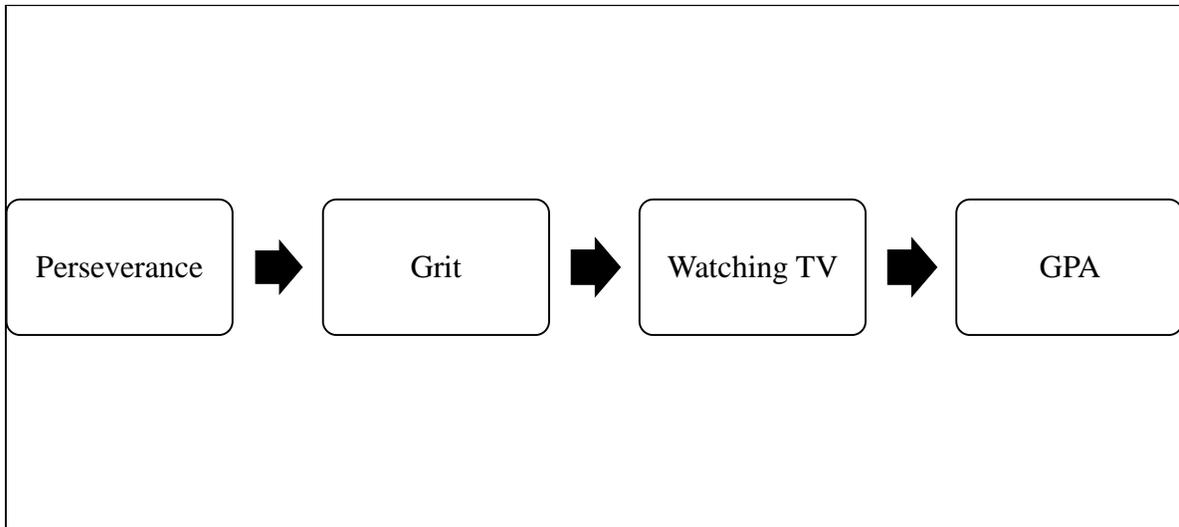
To measure grit, the key concept that this thesis will focus on will be based on the grit scale which was developed by Duckworth *et al.* (2007). In her scale she divided the key points into 12 statements, and these statements are categorised into two categories. The categories are: consistency of interest and perseverance of effort (check appendix 1) the 12 Grit-Scale will be further discussed in the methodology section.

Duckworth suggests that the scale can measure the level of grit and these statements are included in the questionnaire that was distributed to the participants of this study. These statements will be measured through quantitative measurement, which is correlation and for relationships among variables and factor analysis for further validating the instrument in this context, because it was adapted and few questions were added to it to suit the Emirati context. The other part is the lived experience, where participants focus on the way they overcome setbacks through narratives and storytelling in addition to focusing on events they encountered. Figure 2 below summarises the theoretical framework of the concept of grit.



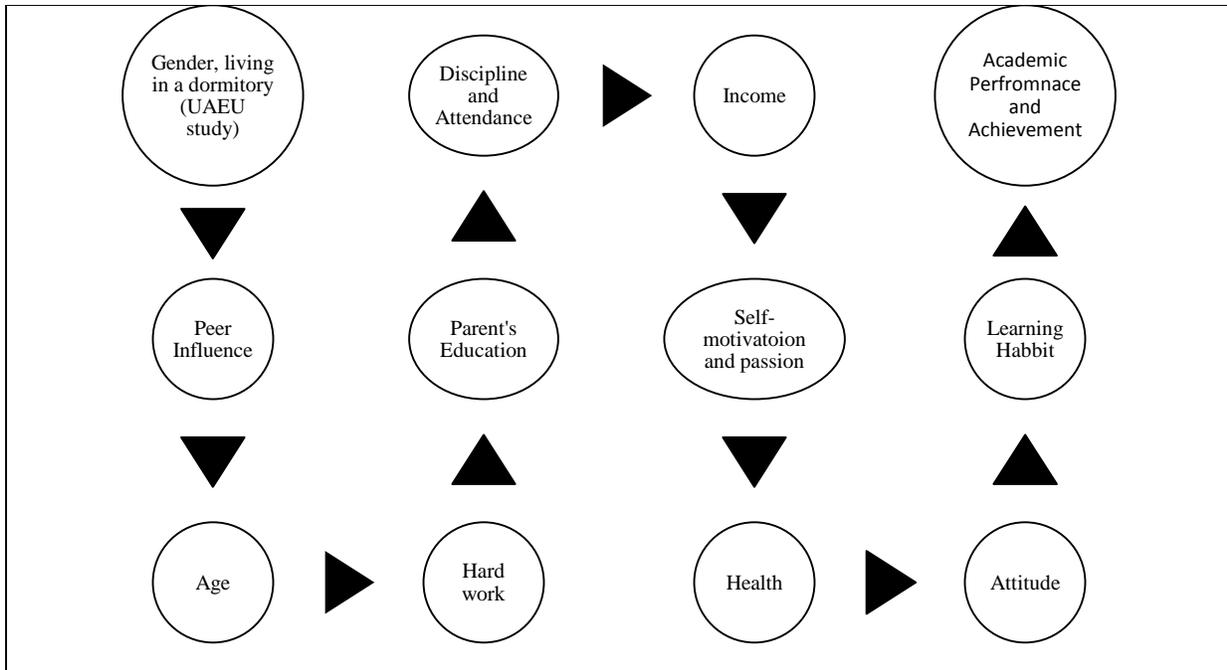
**Figure 2 :Theoretical Framework of Grit**

Figure 2 summarises the theoretical framework used in this study. It shows that grit leads to success, however, in order to achieve grit and success, one should possess the following: perseverance and persistence, commitment to long term goals, having passion, self-efficacy, growth mind-set and not fixed mind-set, self-control, overcoming setback and failures. These skills are crucial to develop grit.



**Chart 1: Factors that affected students Grade Point Average in Duckworth’s Study**

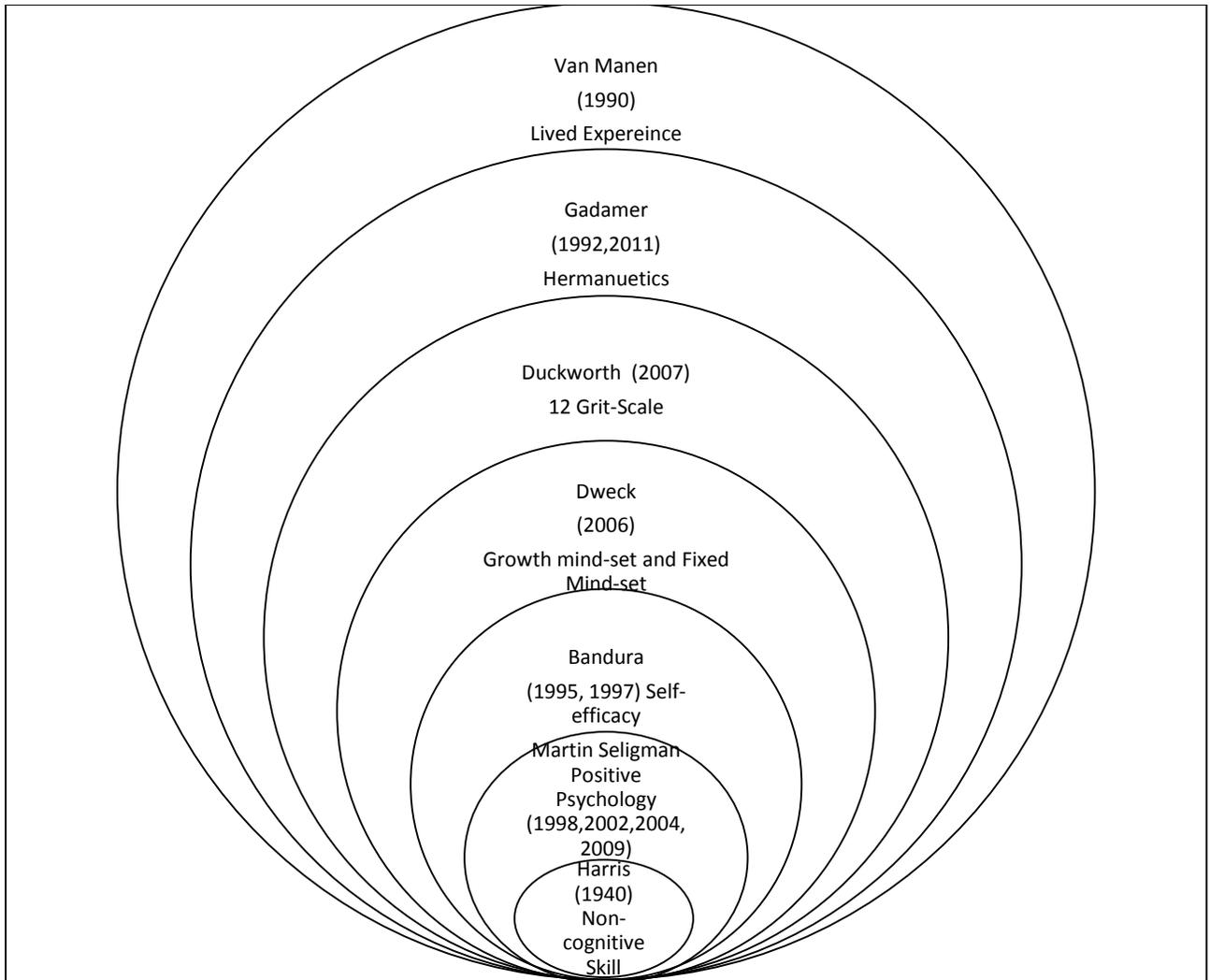
In Chart 1, the results explain that there are certain factors that influence a student’s GPA. These factors are: students should have the trait and the skill to persevere and grit, then the students who spent more hours watching TV their GPA was negatively affected and it was low, unlike the students who spent less hours watching TV and had grit and perseverance they scored higher GPA.



**Chart 2: Factors that Affects Students’ Academic Achievements/Performance other than Grit**

Just as Chart 2 shows that there have been several studies that found various factors that generally hinder students’ academic performance and these are the ones specific to the United Arab Emirates University (UAEU) context and the general ones. First in UAEU gender and living in a dormitory affected students’ academic performance. While age, hard work, parent’s education, discipline, income, self-efficacy, motivation, passion, health, attitude and learning habits. All of these generally influenced and contributed to students’ academic performance and achievements.

Figure 3 below, summarises the theories that are relevant to grit in this thesis and these are non-cognitive skills which is also called soft skills and grit is considered a non-cognitive skill. Then positive psychology that is having the self-esteem to achieve and that is part of grit. Then comes self-efficacy and this means to believe in one’s abilities to achieve and this is also part of grit. The other relevant theories are growth mind-set versus fixed mind-set, however, growth mind-set is related to grit, because having an growth mind-set allows the individual to believe that they can improve and develop their skills. The 12 grit-scale includes the items that allow to measure the level of grit and this is discussed in details in the literature review section and instrument section. Finally, hermanuetics and lived experience explains the whole experience of the participants and give meaning to their experience in the light of the concept of grit. These concepts will be further discussed below.



**Figure 3: Demonstration of the Relevant Theories to Grit in the Thesis**

### **2.3 Non-cognitive skills**

Personality is part of non-cognitive skills that an individual possesses and the theories of personality explain the stand of these theories with regard to an individual personality. The general definition of personality is that human personality consists of a myriad of aspects and they are ‘human nature, individuality, experience, self, character, identity, psyche. Each of these terms overlaps considerably with at least one definition of personality.’ (Sloan 2009, p. 57). In addition to that the ‘concepts of personality not only shapes the thoughts one can have about the phenomenon of human existence, but also informs one’s views on what life is about and how

society should be organised.’ (Sloan 2009, p. 57). Hence, this mixture of aspects shapes an individual’s personality and their reaction to challenges that they face.

Yet, the theory of personality is defined as ‘a set of interrelated concepts for understanding the actions and experiences of human individuals. Most theories of personality attempt to provide a comprehensive and integrated general psychology of motivation, development individual differences, psychopathology, and mental health, as well as, an account of more specific phenomena such as dreams, creativity, aggressiveness, or social conformity’ (Sloan 2009, p. 58). Therefore, the aim of personality theory is to ‘provide an understanding of individual experience and behaviour at both general and particular levels’ (Sloan 2009, p. 58). This understanding can help with the evaluation of the personality.

Although there is a variety in personality theories whether in scope, intent or even style, they all tend to explore human nature, yet it differs in positions and their stand on issues (Sloan 2009, p. 58). In general, personality theorist observes to reach to a better understanding and to find a bigger picture of the phenomenon or issue and based on that they will understand the human nature. Nevertheless, personality theorist believes that individuals differ from one another (Sloan 2009). Moreover, personality is based on ‘uniqueness, temperamental disposition, social aspects of individual behaviour and qualities of emotional experiences an ideal to be achieved (Sloan 2009, p. 61). This implies that each individual is unique and this uniqueness makes each person different from the other. Hence, their experience will be different.

Therefore, behavioural phenomenon is the result of many factors such as ‘social learning, inherited temperamental factors, long-term evolutionary process, aspects of present situation, a combination of the above, or individuality that that transcends all determinants.’ (Sloan 2009, p. 62). If personality is viewed as being mostly inherited, however, ‘it follows that changing social institutions to foster healthier personality development be less important than improving genetic screening for desired or undesired psychological types’ (Sloan 2009, p. 62).

Whereas, personality theories are primarily used to guide attempts to change behaviour, to predict future action, or to understand individual lives although these purposes overlap somewhat (Sloan 2009, p. 64). Moreover, these theories attempt to ‘explain, predict and control behaviours’ (Sloan 2009, p. 64). Further to this, personality theories attempt to modify or change behaviour and this is what Skinner argued in his positive and negative reinforcement. This change is also vital to

adapt a growth mind-set and have a high level of self-efficacy in order to be gritty. However, this also demonstrates that although grit is part of non-cognitive theory, the concepts of grit develop in the mind and then the reaction is evident in the behaviour.

In addition to that, the term non-cognitive skills are considered to be skills rather than personality traits, and recently, attention is being given to non-cognitive and cognitive skills (Bowles & Gintis 2002). Nonetheless, there are other synonyms to non-cognitive skills, and these are 'soft skills' or 'personality traits' and they are as important as cognitive skills. Sometimes, these terms are used instead of non-cognitive skills.

The idea that achievement also requires soft or non-cognitive skills was originally advanced by Harris (1940) ... It has been taken up in a number of papers in psychological economics, notably by James Heckman ... since around 2000 (Joshi 2014, p. 3).

In his study, Harris (1940) concluded that there are three elements that need to be focused on for achievement and success. These three elements are ability (scholastic aptitude), effort (drive and motivation) and circumstances (personal, social, academic or economic), these all are non-cognitive skills needed to succeed and improve. At the same time, Harris (1940) looked at the factors that affect students' academic performance; this was discussed in the previous part.

Non-cognitive skills consist of several personality characteristics such as 'motivation, self-discipline, communication, skills, energy, impulse control, perseverance, sociability, confidence, self-esteem, decisiveness, grit... values, attitude, ambition, temperament, culture and preference.' Moreover, it includes time management, teamwork, leadership skills, self-awareness and self-control (Joshi 2014, p 4). These also are found in grit, and this is the reason for considering grit a non-cognitive skill. Personality traits are also referred to as attributes. These can be stable and reliable, yet they are considered indicators of individual differences when they are faced with different situations in life. Grit is related to the Big Five, and the Big Five has a new acronym OCEAN and this includes openness, consciousness, extraversion, agreeableness, neuroticism (Joshi 2014). Table 1 below explains the Big Five factors.

<b>Big Five Personality Factor</b>	<b>APA Dictionary</b>	<b>Facets (correlated trait adjective)</b>	<b>Related Traits</b>	<b>Childhood Traits</b>
<b>Openness to Experience</b>	“the tendency to be open to new aesthetic, cultural, or intellectual experiences”	Fantasy (imaginative) Aesthetic (artistic) Feelings (excitable) Actions (wide interests) Ideas (curious) Values (unconventional)	—	Sensory sensitivity  Pleasure in low intensity activities  Curiosity
<b>Conscientiousness</b>	“the tendency to be organized, responsible, and hardworking”	Grit Perseverance Delay of gratification Impulse control Achievement striving Ambition  Work ethic		Attention/(lack of) distractibility  Effortful control  Impulse control/delay of gratification  Persistence Activity*
<b>Extraversion</b>	“an orientation of one’s interests and energies toward the outer world of people and things rather than the inner world of subjective experience; characterized by positive affect and sociability”	Warmth (friendly) Gregariousness (sociable) Assertiveness (self confident) Activity (energetic) Excitement seeking (adventurous) Positive emotions (enthusiastic)	—	Surgency Social dominance Social vitality Sensation seeking Shyness* Activity* Positive emotionality Sociability/affiliation
<b>Agreeableness</b>	“the tendency to act in a cooperative, unselfish manner”	Trust (forgiving) Straight-forwardness (not demanding) Altruism (warm) Compliance (not stubborn) Modesty (not show-off) Tender-mindedness (sympathetic)	Empathy Perspective taking Cooperation Competitiveness	Irritability* Aggressiveness Willfulness
<b>Neuroticism/ Emotional Stability</b>	Emotional stability is “predictability and consistency in	Anxiety (worrying) Hostility (irritable) Depression (not	Internal vs. External Locus of control  Core self-evaluation Self-	Fearfulness/behavioural inhibition

	emotional reactions, with absence of rapid mood changes.” Neuroticism is “a chronic level of emotional instability and proneness to psychological distress”	contented) Self-consciousness (shy) Impulsiveness (moody)  Vulnerability to stress (not self- confident)	esteem Self-efficacy Optimism  Axis I psychopathologies (mental disorders) inc depression and anxiety disorders	Shyness* Irritability* Frustration (Lack of) Placidity Sadness
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**Table 1: summarises the Big Five factors.** (Adapted from Joshi 2014, pp. 4-5)

Big five could be an indicator of non-cognitive skills and attributes. Generally, these attributes are stable, but they change slowly. These attributes can be seen in adolescence; however, it is not clear during childhood stage. Yet, not all of the Big Five factors are strong predictors of academic performance, achievements and labour market. However, consciousness is considered a strong predictor of achievements and success. Soft skills or non-cognitive skills improve cognitive skills (Joshi 2014), this is also believed by Duckworth.

Non-cognitive skills are considered to be important, and in some cases non-cognitive skill is crucial and has equal importance to cognitive skills (Heckman, Stixrud & Urzua 2006; Kautz et al. 2014; Rosen et al. 2010), and it has been emerging recently as a rival to cognitive skills. Its importance lies in these skills being required in both schools and businesses, then professional careers. It is also believed that family can shape non-cognitive skills (Kautz et al. 2014). This explains the reason for non-cognitive being popular and that is the need for it does not seize by the end of a student’s studies but it is required when they start their careers. Yet, Kautz et al. (2014) believe that character is a skill not a trait, and a skill can be learnt and it can be changed over time and even in a ‘life cycle’. However, it is shaped by family, environment and school. Non-cognitive skills can be improved through intervention. Moreover, performance depends on personality, skills and other attributes (Kautz et al. 2014). Therefore, having a better performance, skills and personality should be developed and enhance to enable individuals to succeed.

Despite the importance of non-cognitive skills, they are ignored in schools because there are no available measurements, rubrics or scales to measure these skills. Some of these non-cognitive skills are perseverance, trustworthiness, tenacity and motivation, these are important skills to achieve and succeed in life. These non-cognitive skills are also important in academia. Sometimes it is found that individual who have high levels of IQ fail, while individuals with low IQ levels succeed, this success can be attributed to 'persistence', 'self-discipline' and 'reliability' (Heckman & Rubinstein 2001). These skills are non-cognitive skills, which are needed to succeed even if IQ levels are low, therefore, these non-cognitive skills can compensate low achieving students.

Other non-cognitive skills include 'consciousness, self-control, grit and growth mind-set', in a study it was found that a non-cognitive skills correlated positively with students' 'attendance', 'behaviour' and 'test-scores', it is also believed that school could influence students' non-cognitive skills (West et al. 2015). Hence, these can attribute to the growth and development of grit. Therefore, more measurements are needed to be developed, as non-cognitive skills are related to behaviour, attitude, strategies leading to success (Egalite, Mills & Greene 2015). In addition to that, the person should have optimism, resilience, adaptability, consciences in addition to grit. These are some important skills that enable students to succeed. Recently Chicago University is focusing on grit and their entry exam is unlike any other entry exam. Their entry exams focus on writing on an issue that could evaluate the level of grit (Egalite, Mills & Greene 2015). This shows that grit and non-cognitive skills are becoming essential and vital for success. In addition to that, many factors affect students' giftedness, these factors are health, weight, demographic information (Terman & Oden 1947). Therefore, these factors should be taken into consideration when grit needs to be developed.

It is believed that non-cognitive skills are as important as cognitive skills. However, non-cognitive skills are the skills that are needed to be successful and able to achieve long-term goals. These skills are for example 'perseverance', 'motivation', 'self-control' and 'conscientiousness'. These skills are different from 'intellectual' or 'analytical' skills. However, they are 'personality' skills and 'attitudes'. They are 'motivational' and are considered 'habits'. These non-cognitive skills eventually enable the individual to succeed. (Rosen et al. 2010). Moreover, non-cognitive skills include: motivation, effort, self-regulated learning, self-efficacy, academic self-concept, antisocial

and social behaviour and finally coping and resilience (Rosen et al. 2010) and these are explained as follows:

**Motivation** is the factor that allows students to accomplish and complete their task and then achieve. This also inspires students complete their tasks and succeed. Motivation then has two parts intrinsic and extrinsic and it was found that intrinsic influences students' academic performance and not the extrinsic part. In addition to that, students should believe in their abilities and they should expect to succeed. Students should also follow their goals, regardless of failure.

**Effort** affects students' academic performance, it has two parts as well, and they are the 'degree of effort' and the 'degree of specificity'. These two parts affect students' academic performance. First, the degree of effort is related to students' ownership of their learning and that means the amount of effort that a student is willing to put in their learning and their 'active role'. Second the degree of specificity and it is related to the students' behaviour to completing a task or an assignment in a certain subject (for example, English assignment or task) or improving and achieving in a subject (for example, English subject). Effort is considered an outcome and not a predictor of academic performance, which means the result of effort will be a better academic performance and this effort will not indicate the academic performance.

**Self-regulated learning** - It is linked to students' ability to evaluate their own work and task. Then their ability to use 'problem-solving strategies' and after that, they would be able to revise these strategies if they did not succeed in the results and a solution was not found. However, this factor is influenced by motivation, self-efficacy and their beliefs.

**Self-efficacy** is related to believe in one's abilities to be able to accomplish a task. Self-efficacy influences academic performance. It was found that self-efficacy could differ from one field to the other.

**Academic self-concept** is students' belief that they are component in 'academic domain'. This factor includes two parts 'global self-concept' and 'domain specific self-concept. The global self-concept involves student's belief in their abilities at an academic institution, while domain specific self-concept is related to the belief that they have competence in certain subjects. Overall, academic self-concept affects positively students' academic performance and their success.

**Antisocial and Prosocial Behaviour**, antisocial is being aggressive and having a ‘dismissive behaviour’, while prosocial is being cooperative, like to share and believe in encouragement. Based on this study it was shown that antisocial behaviour has a negative influence on a student’s academic performance and results, on the other hand, prosocial has a positive influence on a student’s academic performance and results. Hence, students and individuals should be encouraged to have a prosocial life.

**Coping and Resilience** is different methods are used by students to overcome setbacks and failure and to ‘face challenges’. Coping indicated a person’s ‘attitude’ and ‘behaviour’. On the other hand, resilience is linked to ‘academic skills’. In this study, inconsistencies were found regarding this factor and academic performance (Rosen et al. 2010). These two terms are important parts of the concept of grit.

Yet, a study that has a European focus, found that scoring high on a test is not only the outcome of cognitive skills but it is also the effect of non-cognitive skills, these are ‘motivation’ and ‘personality traits’, therefore, non-cognitive skills have equal importance to cognitive skills, and non-cognitive skills affect academic performance and achievements at work. Generally, non-cognitive skills are defined in the light of the ‘Big Five’ and they are agreeableness, emotional stability, extraversion, conscientiousness and autonomy. Each term is defined as the following.

- 1- Agreeableness: This trait is related to being cooperative and having the willingness to help others. Thus, their characteristics are agreeable, cooperative and warm as opposed to disagreeable, antagonistic and cold.
- 2- Conscientiousness: This trait is linked to being able to follow rules and schedules. They keep their engagements and they have a good attitude. They are hardworking, dependable and organised, as the opposite to being lazy and unreliable.
- 3- Emotional Stability: This is a set of antonyms such as ‘nervous versus relaxed, dependent versus independent. This addresses the degree to which the individual is insecure, anxious, depressed and emotional rather than calm, self-confident and cool.’
- 4- ‘Autonomy’ indicates the individual propensity to decide and the degree of initiative and control.’
- 5- ‘Extraversion’ is the preference for human contacts, empathy, gregariousness, assertiveness and to wish to inspire people.’ (Brunello & Schlotter 2011, p5-6)

Since students have high levels of non-cognitive skills, these Individuals will be able to face challenges and overcome setbacks with their 'high ability'. Once they have 'intellectual abilities eagerness to work and powerful working' then these qualities will enable individual to avoid being overwhelmed with setbacks (Galton 1869, p 39). As cognitive and non-cognitive skills are both important for success at academia and are also 'valued at labour market. It is also believed that non-cognitive skills are as important if not more important than cognitive skills (Heckman, Stixrud & Urzua 2006). Moreover, non-cognitive skills especially 'assertiveness', gives the opportunity for students' with their education and good career (Morton 2011). Thus, it emphasises on the importance of non-cognitive skills.

In order to be successful in life 'motivation', 'tenacity', 'trustworthiness' and 'perseverance' are needed. However, regardless of the importance of non-cognitive skills those have been neglected in analysis. Yet, both cognitive and non-cognitive skills are needed to succeed and graduate from school. Boosting the non-cognitive skills then the person will have faster motivation. Moreover, self-discipline is an important factor in success and the lack of it will lead to failure (Heckman & Rubinstein 2001). With one of the studies, which was conducted in a middle school, they found that smaller class sizes improve non-cognitive skills which is related to psychology, yet smaller class sizes do not affect their behaviour(Dee & West 2011).Another study that was conducted in an African American context. The researchers' concluded that African Americans who attend black colleges or universities performed better, they persisted, were successful and then graduated. All of that was related to their non-cognitive skills (Palmer & Strayhorn 2008).

However, cognitive and non-cognitive skills are important in academia, because it is considered as a 'source of learning'. Therefore, non-cognitive skills and motivation are essential determinants of success and they can be improved unlike cognitive skills (Heckman 2000).

Non-cognitive skills positively affect students' academic performance and is also crucial for success in life. Non-cognitive examples are motivation, time-management, and self-regulation (Nagaoka et al. 2013).

Non-cognitive skills include:

- 1- Academic behaviour –mind-set about academic work-:
  - Attendance

- Participation
  - Discussion
  - Assignment completion
- 2- Academic perseverance –psychological concepts and this is related to grit- with this factor less support is needed to encourage students:
- Students ability to stay focused
  - Engaged in work despite of distractions, setbacks or obstacles
- 3- Social skills (poor social skills are associated with negative results) these include interpersonal qualities that are important and helpful skills for student to use among their peers and teachers, these are:
- Cooperation
  - Assertion
  - Responsibility
  - Empathy
- 4- Learning strategies –which are related to behaviour and perseverance-, these are:
- Process and tactics employed to aid cognitive skills in thinking, remembering and learning.
- 5- Academic mind-set:
- Beliefs, attitude, or ways of perceiving oneself in relation to learning and intellectual work that promote academic performance.
  - Positive academic mind-set promotes academic performance.
  - Self-efficacy relates to beliefs that students have about their abilities to succeed at a given task.
  - They would engage in activities that they find the confidence in their abilities and avoid that they lack, to complete a task. This factor is taken from Bandura.(Nagaoka et al. 2013)

In addition to that, non-cognitive skills enable college competence, especially consciousness (Cheng 2014). This also makes it an important skill that is required for students to acquire.

Personality traits are important to succeed in life, however, it should be taken into consideration which of these traits are important and to which context. Yet, Cognitive traits are intelligence and

specific cognitive abilities. Personality traits are shyness sociability, time preference, impulsivity, extraversion, agreeableness, empathy, sense of humour. In addition to that, motivation is important. Thus, personality and cognitive abilities evolve, and this indicates that these two are not fixed (Borghans et al. 2008). Therefore, if they are not fixed, then they are flexible and can be improved. Current achievement test does not measure ‘soft skills’ or non-cognitive skills such as personality traits, goals, motivation and preference these are required in labour market school and many other different fields, because non-cognitive skills predicts success in life (Heckman & Kautz 2012).

Generally, schools in the US do not motivate students to work hard. However, psychology has been missing and psychological factors of students or in other words, non-cognitive skills and it was found that it is more important than cognitive skills (Dweck, Walton & Cohen 2014). Therefore, non-cognitive skills are crucial to keep students motivated to learn. According to Dweck, Walton & Cohen (2014) These non-cognitive skills include:

- Believing in oneself
- Self-control
- Feelings about school

It is believed by both psychologists and economists that non-cognitive is important to succeed in academic life and labour market. Hence, the gap between success and underprivileged students will be narrowed, because non-cognitive skills improve students’ GPA months or even years later (Dweck, Walton & Cohen 2014). In addition to that students need academic tenacity.

Academic Tenacity: This term is defined as non-cognitive skills. These are factors that ‘promote long-term learning and achievement can be brought together under the label academic tenacity... it is about working hard, and working smart for long time... it is about the mind-set and skills that allows students to focus on long term goals, withstand challenges and setbacks to perseverance towards these goals.’ (Dweck, Walton & Cohen 2014, p 4)

Yet, academic tenacious students have specific traits and characteristics and these are - They tend to believe that they belong to school ‘academically’ and ‘socially’; and they consider school to be as their path to ‘future goals’. This will help them provide for their families and contribute to the development of both their community and society. They are considered to be ‘engaged in learning’

and they are positive about putting effort in their work. They also prefer challenging tasks because these students view this challenge as an opportunity to learn new information. These students are ‘derailed by difficulty’ this is because they view setbacks as an opportunity to learn or to solve problems. Thus, based on their view of setbacks and challenges they do not consider failure or setbacks as a ‘humiliation’ and ‘condemnation’ of the abilities or their worth (Dweck, Walton & Cohen 2014).

Tenacious students are aware of the ways to proceed and keep themselves busy for a long time; they are also able to implement different approaches to advance towards their goals successfully. Similarly, student who have a growth mind-set focus on learning. Since these students are ‘derailed for challenges’ they pursue challenges and at the same time they persist on these difficult and challenging assignments. As they seek and flourish on challenges they will gain and learn, this will improve their ‘learning abilities’ and as a result enhances their academic tenacity. Part of academic tenacity is students’ ability to work in groups on challenging assignments, this will make them spend longer time working on these difficult assignments and eventually their performance will improve (Dweck, Walton & Cohen 2014). Probably the reason for better performance in difficult tasks; is because students learn from each other, which is part of teamwork and as they seek more challenges and believe that their abilities, especially learning abilities will improve and enhance.

For student to get motivated they should have faith in that their long-terms goals and that these goals are achievable. Being academically tenacious is to have ‘self-regulation and self-control’, which means to be able to avoid distractions, to overcome setbacks, to face challenges and to cope with failure. As a result, tenacious students will focus on their tasks and assignments in order to achieve their long-term goals and to succeed (Dweck, Walton & Cohen 2014). Most importantly, academic tenacity is based on grit, since self-control and self-regulation is part of grit. Moreover, grit is a good predictor of educational attainment this is evident in students’ success and achievement in schools and the next level that grit is a predictor of is college GPA.

Mind-set and goals are also related to grit, since student with a growth mind-set will have stronger belief in their intelligence, their learning goals will improve and ‘higher order-purpose’ and these all exhibit grit. The points discussed above all gear towards academic tenacity, and after having an

overview about it, the next step is to attempt to improve academic tenacity (Dweck, Walton & Cohen 2014).

On the other hands, there are so many ways to improve academic tenacity; however, the first step is for students to be aware of the importance and the benefits they will get in the long run. The second step is to look at two distinct parts and they are ‘pedagogy curriculum’ as this requires intervention and improvement, and ‘school context’ which needs to be customised, because ‘one size does not fit for all’ (Dweck, Walton & Cohen 2014), as there are different levels of students in a class room and their needs and abilities vary. Then there will be difference in students’ abilities and levels of grit.

The other intervention should be applied to mind-set, as discussed before, fixed mind-set focuses on short-term goals on their abilities, since they lack the belief in their own abilities, thus leading to the impairment of their own academic tenacity. However, growth mind-set focuses in long-term goals and abilities, this is when students believe in their abilities and kills to be developed and improved and as a result they will perform academically better. Regarding self-regulation is for students to train themselves to keep records of their progress. Therefore, student with academic tenacity enjoy challenge (Dweck, Walton & Cohen 2014). These are based on the proposal(Mohammad 2015). Nonetheless, students should learn to self-regulate themselves and monitor their own progress, so that they would be able to improve and develop then they can succeed.

## **2.4 Positive psychology**

Generally, psychology is the study of strength and virtue; this does not indicate mental illness, disease, damage or weakness. It should be taken into consideration that positive psychology is not about ‘wishful thinking’ or ‘self-deception’, it is best described as attempting to adapt the ‘best in scientific method to the unique problems that human behaviour presents in all its complexity’ (Seligman 2002, p4). Positive psychology then, means to be happy, have self-esteem, and this gives the individual purpose, hope and meaning to progress and advance in their lives (Seligman 2004).

This concept enables to build on a person’s strength in order to survive and develop. As a result, Seligman (2002) recommended to acquire the following characteristics:

- 1- Courage
- 2- Interpersonal skills
- 3- Rationality
- 4- Insight
- 5- Optimism
- 6- Honesty
- 7- Perseverance
- 8- Realism
- 9- Capacity for pleasure
- 10- Putting trouble into perspective
- 11- Future mindedness
- 12- Finding a purpose

Moreover, positive psychology is referred to three different levels, and these levels are past, presents and future. The past is where this concept should be subjective; moreover, it should include positive experience, well-being and satisfaction. The present should focus on joy, flow, pleasure and happiness. Finally, the future should be about optimism, hope and faith, which is related to ‘constructive cognition’ (Seligman 2002). These –past, present and future- summarise positive psychology. This means that students should use the past to their advantage and it should serve the present and the future. They should enjoy the present and they should remember to be optimistic about the future.

It is the responsibility of people to increase and improve some skills that are considered essential in positive psychology. These skills are resilience, positive emotion; engagement and meaning are also skills that can be taught. In addition to that there are gratitude, strength, flow and to overcome negative bias (Seligman et al. 2009). These terms are related to the concept of grit.

Teaching these skills should be embedded in the curriculum and as part of the assignments and tasks. This way, students will have the chance to exhibit their skills and most importantly, it develops their strength. As a result, teachers need to change their ‘speaking prompts’, for instance, ‘give a speech about when you were of value to others?’ or in English classes students should talk about the strength and good side of a certain character (Seligman et al. 2009). This implies that positive psychology could be applied, however, at the beginning guidance and instructions should be given to students, after that, students could improve and develop on their own. Moreover, the

main objective of positive psychology is to ‘measure, understand and then build the human strength and civic virtues’ (Seligman 1998, p 1) which leads to building a good life and a strong character.

In contrast, one study claimed that positive psychology did not predict college performance. Yet, this concept helps to give meaning to life and urges individuals to search for this meaning. However, mother’s education, searching for meaning in life and spiritual experience are the predictors of goal-specific purpose (Cavazos Vela et al. 2014). Yet, in order to promote positive psychology servant leadership is needed (Searle & Barbuto 2010).

Since, pessimist interpret setbacks causes as permanent and they blame themselves for this failure, such as they would tell themselves that they were ‘not qualified enough’ pessimist is also prone to depression. However, the optimist tends to interpret setbacks as can be controlled and managed. It is important to avoid ‘catastrophic thought’, therefore, happy people believe that they have the skills needed to succeed and achieve, they remember happy and good events and forget the unpleasant events. However, depressed people remember both events accurately (Seligman 2004).

Moreover, ‘positive emotions undo negative emotions’ (Seligman 2004, p41) and it helps people to cope with setbacks. Some believe that with some effort personality can be improved, however others assume that a trait cannot be improved, however Seligman (2004) believes that some personality traits could be ‘very changeable’ while others do not change much. However, if a person possesses more positive emotions will encounter negative emotions. Nonetheless, once this person is encountered by negative emotions, hence they will be able to encounter these negative emotions. Yet, once a person with more negative emotions encounters positive emotions, they will have less positive emotions. They are not able to express these positive emotions due to the negativity of their emotions and mind-set.

‘There is only a moderate negative correlation between positive and negative emotions. This means that if you have many negative emotions in your life, you may have somewhat less positive emotions than average, but that you are not remotely doomed to joyless life. Similarly, if you have a lot of positive emotion in your life, this only protects you moderately well from sorrows.’ (Seligman 2004, p 57).

Furthermore, there are more depressed women than men are, and there are more women with negative emotions than men. However, it is believed that women experience emotion ‘more intensely’ than men do, probably because women have ‘extreme emotional lives’(Seligman 2004).

Regarding age there is one thing that differs among participants and that is; as people grow older is their emotion intensity. While, happiness is categorised into three sections: 'life satisfaction', 'pleasant effect' and finally 'unpleasant effect'. Besides, life satisfaction is increased by age, while pleasant effect drops marginally, when unpleasant effect remains unchanged (Seligman 2004).

Education, intelligence and gender do not influence happiness. Furthermore, happiness can be found in the past, present and future. However, in each timeline, happiness differs from one to the other. It also does not mean if a person was happy about the past will be happy about the present or the future. Sometimes there are individuals who are happy about their past, but they are unhappy about the present and they are pessimists about the future, there will be some individuals who are not happy about their past, but are content with the present and are optimistic about the future (Seligman 2004). This means that at each stage, whether it is past, present or future will have different set of emotions to describe it. Yet, these emotions, which are positive, differ depending on the time. One should be content about the past, should feel joy and pleasure about the present; while in the future one should be optimistic and have hope.

The past consists of some positive emotions: 'satisfaction, contentment, fulfilment, pride and serenity' The present consists of 'joy, ecstasy, calm, zest, ebullience, pleasure and flow.' While, the future consists of the following positive emotions: optimism, hope, faith and trust.' (Seligman 2004, p 62).

Seligman (2004) suggested several methods to deal with past, present and future pessimism. When dealing with pessimism in the past; one should not allow the past to control and govern the future, this could be accomplished through not to 'dwell in the past'. Gratitude is a powerful tool towards happiness and optimism, due to the emphasis on good memories from the past leading to 'satisfaction'. Then a person should learn to forgive and forget.

While dealing with pessimism in the present; happiness in the present combines between pleasures, which are feelings, and gratifications, which are activities. Regarding pleasures that could increase happiness; they are classified in three categories: 'habituation, savouring and mindfulness' these will increase 'positive feelings'.

Habituation is like watching a film as a class activity, once the activity is finished the students realise that is finished. Savouring is being aware that happiness exists is saving time and setting goals for

the future. While mindfulness focuses on the experiences that are ignored, therefore attention should be taken into considerations. This could be achieved through paying much attention to details.

Finally, whilst dealing with pessimism in the future; individuals could avoid it and this could be accomplished through awareness that optimism can be increased through disputing one's negative and pessimist thoughts. A person should argue with oneself and refute these negative thoughts about oneself, as one would do with a rival. However, first, the individual should be aware of these pessimist thoughts, and second the individual should find the evidence to refute the negative thoughts and to show that these pessimist thoughts are wrong. Third, one should find alternatives, because a pessimist would look for the worst solution or scenario and this is not because they are true but because they are 'dire'. Fourth the person should think of the implications, fifth 'usefulness' one should try to change the situation.

In general, positive psychology tries to show 'the consequences of traits.' For example, there are consequences of being optimistic, because being an optimist will result in less depression, which could bring good health, and better achievements (Seligman 2004). Thus these are required and needed in grit.

## **2.5 Self-Efficacy, Growth Mind-Set, Fixed Mind-Set and Grit-Scale**

Bandura's self-efficacy (1995, 1997) is the belief on one's ability to achieve and succeed this is related to grit through the student's belief and awareness that he or she has the ability to reach success by achieving one's goals, regardless of setbacks and failures. This eventually results from having a growth mind-set as opposed to fixed mind-set, which were presented by Dweck (2006). When students possess a growth mind-set, it makes them aware as to having a flexible intelligence and personality and this helps students to believe that their personality and intelligence can be improved. Thus they would look at a challenge as an opportunity to work harder and learn, despite taking students longer time to improve. On the other hand, a fixed mind-set student does not believe that he or she could change her or his intelligence and personality as they are fixed and cannot be developed. Therefore, self-efficacy and growth mind-set are related to grit as both are needed to achieve and develop skills needed to succeed. More on grit, self-efficacy, growth and fixed mind-sets will be discussed in the literature section.

Pajares and self-efficacy (Pajares 2002) he stated that there are three factors that can influence a person's abilities and capabilities to achieve and their functioning; these factors are their environmental, behaviour and personal factors. This is known as social cognitive theory, and these factors interact and affect a person's belief and thought about himself and can tend to change these factors as well.

Hence, self-efficacy is the core of social cognitive theory and similar to Bandura, while Pajares (Pajares 2002) believes that self-efficacy is people's judgement of their own abilities and capabilities to perform and complete a task to reach their designated outcome and the type of performance they desired. Therefore, self-efficacy provides the basis for motivation, well-being and personal accomplishment. Hence, if students do not believe in their abilities they will not have the incentive to persevere in the face of difficulties and diversities and eventually the choices they make.

However, these are not the only factors affecting a person's behaviour and perception; because there are many other factors that influence 'human functioning' such as experience, knowledge and skills and eventually their decisions. Nevertheless, self-efficacy also affects how knowledge, skills and experience is obtained in the first place. It determines students' effort that they are willing to expend in the face of difficulties, the duration of perseverance that they can spend in the face of difficulties and their resilience in the face of diversities and their approach to challenges and difficulties. Nonetheless, self-efficacy is created through the person's previous performance and mastery of previous experience, studies showed that once a person reaches to a successful outcome then the level of self-efficacy is high, yet when they outcome is failure then the level of self-efficacy is low. Thus, self-efficacy is learnt through providing a model or help them and teach them to learn and raise their self-efficacy levels. The levels of self-efficacy can be raised through persuasion of others. Having higher levels of self-efficacy reduces people's negative emotions resulting in better physical health (Pajares 2002).

Pajares (1997) also, argued that individuals have the power to change their own thinking. Yet, the level of belief in abilities and capabilities differs from one person to the other. It is also explained that self-efficacy affects beliefs and performance because it influences perseverance and effort. Self-efficacy also affects a person's motivation level. Moreover, Pajares conducted research in self-efficacy and math.

He also (Pajares 2009) believed that self-efficacy is the self-perception that people have about their abilities to achieve and accomplish. This provides the foundations to motivation, well-being, perseverance and persistence. As a result, confident students will anticipate successful outcomes. This implies that students with high levels of self-efficacy persist longer, persevere in the face of difficulties and adversities or even challenges. They work harder and have higher levels of optimism and less anxiety levels. They use more of their cognitive skills and metacognition to do these. Eventually they perform better academically; this is due to the high levels of grit that they possess. Moreover, he (Pajares 2009) suggested to provide students with challenging tasks to improve their self-efficacy. Therefore, instructors should be aware of their students' abilities and capabilities and assign tasks accordingly to their levels, then increase the level of challenges in their tasks for students' in order to improve their self-efficacy and grit.

Thus the concept of motivation is 'the forces acting on or within an organism to initiate direct behaviour' (Petri & Grover 2013, p. 4). This concept is used to explain the intensity of a certain behaviour. It is also used to indicate the persistence of behaviour. Therefore, a highly motivated behaviour persists longer even if the intensity is low. Yet, motivation is not measured directly instead a stimulus is manipulated to a certain condition then behaviour is measured through the response. When analysing and studying motivation the focus is on two categories that are considered the source of motivation and these are the first is internal while the second is external. These two sources promote behaviour to reduce certain needs 'are usually viewed as internal source of motivation that activate and direct behaviour to items in the environment that alleviate some state of deprivation', however, 'external sources of motivation are provided by goals' and it can be 'activated by changes in the external environment' (Petri & Grover 2013, p. 8). These two sources can lead to change in behaviour. Therefore, there is a need to understand 'motivational changes that occur to a person as a result of internal or external conditions' (Petri & Grover 2013, p. 10). Thus, there are two dimensions to motivation and they are external and internal, these dimensions influence an individual's motivation and eventually a person's behaviour and attitude to achieve and succeed.

Motivation, therefore, is important in learning and social interaction enhances its levels and cognitive process is related to motivation. This is because once information is taken, then processed and this will influence behaviour. Hence, people are motivated to reach their full

potential. Humans are motivated to test and improve their capabilities' (Petri & Grovern 2013, p. 15).

James (1980 cited in Petri & Grovern 2013) argued that human behaviour includes three components. These sources are instincts, emotions, and thoughts. Instinct comes from nervous system, a second source of motivation is associated with experience of emotions, therefore it depends on emotional state. While, current thinking suggests that emotions may be thought of as genetically predisposed biases to behave in a particular way that have adaptive value in our ancestors past. This thought of a person's behaviour this process is called *ideo-motor* which means current emphasis on cognitive process in the understanding of motivation (Petri & Grovern 2013, p 15).

Incentives motivate behaviour this also explains why people do what they do. External objects such as goals also motivates behaviour. This will make them behave in a certain way to achieve their goals. 'One of the most fundamental aspects of people's behaviour is that it persists even in the face of difficulty. It is believed that frustration leads to a persisting behaviour due to motivation. This comes from positive behaviour being rewarded in past experience therefore this motivates individuals to persist. Yet, if a positive behaviour was not rewarded in the past experience then the person will be less persistent (Petri & Grovern 2013). Although, Skinner focused on positive reinforcement, he also criticised praise as praise reduces persistence. Yet, it is also argued that if a positive behaviour was not recognised and rewarded in the past then an individual will not be persistent in the face of challenges and setbacks.

However, Petri & Grovern (2013) stated that cognitive is the process where thoughts dictate behaviour. Others such as Tolman (1932 cited in Petri & Grovern 2013 p. 236) believed that in order to understand behaviour; it is better for it to be studied as a phenomenon in its own right. Tolman (1932) , therefore, promoted a holistic study of behaviour and it should not be reduced to components or parts.

Whereas, behaviour is directed and influenced by goals, and being directed by the characteristics of goals causes behaviour to be persistent and continues until the goal is achieved and obtained. This behaviour also forms a consistent pattern of responses, which means that behaviour is not random and attempts to reach goals. Behaviour is also characterised by selectivity of behaviour, as individuals attempt to choose the shortest and easiest way to these goals (Petri & Grovern 2013).

Tolman (1932) also argued that individuals must know the goal towards which behaviour is directed, the ways in which organism behave in order to reach the goal, and possible routes that may be taken to reach the goal. Unless these three things are known, individual's understanding of the observed behaviour will not be complete. This implies that individuals need to be aware of the knowledge about the goals which its behaviour is leading. In this Tolman argued that behaviour is purposive and is characterised by cognition and purpose (Petri & Grovern 2013). This indicates that non-cognitive skills are initiated and started from the mind, which is also known as cognitive skills. Then it shows in the behaviour as non-cognitive skills, which was originally based from the mind.

Tolman indicated that certain kind of behaviours lead to certain kinds of goals, he asserted that expectancies are established and these involve both the expectancy that specific goals can be found in particular locations (Petri & Grovern 2013). Lewin (1936, 1938 cited in Petri & Grovern 2013 p. 239) described a homoeostatic 'cognitive model of behaviour motivation.... He emphasised that forced acting to initiate behaviour are constantly changing.... behaviour observed is the result of the total forces acting upon the individual.' It is believed that once the levels of tensions are high, individuals attempt to reduce it. Therefore, 'expectancy value-theory is defined as motivation behaviour results from combination of individual needs and value of goals available in the environment.' (Petri & Grovern 2013 p. 243)

While Rotter (1945) emphasised that 'social learning theory attempts to explain the external and internal social factors and regulations of behaviour, they both –external and internal factors- contribute to how we behave. (Petri & Grovern 2013 p. 243). According to Atkinson achievement motivation theory depended on expectancy value theory, which means the assumption that, the tendency to engage in a particular activity is depended on the strength of an expectation or belief that the behaviour will lead to a particular consequence. (Petri & Grovern 2013 p. 247) This tendency is influenced by external such as money, however, the emphasis is on intrinsic internal variables like pride associated with achievement or shame associated with failure. (Petri & Grovern 2013 p. 247-248). 'The tendency to approach or avoid achievement situations is thought to result from four variables; the motive for success, the motive to avoid failure, estimated probability of success and incentive value to achieve success' (Petri & Grovern 2013 p. 248).

While, 'achievement theory predicts that the tendency to approach achievement situation will be maximal for people high in motivation for success. (Petri & Grovern 2013 p. 250).

Behaviour can be predicted through one's attitude. They can be positive or negative, evaluation of an object, event or idea. Yet attitude does not predict behaviour very well. Furthermore, Bickman (1972 cited in Petri & Grovern 2013 p. 253) found that attitude correlated with patterns of behaviour than they are with individual behaviours and some attitudes are more important and valuable to an individual than others, and once the thought is changed the behaviour will change accordingly (Petri & Grovern 2013).

However, cognitive consistency theory is the believe that 'human have a preference for consistency in their cognition, attitude and behaviours.' According to Heider (1946) Cognitive consistency theory of motivation begins with the idea that inconsistencies between thoughts, beliefs, attitudes and behaviours can generate motivation (Petri & Grovern 2013 p. 269).

### **Self-perception**

Daryl Ben (1967 cited in Petri & Grovern 2013 p. 276) 'proposed an alternative to dissonance theory emphasising the idea that we observe our own behaviour much as an outsider might do, then make judgment based on these observations. These self-descriptive statement, then are reported as our attitude' this theory is called self-perception theory and the focus of this theory is self-description of an attitude or a belief. In this regard, an individual is the outsider that analyses and judges a behaviour similar to the way someone else would analyse and judge this individual's behaviour.

Social motivation theory, then suggests that individuals behave differently when they are alone than in the presence of others. This includes conformity, compliance and obedience to authority. Conformity is the motivation to behave or act in a particular way that comes under group pressure. Hence, behaviour is changed according to the pressure received from the group. The criticism to this theory comes from the Asch theory; as people were more conformist in 1950 than in present day and this is due to people being more individualistic (Petri & Grovern 2013).

In compliance; sometimes behaviour changes in response to a direct request. This response depends on several factors and they are the relationship to the person making the request, current

mood, and the manner, which the request was framed. While, obedience is the change of behaviour because of obeying commands from authority (Petri & Grovern 2013).

Maslow's hierarchy (Petri & Grovern 2013 p. 334) of needs shows the different levels of human needs; these needs range from the most basic ones to the most sophisticated needs these needs are categorised into different levels. Hence, in order to move to the next level, the previous levels should be fulfilled. These needs are in the order of the most basic ones to the most sophisticated:

- 1- physiological needs
- 2- safety needs
- 3- belongingness needs
- 4- esteem needs

Regarding this hierarchy, the homeostatic motivation theory is the striving to 'reach one's full potential as basic to human motivation but also includes additional motives besides self-actualisation' which is esteem needs in Maslow's hierarchy of needs in order to 'understand the human complexities, of human condition by reducing behaviour to specific responses to specific situations'. In this sense self-actualisation leads to the growth of motivational development (Petri & Grovern 2013 p. 334).

Individuals who are self-actualised are positive and this is because they motivated by many values such as honesty. They are not motivated by deficiencies, however, they are motivated to grow and achieve their full potentials and to become what they aspire to be. They have the abilities to constantly stimulate people around them to test their abilities and also to expand their horizon. However, the criticism to this theory is that this theory started with his friends and this there is considered being elitist and not being able to generalise it on people in general (Petri & Grovern 2013). The last motivational theory is self-determination theory, and this theory focuses on three basic needs that all people strive to accomplish and satisfy. These are competence – which means to have control over one's environment, competence – it means the feeling of belongingness with other and autonomy – which is defined as the need to freely integrate one's experiences with one's sense of self (Petri & Grovern 2013 p. 345).

Intrinsic motivated behaviour is based on the desire to do something not because of the expected reward or to avoid punishment, and Staw (1976 cited in Petri & Grovern 2013 p. 346 ) argued that ‘development if intrinsic motivation, or value or pleasure associated with activity as opposed to the goal toward which the activity is directed’. The importance of this motivation is in the fact that it is seen as an indicator to psychological health and functioning. Hence, Positive feedback helps in the increase feeling of competence and produce intrinsic motivation for activity, resulting in satisfaction.

### **2.5.1 Hermeneutics and Lived Experience**

Hermeneutics (Gadamer 1992, 2011) focuses on giving meaning to a person’s experience, as an individual will be sharing their experience and stories he or she will give meaning to this experience and based on these stories and experiences the hermeneutics cycle will show these meanings. In this study as the participants will be sharing their stories and experiences about grit and overcoming failure and setbacks, in addition to controlling themselves as not to be distracted, these will give meaning to each participant’s story and experience.

Lived experience presented by Van Manen (1990), who argues that each individual has a unique experience and the interpretation of this experience differs from one participant to the other, therefore this experience cannot be generalised. Therefore, the participants in this study, will share their experiences, since their experiences are unique to each individual, hence, it cannot be generalised. More on hermeneutics and lived experience was discussed in the literature section, it will also be discussed in the methodology section.

### **2.6 Related Literature**

The participants of this study are Emirati tertiary level students both male and female, however, before discussing the focus of this study which is grit, it was important to shed a light on the history of higher education in the United Arab Emirates (UAE) to give a general idea and an overview about higher education in the UAE. This history emphasises on three categories of higher education and they are public institution, private institution and global partnership. It is also important to consider that education in the UAE is relatively new and recent (Gaad, Arif & Scott

2006), and yet by the number and variety of educational institution in the UAE it shows the importance that the UAE has dedicated to education.

### **2.6.1 The History of Higher Education in the United Arab Emirates an Overview:**

This is divided into three categories and they are:

#### 1. Public Institution

There are three higher education public institutions in the UAE, and Emiratis are enrolled in these institutions for free. These institutions are first; The United Arab Emirates University (UAEU) which was established in 1977-1976. It offers both undergraduate and graduate studies, in addition to that 79% of the students are female (MoheSr.gov.ae, 2016; UaecD.org 2016). This university is located in Al Ain City, Abu Dhabi. UAEU provides students from other emirates (Abu Dhabi, Dubai, Sharjah, Ajman, Umm Alquwain, Ras Al Khaimah and Fujaira) with dormitory to live in, it also provides them with three meals which are all for free.

The second institution is Zayed University (ZU) which was founded in 1998; at the beginning ZU was opened only for female students, however, nowadays even male students can study at ZU (MoheSr.gov.ae, 2016; UaecD.org 2016). This university has two campuses one in Abu Dhabi and the other in Dubai.

Finally, The Higher Colleges of Technology which was established in 1988 for both male and female students. Although when it was founded in 1988 they only had four campuses, now they have 16 campuses across the UAE; these campuses are located in Abu Dhabi, Al Ain, Madinat Zayed, Dubai, Sharjah, Ras Al Khaimah and Fujeirah (MoheSr.gov.ae, 2016; UaecD.org 2016). Moreover, in each location there are two campuses; one for female students while the other is for male students; because education in the UAE is segregated.

Based on the above information the UAE tertiary level education is relatively new. It started in 1977 and is improving to meet the expectations and the needs of today's labour market.

#### 2. Private Institutions:

There are many private institutions in the UAE. These private institutions require accreditations given by the Ministry of Higher Education (MOHESR) through Commission for Academic Accreditation (CAA) these universities opened recently; as recent as 1997 and they are located at different emirates, yet the majority of these universities are located in Abu Dhabi, Dubai and Sharjah with less numbers in Ras Al Khaimah and Ajman (Uaecd.org 2016).

The Majority of these universities are American universities, this means that most Emirati graduates prefer studying at American universities and they are located mainly in Abu Dhabi – the capital, Dubai and Sharjah.

### 3. Global Partnership:

There are some international universities that opened campuses in the UAE. Some of these campuses are located in certain locations such as Dubai Knowledge Village and Academic City. These universities help develop education in the UAE (Uaecd.org 2016). However, the majority of the universities that were listed were American universities and they did not mention the British ones, which are available but to a lesser number.

So, for brevity and for the fact that, the focus of this study is students studying at a public tertiary level in Dubai, UAE, private universities and global partnerships will not be discussed in this section because it is out of the scope and not the focus of this study.

## **2.7 ‘My Vision’**

‘My Vision’ is a book written by His Highness Sheik Mohammad Bin Rahsid Al- Maktoum; the relevance of this book to the study is where the concept of grit is found very clearly. There is also a clear guidance on the way to achieve grit. Generally, grit means to persevere and persist to overcome setbacks and failure and learn from one’s mistakes to improve.

His Highness Sheikh Mohammad emphasised that ‘Effort, work, planning and preparation are the tools needed to realize dreams and their goals.’(Al-Maktoum 2012, p93) this shows that in order to have grit one must put in the effort, hard work, plan and prepare to succeed.

Moreover, His Highness Sheikh Mohammad highlighted that ‘motivation boosts the potential of young people, enhances their dedication and drive them to succeed and achieve for generations.’

(Al-Maktoum 2012, p94) this also shows that one also needs motivation to succeed, which is also an essential part of grit.

It was also important not to instil fear in students or employees, because if fear is used ‘then employees wrongly believe that if they work they will make mistakes and be punished; and if they do not work, they will not make mistakes and will not be punished.’ (Al-Maktoum 2012, p95). As a result, fear will deprive students or employees from learning from their mistakes, which is considered a valuable method to learn.

In addition to that it is important to learn from one’s mistakes ‘we are not interested in counting mistakes but in counting the achievements. We are not searching for candidates to criticise but to praise, not to frustrate but to motivate, and not to punish but to reward. We forgive and forget mistakes but we always remember good and successful actions.’ (Al-Maktoum 2012, p95) and the way to achieve and to encourage people to learn and be creative is ‘by accommodating some mistakes, training and encouraging people, delegating power, following up and monitoring.’ (Al-Maktoum 2012, p 95-96).

However, it is important to find the reason behind the mistakes ‘We commit mistakes and learn from them. The leader must forgive unintentional mistakes, but should investigate those made out of negligence, procrastination and similar behaviour.’ (Al-Maktoum 2012, p96). The way failure is viewed is important it should be looked at as attempts towards success, however, at the same time one must analyse failure to overcome and learn from it, which explains the concept of grit.

‘In my opinion, success and failure are not permanent. If someone failed twice in eight attempts I would still consider him successful, but also want to analyse failures. It is not enough to simply say that the person failed- we need to know why. Was it something personal, was it the fault of someone else or was it an error in the vision or in its implementation? Were there any lessons that could be learned from the failure and were there obstacles that can be removed to achieve success?’ (Al-Maktoum 2012, p96)

Therefore, if a leader punishes his or her employees for making mistakes then ‘officials will become afraid, isolate themselves and lack the confidence to do a good job in the future. The leader should rather give the officials opportunity to redress and correct their mistakes. He must not rush to punish them, but rather help them learn from their mistakes and teach them to use their mistakes as springboards to their right actions.’ (Al-Maktoum 2012, p96). This is why it is essential to

know the causes of failure and help people and students to learn from their mistakes; so that they would be able to achieve and succeed.

Sometimes it is assumed that employees or students have the same capabilities however most of teachers and managers forget that they (students or employees) differ and that is why they should keep in mind and ‘realize that not all employees have the same strength.’ (Al-Maktoum 2012, p96)

There is a clear guidance on the importance to learn from one’s mistakes and that to help these individuals to achieve ‘a leader must afford his people the opportunity to correct their mistakes, improve their performance and establish a balanced relationship with him. Only then will young officials strive to avoid mistakes because they do not want to disappoint their leader and not because they are afraid of being punished. With such officials, we could end up with a team capable of conquering any obstacles.’ (Al-Maktoum 2012, p97)

It is crucial to have people with high level of grit because they are high achievers which is ‘The only thing that could ever guarantee success is to have the largest number of excellent achievers on board, because they race for excellence calls for exceptional participants.’ (Al-Maktoum 2012, p98).

It was also interesting to find that there are more female students than male students are and this was clearly explained by His Highness Sheik Mohammad ‘there are more female students than are male students. A large number of our young men travel to study overseas or find employment at a comparatively young age.’ (Al-Maktoum 2012, p101). This was also clear in the numbers of female and male students who participated in this study, with a relatively more female than male students. However, His Highness Sheikh Mohammad explained that most male students travel aboard to proceed with their education or work.

It is also crucial to perform well, and this could be achieved but first ‘when employees are unhappy with the prevailing situation at their workplace, such as the slow monotonous pace of their work, or lack of direction and quality management from their superiors, their morale will deteriorate, their work will suffer and their performance will decline. If the opposite is true, all will be fine.’ (Al-Maktoum 2012, p115)

It is also important to avoid negative energy as it could hinder one’s progress and grit ‘some criticise themselves so harshly that they become their own worst enemy and well as enemies of

their own nation.’ (Al-Maktoum 2012, p117), moreover, ‘but laziness cannot compete with activity, creativity with monotony, nor motivation with frustration.’ (Al-Maktoum 2012, p118), hence, one should be a hard worker to achieve because laziness will not be present in hard working people.

When employees or students are inactive then it is the responsibility of the leader –teachers for example- to change the environment. Therefore, the employees or students should have high morale because that will allow them to achieve ‘[a] leader should try to change the conditions that led to a lowering of morale and drove his people to pessimism and inactivity.’ (Al-Maktoum 2012, p118). The explanation and guidance lead to the focus of this study, which is to face challenges that individuals encounter due to circumstances or situations and pessimism and this is the concept of grit.

### **2.8.1 Male and Female Academic Performance**

There are mixed results about academic performance and gender. In a recent study conducted in the Northern Emirates in the UAE, it was found that male students had higher GPA than their female counterparts. This was due to family’s involvement in students’ education and those families would prefer majors that provide employment, good salary and good working conditions. Family responsibilities for married male students, family size especially when there were older siblings studying at a college, parents having a post-secondary education, and parents especially mothers being retired all these positively affected students’ academic performance. However, it was found that students performed poorly when their parents were divorced (Daleure et al. 2014).

There are more female students (70%) in higher education than male students (27%) in the UAE. The reasons for the gap in male students is because of schooling which lacks to motivate students, family responsibilities, in particular to the eldest son who is required to look after his mother and siblings especially if the father is not working; so the socioeconomic of the family affects and perceived economic returns of education. Teachers in boys’ secondary schools are poorly trained, therefore, there is a need for more male Emirati teachers. Yet, it is important for both male and female to have an educated labour force for competitiveness in the labour market (Ridge 2009). Furthermore, some Emirati men would study abroad or find a job at a relatively young age as was stated by His Highness Sheik Mohammed (Al-Maktoum 2012).

While, another Emirati study found that generally female students outperformed male student (Ridge 2009; Thomas Raynor & Al-Marzooqi 2012), with the exception of IT major as both male and female performed equally the same. However, older male had higher GPA than younger male but their female counterpart had no significant difference regarding age. Married male students had higher GPA than single male; while, female married students had the challenge of the social life and family gatherings. However, their husbands were understanding and helped them with childcare, it also showed that the level of drop outs were higher among married students, and the remaining married students were resilient to complete their education, indicating that those married participants were more motivated (Thomas Raynor & Al-Marzooqi 2012) it also indicates that the resilient individuals have higher levels of grit. This is because they were persistent and tenacious to complete their education and to them that is their goal that they were committed to despite facing difficulties and obstacles.

In another study it was found that there was an increase in males' admission to higher education since 2003. There were 4723 males in 2003 and 7833 in 2013 from 35% to 42% increase, however there are still discrepancies in the ratio between male and female; as females were more in 2003, as females were 8676 to 10,064 in 2013 (Gjovig 2013). Female students outnumber male students especially in post-secondary education, therefore Emirati families need to encourage male students to complete a university degree (Simidi & Kamali, 2004). However, it was found that female students outperformed male students only at the beginning of the course and by the end of the course the gap narrowed (Collins & Bissell, 2004).

Generally, these studies contradict with findings from other studies about female students outperforming male students (Dayioğlu, & Türüt-Aşık, 2007; Wally-Dima & Mbekomize 2013), because it is believed in these studies that female students work harder and have better studying ethics, attend more classes, participate in class and seek more guidance for their studies. While male students performed poorly because they cannot balance between their social life and their studies, additionally, they lack enthusiasm to do their work (Wally-Dima & Mbekomize 2013). However, some studies found that there were no difference between male and female students in academic performance (Khwailah, & Zaza 2011; Okafor & Egbon 2011).

One study found that both male and female students had the same level of self-efficacy, yet female students outperformed male students and this was explained by female having higher level of self-confidence (Rezaei 2012).

Therefore, in this thesis and study both male and female Emirati participants will be used due to the mixed results found about gender and academic performance in the UAE. The sample used in this study will attempt to show which gender is grittier than the other, or if there were no difference in grit and academic performance among male and female Emirati college or higher education level students

Apart from that; there are so many factors that affect students' performance, and Harris (1940) found some factors that affected students' performance. There was a discrepancy in the results as Harris (1940) stated that in some studies, differences were found, while in other studies these factors did not affect the students' performance. These factors ranged from students personality as introverts achieved higher than other students. Students' study habits, larger schools performed better than smaller size schools. It was also found that freshmen who were counselled by senior students performed better than when these freshmen were counselled by instructors. Students who make direct entry or are enrolled to college or university within the first two years perform better than the ones who are enrolled in colleges and universities after three years of graduating secondary school. It was also found that (Harris 1940) students who live in cities have language skills and academically perform better than the other students. Furthermore, part-time students also performed better and students who attend regularly performed better. Even teaching methods were considered as one of the factors that affects students performance.

It was also added that students' attitude towards education could affect their performance. However, one of most important findings that Harris (1940) found was students who are under probation performed better. The importance of this finding is seen in one of the results in this thesis, as the students who had low GPAs were grittier, because they worked harder and were more diligent to raise their GPA . This explains that when students are under pressure they will rely on their grit to achieve and overcome failure and setbacks. Yet, more factors that affect students' academic performance are discussed in the following section.

## 2.8.2 Self-efficacy

Self-efficacy was the highest predictor of academic performance and achievement (Al Khatib 2010; Bartimote-Aufflick et al 2015; Brannick , Miles & Kisamore 2005; Collins & Bissell, 2004; Hsiang-Ann, Edlin & Ferdenzi 2014; Gębka 2014; Lema & Agrusa 2007; Parker 2014; Schmitt 2007; Sondgerath, & Snyder 2013; Schweinle & Helming 2011; Yip 2012; Zimmerman 2000). Self-efficacy affects academic performance because it improves students' skills and mastery of the subject they are studying (Brannick , Miles & Kisamore 2005) and as Zimmerman (2000) argues that self-efficacy motivates students to learn. It is also believed that gender and emotions affects a person's self-efficacy (Schmitt 2007) while, male students overestimate their abilities (Al Khatib 2010), this could explain the reason for male outperforming female students in some Emirati contexts and studies.

Self-efficacy is driven by self-esteem and keeps students focused on their goals (Gębka 2014) at the same time self-efficacy affects both cognitive and non-cognitive performance (Phan 2014). Nonetheless, grit focuses on non-cognitive skills and performance and at the same time it can improve both cognitive and non-cognitive skills.

This results in low achieving students having low levels of self-efficacy and high achieving students having high levels of self-efficacy (Bra ʔten , Samuelstuen & Strømsø 2004; Wen Wang 2015; Yip 2012). At the same time students with low self-efficacy have higher tendency to cheat (Finn & Frone 2004) this means that self-efficacy and grit share have and have a common result which is better performance.

Lacking self-efficacy and self-esteem pushes low achieving students avoid academia for the fear of failure, therefore teachers should use different teaching methods to improve low achieving student's self-efficacy. These methods could be prepared by teachers starting with easy tasks and gradually moving to more difficult ones, this will help students to believe in their abilities and develop self-efficacy. Providing a model from other students, ask students to work cooperatively and to relate the lessons to them (Margolis & McCabe 2003). This could help low achieving students, because sometimes students learn better from each other.

Other teaching methods to enhance students' self-efficacy are using multi-media, providing students with a sample or a model of problem solving and measuring students' achievement

(Aufflick et al 2015). Students should also improve their learning strategies because their strategies influence self-efficacy (Yip 2012) and they should improve their self-esteem (Okech and Harrington 2002). However, one study found that there was no relationship between self-efficacy and performance (Madonna & Philpot 2013).

### **2.8.3 Motivation, Attitude, Aptitude and Academic Performance**

While some believed that motivation (intrinsic and extrinsic) affects students' performance and GPA to tackle difficult tasks (Afzal & Ali 2010; Davis, Winsler & Middleton 2006; Hsiang-Ann, Edlin & Ferdenzi 2014; Komarraju, Karau, & Schmeck 2009; Schweinle & Helming 2011; Ray, Garavalia & Murdock 2003; Uyulgan & Akkuzu 2014; Williams, & Williams 2011). Others found that motivation had a moderate effect on academic performance (Vanthournout et al. 2012), and some found external motivation does not affect students' academic performance (Hamzah, Lucky & Joarder 2014). While, others found intrinsic motivation and self-efficacy affect students' academic performance (Turner Chandler & Heffer 2009). This also shows that there are discrepancies regarding the effect of motivation on academic performance.

A Malaysian study found that the largest contributor to academic success and better performance was first attitude, second gender, third peer influence and finally ethnicity. However, motivation was not related to academic performance in this study (Abu Bakar et al. 2010).

It is believed that there are other variables like personality, family, university and social variables affecting students' performance (Amrai et al. 2011; Brannick, Miles & Kisamore 2009; Moldasheva & Mahmood 2014). Motivation also affects academic performance; it is seen that motivation in an academic context is to complete a task successfully. This shows that in a dentistry field the motivation levels differ in male and female. Factors that decrease motivation in academic performance are hope for the future, self-esteem, quality of instructional factors, family income and responsibilities as married students (Amrai et al. 2011).

Although male students feel more entitled in a classroom (Ciani, Summers, & Easter 2008) it is believed that female students are more motivated than male students (Cochran, McCallum & Bell 2010; Sultan & Hussain 2011; Preckel, Holling & Vock 2006; Wan Chik et al. 2012), socialising and electronic entertainment negatively affects students motivation and performance (Siebert et al.

2006) then this could explain male students being underachievers (Preckel , Holling & Vock 2006; Wan Chik et al. 2012) in these studies.

There is a relationship between motivation and achievement (Preckel , Holling & Vock 2006; Van Den Berg & Coetzee 2014). Humanistic teachers positively affect students' motivation, while authoritarian teachers negatively affect students motivation (Sultan & Hussain 2011). In a Jordanian study it was found that negative personal feelings and circumstances, helplessness, negative self-monitoring affect student motivation (Hilmi 2013). However, one study found that motivation was not a predictor of academic performance (Ahmad & Rana 2012).

To sum up, Bandura and Locke (2006) believe self-efficacy and personal goals enhance motivation and performance attainments. Students self-efficacy, determination, motivation are related to their goal-orientation which eventually affects their academic performance (Kayis & Ceyhan 2015).

However, the main aim of education is to help people learn and educate themselves, thus education allows people to shape students' lives. It is also seen as a process to change the meaning of the experience, which helps individuals to transform their lives. Part of improving learning is concept mapping, which taps into the learner's cognitive structure and this textualises what the learner already knows. As a consequence, it approximately shows what students know and based on that they expand their knowledge and abilities, then they move forward. As concept maps shows the relationship between ideas it helps students to gain new information and meaningful knowledge from their experience. This also enables them to have a positive feeling before, during and after the experience. Hence, in the mind, concepts are linked and organised and learning occurs and is enhanced once the students are able to recognise new relationships (Novak & Gowin 1984).

### **Intrinsic and Extrinsic Motivation**

One of the key sources of sustained intrinsic motivation for learning is the positive emotional experience that is derived from a meaningful learning (Novak & Gowin 1984, p. 103). While the main sources of extrinsic motivation for learning are 'grades, awards, or reprisals... although they will continue to be used in school settings, we can do much to encourage a love for learning by helping students to find and recognise the good feelings that accompany the achievement of comprehensive meanings' (Novak & Gowin 1984, p. 103).

Moreover, a meaningful learning is the awareness of the new relationship between concepts; that is the old information and new information. Consequently, this leads to a way of thinking which is based on understanding and this understanding results in a better controlled actions and these actions are more efficient and effective. Hence, raises the confidence levels and this makes the individual satisfied with themselves. However, it is believed that ‘meanings are social constructions that allow us on the one hand to exercise the powers of inference, self-understanding, and thoughtful action and on the other, to tie things together and connect part to whole’. Moreover, ‘the major factor influencing students’ construction of knowledge claims is the adequacy of their relevant cognitive structure, including their ability to use certain general strategies for attacking specific problem areas.’ (Novak & Gowin 1984, p.110-114). However, ‘although Piaget was a prominent researcher in human cognitive studies, most of his work was limited to understanding differences in functioning at various stages, and not concerned with cognitive learning. In addition to cognitive learning, students acquire attitude, values and skills.’ (Novak & Gowin 1984, p.145).

#### **2.8.4 Aptitude**

Aptitude affects students’ academic performance (Atkinson 2004; Lohman 2005; Gonzalez-pienda et al. 2002; Grove, Wasserman & Andrew 2006; McCarthy, Harris & Tracz 2014; Ray, Garavalia & Murdock 2003) especially, when students have goals; they will have higher persistence to achieve (Valle et al. 2003).

Aptitude is readiness to learn and the primary aptitude for academic success are: prior achievement in the domain, communication of new knowledge in that domain, interest persistence of learning (Lohman 2005). A Saudi study found that aptitude was a predictor of graduation success, while high school GPA and national test was a predictor of university performance (Alnahdi 2015). Therefore, attitude leads to aptitude which leads to better exam grades (Cochran, McCallum & Bell 2010). These also could lead to grit and a better academic performance, because this is needed for grit.

#### **2.8.5 Other Factors Affecting Students’ Academic Performance**

There are more factors that affect students’ academic performance like: time management (Hamzah, Lucky & Joarder 2014), SAT scores (Atkinson 2004; Greer 2008). Moderate levels of depression affects students’ academic performance (DeRoma et al. 2009), procrastination (Murray

& Wren 2003), financial status (Hogan, Bryant, & Overmyer-Day 2013), sleep disorder (Gaultney 2010). Individual effort, environment and peer interaction (Amenkhienan & Kogan 2004). Students' parents' education (Flecha 2012). Business students' attitude was a predictor of their academic achievement (Nguyen, Charity & Robson 2014). Resilience and self-esteem are also key indicators of academic performance (Kwek et al. 2013). Teachers' interpersonal relationship with students affects both students' academic performance and motivation (Amenkhienan & Kogan 2004; Foster 2010; Wentzel & Wigfield 1998). Moreover, teachers' teaching qualities (professional ability, educational ability and educational spirit and attitude) leads to students learning satisfaction eventually results in better academic performance (Wen-Hwa & Feng-Ming 2014). All of these factors including grit affect students' academic performance.

It is also believed that (Vallerand et al. 1992) motivation include: knowing to learn for the experience of learning new things, accomplishing the pleasure received from learning and feeling of competence associated with it.

### **2.8.6 Mind-set**

However, Dweck (2006) argued that a person's mind-set can either help them achieve or stop them from achieving their full potential. Therefore, effort is needed to develop these skills. Similarly, personality and intelligence could be developed. When faced by setbacks and failure, it should be considered as an opportunity to learn. Furthermore, people are different because they have different background, experience, training, or ways of learning. However, the way a person views him/herself is the way a person will lead his/her life. This indicates that believing in one's abilities to achieve and succeed, will ensure that they reach their goals.

When encountered with failure a person with a fixed mind-set would blame their circumstances for their failure, they would assume that someone is trying to ruin their lives. Eventually they will do nothing to fix their situation. They would view what happened as a measure of their intelligence and worth. On the contrary, a person with a growth mind-set will try to work harder to develop and improve. Similarly, when faced by a challenge, a person with a fixed mind-set is not sure about their abilities while a person with a growth mind-set prefers challenges, as they are also resilient when faced with failure. Table 2 below briefly compares between fixed and growth mind-sets on two levels: intelligence and personality.

Traits	Fixed Mind-set	Growth Mind-set
Intelligence	<ul style="list-style-type: none"> <li>- Intelligence cannot be changed even if new things are learnt.</li> </ul>	<ul style="list-style-type: none"> <li>- Intelligence could be changed 'substantially'.</li> </ul>
Personality and character	<ul style="list-style-type: none"> <li>- Their main concern is 'how much you will be judged?'</li> <li>- They have certain personality, which cannot be changed regardless of how much they try.</li> <li>- The important aspects of personality cannot be changed even if things were done differently.</li> </ul>	<ul style="list-style-type: none"> <li>- They are 'socially skilled, caring and cooperative'</li> <li>- Personality can be changed 'substantially'</li> <li>- There is a possibility to change basic aspects of the personality.</li> </ul>

**Table 2: list of differences between fixed mind-set and growth mind-set.** (Adapted from Dweck 2006, p.12)

In the light of table 2 it is possible to change the mind-set; hence the personality will be changed through learning. One can gradually change their abilities and personality to achieve and succeed. However, according to Dweck (2006) a fixed mind-set person measure of success is through being smart and excelling others; table 3 below explains the measure of smartness to a fixed and growth mind-sets person.

When do you feel smart?	Fixed mind-set	Growth mind-set
	<ul style="list-style-type: none"> <li>- No mistake is done.</li> <li>- Their finished work is done quickly and they persevere perfection.</li> <li>- When a task is easy for the person but difficult for others.</li> </ul>	<ul style="list-style-type: none"> <li>- When it is hard, they should try harder to achieve.</li> <li>- Spending a long time on a certain task, then the solution becomes clear.</li> <li>- Learning and progressing through challenge.</li> </ul>

**Table 3: comparison between fixed and growth mind-sets on being smart** (Adapted from Dweck 2006, p.24)

Based on the comparison a fixed mind-set person only wants to succeed, and then they will be ‘proud and superior to others’. Once failed; it is never their fault, they will blame others or circumstances. Therefore, there is a possibility that they will suffer from depression because they are consumed by their failure. To them, failure means being ‘incompetent’ and ‘unworthy’ hence they will not try to develop or learn. Whereas, a growth mind-set person blooms when faced by challenges because they like to learn from failure. Therefore, they will be more willing to put effort and commitment to find a solution and face their failure (Dweck 2006). There is a similarity between the concept of growth mind-set by Dweck, Bandura’s self-efficacy and grit by Duckworth, because having a growth mind-set and self-efficacy will lead to grit especially when facing setbacks, learning from mistakes, by trying and working harder.

As grit is based on perseverance and persistence to face setbacks and failure to learn and cope with them and then to succeed. It is also vital to have commitment to a set goal. Hence, to achieve and do all that, one should have a growth mind-set, because gritty individuals need a growth mind-set to start being gritty. This could be explained through gritty people needing to work hard to achieve and spend a long time working on a certain task or project to achieve their goals. Once that is accomplished they will be able to learn from their mistakes and progress; especially when faced with challenges. Moreover, growth mind-set individuals believe that they can and are able to improve their abilities and intelligence. Therefore, once individuals believe in their abilities then

they will have self-efficacy which is a part of growth mind-set and grit. Thus, grit is the umbrella that consists of the concepts of self-efficacy and growth mind-set in addition to other concepts such as motivation, aptitude, positive psychology and mental toughness under it.

**Leading to a success and better results** -- Having a growth mind-set will make a person believe in one's abilities and capabilities to achieve even when faced by failure and setbacks. Failure will be seen as an opportunity to learn and this is also growth mind-set. Once they believe in their capabilities which is self-efficacy and they believe that they can learn from their failure which is growth mind-set. Then, this will lead to overcoming these setbacks and having resilient and perseverance and commitment in the long run which is grit. Therefore, one concept leads to the other.

Dweck (2006) also argues that being successful is about excelling oneself, and has nothing to do with others. Failure is a chance to learn and effort leads to success. Yet, a fixed mind-set person measures success as being better than others. Therefore, failure measures the person while effort is for the talentless. Confidence is also needed to change the mind-set which is a crucial aspect part of one's personality. But the fixed mind-set person has a fragile confidence and setbacks can limit their achievements. Therefore, based on the above the first step towards a growth mind-set is to build a strong self-confidence and self-esteem in oneself. As a result, a person's mind-set should be changed to succeed.

Dweck (2006) also found that there is no difference between genders in performance. However, in a math test female scores will drop when there is a male taking the test. Women and even high 'high achieving' ones consider people's view of them an indicator of their competencies.

Praising students is not a good idea, because they will hesitate to take new challenges or risks, they will be afraid not to be smart and they will fear failure. Yet, standards should not be lowered to make students successful, on the contrary, this will result in 'poorly educated students' whose concern will be to have less effort to work (Dweck 2006). This should be applied because praising students's intelligence and removing challenges harm students more than these benefit them; this is because life is full of challenges and if facing challenges was removed from their studies then they might get depressed and not achieve not only in their studies, but also in their lives and careers.

There is a myth about ability and achievement. The story of George Danzig proves that; one day he rushed into class late and copied the two math homework equations, they were difficult and it

took him several days to solve them and at the end he found out that they were two famous never solved math problems (Dweck 2006). This story indicates that it is all in the mind-set and grit to achieve one's full potential, and growth mind-set leads to grit and eventually that leads to success. Thus, individuals should tell themselves that they are able to achieve and succeed, in order to excel and succeed, and remove any negative thoughts or ideas that cripples their abilities. They should remove from their heads or believes that they cannot overcome failure.

Personality can be the indicator of many aspects of a person's life and a study showed that results of academic performance is predicted through personality traits such as 'achievements motivation' and 'intellectual curiosity' which was better than big five personality factors. However, personality is one component of academic achievement, while independent factor is attendance and grade (Paunonen & Ashton 2001).

Based on the literature review, Duckworth argues that grit is the best indicator of age, academic performance and educational level. Hence in this thesis the hypothesis suggests that there is a relationship between grit and academic performance through their GPAs. As the higher the grit level the better the person will perform, because grit is the element that pushes people to face setbacks or failure, and try to achieve and commit to the goals they have already set for themselves. It shows perseverance and being resilient. Furthermore, it also proves that non-cognitive skills are as important as cognitive ones.

Another aspect that is related to grit is self-efficacy, Bandura (1995, 1997) emphasised that self-efficacy is vital for success and better performance because those with high levels of self-efficacy are persistent in the face of failure and setbacks, which is also explained by grit. As a result, students with high levels of self-efficacy perform better, and so is the case with grit.

In addition to students' academic performance and grit; it is believed that students' belief in their self-efficacy affected academic performance. (Zimmerman, Bandura & Martinez-Pons 1992). This also indicates that students' mind-set and the way they believe in themselves will push them to be successful; that they also could achieve then they will accomplish and fulfil their goals, succeed and perform academically better. This is because self-efficacy is how the individuals view their capabilities and abilities. It is task and situation oriented. High levels of self-efficacy helps in accomplishing tasks (Pajares 1996). This indicates that when students believe in their own abilities

and capabilities; then their level of grit will be high, and this will encourage them to work harder, hence they will perform better and achieve. In addition to that, leading them to succeed.

Therefore, self-efficacy and mindset are related to grit. The relationship could be explained as: first students should have an open-mindset where they believe that their skills, knowledge and abilities can change and improve; then comes self-efficacy where believing in one's abilities helps to perform and complete tasks. Finally, grit becomes evident, because once they believe in their skills and abilities they will have the persistence to work harder to improve and enhance their abilities and skills, giving them space to grow and learn to face setbacks and overcome them. Then to cope with them and to being resilient. Thus, they will be committed to long-term goals even if achieving them would take them a long time or years to accomplish.

### **2.8.7 Mental Toughness**

Mental toughness is an earlier version and another term for grit, and it started in the field of sports in the mid 1980s by Loehr a sport psychologist who 'coined' this term, and he defined it as 'the ability to constantly perform towards the upper range of one's talent and skills regardless of the competitive circumstance.' (Clough & Strycharczyk 2012, p. 29).

Therefore, mental toughness is defined as 'the quality which determines in large part how people deal effectively with challenge, stressors and pressure...irrespective of prevailing circumstances.' (Clough & Strycharczyk 2012, p. 1). This shows that mental toughness is close in meaning to grit, however, when it comes to the term grit; it focuses on more areas. This means that grit covers a wider range of concepts and terms, for example, grit focuses on dealing with challenges similar to mental toughness and in addition to that, it focuses on and is interested in facing failures and setbacks and overcoming and coping with them, which mental toughness did not focus on or cover and this implies that mental toughness is limited.

Moreover, Loehr found four 'key marker' to mental toughness and they all revolved around emotion. These markers are as follows: emotional flexibility –absorb unexpected emotions-, emotional responsive- stay alive and connected-, emotional strength –resist- and emotional resilience –recover- (Clough & Strycharczyk 2012). These are different factors that affects mental toughness and it could imply that in order to be mentally tough or even to be gritty, the individual

should not be sensitive or over sensitive. Yet, the main focus in mental toughness is on emotions unlike, grit that focuses on the ability and capability in addition to passion and commitment to long-term goals.

It is believed that mental toughness is crucial to develop a positive behaviour in order to deal with pressure and challenges that people are faced by on a daily basis, therefore goals should be set. It is also believed that mental toughness is important in other fields. It was found that young and older participants are better at mental toughness than middle-aged participants, moreover, they found that the female participants dealt with stress better than their male counterparts, simply because they talked about these stressors (Clough & Strycharczyk 2012).

Mental toughness depends on four pillars and they are challenge –seen as an opportunity-, confidence-high self-belief-, commitment-focus on goal- and control one’s destiny (Clough & Strycharczyk 2012). These are also part of grit as to have the confidence to face challenges and also to commit by setting goals and have the control. Yet, overcoming failure is missing in mental toughness.

It is argued that mental toughness can be measured and developed. Then it should be taken into consideration that some people are more mentally tough than others, which could enable faculty or teachers to offer the proper support needed by different types of learners (Clough & Strycharczyk 2012) which is also similar to grit, as there will be some people who are grittier than others.

Regarding performance, it is considered that to become highly performing; one should have passion, self-confidence, control what can be controlled, resilience, seeing challenge as an opportunity, being focused and the ability to know when to relax. While, the attributes that affect performance were ability, approach, reward, colleagues and state of mind (Clough & Strycharczyk 2012). However, these terms were related to performance and mental toughness, while in grit these factors and attributes are part of grit which indicate that grit covered more areas than mental toughness and this show the limits of mental toughness.

To deal with difficult situations one should be resilient and analyse the situation precisely, think of alternative solution, be flexible and possess the internal desire and drive to face challenges. (Clough & Strycharczyk 2012). These recommendations could be used to overcome setbacks.

There were some factors that affected mental toughness and these are similar to grit, it is believed that self-efficacy – believing that one has the ability to solve problems because they are effective- and exhibit hardiness – to have control and believe that one is influential, to perceive challenge and change to be normal and is a chance to grow and to have commitment which is involvement- (Clough & Strycharczyk 2012), therefore mentally tough and at the same time especially gritty individuals should possess these traits, so that they would be able to succeed and overcome setbacks.

Although most of the studies regarding mental toughness were conducted in the sports field, which is not the focus of this study (Bull, Shambrook, James, & Brooks, 2005; Cowden, Fuller, & Anshel 2014; Crust & Clough 2005; Fourie & Potgieter 2001; Jones 2002; Golby & Sheard 2004; Gucciardi, Gordon & Dimmock 2008; Nicholls et al. 2008) one study was conducted in a college in Scotland and this college was a vocational college. They found that mental toughness could improve productivity and performance and that it had a positive impact (Clough & Strycharczyk 2012). Another study conducted in a Swiss vocational college, it was found that students with lower mental toughness were prone to stress and burn out (Gerber et al. 2015). Therefore, their performance will be affected.

Some of the studies conducted was mainly in the field of sports. In their results it was found that being able to cope and being optimism were the ‘key physiological characteristics’ of being mentally tough (Nicholls et al. 2008). Yet, there were only two studies that was conducted in a vocational college.

Contrary to the common belief that mental toughness can be improved and strengthen (Clough & Strycharczyk 2012;Connaughton et al. 2008; Jones 2002), one study found that mental toughness cannot be improved or developed, moreover, it was considered ‘quite heritable’ (Horsburgh, Schermer, Veselka, & Vernon 2009).

Mental toughness was also found in business and this study implied that higher levels of mental toughness was found among senior managers and the levels of mental toughness was higher with older individuals (Marchant et al. 2009).

On the other hands, students used mobile phones or smartphones; and this affected their academic performance. Hence, the use of smartphones or mobile phones affect negatively students’

academic performance (Lepp, Barkley & Karpinski 2015), and when students use their mobile phones they are distracted by it; those students rarely use their smartphones for learning purposes. But they use it for making phone calls, browse the internet and taking pictures and other regular uses. This shows that the Saudi students did not employ the use of smartphones into learning (Alfawareh & Jusoh 2014). Therefore, in the next two sections video games and social media will be discussed and these are two factors that can be accessed through mobile or smartphones.

### **2.8.8 The effect of Videogames on Academic Performance:**

A study found that playing video games has a damaging effect on academic performance (Anand 2007; Smyth 2007; Weis & Cerankosky 2010). This is because students would spend many hours playing videogames and this pushes them to sleep less, interact with others less and as a result their academic performance will get worse (Smyth 2007).

It was observed that in a videogame, college students' performance in the game varied depending on whom they played with - a person or a computer (Proaps et al. 2015). While another study found that the strategies that students use to overcome challenges in videogames showed significance with better GPA, however, homework strategies did not improve students' GPAs (Hamlen 2014). In that case, students do not panic, fear or stress out when they fail in a level while playing a videogame. However, some fear failure in academia, hence, a study should be conducted to investigate the factors and reasons behind this phenomenon.

A study conducted in a western context showed that video games affect children's (average age 12 years old) academic performance negatively. The more they play the lower GPA they get (Jackson et al. 2011a; 2011b), however, this could also be found in a tertiary level because videogames could be considered as a distraction, yet no study was found in a tertiary level.

### **2.8.9 The effect of Social Media and Academic Performance:**

One study focused on the way culture dictates the use of social Media in two different countries (USA and Korea) the main reasons to use social media were: 'seeking friends, social support, entertainment, information, and convenience' in the two countries there were the same, yet the only difference was in the weight of the reasons of using them, for example in an American context

the students used social media for entertainment, while the Korean students used it to get social support (Kim, Sohn & Choi 2011).

However, one study showed that there is a negative relationship between the use of social media and university student's academic performance (Paul, Baker & Cochran 2012). The reason for negatively affecting the students' academic performance is because students are distracted by social media. Another study conducted in the Emirate of Abu Dhabi schools by Abu Dhabi Education Council (ADEC) showed that most of the students spent many hours using social media. Most of the participants were from private schools and the majority of these participants were female. There were some (12%) who used social media for more than 10 hours a day, while other (14.7%) used social media between 5-10 hours a day. The results indicated that when students spend a lot of time using social media; they will not be able to spend time with their families or complete their school work (Pennington 2016). Although this study was conducted in schools, it provides a general idea about students being distracted by social media and this interferes with their focus on their school work. However, this study was not conducted in a college and it was only conducted in Abu Dhabi, which cannot be generalised to other Emirates. It would be interesting to replicate the same study in different Emirates and on both private and public academic institutions, schools and colleges.

Students used social media approximately from 30 minutes to three hours or even 12 hours daily and this negatively affected their academic performance (Jacobsen & Forste 2011; Owusu-Acheaw & Larson 2015; Walsh et al. 2013).

Despite the fact that the use of social media negatively affects students' academic performance, suggestions are being made to use social media as platform for learning that could improve learning and academic performance (Al-rahmi, Othman & Mi Yusuf 2015; Rizzuto, LeDoux & Hatala, 2008; Jang 2015). With this new generation of students, it would be beneficial to use versatile and various platforms as educational resources.

## **2.9 Theoretical Consolidation**

Based on the literature review, it was found that there is a gap in the literature, regarding the study of grit in an Emirati context. Being a new field of study there is a dearth in the studies conducted, only few studies were conducted in this field and there were not in an Emirati context. These

studies were conducted in USA, UK, Turkey and a Latino community. It was also conducted in other fields other than education, like business, nursing and military. The main findings of these studies and fields are discussed below:

#### Grit in Different Context Study:

The majority of these studies were conducted in an American or a western context. The two studies have Duckworth in them (Duckworth et al. 2007; Duckworth & Quinn 2009). The first study in both conducted six similar studies to first validate the instrument (long and short scales) by using factor analysis. Once the instrument was validated, the instruments were used in one study (Duckworth et al. 2007) the long version was used and the second (Duckworth & Quinn 2009) the short version was also used. The results were similar in both studies. In the thesis factor analysis was used to establish the validation of the instrument. However, the samples were different, in the case of this thesis the participants are Emiratis. While, in the USA the participants were Americans.

The objective of the second study was to investigate if there is a relationship between grit and Big Five, correlation was used to find the relationship. It was found that grit was correlated with one aspect and that was ‘conciseness’.

The third study focused on older participants; and they wanted to predict university students’ performance and academic attainment and they focused on student’s GPA. It was found that grittier students performed better and excelled than non-gritty students.

The fourth study focused on military cadets to investigate their retention, it was found that grittier cadets completed the summer course. Study five was a replica of study four (Duckworth et al. 2007). While in Duckworth and Quinn (2009) study four was a test and retest of the stability of grit scale. It was concluded that the Grit-Scale is stable overtime and the participants were middle school and higher school students. These students were high achievers. The fifth study was on military cadets and they used regression to find the retention rate. They concluded that gritty cadets were able to complete the summer course. Finally, the sixth study was conducted on National Spelling Bee contestants and competitors. They looked at the results of the spelling bee contests and found the grittier students outperformed the non-gritty ones.

Another study was conducted by Pappano (2013) and eight item grit scale was used to find if there is a relationship between grit and academic success. This study conducted a correlation analysis

and found that there was a relation and a correlation between grit, academic success and perseverance.

Dubey in 1982 conducted a study on both male and female students each were 20. The study that was conducted focused on persistence, which is now part of grit. In the 1982 study, a different set of questionnaire was used, because the current grit scale was recently developed and was not available in 1982. However, the results found that there was no difference between gender on academic performance and persistence. Yet, it was found that students with high levels of persistence outperformed the students with lower levels of persistence.

A study conducted in the UK (Rimfeld et al. 2016) found that grit was a stronger predictor of academic achievements, however a Canadian study failed to find the connection between grit and better academic performance and GPA.

Turkish: This study was conducted on a Turkish sample (Arslan, Akin & Çitemel 2013). Their focus was on the relationship between grit and meta-cognition. In their study they used correlations and regression. They found that there was a positive relationship between grit and meta-cognition. The way that this thesis differs from this study is the sample and the use of factor analysis, however, the Turkish study used regression. This study and thesis both used correlations to analyse the results and the sample in both this study and thesis are tertiary level students.

Latino: This study found that since students have higher level of hope they will have higher levels of grit (Vela et al. 2015)

Business: in the field of business it was found that grit and the skills associated with it such as confidence, self-belief and facing challenges and setbacks in addition to learning from mistakes are essential in the field of business (Barckly's 2014; Gideon, Markman, Baron, & Balkin, D 2005; Netshivhambe2013). The focus of the field is different from this study, as this thesis focuses in an educational field.

Nursing: In the nursing field the concept of grit is growing in popularity. In a study that was conducted, it was found that grit could be nurtured; however, it was found that guidance was needed at the beginning for grit to be developed. However, they still had to find the factors that made these students gritty (McCabe 2016). This was based on experience and discussion. However, the thesis focuses on a different aspect.

Military: In the different studies conducted by Duckworth et al. (2007) and Duckworth and Quinn (2009), her fourth study focused on military cadets and she used the grit-scale to measure the level of their grit and to predicts the retention level among cadets during the first summer course. It was anticipated that grit will be the indicator of retention. Grit-scale questionnaire was employed and the results were analysed through regression. The results indicated that was a predictor for students to complete the training.

The study conducted by Duckworth et al. (2007) is similar in the use of grit-scale questionnaires. However, in Duckworth's fourth study regression was used to analyse the results because retention was being studied and the participants were military cadets. However, this thesis used correlations to find the relationship between grit and academic performance (GAP). While the participants were Emirati male and female tertiary levels students.

Another study conducted by Maddi et al.(2012) used regression to predict grit and hardiness and their retention. They found that it was a predictor to retention. The participants were in the military while in this thesis they were students. This study used regression, while the thesis used factor analysis and correlations.

Therefore, there was a need to conduct a study in the Emirati context in order to fill in the gap in the literature and add to the field of grit studies. The next chapter will explain and discuss the methodology used in this thesis and study.

## **Chapter Three: Research Approach and Methodology**

This chapter presents the research approach and methodology used in this study. It discusses the research design about site, sample, population, instrument, data collection method and data analysis method. It will explain reliability, validity and trustworthiness of this study and the limitations and delimitations. It will also describe the ethical consideration and role of the researcher to avoid bias.

### **3.1 Research Approach**

#### **3.1.2 Mixed Methods**

Creswell (2014 p.3) defined mixed methods research as an an approach that ‘incorporates elements of both qualitative and quantitative approaches.’ He also added that ‘mixed methods research is an approach to inquiry involving both quantitative and qualitative data, integrating the two forms of data and using a distinct design ..... The core assumption of this form of inquiry is that the combination of qualitative and quantitative approaches provide a more complete understanding of the research problem that either approach alone’ (Creswell 2014, p. 4).

The type of analysis of information collected will be based on the mixed methods approach. Mixed methods combine between two distinct methods; qualitative and quantitative this means that it integrates between ‘statistical findings and thick description’ it also helps to look at a different perspective and shows a better understanding of the study. Mixed methods ‘involves several phases of data collection’ at the end it can incorporate both qualitative and quantitative findings (Sammons 2010, pp. 716-719).

It will be congruent with the research hypothesis – if there is a relationship between grit and academic performance- and purpose. Regarding the quantitative part, this research will use SPSS software to enter the data collected then analyse the quantitative data by using correlations and factor analysis to find whether the results are highly significance or not significant –correlations- and for validation by the use of factor analysis. Whereas, the qualitative data will use a semi-structured in-depth interview and this will be transcribed to find the common themes that will emerge from their stories and expereinces. This thesis was conducted on male and female Emirati tertiary level students in Dubai, UAE. The questionnaires were distributed and the interviews were

conducted in semester two 2016 right after receiving the permission from the educational institution committee to conduct a study, that was in January which was before any scheduled assignment or assessment in order to have as much number of participants as possible because they will not be as busy as when their exams and projects start. However, the study was conducted in the months of January, February and March.

For non-commercial purposes, the instrument can be used from Duckworth's website, which it was also mentioned in her website. However, as a courtesy and to ask for her permission to use the grit-scale instrument, an email was sent Duckworth on 23<sup>rd</sup> August, 2014. Duckworth replied on 25 August 2014 agreeing that her instrument can be used for research purposes and not for publication. Therefore, for this study it will only be used for research purposes.

### **3.1.2 Philosophical Worldviews**

The philosophical worldviews used in this study are post positivist worldview for the quantitative approach, while, for the qualitative approach used constructivist worldview. The rationale for employing two worldviews is due to the use of a mixed methods approach. As this approach consists of both qualitative and quantitative approaches; and since each approach and method has a different worldview; therefore, there was a need to deploy the two worldviews in this study to help with the different analysis with regard to the method and approach deployed. In this sense, first the post positivist worldview will be explained followed by the constructivist worldview explanation.

#### **3.1.2.1 Post Positivist**

According to Creswell (2014) post positivist represents quantitative research, and this is because it is considered a scientific method or scientific research and therefore it is called post positivist. This approach challenges the absolute truth about any knowledge. It also explains that one cannot be positive about claims of knowledge when researcher study human behaviour or actions. This tradition began in the 19<sup>th</sup> century. He (Creswell 2014, p.7) argued that

Post positivist hold a deterministic philosophy in which causes (probably) determined effects or the outcomes. Thus, the problems studied by post positivists reflect the need to identify and assess the causes that influence the outcomes... It is also reductionists in that the intent is to reduce the ideas into small, discrete set to test, such as the variables that comprise the hypotheses and research

questions. The knowledge that that develops through a post positivists lens is based on careful observation and measurement of the objective reality that exists in ‘out there’ in the world. Thus, developing numeric measures of observation and studying the behaviour of the individuals become a paramount for a post positivist. Finally, there are laws or theories that govern the world, and these need to be tested or verified and refined so that we can understand the world. Thus, in the scientific method-that accepted approach to research by post positivists- a researcher begins with a theory, collects data that either supports or refutes the theory, and then makes necessary revisions and conducts additional tests.

There are five key assumptions for post positivist philosophical worldview (Creswell, 2014 p. 7-8). These are as follows:

- 1- Knowledge is conjectural which means that absolute truth can never be found. Therefore, any evidence established in such research is imperfect. For this reason, researchers attempt not to reject a hypothesis, but to indicate a failure to do so.
- 2- Most quantitative research starts by testing a theory. This shows that researchers in the process of making claims or refuting a claim for stronger ones.
- 3- Researchers collect data, evidence, and rationale considerations in order to shape knowledge. This is completed when researcher collect data through instruments which were based on measures completed by the respondents.
- 4- Research attempts to develop a relevant or explain the situation of concern that might describe a causal relationship. Thus, quantitative researchers predict the relationship between the variables and then they pose it in terms of questions or even hypotheses.
- 5- Validity and reliability are essential in a quantitative research. Therefore, researcher should be objective and also should evaluate their methods and conclusion to eliminate bias.

### **3.1.2 Constructivist**

Creswell (2014) stated that constructivism is often combined with interpretivism. This worldview is used in qualitative method research. Constructivism focuses on the individual’s attempt and effort to understand the world they live or work. These individual seeks to ‘develop a subjective meaning to of their experience... These meanings are varied and multiple, leading the researcher to look for complexity of views rather than narrowing meanings into few categories or ideas.’ (Creswell, 2014 p. 8).

Creswell (2014) also added that the main purpose of such studies is to focus on the participants' views of their experience or the situation being studied. The questions tend to be broad and general in order to allow participants to form their own meaning and understanding of a situation. As a result, the question should be open-ended to allow participants to express and these are formed upon interactions. Yet, it is stated (Creswell, 2014 p. 8) that constructivist researcher often addresses the process of interaction among individuals. They also focus on the specific context in which people live and work in order to understand the historical and cultural settings of the participants. Researchers recognize that their own backgrounds shape their interpretation, and they position themselves in research to acknowledge how their interpretation flows from their personal, cultural, and historical experiences. The researcher's intention is to make sense of (or interpret) the meanings others have about the world. Rather than starting with a theory (as in post positivism), inquiries generate or inductively develop a theory pattern of meaning. Hence, there are three main assumptions to Constructivism (Creswell, 2014p.9) and they are as follows:

- 1-Human beings construct meanings as they engage with the world they are interpreting. Qualitative researchers tend to use open-ended questions so that the participants can share views.
- 2- Humans engage with their world and make sense of it based on their historical and social perspectives... Thus, qualitative researchers seek to understand the context or setting of the participants through visiting this context and gathering information personally. They also interpret what they find, and interpretation shaped by the researcher's own experiences and background.
- 3- The basic generation of meaning is always social. Arising in and out of integration with human community. The process of qualitative research is largely inductive; inquirer generates meaning from the data collected in the field.

### **3.2 Research Design**

The data was collected first by distributing the questionnaire which was online –quantitative part- to the respondents (check Appendix 1), participants are chosen by purposeful and random sampling (Creswell 2003, 2013, 2014; Glesne 2011). The questionnaire is available in both Arabic and English because the participants' first language is Arabic, and English is also provided because the medium of instruction in the institution is English and it is also provided for participants who prefer English especially the students who studied in private schools.

The questionnaire used in this study is divided into two sections. The first section focuses on general and demographic information, which includes: age, academic degree, major and the year. The second section involves the 12 Grit-Scale developed by Duckworth. This is divided into two sections and includes the following:

Consistency of interest:

- I often set a goal, but later pursue a different one.
- New idea and new projects sometimes distract me from previous one.
- I become interested in new pursuits every few months.
- My interests change from year to year.
- I had been obsessed with a certain idea or project for a short time, but later lost interest.

- Perseverance of effort:

- I have achieved my goal that took years of work.
- I finish whatever I begin.
- Setbacks do not discourage me.
- I have overcome setbacks to conquer an important challenge.
- I have difficulty maintaining focus on projects that take more than a few months to complete.
- I am a hard worker.
- I am diligent.

The measurement assigned to these options is based on Likert scale. Statements under consistency of interest are measured as follows: Strongly Agree= 1, Agree= 2, Undecided= 3, Disagree= 4 and Strongly Disagree = 5 because those statements are the opposite of grit. While all the statements under perseverance of effort are going to be measured as follows: Strongly Agree= 5, Agree= 4, Undecided= 3, Disagree= 2 and Strongly Disagree = 1 with the exception of one statement ‘I have

difficulty maintain...complete', because all statements indicate grit with the exception of the mentioned statement which will be measured like the statements under consistency, because it is the opposite of grit. This means, Strongly Agree =1, Agree= 2, Undecided= 3, Disagree= 4 and Strongly Agree= 5.

Based on the literature review the questionnaire was edited to suit an Emirati context, for example two questions were included one asked about social commitments and family responsibilities and the other was about social life and whether they affect their level of grit and then academic performance.

After the questionnaires were collected the information shared by the participants and respondents were anonymous and confidential. They were kept in a password secured computer with only the researcher having access to them. The results were analysed through entering the data in SPSS software then correlation and Factor Analysis were chosen to calculate and get the statistical numbers. The results -*p* value- should equal to or be less than 0.5 to be significant to prove the hypothesis. The results were also kept in a secured computer with a password, with only the researcher having access to the information. The significance would prove that there is a relationship between grit and academic performance that indicates that a gritty person will be able to overcome failure and setbacks and reach the goals that have been set, they will also learn from their failure and be successful.

The second part of the methodology will be qualitative; this part will be conducted after the results of the questionnaire. The qualitative part will attempt to interpret and describe the experience (Merriam 2009) shared by the participants. Although it was recommended that two students could be chosen for the semi-structured in-depth interview (Creswell 2015). It will be a narrative approach and it is recommended that for a narrative only two participants are needed (Creswell 2015). However, more numbers of participants were chosen for this study to get more understanding of their experience in case some participants withdrew during the interview from the study.

Semi-structured life world interview focuses on the interpretation of the meaning of the experience which is also hermeneutics. Semi-structured also means that there will be a change in the sequence of questions as to what seen fit, for validity the participant should check the transcription of interview (Kvale & Brinkman 2009; Merriam 2009; Riessman 2009). Therefore, after transcribing

the interview; these transcriptions were sent to participants to check what they did and approve for the information to be used. However, meaning is not fixed therefore the focus should be on the themes that emerge (Riessman 2009).

In-depth interview: it provides deeper account of their interview, this kind of interviews focuses on personal matters such a lived experience (Gubrium & Holstein 2001).

Narrative: focuses on the structure of stories (Creswell 2013; Gubrium & Holstein 2001; Kvale & Brinkman 2009) it is also like a biography of an individual, which focuses on a significant aspect of the individual's experience (Chase 2005) to understand the meaning of human experience then those interpretations will be put in into themes (Merriam 2009), it will be a life story because it will be a 'personal experience, and five to seven questions are enough (Creswell 2013). Each participant shared their experience of success and failure and how to overcome failure and setbacks.

A narrative is sharing of experience and reflection that participants need to recall, it follows the order of the narrative that was shared, these sequences are significant to the participant as narrative is a natural method to remember past experience and living these episodes at some point in their lives. It follows a thematic thread that links all of the parts of the story. The meaning in such data is considered 'fluid and contextual' and it is not 'fixed and universal'. These narratives are oral and include five elements. These elements are orientation that focuses on time, place and situation, Complication is the action, while, Evaluation is the point of the story, then Resolution which is the result from the action and finally Coda or the conclusion that brings the researcher and participant back to the present. Thus this is considered to be a psychological approach (Chase 2005; Creswell 2013; Glesne 2011; Gubrium & Holstein 2001; Klenke 2008; Kvale & Brinkmann 2009; Merriam 2009; Riessman 2002).

The analysis of the narrative will be based on thematic analysis. A 'theme is a pattern found in the information that at a minimum describes and organises the possible observations or at s maximum interprets aspects of a phenomenon. A theme maybe identified at the manifest level (directly observable in the information) or at the latent level (categorising issues underlying the phenomenon)' (Klenke 2008, p 95). Thematic analysis is to establish the themes and patterns in the data that was collected, the data could be coded to investigate its core. It helps to explore if changes occur across the events or time in these narratives. Coded materials could be coded and a

comparison helps to identify the common patterns in these themes that emerged. This will also help to identify the underlying complexities in the data (Glesne 2011).

Thematic interviewing is conducted for narratives and the analysis is based on the individual's understanding of the topic. Participants should be allowed the freedom to share their stories. While the focus should be on certain important episodes in their stories or narratives, that are considered significant in the participant's perspective. However, thematic analysis is to investigate the themes and clarify them (Kvale & Brinkmann 2009). Therefore, this study tries to explore the common themes that emerges from these interviews, that are based on their stories and experience.

There are three levels of personality. These levels are level-one disposition traits, levels two characteristics adaptations and level three life stories. Each level is different from the other. Dispositional traits are about the differences found among individuals the differences are in their behaviour, feelings and thoughts. It also explores the consistency of functioning of these behaviours over time and situations. Characteristics and adaptations explore the individual's personality adaptation to challenges they are faced with and strategies and mechanism to adapt. While life stories are the narrative that incorporate past, present and future these offer unity, purpose and meaning to these narratives. These stories provide an understanding about the participants. The researcher attempts to investigate what the participants are striving for and they are striving for personal accomplishments (McAdams 2005).

Then personality differs from one person to the other, which makes it unique to each individual. Having different levels of personalities indicates that the first level is less complex and superficial, while the second and third levels are more complex and have depth. This is because the first level focuses only on differences between personalities among people. While the second level emphasises on the challenges and facing them and finally the third is sharing stories and the purpose in addition to meanings of these stories. At the same time, the researcher in this study attempts to explore what the participants are striving for in their personal accomplishments to which grit helps and enables them to achieve.

Each person is unique in the situation that they experience for this reason the focus will be on lived experience –conciseness of life- of the participants. The person is the one who gives the meaning to this experience. Yet this experience cannot be generalised, because the meaning is relevant to the individual with the experience and the emphasis is on the interpretation of this experience – it

is also explained by hermeneutics, which is to find the meaning of these experience- (Van Manen 1990). This part of the study tried to investigate the ways the participants overcome setbacks, through their experience.

In order to do that, Van Manen (1990) suggested describing the experience as it is, describing the mood or feelings, focusing one particular event that stands out, keeping it simple and describing the surroundings and how the place smells for example. This is more of gathering a narrative material through interviews. Therefore, for this study the focus will be on a particular experience regarding how they overcome setbacks and the strategies they use to do so. The participants will be telling their stories of situations they faced and the strategies they used to overcome failure.

Van Manen (1990) also argues that narratives can investigate experience, feelings and it also explores details and aspects of an experience. Therefore, the number of participants in this section will be small (Kvale & Brinkmann 2009; Merriam 2009), because it will be in-depth and narrative. Then Gadamer' Hermeneutics (1992, 2011) that interpreters and understands the meaning of an experience as a whole. Gadamer (1992, 2011) focuses on the lived experience of the person told through a narrative, he explains that hermeneutics helps to self-understand oneself. It is an in-depth understating and interpretation of the meaning of personal experience, the experience is the truth when the meaning is understood then it exists. Understanding and interpreting the meaning of part of the experience leads to understanding the whole and this is the hermeneutic cycle. Therefore, understanding the participants experience in parts will give meaning to the whole experience of grit.

Once that is covered, the participants will be asked about their perception about success and failure (check Appendix 2), how they overcome setbacks and what do they do to achieve their goals once they are faced with failure. Also what they tell themselves when they fail and when they succeed (Dweck 2006). They are also asked about the responsibilities that they have, which could affect their level of grit and academic perfomance. They were also asked about social media and if it hinders their progress in completing a project.

As for mixed methods Creswell (2009; 2014) suggested that both quantitative and qualitative are used and the strength of one method covers the weakness of the other. There are many inquiry strategies, yet the strategy that suits this study is explanatory sequential design, this design starts with quantitative method data collection to test the hypothesis and to generalise and then it is

followed by qualitative method data collection to explore and provide an in-depth view of the hypothesis. Both quantitative and qualitative will provide a better understanding of the research study, yet the truth to a mixed methods approach is what works at the time of the study (Creswell 2009; 2014).

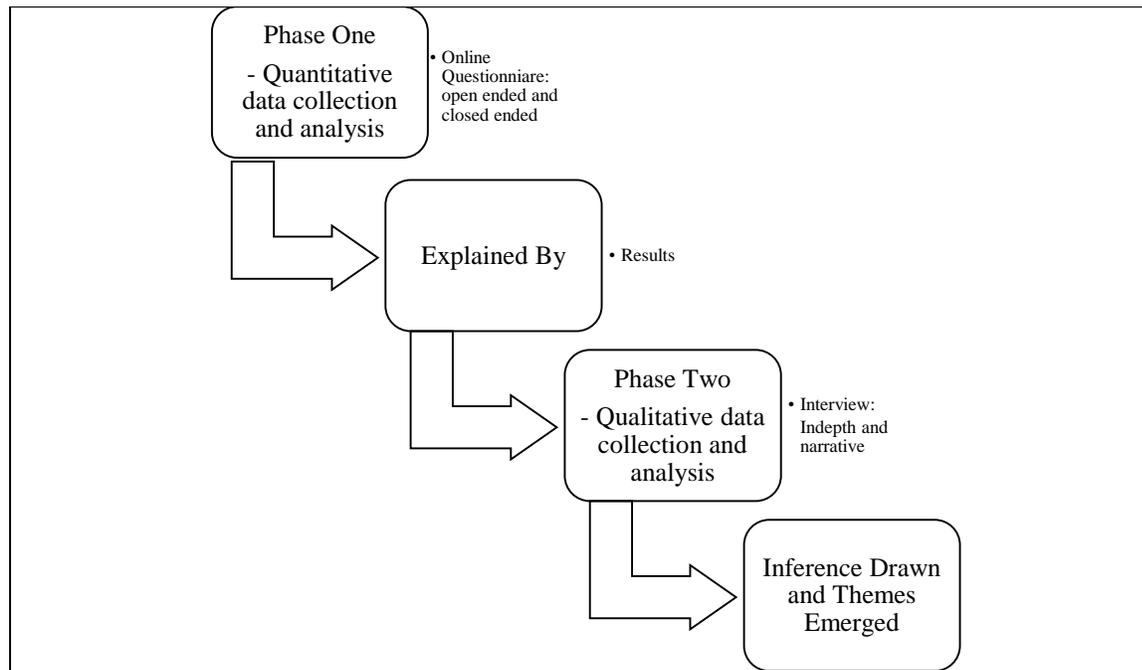
There are four main mixed methods designs (Creswell 2003,2008,2014) these are : triangulation (concurrent or parallel) mixed methods design, explanatory mixed methods design, embedded mixed methods design and exploratory mixed methods design. As for triangulation design both quantitative and qualitative data are collected simultaneously. Then the results are used to understand the problem. Equal priority is given to both methods and the data is concurrently collected. Hence, the researcher focuses on the results and outcomes to find any similarities. The strength of this design is its combination of the advantages of both qualitative and quantitative approaches. The rationale for this method is to strengthen the weakness of the data collection methods. The second design is the embedded design , which is similar to the triangulation design with the exception of the purpose of the embedded design is to collect quantitative and qualitative data simultaneously in order for the results of one form to support the other data form. Therefore, this design places the priority on one major data collection form which is mainly quantitative and then places a secondary status on the other supportive form which often is qualitative. This is used to provide an additional source of information which was not provided by the major data collection form.

While,The other is Explanatory design which does not collect the data of quantitative and qualitative at the same time. This design is divided into two phases. The first phase starts with collecting and analysing the data and then phase two follows, that is collecting and interpreting the qualitative data. The rationale for this design is since the quantitative data provides a general over view of the situation, the qualitative data provides a thorough data to further explain and refine the general overview. Therefore, this design starts with quantitative and finishes with a qualitative, the results of the quantitative is further explained by the qualitative.

The last design is the exploratory design, this is the opposite of explanatory design. The exploratory first gathers qualitative data so that a phenomenon is explored. Then the second phase is to collect the quantitative data in order to explain the relationship in the qualitative data. The

emphasis is on the qualitative data rather than the quantitative data. Therefore, the quantitative data explains the initial qualitative results and findings.

Although mixed methods use many designs, for this study the explanatory sequential design will be used. This design starts with collecting quantitative data and then analysing them; after that qualitative data are gathered and analysed to explain the quantitative results (Creswell 2012; Creswell 2015; Teddlie & Tashakkori 2003; Teddlie & Tashakkori 2009). The figure below explains the way to conduct a sequential study in mixed methods research.



**Figure 4: The process of conducting a Sequential Design** (Adapted from Creswell 2012, p. 541; Creswell 2015, p. 39; Teddlie & Tashakkori 2003, pp. 223-227; Teddlie & Tashakkori 2009, p. 171)

In the case of this study the quantitative data will provide the level of significance of grit and academic performance to face setbacks and be successful in students' studies and careers, while the qualitative data will help explore how they overcome setbacks and the approaches they use and at the same time it will explain the quantitative results.

### 3.2.1 Type of Quantitative Methodology:

In any study, researchers should consider how to add to the field, to develop the current practice or to improve the policies (Creswell 2003). For this study the main focus will be on the factors

that the hypothesis is narrow and the data to be collected will be quantifiable and then it will be analysed through using numbers and statistics. Conducting a quantitative method helps to eliminate bias because it is objective and detaches the researcher (Balanaues & Caputi 2001; Creswell 2003; Creswell 2008; Creswell 2014). The quantitative method is easy to analyse and report, however, not all opinions are included therefore it could be inaccurate (Allison 2013). To solve this problem the sample should be large enough to provide equal opportunity to participants to be selected in the study, and to avoid errors.

### **3.2.2 Site**

For this study the site chosen was a higher education institution located in Dubai, both male and female campuses were the focus of this study. Students studying in this higher education institution are from other Emirates as well. Moreover, the reason for choosing this particular institution was because the campuses, which are located in Dubai have the largest numbers of students when compared to their sister institutions. They also have different batches, morning and evening students.

### **3.2.3 Participant Selection and Sample**

The participants were chosen based on random and purposeful sampling (Glesne 2011; Merriam 2009), furthermore Glesne (2011) explained that there are different strategies to select a sample and the strategies that applies to this study are homogenous, hetrogenous or maximum variation and snowball. Accordingly, in this study the sample is homogenous because they are all Emirati tertiary level students in a particular educational institution, while the hetrogenous or maximum variation comes from the participants being from different genders which is both male and female. These participants study in different departmenst, they are in different age groups, however, the majority are in their twenties. Most of the particioants are from the Emirate of Dubi, yet there are some participants from the other Emirates such as Sharjah, Abu Dhabi, Ajman, Fujairah, Ras al Khaimah and Umm al Quwain. Not only that, but they are also studying in different majors and are in different academic years in their college, for example there are students in year one or two even three and four. Finally, snowballing was administered when teachers from both male and female campuses agreed to share the questionnaire links with their students. In addition to that the researcher asked her contacts to share the link with anyone they know are students studying in this

particular educational institute in Dubai; which they willingly did. Table 4 below summarises the demographic information of the quantitative methods respondents.

Age * Gender Crosstabulation					Emirate * Gender Crosstabulation					CurrentMajor * Gender Crosstabulation					Year * Gender		Gender		Total		
	Age	Count	Gender		Total	Emirate	Count	Gender		Total	CurrentMajor	Count	Gender		Total	Year	Foundatio	Count	Gender		Total
			Male	Female				Male	Female				Male	Female					Male	Female	
	18-19	Count	25	87	112	Abu Dhabi	Count	1	1	2	Foundations	Count	3	4	7	Year 1	Foundatio	Count	14	12	26
		% of Total	7.5%	26.0%	33.5%		% of Total	.3%	.3%	.6%			% of Total	.9%	1.2%			2.1%			% of Total
	20-24	Count	79	93	172	Dubai	Count	103	166	269	Applied Communication/Media	Count	7	9	16	Year 2	Year 2	Count	17	57	74
		% of Total	23.7%	27.8%	51.5%		% of Total	30.8%	49.7%	80.5%			% of Total	2.1%	2.7%			4.8%			% of Total
	25-29	Count	10	11	21	Sharjah	Count	13	28	41	Business	Count	30	90	120	Year 3	Year 3	Count	32	40	72
		% of Total	3.0%	3.3%	6.3%		% of Total	3.9%	8.4%	12.3%			% of Total	9.0%	26.9%			35.9%			% of Total
	30-34	Count	7	13	20	Ajman	Count	4	5	9	Education	Count	0	15	15	Year 4	Year 4	Count	39	73	112
		% of Total	2.1%	3.9%	6.0%		% of Total	1.2%	1.5%	2.7%			% of Total	0.0%	4.5%			4.5%			% of Total
	35-39	Count	4	4	8	Umm AlQuwain	Count	0	7	7	Health Science	Count	0	31	31	Year 4	Year 4	Count	23	27	50
		% of Total	1.2%	1.2%	2.4%		% of Total	0.0%	2.1%	2.1%			% of Total	0.0%	9.3%			9.3%			% of Total
	40-45	Count	0	1	1	Ras Al Kahimah	Count	1	2	3	IT/CIS	Count	20	18	38	Total	Total	Count	125	209	334
		% of Total	0.0%	.3%	.3%		% of Total	.3%	.6%	.9%			% of Total	6.0%	5.4%			11.4%			% of Total
	Total	Count	125	209	334	Fujairah	Count	3	0	3	Engineering	Count	65	41	106	Both IT and Business	Both IT and Business	Count	0	1	1
		% of Total	37.4%	62.6%	100.0%		% of Total	.9%	0.0%	.9%			% of Total	19.5%	12.3%			31.7%			Count
						Total	Count	125	209	334	Total	Count	125	209	334						
							% of Total	37.4%	62.6%	100.0%		% of Total	37.4%	62.6%	100.0%						

**Table 4: Provides a demographic summary of the quantitative methods respondents**

The total number of students that took part in the online questionnaire was 334 students Emirati both male and female. Based on table 4, it shows that there are more female students than male, the majority of the students are in their early twenties (20-24 years) this is approximately 51.5% which implies that more than half of the respondents are at that age. Then this percentage is divided into male (23.7%) and female (27.8%) which also indicates that there are more female students than male. Then, students who are 18-19 years old were the second highest percentage, as they were 33.5% and this was divided into male being 7.5% and female 26%.

The second section is the Emirates that the students are from, based on the results of the Crosstab, it showed that the majority of the students are from the Emirate of Dubai (80.5%), as the campus is located in Dubai, therefore, most of the students are from Dubai and they are more than half as the percentage is very high. From this percentage, 30.8% are male students while 49.7% are female. Students in these two campuses are not only from Dubai, however there are students from across the UAE and from the other Emirates in a lesser number than the students from Dubai. Thus, the second largest students' population come from the Emirate of Sharjah (12.3%) and they are studying in Dubai. The students from the other Emirates are lesser in number such as Ajman

(2.7%), While, Umm AlQuwain is (2.1%) Then Ras Al Khaimah and Fujairah respectively (0.9%), and finally Abu Dhabi (0.6%).

However, there are other campuses (17 campuses in total) across the UAE. The rationale for students studying in Dubai at the time of this study being conducted, despite that fact that they are from another Emirate is the following; for example, there are more modules or courses offered in Dubai Campuses than the other campuses in the other Emirates. Then, Dubai Campuses offer both morning and evening classes when the latter, especially offers higher education for working students. These students work in the morning as the majority have a full-time job, and would like to proceed with their higher education therefore, they are offered classes in the evening because that would be the only time they could attend their classes in the college. The other reason would be that these working students in spite of being from another Emirate they would be working in Dubai, thus the Dubai campuses are closer to them than the other campuses. These are the reasons that makes students study in the Dubai campuses and these reasons vary from one student to the other.

These students studying in this higher educational institution are at different levels regarding the year that they are studying at, most of the respondents are in Year 3 of their programme (33.5%), when male participants consists of (11.7%) while their female counterparts consist of (21.9%). This also indicates that there are more female students than male students are in this college. This is followed by Year 1 students who are (22.2%) and the male being (5.1%) and the female (17.1%). Then there is the Year 2 students who are (21.6%) and from this there are (9.6%) male and (12%) are female. Indicating two things, the first that there are more female students than male students are, and the majority of respondents are in Year 3 while this is followed by Year 1 and Year 2 which are very close in their percentage.

These respondents studying in Dubai campuses are enrolled in different programmes, these programmes are enlisted as Foundations, Applied Communication, Business, Education, Health Science, IT/CIS, Engineering and there is one student who studied both IT and Business. It also shows a similar result of the female percentage being higher in number than the male percentage. Most of the respondents are Business major students (35.9%) there are (9%) male students and (26.9%) female students. While, this is followed by Engineering major students with the total of (31.7%) and the male students were (19.5%) while the female (12.3%). Thus, the results of the

Engineering major indicates that there are more male students than female students. Similarly, in the IT/CIS major there are slightly more male students (6%) than female students (5.4%). Therefore, the only two majors that are more male students than female is the Engineering and IT/CIS.

However, in Health Science there were (9.3%); and they were all female students, likewise in education there were (4.3%) and they were all female as well. This implies that in these two modules or courses the Health Science and Education, there are only female students; suggesting that these two courses (Health Science and Education) are offered in the Women's Campus. Finally, the Applied Communication major, there are about (4.8%) of the total major and the male students are (2.1%) whereas, the female students are (2.7%) hence their percentage is relatively close and there is no major difference among them. In total, based on the results displayed in the table, the most popular major among students studying in this higher education institution is Business followed by Engineering, while the least favourable major is Education.

On the other hands, the qualitative in-depth interview participants were lesser in number when compared to the quantitative questionnaire respondents. The reason for this difference in the sample size is that the quantitative requires a big sample to find the significance and generalise the results, however, the qualitative requires a smaller sample size because the aim is to interpret the participants' experience and give meaning to them. Therefore, qualitative interviews require fewer participants because it explores their experience in depth for rich information. As for the participants in this study, there were three male participants who all studied Engineering from Aviation and Electrical majors. Whereas, the female students were one from the Health and Science department, four from education and six from the business department, which makes the total of 13 female students participants.

A qualitative study needs a small number of participants, while quantitative study needs a large number of participants and statistical analysis to describe a trend or a relationship among variables; and the instrument is a tool to measure variables when collecting data. It also uses mathematical procedures like SPSS for statistical analysis (Creswell 2008). Most of the time sampling is purposive or purposeful, and is not only snowballing because it is difficult to generalise from such sample, as participants will be similar to each other (Palys 1997), however, there were a few which was obtained through snowballing. In addition to that the sample should be representative so that

the results could be generalised. Sampling is best to be random because each member of the population will have an equal chance to participate in the study. If sample is homogenous then sampling error decreases (Long, Convey and Chwalek, 1985).

In this study the sample required will be both male and female Emirati tertiary level students. The reason for that is first there are no studies conducted in an Emirati context, second to find which gender is grittier and finally, because there were mixed results about academic gender performance some arguing that Emirati male student perform better than Emirati female students while others argue the opposite.

Sample size depends on the amount of information obtained (Merriam 2009), however, at the beginning the number of participants that was aimed for was 400 students, however, the number reached for this study is 344. The reason for a big number was because in quantitative research it is recommended to have a large sample so that the results are significant and to generalise from the study conducted, and also if some participants did not return the questionnaire, the number will still be significant. While for an in-depth interview two will be enough because it is in-depth and detailed interview. Choosing Emirati tertiary level students was random and purposeful and at the end snowballing was used. Therefore, research hypothesis which will study an Emirati sample at a tertiary level, and because an Emirati sample was not available in the body of literature. This sample will also provide information about whether the Emirati sample possess grit.

In a quantitative study the focus on association or relationship among variables to reach to a 'pattern' for the sample is called 'correlation research'. There are many ways to choose participants for a study; yet the sampling strategy should ensure that every member of the population has an 'equal opportunity' to be represented in the study; this is called probability 'random sampling' and it eliminates bias (Balanaues & Caputi 2001; Gorard 2001; Creswell 2003; Creswell 2008; Creswell 2014; Munn & Drever 2004; Shadish, Cook & Cambell 2002). Also quantitative study tests theories, to describe relationship among variables (Creswell 2014).

It is also advised to aim for a large sample to reduce any error, (Blaikie 2003; Creswell 2003; Creswell 2008; Creswell 2014; Gorard 2001; Munn & Drever 2004; Palys 1997; Shadish, Cook & Cambell 2002; Vogt 2007) some suggested 30 participants for correlation studies, while others (Gorard 2001) suggested 120 participants to have accurate results. Therefore, a large sample and sample representativeness is required to generalise (Vogt 2007). While, others (Balanaues &

Caputi 2001), argued that 10-20 participants is small, while 30 and larger is better, and if the participants are not equally selected then use non-probability techniques (examples opportunistic: ones most likely to participate and cooperate, snowball: contacting people whom they might know and are willing to participate; and sampling judgment: age, gender and occupation). Another researcher suggested that 10-15 participants is not enough to reject the null hypothesis, yet the number should be more than 20 participants (Harris 2008). However, the sample should be more than 30 because less than that is considered small (Field & Hole 2003). While it is suggested that 100 participants at least are needed (Brace , Kemp, & Snelgar 2006; Brace , Kemp, & Snelgar 2009). Therefore, the number of participants in this study was 334, because the larger the number of participants the more significant the result. Although the number of respondents that the researcher opted for was 400 participants.

The researcher should specify the sample, and if the sample is homogenous (similarity among unit is being examined), the selection should be random, best to represent sample and reduces sample error (hypothesis will decide which sample to choose), heterogeneous (differences among units being examined). However, it is not the quantity but the quality of the sample that should be taken into consideration. This is because a big sample does not mean representativeness, therefore, the focus should be on the way they are sampled, hence attributes are explained and not the people (Palys 1997). However, the best sampling technique should be based on the choice of being random, hence, the choice should be random (Harris 2008). In the case of this thesis the sample is homogenous as they are all Emiratis. Yet, it is also heterogeneous at the same time because of different genders (males and females), different emirates, majors (Business, IT, Health Science, applied Communication and Engineering) and morning and evening students. In addition to that they are also studying at different years.

The number of participants should be stated, along with age, course of study and if there were any inducement given to participants (Harris 2008). In the case of this study the number suggested was 400, to ensure that adequate number will be obtained in case some participants do not return the questionnaires. Also other demographic information will be gathered from the respondents. However, the number reached in this study was 334 which is still acceptable.

It is recommended to gain permission from the institution and provide participants with consent form to ensure their 'privacy' and confidentiality (Creswell 2003; Creswell 2008; Creswell 2014).

Accordingly, permission was obtained from BUiD then another permission was asked from the targeted higher education institution, their ethics forms was filled and sent to them. After that the researcher waited for their approval and received it, then the study was conducted with the students at that tertiary education institution.

### **3.2.4 Questionnaire:**

A questionnaire is the most common technique used to collect data, it helps to identify trends or attitudes of certain sample and the aim of using a questionnaire is to generalise, it could consist of open-ended questions -respondents answer the question which best suits the question and no categories is needed, it is to generate more ideas, to monitor the trend overtime and participants are not influenced by the options provided. In contrast closed ended questions which are provided with specified, categories, and is quick and easier to analyse; an example is : Likert Scale, which is widely used to measure attitude, opinion, intention, perception and preference, or ranked (difficult to analyse). There are two attributes in a Likert Scale and that the item or the question and the options where participant decides to what extent they agree or disagree with the statement (Allison 2013; Balanaues & Caputi 2001; Gorard 2001; Munn & Drever 2004; Palys 1997; Peterson 2000). Yet, people prefer to put themselves into categories, and face-to-face questionnaires have a higher rate of response, while email questionnaires have less rate of response (Palys 1997).

Thus, the questionnaire used in this study (Appendix1) uses both open-ended and closed-ended questions for variety and Likert Scale is also used; because it is easier to answer and analyse and finally at the beginning the decision was to have paper based instead of emails to have a higher response rate. However, after using an online questionnaire the response rate was quite high. The reason for using an online questionnaire was first due to a request from the administrative assistants in the targeted higher education institution. Nonetheless, later it was found that it is easier to administer an online questionnaire to recruit a larger number of participants. Since, the survey link was sent to a larger number in a short time in the case of this thesis the questionnaire link was emailed to all students. Thus, this saved commuting time to and from the two colleges as they were located in different parts of the city.

Results will attempt to demonstrate if the hypothesis is being supported or refuted, a questionnaire can include age, gender, and education. Yet, when designing a questionnaire the following should

be avoided: asking the research question, using leading questions, too long instrument (maximum of 8 pages) because a general rule is to keep the instrument short and simple to ensure higher response rates, pointless questions, negatives, double-barrelled questions, and jargons. Once these are avoided the response rate will be higher. Generally in a questionnaire there should be a mix of questions used to avoid boredom (Allison 2013; Balanaues & Caputi 2001; Gorard 2001; Munn & Drever 2004; Nayela 2015; Palys 1997; Peterson 2000). All of the above were taken into consideration when designing the current questionnaire.

### **32.5 The Question Order**

To attract the participant to complete the questionnaire, the researcher should start with easy and general questions that lead to more complex questions, ending with open-ended questions to allow participants to add a different angle to the study. It should have an easy layout like title, name of the researcher and contact details, the questions should be divided into categories with instructions, a consent form and it is better to start with the demographics (Allison 2013; Coombe 2008; Dornyei 1993; Munn & Drever 2004; Palys 1997; Robson 1993). Furthermore the questions should be in the same order to all the participants (Peterson 2000). These were also followed in the design of the questionnaire.

However, 'opinion questions' are not easy to analyse because there are many aspects to an opinion, while 'factual information' have higher response rate if it is easy to understand (Munn & Drever 2004). The language should be clear; the instrument should be brief with clear questions and categories, and it should be easy to understand (Balanaues & Caputi 2001; Creswell 2014; Munn & Drever 2004; Peterson 2000). Other factors to consider are if the wording have the same meaning to all participants; if participants have enough knowledge about the topic, and if there is prestige bias like higher level of education (Balanaues & Caputi 2001). It is believed that questionnaires are widely used in education and to measure attitudes (Vogt 2007). These were also taken into consideration when the questionnaire was developed.

In questionnaires one should identify independent variables- cause or influence the outcome- and dependent variables – the outcome of the influence if the independent variable- (Creswell 2014). The questionnaire that will be used is divided into categories and set of instructions were given for the participants and the language is clear. It is also important to be aware of the advantages and

disadvantages of questionnaires, to know how to compensate for the disadvantages (Mohammad 2015).

### **3.2.6 Advantages of a Questionnaire:**

The advantages of using a questionnaire are: being easier to gather information from a large number of participants, it saves time and effort, and costs less (Allison 2013; Balanaues & Caputi 2001; Coombe 2008; Creswell 2012; Creswell 2015; Dornyei 2003; Gorard 2001; Munn & Drever 2004 ; Robson 1993, Vogt 2007). It provides ‘objective data’ and responses are kept anonymous and confidential because it is not easy to track who answered which questionnaire (Peterson 2000; Vogt 2007). Also it is used to gather ‘accurate and relevant information (Allison 2013). In open-ended questions different responses should be categorised in most common responses, the advantages of this question is not imposing the answers on the participants and they are given the freedom to think about the topic (Munn & Drever 2004; Mohammad 2015).

### **3.2.7 Disadvantages of a Questionnaire:**

On the other hands, the disadvantages are information is described and not explained, it takes longer to code open-ended questions (Coombe 2008; Dornyei 2003; Gorard 2001 ; Munn & Drever 2004; Robson 1993), some might leave questions unanswered because of boredom, fatigue, language difficulty (Coombe2008, Creswell 2012; Creswell 2015; Dornyei 2003; Gorard 2001 ; Munn & Drever 2004; Robson 1993), embarrassing questions or the ‘position effect’ sometimes an answer is chosen because of its position among other options, or social desirable or prestigious answers, however, it is ‘not a major influence’ (Peterson 2000). Sometimes participants leave the answer to the questions blank, in that case there is an option in SPSS for that; which is missing values (Field 2009).

Self-administered questionnaires are recommended because the participants will complete it by themselves resulting in less bias results, and it will also show trust which will lead to more candid and truthful responses (Gorard 2001). Therefore, the questionnaire used in this study was self-administered because it would be less biased in the results. However, Duckworth criticised self-administered questionnaire, because respondents may choose answers that sound better and is prestigious and this could lead to response bias. Therefore, to overcome this problem the participants were reminded that their answers are confidential and their identity will be

anonymous. Hence no one could trace the answers back to them. Table 5 below compares between the advantages and disadvantages of the different types of questionnaires (Mohammad 2015).

All Types of Questionnaire	Group-Administered Questionnaire	Self-administered Questionnaire	Mail-Out questionnaire
<p>Advantages/Strengths</p> <p>Easy to offer respondents anonymity, and for respondent to feel that anonymity is provided</p> <p>Good way to mass a lot of data quickly</p> <p>Relatively inexpensive compared to interview techniques</p> <p>Structured questions make for few easy data coding and compilation</p>	<p>Can clarify questions for respondents if they ask</p> <p>High response rates, especially in “captive” settings.</p> <p>Useful when population of interest works for or resides in certain location</p> <p>Easy for respondents to see that the process is anonymous</p>	<p>If researcher is there, can respond to questions and clarify ambiguities</p> <p>Medium response rates among questionnaire techniques</p> <p>Respondents can answer in privacy</p> <p>Good for sensitive issues where anonymity is provided</p>	<p>You can cover a large area with less than \$1 in stamps</p> <p>Good to get heterogeneous sample</p> <p>Anonymity is maximised</p>
<p>Disadvantage and limitation</p> <p>Literacy required to complete the questionnaire</p>	<p>Privacy may not be guaranteed if participants are shoulder- to- shoulder</p>	<p>Researcher, if not present, cannot clarify ambiguities</p>	<p>Thick questionnaire reminder mailing will add to the cost</p>

<p>Vocabulary must be appropriate for full range of respondents</p> <p>Researcher's data are limited to what's on the paper (i.e. no nonverbal or contextual cues)</p>	<p>Respondents may be influenced by vocal respondents who make comments loud</p>	<p>Misinterpreted questions and non-response not caught by researcher until too late</p>	<p>Researcher cannot clarify ambiguities and misinterpretations</p> <p>Usually low response rate</p> <p>Can not tell whether it was intended respondent who actually completed the questionnaire</p>
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**Table 5: Advantages and disadvantages of the different kinds of questionnaire** (Adapted from Palys 1997, p. 148)

Therefore, based on the advantages and disadvantages the questionnaire will be self-administered and because it has a better response rate, and based on personal experience email questionnaires have low response because people ignore or delete those emails. However, due to the request from the administrative assistants in the colleges an online survey was created and they emailed the link to the students. It was found that at the beginning the response numbers were low, however, after reminders were sent the response rate increased and got higher. The questionnaire was mainly based on on the grit-scale and this scale will be discussed in the next part.

**3.2.8Instrument: Grit-Scale**

There was no instrument to measure grit; therefore, Duckworth developed one; a 'self-report questionnaire' called the Grit Scale (Duckworth et al 2007), and it is used in the West as a Psychological test (Perkins-Gough 2013).

In Duckworth's scale; participants choose how much they agree with the statements; it is explained by the higher the grit the more the participants can achieve; she also argues that some aspects of grit can be taught (Wyatt 2008; In Association for Supervision and Curriculum Development 2013).

To validate this instrument Duckworth conducted six different studies that used the Grit scale (Duckworth et al. 2007). These studies showed:

Study 1: used factor analysis to develop and to validate the instrument; the sample was 25 years old and older. The question was if grit grew with age, to capture the attitudes, behaviour of high achieving individuals. Items selected showed the ability to sustain efforts in the face of adversity. She found that some people sustain effort not because of interest but because they are afraid of change, complaint with the expectations of others or they are not aware of other options (Duckworth et al. 2007). Items were rated in a 5-point scale.

They found that more educated participants scored higher in grit than less educated ones with the same age group and this is what this study intended to research and it also was the aim of the research. Regarding grit and age, respondents learn from experience and that changing plans and goals is not the best strategy to succeed.

Study 2: she used regression to find if grit and education are associated, the results showed that the higher the level of grit the less participants changed their careers.

Study 3: regression was used to test if grit was associated with GPA among undergraduate in university; the result was that the gritty students outperformed their less gritty peers, this study include scores of SAT and some of the smart students were in the less gritty category. This shows that the less intelligent students work harder to compensate.

Study 4: regression was used in the military freshmen cadet to predict retention over the first summer; it was found that grit was the indicator of retention. Moreover, the gritty cadets were able to complete the summer training course.

Study 5: was a replication and extension of study 4; they found that grittier cadet were more likely to complete their first summer of training; where grit and conscious was highly related.

Study 6: regression was used in 2005 finalist of spelling bee. The purpose was the interest of importance of grit to exceptional extracurricular accomplishment; it was found that age and grit was positive. However, grit and verbal were not strongly related. Gritty finalist outperformed less gritty peers because they studied harder and longer (Duckworth et al. 2007).

Limitations to her study were (Duckworth et al. 2007) it relied on self-report, social desirability bias (to look good), the scale asks participants to reflect based on their characteristics approach to goals, setbacks and challenges. Past behaviour predicts future behaviour; to answer there is a consistency of behaviour across time and current study does show how grit relates to other variables to predict achievement such as self-efficacy. Despite the terms being related to each other.

### **3.2.8.1 Methodology (instrument)**

The instrument was designed as an online questionnaire. The software used was Qualtrics, which the institution gave the access within two days. However, it took the researcher approximately one hour to figure how to create an online questionnaire and which tools to use. The questionnaire included a consent form which explained the respondents' right to withdraw and the confidentiality of the information provided, in addition to anonymity. When they clicked the next arrow they would start the questionnaire, however, if they did not want to participate then they leave the page.

The questionnaire consisted of both closed and open-ended questions. The open ended questions were at the end of the questionnaire, while the closed ended questions were at the beginning of the questionnaire. The questionnaire was divided into three sections, with every 10 questions on one page.

To ensure that questions were answered, respondents were reminded of the questions that they left blank, and they will not move to the next section unless they completed the first. At the end of the questionnaire respondents were asked if they wanted to participate in the second part of the study which was an interview and contact information was provided for them.

The survey link was emailed on 17 January 2016 to the administrative assistant in the tertiary educational institution Dubai campuses both men's and women's, the administrative assistants were requested to share the link with the students in each respected college. The data was collected in January, February and March. The number of the students in January, 2016 is as follows: at men's campus was approximately 2300 in January of 2016 while the number of the students at women's campus was 2659 students. In the women's campus, there are about 300 students in the foundation Level, 83 in Applied Diploma and more than 2000 students in the different bachelor programmes. The low number in Foundation is due to the students entering the college as a direct

entry, which means that they have a better level of English. However, at the men's campus, the number of students was approximately 2300. The details of the categorising of this number unfortunately were not shared.

The number of participants in this study was originally 204 who completed questionnaires, however, after sending reminders for the faculty to share the link and remind their students to complete the questionnaire the number reached was 334 and these questionnaires were used in the study. However, there were 16 incomplete questionnaires and SPSS missing value option for incomplete responses was used. Other questionnaires were empty because the students probably opened the link but did not answer any questions and were automatically discarded.

The benefit of using an online questionnaire, is that it separates the completed from uncompleted questionnaires. These incomplete questionnaires are saved for a week to be completed and after a week the incomplete questionnaires will be deleted. Moreover, both men and women's campus were located separately on different parts of the city, and driving to each location could take approximately an hour due to traffic jams, thus the online questionnaire saved travelling and commuting time to and from the campuses.

### **3.2.9 Data Analysis**

Once the questionnaire was filled and collected, records were kept of the numbers of questionnaires distributed and the numbers of returned questionnaires. First a descriptive data will be explained to give a summary of the general features of the responses, then the results of factor analysis will be used to validate the instrument in the Emirati context as it was modified. After that correlation will be used to statistically find if the relationship between variables is significant, the two variables could be associated and this association is the fundamentals of correlation, the two sets of scores are not manipulated and the scores are recorded as given. Correlations provide a natural view of the question being researched, because the variables are not being influenced, and scatterplot is used to show the data (Brace , Kemp, & Snelgar 2006; Brace , Kemp, & Snelgar 2009; Creswell 2003; Field 2009; Field & Hole 2003; Gorard 2001; Greene & D'Oliveira 2005; Vogt 2007).

The only problem with correlation variables being measured simultaneously is that it provides no information about the continuity between different variables. The interest is if there is change in

one variable, it can cause the change in the other variable; therefore if one deviates from the mean the other variable will do the same.

Though a quantitative data requires the independent and dependent variables to be identified, some argue that there is no independent variable or a causation in a correlation research (Brace, Kemp, & Snelgar 2006; Brace, Kemp, & Snelgar 2009).

Correlation scores go in two direction either positive correlation which is variables are moving in the same direction, or negative correlation when the scores of one variable is moving opposite the other variables (Greene & D'Oliveira 2005). Pearson is used for interval data, the rationale to this method is to find if there is a relationship between variables and to look for significance in the scores. To represent the data a scatterplot should be used (Brace, Kemp, & Snelgar 2006; Brace, Kemp, & Snelgar 2009; Greene & D'Oliveira 2005). However, Harris (2008) argued that it is not easy to identify the dependent and independent variables in a correlation because variables are not manipulated, instead the focus is on the natural changes' or 'differences' to find which variables relate with each other.

In a correlation the focus is the co-occurrence of variables, the casual variables are not being manipulated and therefore the effect is not measured. As a result, comparing the effect when casual variable is present against when it is absent is not measured (Field 2009).

The choice of correlation best suits the hypothesis because it measures the relationships between two variables being tested (Gorard 2001). Yet, correlation is not causation, because it is not possible to identify the variables that come first (Shadish, Cook & Cambell 2002). Yet, it is not easy to predict human behaviour because it varies and prediction is made through looking at relationship between variables to predict human behaviour (Greene & D'Oliveira 2005).

This study will also use Factor Analysis, this is because to find if more factors 'underlie' a bigger number of variables, or if there is an underlying structure. In other words to find there is a structure in the correlation between more variables. Factor analysis helps to measure what cannot be directly measured and it enables to find the structure of the set of variables and measure them as well. Finally it helps to reduce the set of variables (Brace, Kemp, & Snelgar 2006; Brace, Kemp, & Snelgar 2009; Field 2009; Field & Hole 2003 & Greene & D'Oliveira 2005).

Moreover, 'Factor analysis is used to confirm your presumed subscale structure. This analysis will rather be used to confirm your presumed subscale structure. This analysis will be rather unstable for small samples, so its results should be viewed as indicative rather than definitive.' (Long, Convey and Chwalek 1985, p 95).

### **3.2.10 Dependent and Independent Variables**

Dependent variable is the effect of the outcome or the variable we manipulate, and is needed to be understood and depends on the independent variable; while independent variable is the cause or the variable being tested and is the variable we measure (Allison 2013; Field 2009; Greene & D'Oliveira 2005; Harris 2008). In this study the dependent variable is grit and the independent variable is GPA. Other independent variables are age, major, year, academic degree, Emirates, and school being private or government or students being in science or arts streams.

There are four levels of measurement: nominal: are just names or categories to label no rank is required, for example gender, ordinal: are ranks, the categories are ordered from highest to lowest, for example a Likert Scale, interval: are equal distances between any two adjoining numbers, but no meaningful zero point, for example: IQ scale. While ratio scales: have equal intervals and a true zero point, for example: income. Zero means the variable has none of the property. On the statistical level of measurement parametric are ratio or intervals and nonparametric are nominal and ordinal, (Balanaues & Caputi 2001; Blaikie 2003; Brace, Kemp, & Snelgar 2006; Brace, Kemp, & Snelgar 2009; Field 2009; Field & Hole 2003; Greene & D'Oliveira 2005; Vogt 2007; Williams & Monge 2001) and variables which are strongly linked casually will most often be correlated (Vogt 2007). This will help in analysing the result when using SPSS (Mohammad 2015).

### **3.2.11 Statistical Analysis:**

First descriptive data is used to 'explain main features of data' or the main features of the data that helps to understand our findings (Harris 2008; Field & Hole 2003; Brace, Kemp, & Snelgar 2006; Brace, Kemp, & Snelgar 2009). Then the inferential is used to clearly and accurately explain the scores and they should be related to the descriptive (Brace, Kemp, & Snelgar 2006; Brace, Kemp, & Snelgar 2009; Field & Hole 2003; Harris 2008). Figure is used to give an idea about the shape of the scores and standard deviation tells is about the accuracy of the means while the inferential is used to either confirm or reject the prediction (Field 2009; Field & Hole 2003). Hence, statistical

inference is used to generalise (Vogt 2007). Table 6 below compares between three different types of statistical analysis: descriptive, associational and inferential (Mohammad 2015).

Descriptive	Associational	Inferential
Measures tendency and frequency universe	Means by which we can assess how much variables go together or are associated.	To draw conclusions (make reference about population)
Common examples: mean, mode, median,	Measures of association: correlation, strength of association, effect size, r, rho regression	Significant test, test statistics, hypothesis testing, t-test, ANOVA, Chi-square
Purpose: summarise the information about data range	Purpose: to identify in one number the degree of relationship between two or more variables.	Purpose: to identify how likely a particular outcome (2 previous) is due to chance or sampling error.
	Common examples: range between 0-1.0	Common examples: each lead to p-value

**Table 6: Explains the Difference Between Descriptive, Associational and Inferential Data.** (Adapted from Vogt 2007, p.12)

In this thesis, the analysis will start with descriptive to get a general idea of the collected data and then it will be analysed through associational analysis –factor analysis and correlation- to get the results. As associational measures association to find the degree of significance between the variables and this could be achieved through correlations and the use of factor analysis. In statistics analysis one-tailed: is a directional hypothesis in only one-tailed or one particular direction of the probability curve used for a given statistics, it is one side and it is for factor analysis. While two-tailed: is a non-directional hypothesis both tails of probability curve used for a given statistics. It is much vaguer and prediction can go both directions. It is two sided and is used in correlations. (Blaikie 2003; Field 2009; Field & Hole 2003; Greene & D’Oliveira 2005; Harris 2008; Williams & Monge 2001). Therefore, in this study two-tailed will be used for correlation analysis of the future results in the questionnaire and factor analysis will use one-tailed. The level of significance

is the chance of the result occurring by chance that is less than 1% (Greene & D'Oliveira 2005) therefore having less than 1% indicating the level of significance, in the results of the statistics.

### **3.2.12 Parametric and non-Parametric**

Parametric: variables should have the same variance distributed equally, and is used for interval and Pearson's  $r$  is used to calculate and analyse the data and the data comes from a normal distribution and the values of the variance will roughly be the same (Blaikie2003; Brace , Kemp, & Snelgar 2006; Brace , Kemp, & Snelgar 2009; Greene & D'Oliveira 2005; Field 2009; Field & Hole 2003). While, Non- parametric is based on ordinal data, makes no assumptions and Spearman's rho is used to analyse, it is a non-normal distribution (Brace , Kemp, & Snelgar 2006; Brace , Kemp, & Snelgar 2009; Field 2009; Field & Hole 2003; Greene & D'Oliveira 2005). For any quantitative study the null hypothesis should be rejected; because it shows the 'relationship does not exist in the population, or the independent variable does not affect the dependent variable. It helps us make sense of the data (Blaikie2003; Field 2009; Greene & D'Oliveira 2005; Harris 2008). If the result is statistically significant then the null hypothesis will be rejected (Harris 2008). This study will use parametric for the correlation because variables is normally distributed (Mohammad 2015).

### **3.2.13 Interview**

One part of the interview was computerised, the reason for computerising the interview was the participants being evening students and they worked in the morning, they were not able to sit for the interview because they were extremely busy. At the same time their contribution to this study was important and vital, because they have had more experience by working and studying. Therefore, their voices should be heard and their concerns should be addressed. This study gave the evening students who participated in this study the opportunity to share their experiences.

To establish a rapport (Glesen 2011) in order to have a smooth interview, the participants were warmly greeted and smiled at, in addition to the researcher introducing herself to the participants The researcher gave a background about herself. Then she explained the purpose of the study. She also shared with the participants their right to withdraw at anytime during the interview.

Additionally, participant's confidentiality and anonymity of information and identity was explained to them. After that, the researcher started with a question 'tell me about yourself' this question was used as an ice-breaker and to allow students to feel comfortable to talk and share their experience.

Most of the interviews were conducted in a regular classroom at the educational institution, with the exception of one which was conducted in a study room in the library and two others which were through emails. There was no difference found in the quality of the information obtained and gathered from a classroom or a study room in the library. However, the email ones gave students more opportunity to share and express, probably because it was not a face-to-face interview. Therefore, the participants were more relaxed and felt comfortable to share their failure experiences. This probably made them less intimidated by the presence of the researcher. However, the computerised interviews do not allow the observation of body language and this will also make it less intimidating for the participants, because no one is observing their unintentional body language.

When the participants were talking and remembering their failures, it took them sometime to remember or decide which memory or experience to share. With the exception of one female student who was laughing –probably out of embarrassment- when she was talking about her failure. Most of the participants' voices were low when they were talking about their failure. Sometimes they were avoiding eye-contact. One male student was looking down when he talked about his failure and having family responsibilities. This could be because he wanted to show respect to avoid eye contact -culturally it is appropriate to do so- with a female or it could be out of embarrassment. On the other hand, when they started expressing how they came over failure their voices expressed more confidence and strength it was not low anymore. Some of the participants smiled and their eyes lit up as a symbol of hope and being proud of their achievements.

Kvale and Brinkmann (2009) explained that in this day and age computerised (an example is email) interviews are becoming more popular than ever. This is justified by giving opportunities for people who are living in a distant location. Whereas, Glesne (2011) argued that it is easier to collect data through computerised method because it saves time and money for transcribing. She also believes that it is easy to receive feedback. Yet, privacy was an issue especially for chat

groups. However, in this study chat groups were not used and as it was recommended (Glesne 2011) consent forms were given to participant in this study and their answers were coded as well.

Although there are advantages in conducting a computerised interview, there are also disadvantages. (Kvale & Brinkmann 2009). The advantages are the ready transcription; making the text available for immediate analysis. It is also a good method for participants to share ideas and opinions, which normally the participants will not feel comfortable talking about in a face-to-face interview. The only disadvantage that is found in computerised interviews is not observing the body language. As a result, in the interview questions the participants will feel more comfortable answering the questions without the fear of being judged.

The interview will focus on narrative and hermeneutics (Glesne 2011; Kvale & Brinkmann 2009), the participants will be given the informed consent for confidentiality and anonymity. While, their names will be coded and the interview will be transcribed and sent to the participants for member check.

Narrative is like a story telling; where the researcher tries to understand and to give meaning to human experience (Glesne 2011; Merriam 2009), as recommended by Glesne (2011) notes were made of events, feelings and reaction that the participants expressed. It will also be a semi-structured (Glesne 2011; Merriam 2009).

The study wanted to start with a focus group, and this needs six to ten participants, and the researcher is the moderator (Glesne 2011; Merriam 2009), Glesne (2011) also added that there could be three to five groups. This method can provide multiple perspectives to the same experience. However, the researcher can break the group into subgroups, in order to facilitate the discussion. Glesne (2011) suggested a focus group could take from one to two hours, and in this study the first group took about an hour, while the second group took about an hour and 30 minutes. Moreover, it was also (Glesne 2011) recommended to jot down comments, which was done in this study because the female students refused to be audio or video recorded.

One drawback that was found in a group interview was as Glesne (2011) indicated the confidentiality level will be low; therefore, some students in this study might not feel comfortable to share some details about certain aspects in their life, for example their failure stories because they might feel embarrassed. This study could not conduct a focus group, because the maximum

numbers in the group should be more than five in a group. Furthermore, there is the possibility of participants not feeling comfortable talking in front of many people about their failures and setbacks. Furthermore, participants sometimes feel that their privacy is invaded, while other times they might feel embarrassed by some questions and they would prefer not to reveal certain things about themselves (Glesne 2011; Merriam 2009). Before conducting an interview, a participant's consent form should be signed by them (Gubrium & Holstein 2001) and this was followed in this study. There are many advantages to an internet or online based interviews, as it allows a high level of anonymity and is easier for sensitive issues and example in this study is a story about their failure. Transcription is immediately produced, which helps in saving time. However, some of the elements that should be considered are authentication, authorisation, confidentiality, integrity, and non-repudiation. Moreover, there will be no eye contact (Gubrium & Holstein 2001). Therefore, computerised interview was suitable in two cases in this study, due to the evening students not being able to sit for an interview since they work in during the day and come to their classes in the evening.

Yet, in a qualitative interview validity, reliability trustworthiness should be established by triangulation, member check, maximum variation, rich description and audit trail which is a detailed of the methods and procedures (Glesne 2011; Merriam 2009). This was covered in this study (Mohammad 2015). In this study, participants were asked to check the interview transcript and give their permission to use the information that they shared in this thesis. This is also known as member check and it is a form of triangulation to establish the validity, reliability and trustworthiness of the results. Especially in a qualitative data collection method.

### **3.2.14 Document:**

The documents that were used in this study were the GPA policy at the tertiary institution that this study was conducted in. These documents were relevant to the study and they are stable source of information (Merriam 2009). Since the purpose of this study was to focus on the relationship between grit and GPA, in order to understand the GPA policy that this institution. Moreover, to understand the reason for most students good academic standing and good GPA.

Based on the document that was approved to be used in this study, which was the student handbook, The policy of this tertiary institution stated that in academic standing, students must

have a minimum GPA of 2.0 to graduate from this institution. At the end of each semester, an academic standing notation (Good Standing, Academic Warning, Academic Probation, or Academic Dismissal) is placed on the students' academic record. These notions are permanent records and will not be removed. In case a student received a D grade, this student is allowed to repeat the course only once and that is after the programme chair's approval, yet if the student received a D and the GPA is still high they could graduate. In the case of students having lower than 2.0 GPA, they will be given a first warning and will be given a chance to improve. If the student's GPA is still lower than 2.0 then they will be given a probation and a chance to improve their grade. However, if their GPA did not improve then they would be dismissed (The Higher Colleges of Technology 2015). Consequently, this strict GPA policy explains the reason for students having high and good academic standing in this higher education institution.

### **3.3 Limitations and Delimitations**

During this thesis, the researcher was faced with a number of limitations that for a short while hindered the progress of this study, however, the researcher could overcome these limitations and was able to complete this study.

While conducting the study some limitations arose, and these are as follows:

The first limitation was when the college committee decided to change the term 'grit' to 'motivation', the issue with the change was the difference in meaning between grit and motivation. If the term was changed then motivation will not measure what was intended to study and measure in this study. Therefore, the researcher explained to the college committee the issue with the change of terms, then they accepted for the study to be conducted; after explaining the problem and giving the solution of defining the term 'grit' in a simplified manner, so that the respondents would understand. Even though, that the term 'grit' was explained and translated into Arabic the participants' first language in the consent form, which was handed to the committee with the research instrument.

The second limitation, which turned out to be strength, was at the beginning the intention was to distribute a paper-based questionnaire. However, the questionnaire was converted into an online survey, because it was preferred by the administrative assistants to have an online survey to email it to all students. It was challenging at the beginning because this was the first time that the

researcher created an online survey. However, although it was challenging the questionnaire was converted after some time of learning the way to create an online survey. Moreover, there were some blank questionnaires that the survey software discarded automatically –around 45 blank questionnaires that participants opened and did not answer. The other part was the incomplete questionnaires and they were only 16. In this case, SPSS has an option for missing values, which was used for these 16 incomplete questionnaires.

The third limitation was in one of the colleges, the online survey was not sent on the first day, but it was sent on the second day after the researcher sent an email requesting the administrative assistants to send a reminder to students. To overcome this the researcher asked the faculty to share the survey link with their students. While, in the other colleges they did not send a reminder. Although it was requested by the researcher to send one, but it was claimed that full responses are not expected, therefore a reminder will not be sent. Then due to the low number of respondents the researcher emailed the chair of the programme to share the link with the faculty, this was done because the chair has the access to all of the faculty, while the researcher does not have that facility. Moreover, reminder was sent from time to time to the faculty to share the link with their students.

The fourth limitation, at the end of the questionnaire they were asked if they wanted to participate in the second part of this study, the majority did not reply. However, there were some participants that showed interest to participate in the second part and they sat for the interview, however, a female participant emailed and showed interest in participating in the interview -second part of the study. She was emailed by the researcher, who thanked her for her interest in the interview. The participant was asked to come the next day if that was convenient for her, from 12:00 noon to 5:00 pm, or any other time or day that is suitable and convenient for the participant. However, the participant never replied.

As for the interview, some students wanted to participate, however, due to time conflict as they were evening working students and they were not relieved from work earlier to sit for the interview. The list of questions was sent to them. They filled it and sent it back to the researcher. The rationale for asking evening working students to participate in this study is their depth of experience at college studies, workplace and family responsibilities. Hence, they have more challenges to overcome. Having sent the questions, the participants wrote their answer by themselves and gave their approval to use the information provided. It also gave them the

opportunity for their voices to be heard and they expressed more than the face-to-face interview. Therefore, a rapport was established by greeting them warmly and the participants introducing herself and stating with general questions so that they feel comfortable to answer the rest of the questions.

The fifth limitation was having a full time job and being a doctorate student however, the researcher tried to develop the skill of time management to divide the time between duties of work and time to complete the thesis.

The sixth limitation was, the educational institution that the study was conducted at was going through so many changes, therefore, the permission to use documents took longer when addressed the Head of the new Research Committee however, the head gave two solutions because the approval was taken before the recent changes. Two options were suggested and the first was to get the approval from the Executive Dean and the approval from the Executive Dean came very quick. However, the second suggestion was rejected because they wanted the approval to be sent back to the new committee for review.

The seventh limitation was the sample number that was intended for this study was 400 students from both the Men's Campus and from the Women's Campus. However, after sending reminders, the sample number reached was 334 and this number is considered acceptable.

Other limitations that were overcome by the researcher were related to the study and they are as follows:

Access to participants and the permission needed to be taken from the institution took some time but eventually permission was granted. The focus of this thesis was only on a certain nationality – Emiratis- which could not be generalised to other nationalities and regions. Therefore, results will represent the population used in this study. One group of participants did not answer the questions seriously and there was no depth in their replies, hence that group's responses was eliminated from this study because it did not add to the value of the research. To overcome these limitations, other groups of participants were considered. Furthermore, the design of the questionnaire included various types of questions to avoid boredom and it starts with simple questions like age to complicated questions like 12 grit-scale.

Finally, similar to Duckworth limitations; the questionnaire being a self-reported instrument; participants will have the tendency to tick their answers based on the most social desirability basis. However, to solve this issue it was explained to participants that they will be anonymous and they will have confidentiality, then the answers to the questionnaire and interview will not be traced back to them. Therefore, they would be encouraged to answer as truthfully as possible. Moreover, the questionnaire was an online survey, and this will give them more confidentiality and anonymity. Therefore, when they submit the questionnaire there will be no identifiers as whose questionnaire that belongs to, because there is no name attached and it is not hand written that someone might recognise. However, it was argued (Gorard 2001) self-administered questionnaires are better for confidentiality and anonymity. Two elements to consider in a quantitative method and these are the validity and reliability of the instrument used; first validity will be discussed then reliability will follow (Mohammad 2015).

### **3.4 Reliability, Validity and Trustworthiness**

This section explains three aspects, and these three aspects are reliability, validity and trustworthiness, which are important in research methods.

#### **3.4.1 Reliability**

Reliability is the internal and external consistency of the instrument (Allison 2013; Balanaues & Caputi 2001; Creswell 2003; Creswell 2008; Creswell 2014; Field & Hole 2003; Harris 2008; Field 2009; Palys 1997; Shadish, Cook & Cambell 2002 ; Vogt 2007; Williams & Monge 2001). The other aspects that should be taken into consideration is analysing and interpreting quantitative data are accuracy in measurement, stability and consistency. However, in quantitative First scores should be assigned to the responses; for example: strongly Agree = 5, Agree = 4, undecided = 3, Disagree = 2 and Strongly Disagree = 1 or Likert scale. There should be a consistency in the measurement and design of the instrument used in the study, and the consistency of the instrument can be interpreted across different situations (Allison 2013; Creswell 2008; Creswell 2012; Creswell 2015; Field 2009; Palys 1997; Peterson 2000; Vogt 2007). This means a score should be allocated for each response so that it would be calculated. Then this instrument is valid because Duckworth used factor analysis , it was also used in another setting (American, British, Latino and

Turkish), then this thesis used an Emirati sample. It is also reliable because there is a score allocated to the responses.

### **3.4.2 Validity**

It should be taken into consideration that ‘construct validity indicates how well the instrument measures the theoretical concept, called a construct or trait, that is assumed to explain the behaviour represented in the instrument. Construct validity is more important when you make inferences about performance on a general concept from the performance on the set of items.’ (Long, Convey and Chwalek 1985, p 91)

Although it is believed that all studies have limits to their generalisation (Harris 2008), many researchers (Allison 2013; Balanaues & Caputi 2001; Creswell 2003; Creswell 2008; Creswell 2014; Field & Hole 2003; Harris 2008; Field 2009; Palys 1997; Shadish, Cook & Cambell 2002 ; Vogt 2007; Williams & Monge 2001) believe that validity is measuring what is set to measure when meaningful scores result can be drawn from the conclusion. The aim is to be able to generalise from the findings and then to replicate. Yet, validity ensures that the instrument measures what they claim to measure. Then validity is categorised into the following:

1. Content validity: what is being measured? Assessing the degree which items represent the construct being measured.
2. Criterion related: scores relating to result. Whether the instrument is measuring what it claims to measure.
3. Construct validity: the significance of the scores, and how well it measures the concept.

This study will measure grit and academic performance of students through looking at students’ GPAs, so a study will be conducted on students and the questionnaire includes questions about grit; this indicates validity of content and criteria, while the results in the actual study will show criterion and construct validity.

### **3.4.3 Threats to validity:**

Many researchers (Allison 2013;Palys 1997; Balanaues & Caputi 2001; Creswell 2003; Creswell 2008; Creswell 2012; Creswell 2014; Creswell 2015; Field & Hole 2003; Gorard 2001; Shadish,

Cook & Cambell 2002; Vogt 2007) also argued that threats to validity can be divided into two categories internal and external. The internal is the relationship between variables and if the instruments measure what they claim to measure.

Internal validity consists of:

1. Mortality: participants withdrawing from the study, therefore it is better to recruit a large number.
2. Diffusion treatment: participants communicate with each other: keep them as separate as possible.
3. Selection: source of contamination, therefore it is best to use random samples.

While external validity (participants having equal opportunity to be chosen randomly) consists of:

1. Interaction of selection treatment: this cannot be generalised to other participants who are not included in the study, therefore the participants should be narrowed.
2. Interaction of setting and treatment: this cannot be generalised to other settings, so experiments should be conducted in new settings.
3. Intersection to history and treatment: this cannot be generalised to past or future, it is time bound. Consequently, the study should be replicated later to find if the same results show from earlier studies and time.

This thesis recruited a large number of respondents -total of 334- to avoid participant's mortality, and participants were kept separate to avoid diffusion treatment –emailing the link to the whole of students' population in both institutions. The sample was chosen randomly then snowballing that is to avoid contamination. This study could also be replicated at a different time and in a different site from this study(Mohammad 2015).

### **3.4.4 Trustworthiness**

Trustworthiness is a term used in qualitative studies to ensure the quality and the rigour of data collected, so that bias is avoided. Therefore, once trustworthiness of the instrument is established

then the issue with bias is avoided. The concern with related to bias is with them is understanding and misinterpretation of that data. Trustworthiness can be established through several criteria, and these are as follows: the researcher must show the credibility of the information and the truthiness of the collected information and data. Then the researcher should indicate that there are sufficient details to establish transferability. Trustworthiness could also be established through dependability when the study could be repeated and finally achieving conformability by proving that the findings develop from the collected data and information (Kvale&Brinkmann 2009; Huberman& Miles 2002; Denzin& Lincoln 2005;Glesne 2011; Stake 1995; Shenton 2004).

In other words, trustworthiness is established after proving validity and reliability of the instrument and data collection and as Shenton (2004) recommended member check of the interview transcription and triangulation, which was both used in this study. Shenton also recommended to have a random sampling, which was also employed in this study.

Moreover, as it was suggested by Shenton (2004) this study provided different types of participants and that is shown through having both male and female students contributing with their stories and data information. As for further and future studies as this will be in further discussed in more details is planning to repeat the same study in a different setting other than Dubai and participants from other nationalities.

### **3.4.5 Instrument Translation**

The participants in this study are male and female Emirati students studying at a tertiary institution in the Emirate of Dubai, UAE. The majority of this sample studied in government or public schools, where the medium of instructions is in Arabic with the exception of the English classes. Even in these English classes, some teachers use a few Arabic words, while the students who studied in private or other kinds of schools such as Secondary Technical School (STS) had more subjects taught in English. Yet, the mother tongue of the participants is Arabic, while English is their second language, and this makes them bilingual. Based on personal experience there are students who know more languages in addition to Arabic and English. Some of the students know Urdu, Turkish or Korean.

Therefore, taking into consideration the bilingualism of the majority of the students and knowing both English and Arabic, the questionnaire -closed and open-ended questions that were written first in English because the instrument was developed in English and the interview questions were written in English as well.

Since the researcher is bilingual knowing both Arabic and English besides, she took four courses in translation (Introduction to Translation. Translation from English to Arabic, Translation from Arabic to English and Theories of Translation) she was aware of the difficulties of translation and is also aware of the terms of the study, therefore she translated the instrument questions of the questionnaire and the interview. Then two students were asked to read the consent form, so that their answers would be used in the study. They were also asked to read the questions in the questionnaire and answer them –as a pilot to find if there are any difficulties - they both agreed that the questionnaire was clear. Then they were asked the interview questions and they also agreed that it was clear. The data that they shared was used as part of data collection and data analysis.

However, translation is not an easy task and the reason for that is; an exact equivalent to the word is difficult to find from one language to the other (Baker 1992). Sometimes, if not most of the times the real meaning is lost, therefore, the translator opts to find the closest meaning to the word, which is intended to be translated. This implies that translation is not word for word which is literal translation but it is to the meaning (Baker 1992). Thus, this is where the meaning is lost. If words are translated literally, they will sound funny, especially the idioms, for example: in English the idiom ‘It is raining cats and dogs’ is perfectly fine and acceptable, and English speaking individuals realise that the meaning of this idiom is not literal, but it means that it is raining heavily and this comes from the culture and history (Baker 1992). This idiom does not mean that cats and dogs are falling from the sky. However, if it were translated literally from English to Arabic it would sound funny and it will not be understood clearly, because they would think that actual cats and dogs are falling from the sky, which sounds funny and does not make any sense in an Arabic context.

This is not the only issue with translation, there are more issues because it is believed that once a text is translated it loses a part of its meaning, however, the translator attempts to find a word that is closest to the meaning (Baker 1992).

Sometimes as Baker (1992) argued that there are words that are ‘culturally specific’ to one culture and is difficult to find an exact meaning for them in the other language. While, in other times it is

difficult to find an exact match, and Baker (1992) gave so many examples and only few will be discussed for brevity. These examples are: the word savoury is neither salty and sweet, but there is no equivalent for it in Arabic. It is also found that the word 'cold' is found with more synonyms in English than Arabic, while the words that express 'hot' are found more in Arabic than English. This indicates that in English there are more synonyms found for 'cold' than Arabic, whereas more synonyms are found for 'hot' in Arabic than in English. Therefore, this results in another level of difficulty and is also related to the weather in each country. Sometimes if an exact equivalent is not found, then the original word could be kept. This is especially found in food therefore a word like 'pizza' is kept and used the same with Arabic alphabet in the transition into Arabic (Baker 1992), since there are no exact equivalent.

As for this study, the term grit has many meanings that one is related to engineering, however, the focus of this study is psychology and that by itself is a different field that gives grit a different meaning. The meaning of grit is shared in this thesis and is defined in the beginning of this study at the 'Definition'. However, an exact word or term which could be equivalent to the term 'grit' was not found in Arabic and translating the same words into the Arabic alphabetic will cause more ambiguity and confusion among the participants. To avoid that, a word was found that has a close meaning to grit in Arabic, as recommended by Baker; and because it is not the exact equivalent a translation was provided in both Arabic and English.

As for the open-ended questions, some students wrote in Arabic while others wrote in English and translating the participants' replies and answers were not difficult because only the maximum a sentence or a few words were written and this made it easy to translate. However, the interview written responses were in English and not Arabic, because the medium of instruction is English and it is compulsory to use English with the students. However, the students were given a choice to use Arabic or English and the majority preferred to use English.

### **3.5 Ethical Considerations**

The consent form should be transparent and should give enough information to the participants (Peterson 2000). It should include the topic and purpose of the study, the location and the participants that will take part. In addition to the methods used to collect data. The way it will be analysed, it should also protect their identity and to keep their names will be anonymous and the

information they shared will be confidential. They should also know that participating in the research is voluntary and they can withdraw at any time during the study. Participants should be aware if there will be harmed in the process. This will help avoid any harm that will be caused to the participants. The ethics form is used to ensure that participants are not being abused. They should also be aware of the way the answers will be dealt with (Creswell 2003; Creswell 2008; Creswell 2014; Field & Hole 2003; Harris 2008; Palys 1997; Peterson 2000; Shadish Cook & Cambell 2002). Furthermore a consent form can be considered as a document to ensure the right of both parties (researcher and participants) involved in the research. For ethical consideration the participants were provided with a consent form (see Appendix 1 and 1) before they start filling the questionnaire or answering the interview questions. This consent form states the purpose of the study and the voluntary participation.

The instrument both the questionnaire and the interview guide were sent to the Committee at The British University in Dubai (BUiD) and was approved (check Appendix 7 ). After receiving the ethics form approved by BUiD, and in order to get the higher educational insitute in Dubai's approval to commence with collecting data; the researcher sent the instruments and filled the forms from the ethics committee at the higher educational institute (check appendix 8), and they approved to collect data from students studying at both the men's and women's campuses. The whole process of the higher education institution ethics approval took one week.

The participants' anonymity and confidentiality was secured, the researcher did not use the participants' real names and their names were coded, so that they would not be recognised. The online questionnaire results were secured in a password protcted computer used in this study and only the researcher has access to it.

### **3.6 The Role of the Researcher**

This section is dedicated to the role that the researcher played in order to avoid bias and have a good quality data and information. The researcher followed a variety of steps to avoid and attempt to reduce the level of bias.

Before conducting the research and collecting the data; the researcher explained the nature of the study, the purpose, sample and methods. Then she obtained the approval from The British University in Dubai (BUiD) ethical committee and it was explained that this is a low risk research

and there will be no violations to the participants, as they will not be harmed during the conduct of this research. The consent form explained to the participants that their participation is voluntary and they have the freedom of withdrawing without any consequences at any time during the study. It also explained the anonymity and confidentiality of the participants of this study.

Once that approval was obtained from BUiD, the researcher contacted the research committee in the targeted higher education institution to fill their ethics forms as well. The researcher received the approval within a week of its submission. Once that approval was granted, the researcher started contacting the administrative assistance at each respected college to email the survey link to the student population at each higher education institute. The survey link included the consent form as its first page, therefore if students wanted to participate they would click next, while, if they refused to take part in this study, then they would close the page. The consent form included the purpose of the study and the anonymity and confidentiality statement. Therefore, there is no indicator to the person's name or the name of the higher educational institutions. As a result the information shared by the participants will not be traced back to them.

Regarding the interview questions and conducting an interview with the participants, students were given the consent form to be aware of the purpose of the study and their rights as participants. These rights include the confidentiality and the anonymity of the participants. Moreover, the consent form also explained that their participation is totally voluntary, and it expressed their rights to withdraw at any stage during the interview, without any consequences.

However, the instruments used in this study to collect data needed to be validated and to be reliable in order to establish trustworthiness, for presenting the rigour and quality of the data collected. Therefore, the online quantitative questionnaire included both open-ended questions and closed-ended questions. Having a variety of questions eliminates boredom from the participant. There are no names or any indicators that could be traced back to the participants, which ensures their confidentiality and anonymity. As a result, participants will be encouraged to answer as candidly and as truthfully as possible and an online survey ensures more confidentiality and anonymity than any other method. In this part of the study the researcher will not be able to influence the results, because they are numbers or in other words statistics. As for the quantitative statistics, factor analysis was run to give validity and reliability to the instrument. Then correlations were used to test the hypothesis.

On the other hand, there are more issues concerned with qualitative methods and the problem of bias, and to overcome the bias concern in a qualitative methods, first the researcher introduced herself to break the ice and to allow the participants to feel relaxed and to establish rapport. This is because if the participants felt comfortable then they would be open to talk more and give examples and details about their experience.

Moreover, the participants were told about the consent form, which was explained to them. This form included the purpose of the study, the assurance of confidentiality and anonymity. In addition to their right to withdraw at any time during the interview without the fear of any consequences. Once the interview was conducted the interview transcripts were sent to the participants for member check. When they agreed to share the information and they gave their consent that the information is what they said in the interview; and they were willing to allow the researcher to use them, only then would the researcher use and analyse the results. Document analysis is also another method to establish validity, reliability and trustworthiness. Which focused on GPA policies in the higher educational institution.

Finally, triangulations was used to establish validity, reliability and trustworthiness, this is clearly found in the use of mixed methods – both quantitative and qualitative was employed- by using questionnaires and interviews and the application of document analysis. Random sample size also helps with the trustworthiness of the data. To sum up all of the above issues and solutions to eliminate bias was followed, making this study a low risk research. The following chapter four will discuss the results, findings and analysis of this study.

## **Chapter Four: Results, Analysis and Discussion**

Chapter four will provide the results obtained from data collection. Then the results will be analysed and discussed. This chapter will begin with explaining the quantitative results from the closed ended questions using a likert-scale. The analysis will instigate with descriptive analysis to factor analysis and correlations results.

The second part of the questionnaire was open-ended questions, these will be analysed according to a common theme that might emerge. When this is completed, the interview results will be analysed to explore the common themes that emerge and to give meaning to the whole experience of the participants.

### **4.1 Descriptive Analysis**

When comparing the overall average mean for males (mean = 2.02, N 125, SD. 837) and female (mean 1.81, N 209, SD .739) there is a difference between male and female GPA. As it shows that the male Students' GPA is higher than the female students' GPA. Therefore, in order to understand if the difference is statistically significant or by chance, the independent *t*-test was carried out. This result also reveals that male students academically outperform female students, because their (Male) GPA is higher than their counterparts (Female) (check appendix 3).

Although there was a difference in the results of studies conducted in the field of comparison between male and female students' academic performance, which was discussed in the literature Review section. As some studies showed that there was a difference between male and female participants with female students outperforming their male counterparts. Moreover, there were other studies that found that there were not differences found between male and female students' academic performance. While some studies found that there was a difference between male and female students regarding their academic programme, however, this time the male students outperformed the female students. These results reveal an inconsistency in the findings of other studies because there were many differences.

Whereas, even studies conducted in the UAE found mixed results, as some studies found that there is a difference between male and female students' academic performance, where female students outperformed their male counterparts academically. Nevertheless, there were other Emirati studies that showed that there is a difference between male and female students' academic performance, where male students outperformed female students. Moreover, in this study, the results showed an unexpected finding, because it showed that there was a difference between the academic performance of male and female students

However, in this case the male students outperformed the female students, when the general belief is that female students outperform male students academically.

## **4.2 Questionnaire Analysis (SPSS):**

In this section, the results of the quantitative part of the questionnaire will be discussed and analysed. First, the Chi-square (check appendix 4) results will be analysed and then the *t*-test (Check appendix 3) results will be analysed. The results of the analysis should indicate if there is a relationship between grit and students' academic performance (GPA) and reject the null hypothesis - there is no relationship between grit and students' academic performance, i.e. their GPA. According to several studies discussed in the literature review section, it was found that there was a relationship between grit and students' academic performance. However, the results of these studies were conducted mainly in an American context, therefore, this study will add to the gap found in the field by analysing the results of an Emirati sample (both male and female) and add the findings to the existing body of literature.

### **4.2.1 Chi-square**

Chi-square is used to test for significance and to show if there is a difference between the observed frequencies and the ones that are expected by chance. Thus, Chi-square determines if there is a relationship (Brace , Kemp, & Snelgar 2006; Brace , Kemp, & Snelgar 2009).

Results of chi-square

The results of the chi-square reveal there is a high statistical significant relationship between male and female finishing whatever they begin and setting goals but pursue a different one the males' results show  $X^2(25, N= 334, = 150.141, p < 0.005)$ , while the female results shows  $X^2(36, N= 334, p < 0.05)$  especially among very high achievers. This implies that these participants are gritty, especially the very high achievers. Therefore, in order to be a high achiever, one should possess grit and part of grit is to be able to finish whatever is started and set goals even if goals are pursued they will still finish these goals. Then, the most important factor is to finish whatever they began even if there are other goals pursued. Hence, they are not distracted but they are persistent; and this helps high achievers to be gritty and focused, and not easily distracted.

The other sets of variables show significant relationship between male and female in setting goals and not being discouraged by setbacks. This shows that there is a difference between male and

female participants. The males' results showed  $X^2(30, N=334, = 147.931, p < 0.05)$ , while the females' results showed  $X^2(54, N=334, = 461.974, p < 0.05)$ . However, the results are highly significant. This indicates that when students set their goals, they will not be discouraged or let down by setbacks and failures. This means that setting goals helps students not to get discouraged with setbacks, thus being less or not distracted by them and this allows them to be more focused and gritty. Therefore, the students are gritty because they do not get distracted and they are focused because they set their goals that make them focused and at the same time, they would be gritty.

There is a high statically significant relationship between male  $X^2(50, N=334, = 177.997, p < 0.05)$  and female  $X^2(102, N=334, = 387.657, p < 0.05)$  setting goals but pursuing a different one and having difficulty maintaining focus on projects that take more than a month. This implies that once students are distracted with other goals then they will not be able to be focused as they will have difficulty to focus on their projects especially if these projects take a long time like more than a month.

There is a statically high significant relationship between students' GPA and setting goals; 'pursuing a different one' and 'having difficulty maintaining focus on projects that take more than a month'. This was evident with very high achievers  $X^2(60, N=334, = 184.647, p < 0.05)$ , high achievers  $X^2(90, N=334, = 399.671, p < 0.05)$ , and moderate achievers  $X^2(30, N=334, = 68.598, p < 0.05)$ . This indicates that very high achievers, high achievers and moderate achievers' GPA can get affected by students setting goals but pursue a different one. Then this will lead to students having difficulty focusing on projects that take a long time such as longer than a month.

There is also a high statically significant relationship between male  $X^2(45, N=334, = 157.407, p < 0.05)$  and female  $X^2(102, N=334, = 372.125, p < 0.05)$  setting goals but pursuing a different one and being a hard worker. This reveals that there is a difference and this difference is significant. This means that students set goals but pursue a different one and at the same time, they are hard workers. This hard work indicates that once they are faced with distractions because they set goals but pursue different ones they would put more effort in their work. However, changing goals is more found and evident with female students than male students.

There is a statistically high significant relationship between students' GPA, especially with very high achievers  $X^2(50, N=334, = 147.651, p < 0.05)$ , high achievers  $X^2(90, N=334, = 393.403, p$

<0.05) and moderate achievers X2 (20, N=334) 60.895,  $p < 0.05$  with setting goals but pursuing a different one and being a hard worker. This implies that students' GPA is affected by setting goals but pursuing a different one and being hard worker, which means students are hard worker when faced with the challenge of setting then changing goals. While, being a hard worker can affect the very high achievers, high achievers and moderate achievers. In other words, students GPA and academic performance is based on the students' hard work and effort.

There is a high statistically significant relationship between male X2 (50, N=334,=169.479,  $p < 0.05$ ) and female X2 (102, N=334,= 379.228,  $p < 0.05$ ) setting goals but pursuing a different one and being diligent. This implies that students are diligent especially once faced with the challenge of setting goals then pursuing a different one. Thus, male and female students are diligent and this indicates that they are gritty, because once they are diligent then they are persistent to achieve resulting in male and female being gritty.

There is a statistically high significant relationship between students' GPA setting goals and pursuing a different one and being diligent. This significance is found with very high achievers X2 (60, N=334, = 162.480,  $p < 0.05$ ), high achievers X2 (90, N=334,= 389.090,  $p < 0.05$ ) and moderate achievers X2 (25, N=334,= 77.597,  $p < 0.05$ ). Indicating that students who are very high achievers, high achievers are less likely to set goals but change them later and they are diligent. However, moderate achievers would set goals but change them later and they are diligent. Therefore, very high achievers and high achievers are more diligent than moderate achievers. Resulting in students who are very high achievers and high achievers are more diligent and gritty than moderate achiever students.

There is a statistically high significant relationship between male X2 (50, N=334,=175.544,  $p < 0.05$ ) and female X2 (102, N=334,= 378.696,  $p < 0.05$ ) setting goals but pursuing a different one and having their social life negatively affecting their focus on task and project completion. Therefore, students whether they are male or female students if they set goals but change them later then they will simply allow their social lives to distract them from their task and project completion. This also affects their level of grit negatively.

There is a statistically high significant relationship between students' GPA setting goals and pursuing a different one and having social media negatively affecting their focus on task completion . This significance is found with very high achievers X<sup>2</sup> (60, N=334, = 153.841, p <0.05), high achievers X<sup>2</sup> (90, N=334,= 397.959, p <0.05) and moderate achievers X<sup>2</sup> (30, N=334,= 70.267, p <0.05). This means that students who are very high achieves, high achievers and moderate achievers who set goals but change them later would allow for the use of social media to negatively affect the their task and project completion, which eventually affects the levels of their grit.

There is a statistically high significant relationship between male X<sup>2</sup> (50, N=334, =171.205, p <0.05) and female X<sup>2</sup> (102, N=334,= 372.694, p <0.05) setting goals but pursuing a different one and having family responsibilities hindering their focus on tasks and projects completion. This shows that there is a difference between male and female. Therefore, female students are more likely than male students are to set goals and change them, and to allow their their family responsibilities to hinder their focus on their task and project completion. This eventually affects the levels of students' grit levels.

There is a statistically high significant relationship between students' GPA 'setting goals', 'pursuing a different one and having family responsibilities that hinder their focus on task' and 'projects completion'. This significance is found with very high achievers X<sup>2</sup> (60, N=334, = 154.160, p <0.05), high achievers X<sup>2</sup> (90, N=334,= 389.797, p <0.05) and moderate achievers X<sup>2</sup> (30, N=334,= 71.283, p <0.05). This indicates that students' GPAs get affected when students change their goals after they had set them and at the same time they would allow family responsibilities to distract them from completing their tasks and projects. This also shows that the levels of grit will also be affected. Therefore, their GPA and academic performance will also be affected.

There is a statically high significant relationship between male and female setting goals but pursuing a different one and being diligent. Therefore, students being male or female who change their gaols need to be more diligent in order to be focused.

Although chi-square shows if there is a relationship between frequencies, it does not determine what the relationship is and the casual relationship between the variables. Therefore, t-test was used for further detailed analysis of the data and the variables.

## **4.2.2 Independent *t*-test**

### **4.2.2.1 Independent *t*-test Based on Gender**

The hypothesis in this study is to find if there is a difference in the means of grit and the GPA of Emirati male and female students studying at a higher education institution in Dubai, UAE. To investigate this hypothesis an independent *t*-test was employed to find a difference exists and at the same time to reject the null hypothesis which is there is no statistically significant difference between grit and Emirati students' GPA. Hence, this *t*-test will determine if there is a difference in the means of the two groups. in this the independent variables, will be gender, major and age., while the dependent variable is GPA.

#### Results of *t*-test

The independent *t*-test reveals that there is a statistical difference between male and female GPA ( $t=2.396$ ,  $df = 332$ ,  $p < 0.05$ ) and this difference is statistically significant. Therefore, male students having a higher GPA than female students is statically highly significant. The independent *t*-test shows that there is not a statistical difference between male and female setting goals but pursuing a different one ( $t= 1.154$ ,  $df= 332$ ,  $p > 0.05$ ). Therefore, there was a highly statically significance in the difference.

The independent *t*-test reveals that there is no statistical difference between male and female being distracted by new ideas or projects from previous ones ( $t = -1.348$ ,  $df= 332$ ,  $p > 0.05$ ). This statically relationship is highly significant. Therefore, in the *t*-test the results indicate that the level of distraction is equal between male and female students as there is no difference between the two genders.

The independent *t*-test shows that there is a statistical difference between male and female being interested in new pursuits every few months ( $t=1.990$ ,  $df= 332$ ,  $p = < 0.05$ ). This is a high statistical significant relationship, showing that one of the genders will be interested in new pursuits each

few months, indicating that they are not focused and this will eventually affect their GPA and academic performance, and this is because of the level of grit.

There is also a high statistical difference between male and female interest changing from year to year ( $t= 3.805$ ,  $df= 332$ ,  $p < 0.05$ ). This relationship is statically highly significant, implying that one gender interest keeps changing from year to year, resulting in being indecisive which also affect the levels of grit, and this affects the students' GPA and academic performance.

There is no statistical difference between male and female being obsessed with a certain idea but losing interest later ( $t= -.202$ ,  $df= 332$ ,  $p > 0.05$ ). This relationship is statically highly significant, suggesting that both male and female students are distracted with some ideas but they feel bored later and lose interest. This also affects the levels of grit and their academic performance.

There is no statistical difference between male and female achieving goals that took years of work ( $t= -1.369$ ,  $df=332$ ,  $p > 0.05$ ). This relationship is statically highly significant, indicating that students whether they are male or female will achieve the goals that they have set, and they are so persistent and hardworking that they would achieve their goals even if achieving these goals took many years. This means that both male and female students are gritty and this affects their academic performance positively.

There is no statistical difference between male and female finishing whatever they begin ( $t=-.834$ ,  $df= 332$ ,  $p > 0.05$ ). This relationship is statically highly significant, which means both male and female students are hardworking and will finish whatever they begin. This indicates that they are gritty and this will positively affect their GPA and academic performance positively.

There is no statistical difference between male and female and not being distracted by setbacks ( $t= 1.262$ ,  $df= 332$ ,  $p > 0.05$ ). This relationship is statically highly significant, implying that both male and female students have a tough character and are sturdy, which means that they are gritty because they are not distracted by failure or setbacks that they encounter. Being gritty, then will improve both male and female students' academic performance and their GPA.

There is no statistical difference between male and female overcoming setbacks to conquer an important challenge (  $t = .138$ ,  $df=332$ ,  $p > 0.05$ ) This relationship is statically highly significant, implying that students both male and female are gritty because they overcome setbacks and do not allow these distractions to conquer a challenge. Eventually this will affect their GPA and academic performance.

There is no statistical difference between male and female having difficulty maintain focus on projects that took more than a year (  $t=.450$ ,  $df=332$ ,  $p>0.05$ ). This relationship is statically highly significant, implying that students are gritty because they are focused, persistent and hardworking and because they were able to maintain their focus to complete projects that take more than a year. This could also affect their GPA and academic performance.

There is no statistical difference between male and female in being hard worker (  $t= -1.156$ ,  $df= 332$ ,  $p= > 0.05$ ), This relationship is statically highly significant, implying that both male and female students are hardworking and this is needed for being gritty. Being a harder worker enables students to achieve their goals and finish whatever they have started. Also, this enables them to be gritty and being so affects their GPA and academic performance.

Moreover, there is a statistical difference between male and female in being diligent (  $t=1.926$ ,  $df= 332$ ,  $p > 0.05$ ). This relationship is statically highly significant, indicating that students both male and female are gritty because they are diligent. This means that their GPA and academic performance will be affected.

There is no statistical difference between male and female male and female having their social life negatively affecting the completion of projects and tasks (  $t=.181$ ,  $df= 332$ ,  $> 0.05$ ). This relationship is statically highly significant, implying that both male and female get distracted by their social lives and this will affect their focus on tasks and projects. Which also affect their level of grit and thus affects their level of GPA and academic performance.

There is no statistical difference between male and female and having family responsibilities that negatively affects their focus on completing their projects and tasks (  $t=.374$ ,  $df= 332$ ,  $p >$

0.05). This relationship is statically highly significant, implying that both male and female students are affected by their family responsibilities. These responsibilities hinder their tasks and project completion and eventually their levels of grit, GPA and academic performance.

There is no statistical difference between male and female and the use of social media that negatively affects their focus on projects and tasks completion ( $t=.035$ ,  $df= 332$ ,  $p > 0.05$ ). This relationship is statically highly significant, indicating that students both male and female are distracted with the use of social media, which also impedes their projects and tasks completion. This means that their level of grit will be affected and hence their GPA and academic performance will also be influenced.

Finally, there is no statistical difference between male and female and the use of videogames that negatively affects their focus on projects and tasks completion. ( $t= -.379$ ,  $df= 332$ ,  $p > 0.05$ ). This relationship is statically highly significant, implying that students both male and female are distracted by the use of videogames which eventually hinders their focus on tasks and projects completion. Hence, their grit, academic performance and GPA is affected.

Based on the results of the *t*-test, there was no difference between Emirati male and female studying at a higher educational institution in Dubai, when the comparison was based on grit, GPA and distractions. Therefore, Emirati sample is considered to be gritty. At the same time, higher levels of grit affect students' academic performance.

#### **4.2.2.2 Independent t-test Based on Students' GPA**

The factor that this analysis is based on is the GPA levels of students; very high achievers (GPA= 4-3.6), high achievers (GPA= 3.5-2.6), moderate achievers (GPA= 2.5-1.6) and low achievers (GPA= 1.5-1). There was not much difference between the very high achievers and the high achievers, yet the very high achievers had a higher mean score in the grit scale when compared to high achievers, which means that the very high achievers are very gritty. However, their mean score was lower in the distraction part with having family responsibilities or social life, or the use of social media and videogames, which indicates that high achievers allow these distracters to

slightly hinder their focus on task and project completion. As a result, very high achievers are grittier than high achievers, thus this explains their higher GPA scores.

While, the results of the independent t-test ( $t=328$ ,  $df = 232.647$ ,  $p >0.05$ ) exhibits that students are interested in new pursuits every month and this will affect their GPA scores and hence their academic performance. And when their interest change frequently ( $t=303,df= 230$ ,  $p > 0.05$ ) students who are very high achieves along with high achievers overcome setbacks to conquer new challenges ( $t=2.049$ ,  $df= 255.44$ ,  $p >0.05$ ) indicating that they are gritty because they do not give up or surrender in the face of failure and setbacks. Yet, they overcome them and conquer a new challenge. Thus indicating that students' GPA and academic performance is influenced by their grit and their persistent attitude to overcome setbacks and enjoy challenges.

This also shows that very high achievers and high achievers find it difficult to focus on projects that take more than a month ( $t=2.002$ ,  $df= 219/663$ ,  $p >0.05$ ) which affect their focus and distract them, however, very high achievers are less likely to get distracted.

Being a hard worker is highly significant for very high achievers and high achievers, however, it is more evident in very high achievers ( $t=2.125$ ,  $df= 219.336$ ,  $p >0.05$ ), which suggest that very high achievers and high achievers are hardworking and their hard work makes them gritty, determined and persistent. This eventually enables them to maintain their high GPA scores and a better academic performance.

Being diligent also affects very high achievers and high achieves alike, because being diligent will help those students to maintain their high GPA levels and perform better academically( $t=2.483$ ,  $df = 214.318$ ,  $p >0.05$ ). Which means this diligence will lead them to become grittier to achieve and maintain a good academic performance.

On the other hand, the other part explains the results of moderate and low achievers. The mean score varied in their highness or lowness in accordance to the statements of grit, for example, moderate achievers were more diligent and more hardworking than low achievers. Yet, low achievers allowed distracters from social media, family responsibilities, social life and videogames

to impede their progress. This eventually, affected their GPA scores and poor academic performance.

The results showed that low and moderate achievers get distracted easily, because once they have set goals they changed them later. This explains their low level of grit and GPA, which eventually affects their academic performance ( $t=.746$ ,  $df=5423$ ,  $p >0.05$ ).

Another sign of not being focused is the change in their interest and pursuing new ideas ( $t=1.445$ ,  $df= 5537$ ,  $p >0.05$ ) indicating that low achievers are indecisive and not focused, which also explains the low level of grit and GPA. In spite of that they are able to achieve their goals ( $t=1.375$ ,  $df=5.215$ ,  $p >0.05$ ).

However, despite the fact that they are moderate and high achievers and that they allow distractions to hinder their focus, they are hard workers. This implies that they are trying their best and are working hard to improve their academic performance ( $t=-1.487$ ,  $df= 5.797$ ,  $p >0.05$ ).

To sum up, very high achievers and high achievers work hard and are diligent and at the same time they do not allow distracters and interruptions to hinder and impede their focus on their tasks or project completion. At the same time, they are able to overcome setbacks and failure as a result they are persistent and have perseverance to become achiever and be gritty. Hence, their grit will enable them to maintain a very high GPA score and perform academically better. Therefore, grit is related to a better and improved academic performance. Allowing to prove the hypothesis of this study.

While, moderate and low achievers work hard, nevertheless, they allow distracters to impede and hinder their focus on task or project completion; as a result, they will have lower GPA. This is because their grit level is low and this means that they will not be able to overcome setbacks or failure. Therefore, they will not have perseverance or persistence, thus they will not be able to improve their GPA and their academic performance. This implies that if grit levels are low then students' GPA and academic performance will not be improved.

In general, this suggests that very high achievers are grittier than high achievers, moderate and low achievers. While very high achievers are grittier than moderate and low achievers and moderate achievers are grittier than low achievers, Therefore, very high achievers are the grittiest, while low achievers are the least gritty.

### **4.2.3 Questionnaire Open-ended Questions:**

A part of the open-ended questions in the distributed questionnaire was to ask students what they felt and told themselves when they succeeded and when they failed. It was observed from the results that was shared by students that they had more to express when they failed than when they succeeded.

Based on their answers, when they were successful the first thing that they told themselves was ‘Thank God’ and that their success was considered ‘God’s Blessing’ to them. The majority felt proud of their achievements and accomplishments. They also thanked their parents and anyone who supported them. Based on their replies the students got motivated and excited to start the next goal or challenge that they had set for themselves. This indicates that they do not take the time to enjoy their success or achievements, but they think about their next plan.

Some of these students reward themselves, it was stated that rewarding themselves meant going to the spa or travelling. However, the majority did not specify how they rewarded themselves. They would tell themselves ‘good job’, ‘great’ or ‘well done’. They would also tell themselves that success was the result of their hard work.

They feel relaxed and confident to start and accomplish new projects that will help them to achieve their goals. They also like to keep up the good work, hence they are encouraged and motivated to strive and do better, and pursue different challenges, goals or projects.

Some of them indicated that their success will make their family proud. While others preferred not to celebrate at small success but wait till they succeeded at a bigger goal. They also think that they deserve success. Achieving one success gets them excited and believe that they can do anything, however, they needed to maintain their success. If they did it then they are successful. It makes them feel independent and give them a sense of freedom and humbleness by their achievement.

However, surprisingly one student said that ‘I don’t deserve success’ which implies a sense of negativity in the reply and this reply can affect this participants’ mind-set negatively resulting in lower levels of grit which will eventually affect their academic performance and GPA. Yet, they keep reminding themselves to stay humble and not to grow their ego.

While the first part focused on success, the second part will focus on students’ perception of failure and what it means to them. Similar to success when they fail they say ‘Thank God’ in both situations (success or failure) they would be grateful to God and they would be content with their destiny. This suggests that the participants try to stay humble whether they failed or succeeded and they would use this failure to learn a lesson and the success to motivate them to do better. This also will result in a better academic performance and GPA because it shows that the participants are gritty, for trying to learn from their mistakes.

Sometimes they tell themselves that ‘it’s fate’, this means that they cannot do anything about it. While others think that everything happens for a reason and that is the best thing that could happen to them. Therefore, they tend to blame fate for it to show that their failure was out of their control.

On the other hand, some participants try to find the reasons for failure. They like to learn from their mistakes, and work harder, try over again to succeed and overcome failure. Some of the participants added that failure is not the end of the world but an opportunity to learn and do better. Therefore, this is associated with grit because they attempt to learn from their mistakes in order to improve.

Others shared that they would feel upset, sad, disappointed, shattered or depressed. Only one person said that failure would make him/her ‘stupid’. However even when failing they should be positive and optimistic.

While, some students blamed themselves for their failure and acknowledged that they deserved failing because they did not work harder. One student only blamed the teacher for her/his failure, which is blaming others. They try to encourage themselves and forget failure to accomplish their goals and be successful. Though they would think that they are jinxed. Since some of these students blame others or fate, this means that they have a fixed-mindset because they believe that they cannot do anything about it.

It was interesting to read a comment written by a special needs student (hearing difficulty) this participant wrote that he could persevere regardless of the difficulty of the subjects that he is studying and learning. Yet, if he failed this participant would be upset for some days but indifferent, nevertheless, perseverance and persistent will help achieve. This was interesting because it shows that there are few special needs students that study at this institution and it also indicates that this participant has a higher level of grit, because he used the words 'persevere' and 'persistent' that other participants did not use. Moreover, he added that he will persevere even if the courses that is being taken are hard.

Failure does not influence the participant's hard work, but there is a factor of repeating the course that affects the respondents. They would feel frustrated, but they will tell themselves that they tried. Thus, when these participants are faced with failure they would feel frustrated and sad, but they do not let this failure discourage them from trying harder and being persistent and persevere.

In addition to that they suggested that as long as great people even fail, they should try a different method to reach their goals. In conclusion, it seems that students had more negative than positive responses and mind-set in this section.

#### **4.2.4 Further comments from Open-ended Questionnaire Questions:**

Students found this study interesting because it made them think and discover themselves. A quote from a male business student showed that he is optimistic about life and that he is focused on his goals and does not get distracted by any other thing. He shows that he knows what he wants in life and he exhibits that he is gritty; he stated that 'Take up one idea. Make that one idea your life-think of it, live on that idea. Let the brain, muscles, nerves, every part of your body, be full of that idea, and just leave every other idea alone. This is the way to success.' Another male engineering student also shared the same idea of being focused, he then added that patience is also important to succeed. These students also exhibit a high degree of grit, because patience, perseverance and persistent are the core of grit.

One female students also shared that setting one's goal is important. While, another female student stated that opportunities do not come to people all of the time, however, a person's choices leads them to create their destiny. While, another student said that 'failure and success is expected'

therefore, this student reacts by accepting failure or success and thinks of the future and the better opportunities that might be encountered.

However, one alarming comment shared by a student was that if teachers lose their interest and passion then as a result that negatively affects students' interests and eventually they do not 'put much effort' in their studies. A further research should be carried out on the reasons why teachers lose passion and interest in teaching. It also should be taken into consideration, that the institution that this study was conducted in has been through a recent change and this could be one of the reasons that teachers might have lost interest. The next section will discuss and analyse the interview results.

### **4.3 Interview Results:**

Once a rapport was established as Glense (2011) recommended; students participating in this study spoke confidently and gave a lot of relevant information that helped this study. Moreover, during these in-depth interviews that were conducted students spoke freely and gave in depth and rich information about their stories of success; as well as they reflected on the meaning of their experience. While there were two participants who preferred for the questions to be sent via email to them and they will fill it with their answers; this was because they were studying in the evening and working in the morning, therefore, they did not have the time to sit for a face-to-face in depth interview. For that the consent for and the interview questions were sent to them, in addition to that they were encouraged to ask any questions they had. Surprisingly, those two participants also gave in-depth information and meaning to their experience.

In all of the participants in the interviews, were given the interview transcript to check and this is called member check in a qualitative study; to secure the validity of the information shared and that they agreed on what they have said (Glense 2011; Kvale & Brinkmann 2009). Only in one of the transcripts that the participants asked to remove the names of the social media platforms that he mentioned, because he did not want to promote their services. This was fixed under the request of the participant and at the same time the participant agreed to the other information that was shared.

The analysis of the interview results was based on thematic analysis of the narrative in order to investigate meaning and interpretation of the participants' experiences. According to Kvale and

Brinkmann (2009) the meaning interpretation is looking beyond the meaning given and the narrative analysis is investigating the stories that are shared by the participants, and based on these stories a structure and a plot will be communicated. When participants share their experience and stories; these stories will be explained through the meaning that they convey and the structure and the plot of their narrative stories.

The interview was conducted with participants from both the men and the women’s campus respectively. They were given the consent form and they agreed to participate in this study. As part of validation and triangulations; the interview transcription was sent to the participants to have them checked and then agree to what had been written based on their interview with the researcher and this is called member check. Table 7 below summerises the qualititative interview participants general demographic information such as gender, major and number.

Gender	Major	Total Number of Participants
Male	Engineering	3
Female	Business Education Health Science	11

**Table 7: Demographic information about the interview participants**

The participants were three male and eleven female students. They were studying in different departments; for example, some were studying at the Engineering and Health Science departments, while others were studying in Business and Education departments. Having different departments would provide different understanding of the participants’ perspectives based on their major. The analysis will be divided as a thematic analysis and this analysis will be based on intrinsic and extrinsic motivation and in the case of the last interview both extrinsic and intrinsic motivation were found.

### **4.3.1 Intrinsic Motivation**

Male Student 1 is an engineering student majoring in aviation he is a full time student. He considers himself successful and achieved when he passes any project that is related to his major (Aviation). However, there was a particular project in Aviation that made him feel accomplished and successful. For Male Student 1 there are many factors that helped him succeed; the first was

believing in God, he also believes that even if the person worked hard but this person does not believe that the blessing comes from God, then any achievement is ‘worthless’.

Male Student 1: I think ahhh, in Aviation we have something called re-sets and I think passing these resets and passing such difficult course is considered as an achievement. And whenever, I pass a subject that is related to aviation I think of it as a success.

Male Student 1: first of all ahhh believing in Allah, always counting on Allah before I study and before I do anything because first of all and at the end of all everything good that happens it comes from Allah and no matter how hard you do, if it is without believing in Allah, in my opinion it is worthless.

Male student 2 is also an engineering student. He shared a story when he was successful it was during a time when he was working on a report for a module. He shared the story of his success by explaining that there were several factors that led to his success, and these factors were ‘focusing on the report’ and allocating some time to the report for it to be complete. He also added that hard work influenced his success and being ‘accurate’ on each part or section of the report. This indicated that in order to be successful one should have a clear idea about the goal and target, then one should work hard and not get distracted and give success time or have the skill of time management to achieve. These traits and characteristics are part of grit.

Male Student 2: The time when my English report got the highest mark in the class, and there were a lot of factors that made me achieve this success. Focusing on this report and giving it time was the reason behind its success, as also working hard and being very accurate on every single part of the report.

While Male student 3 also an engineering student described himself as a hard working person, he believes that hard work can lead to success. He places a huge importance and value on a person’s career and education, believing that these two are the measurement of a person’s worth and value. There are so many factors that helped him succeed and these factors are his perseverance, focusing on the goal or target and not allowing anything to distract him from his goal and that is completing a task or an assignment. Therefore, first of all one should be focused and not get distracted to succeed this is also considered as part of being gritty. Also perseverance and being focused are essential parts of grit.

Male Student 3: Perseverance, focusing on the task at hand and not allowing other things to distract me from my assignment.

Failure is part of students' lives and it is a bitter part, though it differed from failing a subject, score badly on a project or not being able to complete a project because of some factors discussed by the participants. Male student 1 failed some modules and had to sit for a re-set exam. This failure made him depressed. There are many factors that led to his failure and these were 'physiological', stress, being tense or under pressure, the lack of or communication or miscommunication between teachers and students; he also added that sometimes the modules are difficult.

Male Student 1: I failed when I was in academic point of view, I failed when I was in semester two, ah there were five subjects, elective you call them and three were majors subjects, and the three major subjects I got two resets that means I did not pass them yet, so Fs and one subject I repeated them completely so that was a total F. and that was very depressing period for me.

Male Student 1: mmmm maybe let's call them physiological factors maybe, maybe stress, maybe some problems with the communication between the teacher and the student. Aah the difficulty of the subjects and you know it's like it was my second semester so I was in my first year I was fresh out from high school, and you know year pressure it is like it was very tense and these are the reasons I think.

However, Male student 2 explained that he failed once in a project related to his major, he later realised that the reason for his failure was working individually and not as a team as the project was a group project. The lesson that he learnt was; work should be divided equally among the members of the group and it is important that they meet and discuss any difficulties that they face. This is because another member of the group could assist the one who is struggling. Those traits are part of grit, especially overcoming setbacks and not being discouraged by them, moreover, learning from mistakes so that they will not be repeated in the future.

Male Student 2: The time when I had a digital circuit project and I couldn't put it down to work properly. They reason behind why this project failed because it was a group project and we were supposed to work as a group to finish it, but I was too selfish and I wanted to do all the work by my own. I wasn't too cooperative with my other team members.

Failure for Male student 3 is when working in a group and putting all one's effort in the project but at the same time neglecting other issues in group work and that is team members disappointing each other, probably because they they depend on one member to do all of the work. In addition to that sometimes students focus only on one part of the assignment but neglect the other parts, which makes them to perform poorly. Apart from that procrastination and other distractions such as a 'new videogame' or 'social media'.

Male Student 3: Depending on group members because it is inevitable that they will let you down. Putting a tremendous effort to achieve excellence on one part of an assignment, thus neglecting other parts and performing poorly on them, Procrastination and distractions such as new video games and social media.

Knowing that failure is difficult, Male student 1 emphasised that believing and relying on God in addition to his hard work led him to succeed and pass. For Male student 1 it is vital to rely on God for success which means that he gets motivated when he approaches God for blessing and success. However, Male student 2 suggested a way to overcome failure, first it is the belief that failure leads to learning a lesson, he does not stop when he fails on the contrary he overcomes by persistence and perseverance (get back stronger than before). While, Male student 3 agrees with male student 2 to put the phone away, he added that one should not dwell on failure but should 'focus on what's ahead' or the future, and one should prioritise the tasks that they are given. This also implies that the male participants try to learn from their mistakes and overcome failure and setbacks, which shows that they are gritty.

Male Student 1: I studied very hard, first of all I ah I counted on Allah and I believed in him and believed that he will help me then I put my effort into it and Alhamdulillah I passed.

Male Student 2: Failure was always like a lesson for me, so every time I fail I don't stop. I just learn my lesson and get back up stronger than before which helps me overcome what I failed to do the first time.

Male Student 3: Not dwelling on past failures and focusing on what's ahead. Prioritizing tasks. Putting the phone away while studying

Responsibilities are another part that could distract the participants. Male student1 has responsibilities as a son, he cares for his parents due to religious believes as he emphasised in Islam parents have a very high status. He also helps his father in his work. Nevertheless, he has responsibilities as a student as well; these responsibilities are to be an active member in his community and to help in the development of the country. However, These responsibilities do not affect his focus on his studies.

Male Student 1: ok. As a son I think , I should be caring for my parents I should work hard to please them because as in Islam they are regarded very high and they have high priorities that I should and high privileges that I should give it to them, that's as a son, but as a student I think I should I think as a local student I think I need to be a factor in the improvement wheel in my country I think I should be an active member in my community, as a big a big ah what do you call it a big stone ah ah or a big part of the community and a big part of this culture and you know make it evelote [sic] especially now in the smart government that is going on now, and the thing the that happen now in the

work summit the government summit I mean I think it would be nice maybe in the future to be part of that all inshallah... Is there at the moment no just studying aviation... I do some work for my father and these kinds of.

For Male students 2 responsibilities are divided into two parts, the first part is being a student and the second part is his responsibilities as a son. As a student he saw his responsibilities is to study hard, to be honest, to be loyal and to develop his country and to make his family proud. His responsibilities as a son can be summarised in respecting his parents and running some errands for his family, such as getting the groceries and driving his brother to the places that he wants to go. It is worth mentioning that none of these hinders his progress.

Male Student 2: As a student I have a lot of responsibilities to do especially toward my family, country and myself. My responsibilities toward myself and country are to study hard and be loyal and honest by not going the easy way to gain marks like cheating and plagiarism... My responsibility as a son is to obey and respect my parents no matter what happens even if they're wrong and I am right. I have to always listen to what they say and not interrupt them when they are talking... Because when my father isn't home, I become the man of the house and I have to take care of brining the groceries and driving my little brother to wherever he's [sic] wants to go.

While, Male student 3 sees that he has responsibilities as a student, son and friend. His responsibilities as a friend is helping under-achieved students which takes a lot of his time, and his responsibilities as a son was helping his parents by teaching his younger siblings, which affected him negatively because he did not have enough time to complete his own work. This indicates that the first two students were not affected by their responsibilities, while the third one was distracted by these responsibilities. Which could indicate a lower level of grit in Male Student 3 only with distractions.

Male Student 3: As a student and as a friend. Helping underachieving students is demanding and time consuming. My responsibility as a son is to adhere to what my parents want and live up to their expectations. Help my parents by teaching my little sister and brother. It affects negatively for not having enough time to do my own work.

Regarding the use of social media, all participants used it. Male student 1 during the interview named some social media platforms, but when he was given the transcript he requested to remove the names of these platforms, because he felt that he was promoting them. Therefore, the names were taken out under the participant's request. He said that he used Social Media platforms, and there were some in particular that he used regularly. Yet most these and electronic devises and social media platforms distract him.

Male Student 1: for me most of the electronics distract me when you are studying not only the phone is why you need to isolate yourself if the phone keeps on ringing when I am studying, of course this it will distract you from the thing you are doing now.... While I am studying it's better to stay away from these things, because you know it will limit my studying hours it will make me more concentrate on these stuff than my studying and I think if you find something interesting in these programmes it will take you a while to finish with it and it will get you distracted a lot from your studies

Whereas, the social media that Male student 2 uses is 'What's App' and it distracts him from studying and completing his projects, so whenever he has projects he keeps his smart phone away, so that he does not get distracted. While Male student 3 uses 'Instagram' which affects his focus negatively from his projects and studies because he checks them regularly.

Male Student 2: I use WhatsApp because it is the best messenger and all the people I know use this platform which makes communication a lot easier... Social media distracts my attention and focus on my project and studies a lot. That's why when I have a project to do I keep my phone away from me until I finish my work so I don't get distracted.

Male Student 3: Instagram, very often...It distracts me while studying and constantly checking it prevent me from focusing on my assignment

Video games was also played by the participants. Two out of three played FIFA games. Male student 1 plays 'FIFA 16', nevertheless, it does not affect his focus on his studies because he does not play as much as he used to, or as much as he was playing when he was in high school-secondary level. Thus, as soon as he joined the tertiary level institution he is not playing as much.

Male Student 1: FIFA 16... No, because when I entered college it's not like I play a lot, considered very rare. Not like when I was in school. So, no.

Considering Male student 2, he enjoys playing video games especially 'FIFA' and the reason for liking this game is for its competitiveness. It also has a feature that makes it more fun to play and this feature is being able to play with others (multiplayer) this also gives the participant the confidence of being a better player once he won. Regarding the effect of video games on completing projects or tasks for Male student 2, he expressed that it does not affect his progress because he can make the balance between playing video games and studying. For this part participant Male student 2 could not be distracted with playing video games, however, with social media he had to put his phone away so that he does not to get distracted. Whereas, Male student 3 played a game (Candy Crush) on his smartphone and found that it distracted him from doing his own projects because he did not have enough time for his own projects.

Male Student 2: Yes, I do play video games. And I like to play FIFA which is a football game, because this game is every competitive, and you can play against other people in multiplayer which is a great feature to know how a great player you are when you beat them...It doesn't affect my focus on my projects at all, because I only play on the weekends. Even if I did play t all the time I can balance between playing video games and my studies.

Male Student 3: Yes, games on smartphones, candy crush...It affects it in a negative way, it takes a lot of time that I don't have enough time to finish projects

To sum up, the male students are gritty when they show perseverance and persistent, they also exhibit grit when they overcome setbacks and they do not get distracted by failure. Grit is also visible when they learn from their mistakes to perform better. However, one participant got distracted easily by social media platforms and games and this indicates that his level of grit is lower than the other two participants. Yet, male particioants were distracted with their family responsibilities and the use of social media platforms more than videogames. However, male students 1 and 2 were able to avoid distactions and were grittier than male student 3. The next section will analyse the female students results analysis.

However,there were more female participants (eleven students) than male participants (three students) and that could be related and based on the numbers of students studying at this higher education institution, that there are more female students than male students studying at this higher education institution.

In order to conduct the interviews with the female participants, they refused to be videotaped or audiotaped -have their voices recorded- this could be explained by their culture, which means most women do not want to be videotaped or audiotaped -for their voices to be recorded. Therefore, the researcher did not record their voices; respecton the female participants request. Hence, the resarcher tried her best to take notes and write down as much as possible.

Three business female students were approached, only two were interested. The Two female business students, were working in the morning and were students in the evening. They did not have the time to spare to sit for a face-to-face interview. This is because they had to work in the morning and attend classes in the evening.

Therefore, it was suggested that the consent form and the interview questions to be sent by email for them to answer; and in case they had any questions they could ask via email. Therefore, the correspondence only for those two students was conducted through email. This method was used

because of the students' tight schedule and the difficulty for them to be present physically this method was employed. The reason for choosing these two students; was because they were working students and they have more experience in both career and education. They have limited time to get any work done, and that is even more challenging to try and complete tasks and projects without being distracted by work or education and other responsibilities. Thus, it was vital to share, express and give meaning to their experience.

The evening female students were more diverse than their male counterparts, because the female participants came from different backgrounds. They were business students, health science student and education students. All the participants were given the consent form to know their rights and that their participation was voluntary. Moreover, the consent form explained to them that they can withdraw without any consequences. There were some students who declined to participate and there was no consequence for not participating in this study. First, the results of the education students will be analysed and second the business students' results, while finally the health science student result.

### **4.3.2 Extrinsic Motivation**

There were four education students who participated in this interview, there were given the transcript to check and this is known as member check for validation. Then they gave their consent and they agreed on what was in the transcript.

When they were asked to talk about themselves Education Female student 1 said that she is not interested about studying and thought that choosing a major was easy, however, when she joined the college she discovered that it was a difficult thing that is why she suggested that a student should know what she wanted and study all of the options before choosing a major.

However, Education female student 2 emphasised that she liked her major; and finds that she can improve education. Education Female student 3, is an education major student who wants to be an English Language teacher, however, she said that she in the beginning she wanted to study aviation and she does not see herself in this major. Then she realised later, that studying in education makes her happy and gives her satisfaction. She also acknowledged that she likes children and being creative, therefore, this major suits her. Finally, Education female student 4 gave a more descriptive details about her background, she is 20 years old and she started studying at the college since 2014.

She explained that at the beginning she had ‘no objective’ and that she faced some ‘obstacles’, however, her family was supportive of her. This explains that it was her family’s support that made her overcome these obstacles. She also showed that she is interested in her major which is teaching English, because she believes that this will help her when she becomes a mother, besides being able to ‘deal with children’. Probably her confusion was because of her young age at the time of joining the tertiary institution.

While, some express their dislike when others think that their major is easy; and they know that it is not an easy major as others might think. Moreover, one of the participants aspires to improve the education.

These students had their share of success and failure, when talking about success. For Education female student 2 she defined success in her experience when she volunteered with the Down Syndrome event. She expressed her joy and happiness when she realised that she made the children with Down Syndrome happy; and to her helping others and making them happy is success. While, Education female student 4 mentioned that her success is summarised when she decided to choose which section to study in (Arts or Science) during her high school days. She began with science, but later changed into arts. It was her family’s support, especially her mother’s prayers and her hard work that made her successful.

Education female student 3’s experience with success was when she received the full mark in one of her subjects, back when she was a student at school. Her success was due to both her parents and teachers support. Especially it was her teachers support and praise. However, she did not attribute her success to her work, to her it was external factors coming from someone else that encouraged her to succeed.

On the other hand, Education female student 4 felt that she was successful, because of her hard work and her family’s support (parents, aunt and grandmother). She used to study during the break and she remembered; during her final exams in high school, she got sick. She was admitted to the hospital and she stayed in there for a whole day, she could not study for her exam on the next day. On the exam day, she was put in the nurse’s room to take the exam. At that time, the principal and the teachers were very supportive of her, and eventually she scored very high on her High School percentage (93%-94%), and that as she explained was due to her hard work during the break and

the support she had received. She believed that she could have scored even higher (96%) if it were not for being sick on that exam.

Education female students understanding and belief of success differs from one student to the other, however, most of them attributed their success specifically to hard work, while only one student believed that the support that she received was what pushed her to succeed. This exhibits an element of grit which is being a hard worker. One participant attributed her success in addition to hard work; she added to the support she received from her family.

Though failure is bitter, those participants were willing to share their experience when they failed. Education female student 1 remembered when she failed math in grade 8, she explained that the reason for that was because she transferred from a private to a government/public school. This means that the difference between private and government schools made her fail and the lack of knowledge as well.

Based on personal experience, the difference between private and government school is the means of communication and the language used in their text books. For example, in public or government schools the means of communication is Arabic and most of their text books are in Arabic. However, English is taught as a single subject. Whereas, in some private schools the means of communication is English and most of their text books are in English. While, in government schools, most subjects are taught in Arabic. Hence, the this participant might have had difficulty because of the language.

Education female student 3 wanted to join aviation, her failure was when she did not pass the interview stage. She felt sad; her father supported her and then she realised probably it was not meant to be. However, later she said that she did all of the required work, and finally when they called her to start with them, but she could not join them. This was because she started in the this tertiary institution and her work would clash with her schedule. However, Education female student 3 refused the idea that she might fail, she said that there is no place for failure with her and that she will never fail. There is a possibility that she did not want to talk about her failures, because she might worry of other's perception of her that failure is a shame. She was asked to think hypothetically and still she refused to share about her failure.

However, Education female student 4 saw failure as not being able to complete the reading The Holy Quran, she explains that when she was at grade six she started taking lessons and she could reach the fifth part, she was annoyed with herself for not being able to finish.

Now failure to them differed based what they felt was more important. For some students it was related to their schools or colleges, or getting a job; while for others it was a personal goal that they wanted to achieve so badly, but failed to achieve. The factors that led to their failure was the change from private to public or government school, not being the right place to join, clash in the schedule and joining the college which made them have so many projects to complete.

After failing, they had set a plan or strategy for themselves to overcome setbacks and failure. One believed that by hard work she could succeed; it is 'not a big deal' and that she will start all over again. She also needs 'extra hand-outs' to be able to start all over again. Another education student thought that she should change her plan and mind. This means that she should change her mind set and then start all over again. She tells herself that probably there will be something better. Another student depends on herself and puts a plan and also relies on her family's support. Finally, one student explained hypothetically if she failed then she should learn from her mistakes. The plan differs from one student to the other depending on what works for them. This suggests that, they have grit and are able to overcome setbacks and are not discouraged by failure.

Regarding their responsibilities, they differ from one participant to the other, some have the responsibilities of their younger siblings, while others need to care for their ailing parents (diabetic mother). An important story was shared by one of the education participants, she said that she had to travel to London with her younger sister to visit an aunt. Therefore, she looked after her younger sister (eating and changing her dress). however, one education student emphasised that her responsibilities are to care for her family, improve education in the UAE and finally to teach children English. Moreover, these responsibilities do not hinder their focus on their projects.

It was assumed by the researcher that having the responsibility of caring for family members would affect negatively on their focus to complete their tasks or projects. However, that was not the case and the participant showed a level of grit, because they had plans to be able to overcome these setbacks and not allow failure to discourage them from achieving their goals.

The use of social media platform is popular among students. Most of the education students use Social Media platforms such as skype, WhatsApp, Instagram, Snapchat. Whereas, one student does not use any platform. However, the ones who use them, do that to contact with family members in another gulf state and spends about six hours a day just skyping. While the other two participants use it when they are bored. But one uses Snapchat all of the time. They also believed that the use of Social Media Platform does not affect their projects and studies.

It was also assumed that the use of social media will affect their focus on completing their tasks and projects. Especially with the participant who mentioned that she spent approximately six hours communicating and chatting with her family. It seems that they use social media and allow to be distracted when they are bored, however, when they have projects or assignments then they avoid the use of social media platforms. Then this implies that in this section students are gritty, because they are not distracted by modern technology.

From this group of students; only one education female student plays two games on her smartphone, while the other do not. This student plays 'smash hots' and 'Rebus', and it sometimes affects her; as whenever she feels bored while writing; she will start playing on her smartphone, yet she never submits late. Even when she sometimes gets distracted by playing some games on her smartphones, yet she makes sure not to submit late which means that getting distracted is temporary when she is bored. Once she realises that she has to submit then she avoids playing videogames. The level of grit in this is not visible with students who do not play videogames, whereas, with the one participant who played it showed that there is a level of grit but not high, because the participant got distracted when she was bored.

The interview conducted in this section was divided into two groups, the first group consisted of 14 evening female students, however, these participants did not take the interview seriously and did not answer the questions the majority started withdrawing from the interview and the total number of students that participated was four to six, even the remaining ones were not willing to participate and were not open to share their stories, therefore, the results for this first group was not analysed because there was no depth in their answers; and most of the participants were not willing to share their stories. Probably because the questions were personal and they did not want their colleagues to know about their failures. Despite the fact that they were asked for their consent, their rights were explained to them. Moreover, they all agreed to participate.

The other group were business students and they were willing to share their stories. There were four working business evening students who agreed to participate in this interview, however, they all refused to record their voice, therefore, there was no voice recording for this interview. Probably because recording women's voices; culturally is not favourably looked upon.

Accordingly, notes were taken and the transcript was sent to the participants to check if they agreed with the information they shared. Only a couple of students asked for some minor changes to the transcript that did not affect its quality or value of the given information. The stories that they shared reflect their experience, and the section below will analyse these experiences.

Although Female Business student 1 is an evening student but she is currently not employed. She is studying at this higher educational institution, and she is at semester two and year two. She describes herself as 'outgoing' in addition to having a great personality.

Business student 2 has a mixed racial culture and knows about both her father's and mother's cultures. She has family members across the world (USA, Germany, Canada and UK). She added that she respects other people's opinions. She attended a prestigious school here in Dubai, UAE. She had studied psychology for a year and she sees herself as noticing details in anything quickly.

Female Business student 3 is a working evening student. She is currently studying at this tertiary institution, and works as a teller in a bank. However, she has another role as that is Acting Head Teller. She aspires to be a head teller, nonetheless, because she is a student she cannot be promoted. She finds herself able to achieve this goal because of her traits and characteristics like being 'punctual, honest, hard worker' she can also meet her deadlines despite having a lot of work. Being a hard worker is a trait of grit.

Female Business student 4 also works at the same bank, and is studying at the same tertiary institution as the rest of the participants. She wants to proceed with her graduate studies. She also likes to prove herself. The information shared in this section gives a background about the participants. Three out of four are working and studying at the same time, this could be challenging because they do not have enough time to complete their duties at their respected jobs or assignments at the college.

Considering success, it makes people feel happy and it motivates them to achieve. Female Business student 1 felt successful when she was studying at high school, she studied at both Art and Science section. She attributes her success to her hard work.

While, Female Business student 2's success story was when she was accepted in a Senior Committee at school, and she was the first student to be accepted in this committee. The factor that led to her success was her father and sister having a background in media, therefore that helped her succeed. Female Business student 3 felt successful when she received an outstanding award. Her staff encouraged her that she could succeed. She also added that her father encouraged her to aim for success. However, Female Business student 4 did not share any success stories. Probably because she still feels that she did not reach her goals yet.

This suggests that success could come from having a background knowledge in a certain area that helps promote one to be a member in a committee, or encouragement coming from the people that one surrounds himself or herself with and being a hard worker.

Failure is difficult, however, it takes willingness, persistence and perseverance to overcome setbacks. Despite the difficulty of sharing failure stories because of the fear of other's perceptions, the participants were willing to share their stories. For Female Business student 1 she failed her history exam, because she is weak in Arabic and the exam was in Arabic. This subject depends heavily on memorisation and although she studied hard, she failed. To overcome failure, she suggested to work hard and try over and over again. Which means being persistent and having perseverance.

Female Business student 2 shared a story when she was in grade nine she failed three subjects (Arabic, History and Social Studies), she said that she got 30 out of a 100 in those three subjects. She explains that the teacher despised her family that is the reason for failing her. This explains blaming others for failure.

Whenever she fails, Business student 2 remembers and follows a quote told to her by her aunt; the quote is 'It is not about how you fall, it's about how you get up'. This leads to perseverance and overcoming failure. While, Female Business student 3 said that she failed grade two twice, and she blames her neighbour for her failure. She believes that her neighbour gave her an evil eye. To overcome failure, she describes failure as a slap in the face and this wakes her up and helps her to

realise that she needs to work harder. Female Business student 4 failed in math at college because she never studied math in English, it was in Arabic in schools. Therefore, some fail for not having the language skills, while others blame their surroundings for their failure. For this participant, she said that working hard is the solution. Therefore, generally these participants failed but worked hard to overcome setbacks and failure; hence they are considered gritty.

Students have many responsibilities, when they shared their stories Female Business student 1 explained that she has the responsibility of a student; she has to work hard and to make her parents and herself happy. Her only responsibilities are being a student at the college. As for Female Business student 2 shared that although she is the youngest, she has many responsibilities. Her parents depend on her, she supports and helps them around the house; her examples were the food, tea and 'handling her mother's calls' in addition to the responsibilities of work and education.

For Female Business student 2 The only thing that hinders her focus is her responsibilities towards her father, because as soon as her father arrives home then her full attention and focus is on him. She leaves everything else and looks for her father's needs. While, Female Business student 3 has so many responsibilities, she looks after her younger siblings, her father asked her to look after her younger siblings and he was convinced with her abilities to do that.

The interesting part in her story; was when she said that her father rejected the idea of women studying at a tertiary level and to be working at the same time. In spite of sharing that her father was very supportive of her and encouraged her to succeed. However, she was able to convince him that she was able to do both. She has the pressure of taking care of her younger siblings that affects her focus on her studies.

On the other hand, Female Business student 4 said that she has no responsibilities at home, with the exception when her mother is away, so she takes care of her younger siblings. Her other responsibilities are at work. These responsibilities do not distract her from her projects.

This sections implies that most of these students have responsibilities other than work and education, but surprisingly to some extent they do not let these responsibilities to affect their focus on their work and studies. This indicates that they have grit because they do not get distracted by their responsibilities.

Some of these participants use Social Media Platform, while others do not. Female Business student 1 uses Snapchat everyday and it does not affect her focus on her studies. While Female Business student 2 uses more than one Social Media platform; she uses Tumblr and Twitter for quotes while YouTube before sleeping. She believes that because she is organised and she can manage her time, that is why this does not affect her focus on her studies or projects. This exhibits a good level of grit, because they are not distracted.

Female Business student 3 uses Instagram, Snapchat, and WhatsApp only twice a day; early in the morning and before going to bed. Female Business student 4 uses Twitter, Instagram and Snapchat and she looks at them at mid-day and at night. Most of them agreed that Social Media does not affect their focus on their studies, because they are organised. This shows and reveals a good level of grit, because they are not distracted.

However, Female Business student 4 said that it all depended on her mood and that meant if she liked the subject she will study, but if she did not like her subjects she will start checking her phone for the Social Media Platforms. Therefore, there is a level of grit exhibited in the participants because they are not distracted easily with social media. With the exception of Female Business 4 as she allows herself to get dsitracted according to her mood, which shows a low level of grit.

Not all of the business student's play video games. Some do while others do not, for example Female Business student 2 plays videogames a lot, she is 'addicted' to them, examples are: Gyrosphere, Cooking Fever, Panda Pop and Hay Day. It affects her focus on her studies, because she is competitive and wants to reach the next level, she will be in a bad mood and will not be able to think properly, until she wins. Therefore, for Femal Business Student 2 videogames are considered a distractor, and her level of grit only reduces in this part.

Female Business student 4 also plays video games, she plays Guitar Hero on Play Station 1, while on her smartphone she plays Panda Pop. It depends on her mood and if she liked the modules or not; if she disliked the modules then she will start playing.

For this section it shows that they have a low level of grit because they get distracted by videogames, now they did not get distracted by social media, but that happened with videogames.

The last two interviews were shared by senior female business students. Being senior working students they had more difficult subjects and they they did not have the time to sit for an interview.

Therefore, they agreed to participate but it was preferred to send them the interview questions via email and they wrote their answers and emailed it back. They were also encouraged to ask any questions if they had any. They were also asked for their consent for using the information that they shared, and they agreed for the information to be used. The reason for targeting these students was because they are seniors and working students ,therefore, they would have more experience and knowledge about failure and success.

Senior Female Business Student 1 has been working at a government institution for almost seven years, she is also an evening student at the tertiary institution. She is in her fourth year and will graduate in June 2016. While, Senior Female Business Student 2 had a longer story to share about herself. She is an evening student, studying part-time at the same tertiary institution. She lives in Sharjah and works in Dubai at a semi-government organisation. She drives long hours everyday, but she enjoys that because it distracts her from the hustle and bustle. She graduated with Diploma in 2003, she tried to proceed with her studies but her application was always lost. However, she persevered and persisted until she was enrolled in the Bachelor programme. During that time, she joined a university in Dubai for two years and she got married. Her ex-husband did not like her studying with men, therefore she transferred to the tertiary institution she is studying at the moment. However, whatever she studied for the last two years were not transferred credits, hence she studied everything all over again. This introduction demonstrates that Senior Female Business Student 2 faced many setbacks, however, she was able to overcome them which shows a high level of grit.

Senior Female Business Student 1 success was when her brother challenged her to graduate with average GPA, however, she graduated from Diploma with a very high GPA (3.99). She was proud of herself, but her excitement was when her own mother felt proud of her and it was her mother's first time to attend any of her children's graduation ceremony at a university or a college. Senior Female Business Student 2 success is being a full-time student and having the time to study. The factors that made her successful were her teachers. By them being positive and supportive, they encouraged her to ask questions. Therefore, teachers play an important and vital role in students' level of grit and perseverance at the beginning.

This implies that these students are encouraged by the people around them and not by their own enthusiasm to succeed. This shows that there are external factors that affects a person's grit and that could be a family member or a teacher.

Senior Female Business Student 1's failure was in 2003 when she graduated from high school, although she was a high achieving student; her low marks in the final exam came as a shock to her. The factor that affected her progress negatively was some family issues. Yet, she was optimistic and she started working at a printing press and she proved her excellence through her work.

Senior Female Business Student 2 shared only the factors for her failure. First her previous employer did not want her to complete her studies. According to the participant he ex-employer used to cut her salary, issue her warning letters, give her bad appraisals, extend her working hours, not releasing her to attend her classes at college and finally ending her contact and expelling her.

Moreover, she had to attend regular court session to finalise her divorce. At that time, she was unemployed for seven months and had personal loans that she could not pay. Although she shared the difficulties she was facing with her teachers, but according to her no one cared. However, she did not share a failure that she encountered. Yet, these could be considered setbacks as not being able to attend her lectures and classes on time. But these factors could have affected her focus on her studies and completing her projects. It also reveals that Senior Female Business Student 2 had to face so many obstacles.

For Senior Female Business Student 1, to overcome any obstacle in life first she asks a person who is older or has more experience than her. Then she added that she loves challenges and to face problems and failure. She also enjoys finding a solution for any problem that she faces with the simplest, easiest and most forward solution or way. She also is positive even when she faces problems or failure. This shows a good level of grit.

Senior Female Business Student 2 believed that something good comes from failure, she keeps being optimistic and positive. Hence she always turns out to enjoying being a full-time student. This shows that they have grit, because they can overcome setbacks or problems by finding a solution and being optimistic.

Senior Female Business Student 1 also has many responsibilities, her responsibility as a daughter is to take care of her parents; especially their food, medicine and health. She also looks after their needs; and talks to them although she is busy with her work and studies. Her other responsibility is as a student, she said that she respects her teachers and colleagues, she studies hard to reach her goal and succeed. Finally, she has her responsibility as an employee and that is by being a good employee, keeping a good relationship with managers and colleagues and finally her commitment to complete her tasks. Her commitment to the task will assist her in reaching the organisation goal.

Some of these responsibilities hinders her focus, for example at work sometimes she stays after working hours and this affects both her duties and her studies at the college. Other times family issues will hinder her focus on her college. This is because she needs to be at the college; working on her projects and at the same time has to be present with her family to solve the family issues. Yet, although she is faced with setbacks she is able to bounce back and proceed with her tasks and projects, which shows stamina and grit.

Senior Female Business Student 2 has many responsibilities as a daughter, student and chess arbiter and player. First as a daughter, being the eldest she has to babysit her nephews and nieces. She also supports her family financially and runs some errands for her parents. She finds a difficulty when everything happens at once.

An example of this would be if she had to judge a chess competition then she has to take days off from both her work and college. Because of that she would work harder to complete her pending work.

### **4.3.3 Extrinsic and Intrinsic Motivation**

Another interview was conducted with a Health Science Female Student studying in the same tertiary institution. At the beginning she gave a small background introduction about herself. She comes from a big family (six sisters and one brother). She has always been fascinated with anything related to medicine. At the beginning she wanted to study medicine, but she could not therefore she studied imaging. She used to work at a Health Organisation, however, she resigned because they changed her shift to an afternoon shift and the timing clashed with her scheduled classes and studies. After that she started working at an exchange company. She enjoys many things in particular ‘electronic stuff’.

When talking about success, she immediately related her success to her mother, she said that during one semester she was forced to change her major because her GPA was low, and the only way she could return to her previous major was by raising her GPA. Her mother, supported and encouraged her by buying her a new laptop and a phone. She admits that it was difficult.

Sharing her failure was difficult and at the end she was proud of herself. Due to some family issues that affected her attendance and grade; she failed in her modules. She was told to change her major, however, she returned back to her original major. She emphasised that hard work and asking for support helped her overcome failure. She used to ask her friends to explain to her which they did and this way she understood the lectures. She also added that her teachers were supportive as well.

This indicates that although she had a low GPA she worked hard and was persistent to raise her GPA to be able to study in medicine again. She was also able to overcome her failure by being focused on her goal and that was having a higher GPA, therefore she has grit.

According to her responsibility; it revolves around her family. She looks after her siblings as well. She mentioned that she was single and not the eldest but her mother relied on her in everything. She helps her mother in making decisions. Having this responsibility affected her studies, when there are any problems they refer to her. However, when she has college work she would not be able to study.

The indication of her story reveals that although she has grit and is able to achieve her goals and not be distracted, when it comes to her family responsibilities then she would lose her grit. She would allow her family issues to affect her studies. Her level of grit is revealed by being able to return to her previous major Health Science through raising her GPA and despite all of the difficulties and setbacks she faced, she was able to succeed.

Social media platform is also popular with Female Health Science Student; she uses Social Media platforms, such as WhatsApp, BBM, IMO, Snapchat, and Instagram. She might use it the whole day, however she explained that it is not 24 hours that she spends using them; but whenever she was free then she might reply. Which indicates that she does not allow social media to distract her as she is gritty.

She also likes playing Play Station, and her favourite game is Tarzan, which she played it last month, and because hers is broken she used her cousins'. Nevertheless, playing video games does

not affect her studies because she only plays during the weekends. In case she played during the weekdays then her mother reminds her to study. This shows that she does not get distracted by videogames or social media, indicating that she has grit, because she did not get distracted.

#### **4.4 Chapter Summary**

According to statistical analysis, students have high levels of grit even when faced with setbacks and failure. They are persistent, having stamina and perseverance. They work hard especially when they are faced with failure and setbacks. However, there were times that their level of grit is reduced especially once they allow to be distracted by social media, family responsibilities, social life, videogames and social media. Yet, there are times that those gritty participants are able to avoid distractions, overcome setbacks and failure. At the same time, once faced with challenges their level of grit raises.

A pattern that emerges from these participants is that their responsibilities are diverse, they have their duties and roles at their work, while at the same time they are managing their family responsibilities (especially caring for older ailing parents) in addition to their studies. These responsibilities hinder their focus on their studies, for a short time. However, they are able to proceed with their tasks and projects, which shows a good level of grit.

Senior Female Business student 1 does not use social media regularly, yet she uses WhatsApp and prior to that she used BlackBerry. She does not care about these applications. Similarly, Senior Female Business Student 2 does not use social media platforms at all. She finds them useless and it distracts her. Therefore, it does not affect her studies because she does not use them. As the use of social media, grit was not detected because they do not use it and they are not interested.

Senior Female Business Student 1 used to play videogames on Sony Play and Atari, and there are no games on her phone. Playing games does not distract her from her studies. Nevertheless, it is her family issues that affect her focus on her studies negatively. Similarly, Senior Female Business Student 2 plays only one game on her phone and that is chess. She finds that it helps her to be focused and find alternative solutions which also helps in her studies. She added that the positivity of educators will enable students to work harder.

Although they play videogames but this does not affect their focus on their studies. This allows to detect grit, as they do not get distracted and they are focused on their goals. They also overcome

setbacks by consulting others with experience to learn from them and by being optimistic. However, it was assumed that the male participants will be more distracted by the videogames, however, it was found that the female students were more distracted by them.

Based on the results on the interviews conducted, a pattern emerged. It was observed that the participants in general have grit, however, under certain circumstances their grit level might go down especially when family issues are involved. Yet, they get affected temporarily and then they will be able to achieve and overcome these setbacks. Some of the participants were intrinsically motivated while others were extrinsically motivated. However, there were some who were motivated both intrinsically and extrinsically. The following chapter five will sum up and conclude this study.

## Chapter Five: Conclusion

This chapter will conclude the whole study and it is divided into six sections. First section will summarise the study. The second section will explain the key findings. The third section will discuss the implications of this study. The fourth section will provide recommendations based on the findings of this study and the fifth section will explain further research plan. Finally, this thesis will be concluded with a concluding note.

### 5.1 Summary of the study

This study aims to investigate the concept of grit a non-cognitive skill which is present in male and female Emirati higher education level students in Dubai, and if grit affects those students academic performance by looking at their current GPA, which will provide a good idea about their current academic status. In the case of grit, this study also explored the way students overcome setbacks and deal with failure.

The hypothesis in this study was whether there was a relationship between grit and students academic performance. This was tested through the use of *t-test* to find the correlation and Chi-square to provide a general understanding about the data collected.

For this study the research questions revolved around the way students overcome setbacks and cope with their failure. The questions were:

- 1-What are the students' success stories? What were the factors that made them successful?
- 2-What are the students' failure stories? What were the factors that made them fail?
- 3-How do students overcome their setbacks and failure?

The second part of the questions focused on distractions, to explore if these distractions affected their focus and grit; these questions were:

- 1- What are the students' responsibilities ? Do these responsibilities affect their task and project completion?
- 2- What is the role of social media in distracting students from completing their projects?
- 3- What is the role of video games in distracting students from completing their projects?

In order to test the hypothesis and to find the meaning to the students' experiences, a mixed methods approach was employed. This mixed methods consisted of both qualitative and quantitative methods of data collection, however, it was mainly quantitative. This data was collected first by quantitative online questionnaire that included a Likert-Scale closed questions and few open-ended questions. This was followed by a semi-structured narrative interview. This mixed method with a quantitative start and a qualitative finish is called a sequential design.

Once data was collected it was analysed, the quantitative Likert-Scale questionnaire used SPSS factor analysis and correlations. While the semi-structured interview that used narrative was transcribed and examined for common themes that emerged and giving meaning to the experience shared to give a whole understanding of the experience, i.e. hermeneutics cycle. The results of this study was similar to the finding that Duckworth and other scholars and researchers reached. Therefore, this study could fill the gap in the literature by providing an Emirati sample and this sample made the study unique.

## **5.2 Key Findings**

The key findings in this study is as follows:

- 1- This thesis suggested that there is a possibility of a relationship between grit a non-cognitive skill and academic performance, as suggested participants with higher level of grit will perform academically better than the non-gritty participants. However, to measure that Duckworth's 12 Grit-Scale instruments was used to assess the degree of how gritty the male and female Emirati tertiary level students are, and if having grit is correlated with their academic performance.
- 2- The results showed that there was a relationship between grit and academic performance and that was measured through a correlation of t-test and Chi-square between the level of grit and the students' Grade Point Average. Therefore, students who are high achievers are gritty and hard working. Therefore, the higher the levels of grit the higher will the students' GPA will better and this indicates that gritty students perform academically better than less gritty individuals, whereas the ones whose their GPA is very high they will have a better academic performance than other students who are low achievers and have low GPA and perform poorly.

- 3- The interview results showed that students are influenced by extrinsic and intrinsic motivation and this also affects their grit and perseverance, which means some students will persevere and work hard because their motivation comes from within and they enjoy the satisfaction that results from achieving a goal. However, others work hard and persevere because they know that they will receive a reward such as grade or in some cases money. Therefore, if these are the motivators then once there are no rewards they will not be motivated. Another result showed that in some cases both extrinsic and intrinsic motivation can be present for an individual to be motivated.

Based on the results, the quantitative findings of this research can be generalised to this sample of the population and not to other emirates or regions. However, The qualitative findings part of this research cannot be generalised because they are based on personal experience that is relevant to this particular person and not others.

### **5.3 Implications of the Study**

However, there are still more to be learnt about this topic regarding other nationalities, cultures, different age groups and gender. In the literature there was a gap because generally there was no sample from this region and particularly no sample from the Emirati students. Therefore, one benefit from this study is to fill the gap in the literature and add to the field while another benefit is to focus on non-cognitive skills to give an opportunity for students who struggle with cognitive skills that there is hope for them to achieve and accomplish. Also, to recommend to policy makers to focus on grit a non-cognitive skill by teaching students this skill and developing it; and eventually help students succeed in both academic and career lives.

It is not necessary that those who do well in schools will do well in life, not only a person should set goals, but also a person should fail and most importantly should learn from their mistakes (Arden 2003). This is the essential of being gritty and that is to learn from one's mistakes and excel, not allowing setbacks to stop them from achieving their goals. The implication of this study is to focus on the policy and to present policies to focus on non-cognitive skills as part of marking criteria with clear instructions.

## 5.4 Recommendations

- 1- Based on the results of this thesis and the importance of grit as a non-cognitive skill; a number of recommendations have emerged. The recommendations section will be divided into three parts; the first part will focus on policy makers, the second part will focus on students and the third and final part will focus on educators. Part One: Policy Makers:
  - 2- Educational policy makers could include grit to the students curriculum, as part of a graded activity conducted by the faculty. This activity would develop the grit skills. Moreover. educational policies would include elements of grit in projects and tasks.
  - 3- Part Two: Students  
Students should have challenging tasks, because these challenging tasks will indicate the gritty students from non-gritty ones. Since the results showed that the students with lower GPA are grittier than the students with higher GPA. It is best to have challenging tasks because this will develop students' grit and life skills. They will realise that success is not easy and they have to overcome challenges in order to succeed and achieve.
  - 4- Part Three: Educators  
It would be better for activities or the subjects that are taught in universities to include subjects that students find interesting and this will motivate students to learn.  
Faculty members and administration staff in educational institution should be trained on how to develop grit in students. In addition to that marking criteria should be developed with several section that captures all the different elements of grit. This marking criteria should be included to all projects, tasks and exams. Moreover, as part of marking schemes and learning objectives to all subjects grit should be included.
  - 5- Students should be taught to write SMART goals and they should focus on long-term goals, as a start towards grit. These students should be taught to check their goals and how much they have accomplished.

Other general recommendations would be as follows:

- 1- It would be good to have an online interview whether with skype or email, in order to help students to express more and not feel intimidated or embarrassed by answering some of the questions.

- 2- Once faced with difficulties or issues from the institution it would be best to explain to them the intention of the study and the problems that could occur from, for example changing a crucial term, then if they accepted; the study could be conducted easily, however, if they rejected the proposed term then the researcher should look for a different organisation to save time and effort.

## **5.5 Further Research Plan**

The results of this study can be considered a base for further studies to be conducted in this field. Therefore, the next step would be to try to find if there is a relationship between grit and GPA (current: semester one, two and accumulative).

Another study could be conducted to find if this study could be replicated in other emirates and this time with government and private universities and measure which has the most level of grit. a different study could be conducted among different nationalities and cultures, especially the ones living in the UAE, to find if there is a relationship between culture or the environment that the individual comes from and grit. Even another study could be conducted in other Gulf Cooperation Council (GCC countries: Saudi Arabia, Kuwait, Oman and Bahrain), and find if grit is present. A different study that could be based in this current study could be to use regression and to conduct more qualitative studies.

## **5.6 Concluding Note**

This thesis focuses on grit a non-cognitive skill that enables and helps students to improve their skills and abilities and making them aware of the flexibility of skills and abilities because they can be improved. It exhibits stamina, a tough character that has commitment to long-term goals, which results in a better academic performance. It makes students believe in themselves and try harder to overcome setbacks and cope with failure. Grit also pushes students to do their best and most importantly to have passion.

Based on the findings of this study, grit is an important non-cognitive skill, because this trait is found in high achievers, who even when they fail they find a way to overcome failure and learn from their mistakes to perform better. This is the characteristic that is needed in individuals, not only during their academic life or life in general, but it is also important in their professional career.

This because on different levels –academic, life or professional careers- people are faced with failure and setbacks and that is very normal. Hence, grit will help individuals to overcome setback and cope with failure, then eventually to succeed and achieve.

Nevertheless, grit is a vital trait in high achievers and it is also the characteristic that ensures people to succeed even if this success takes a long time and a lot of hard work. The most important thing is to achieve and reach the long-term goal that has been set. Gritty person can stand any difficult situation and strive hard to achieve their goal. It is very important that everyone has this non-cognitive skill because most people would not make it in life without it. Moreover, perseverance gives a person necessary ethical support and makes the person more stronger and more responsible. A person who is highly intelligent and a scholarly genius, but is lethargic by nature and reluctant to diligence, can hardly prosper in life, because he does not know how to use his brain and labour in the right direction. In every sphere of life, perseverance is the root cause of success and glory. Hence it must be practised from the very childhood, so that a person becomes successful not only in academia but also in career path and personal life.

The research also gave the researcher an insight of the steps taken by the UAE cabinet for the empowerment of women, educating Special Education Needs students etc wherein a lot of efforts made by gritty students in order to achieve their goals. In line with UAE Vision 2021, education remains a top government priority and developing human capital is considered to be a key enabler in the country's efforts to establish a diversified knowledge-based economy. In order to achieve this, the schools should implement modern pedagogies that include many other cognitive and non-cognitive skills development of which grit is a part. As His Highness Sheikh Mohammad highlighted 'motivation boosts the potential of young people, enhances their dedication and drive them to succeed and achieve for generations', the schools should encourage and motivate students to be persistent. In the context of Emirati students, Emirati women account for significant percentage of enrolment at the tertiary and higher education levels.

After conducting this research so many lessons were learnt. These lessons contributed to the growth of the researcher on many different levels. These levels are personally, professionally and academically. On the personal level, this study made the researcher aware of her own level of grit and it made her grittier in pursuing with the research regardless of the difficulties and challenges that were faced through out the research. It made the researcher have a stronger character and have

patience proving the saying ‘nothing good comes easily’. While on the professional level, this research helped in many ways; like in communicating with many people on different levels in the higher educational institution, which the study took place in. Another lesson learnt from this study was diligence and perseverance so as to pursue persistently for the permission granted and to search for another organisation in case the request was rejected. Hence, grit was exhibited through perseverance and persistence through out the conduct of survey.

While, on the academic level this research helped in understanding the different stages that a research goes through, from the proposal to receiving the approval to conduct a study in any organisation. The other lesson learnt from this study was the ethical consideration and its importance in protecting both the participant and the researcher. In addition to that, the different methods to collect and analyse data were also learnt. Finally, this research also showed the importance of grit as a non-cognitive skill in academia to students who are struggling in their studies and the first step is to change their mind-set and believe in their abilities to face and cope with failure, and later to overcome setbacks. While, academically the researcher became more aware of grit and its importance to students. This thesis and study could add to the current body of literature in the field of grit.

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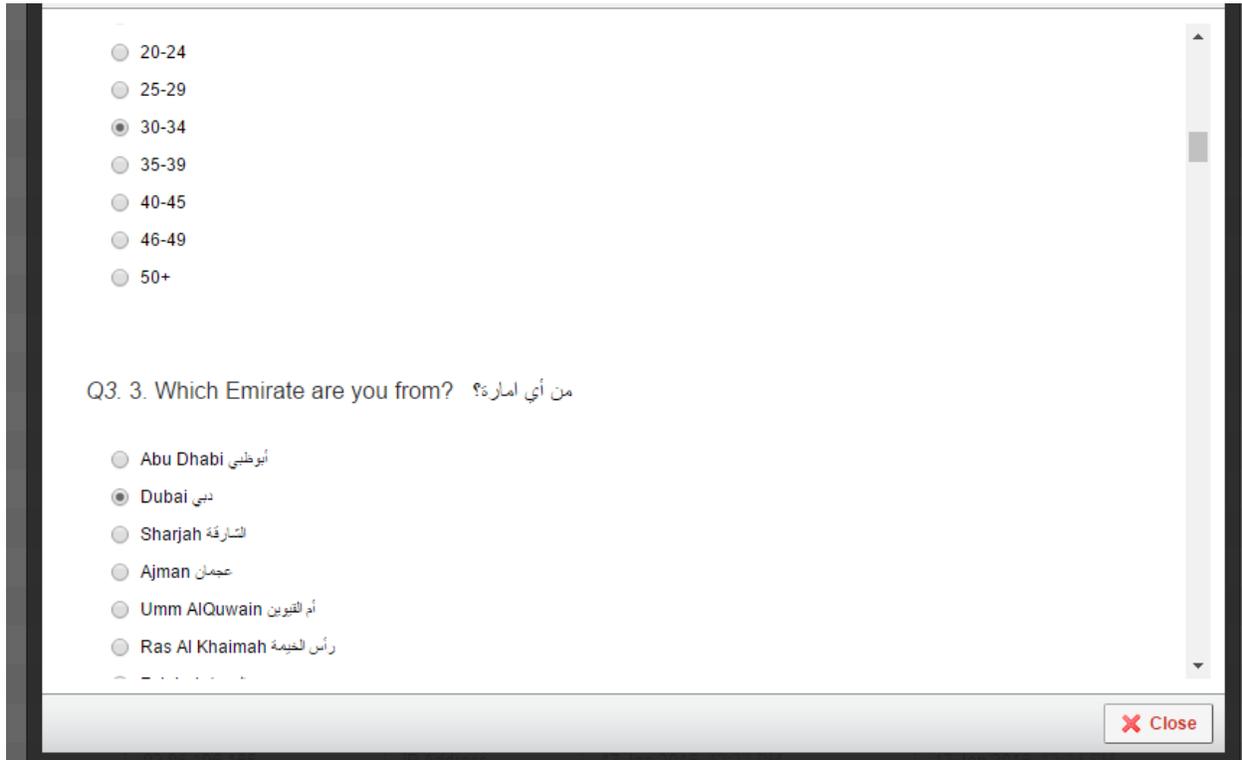
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## APPENDICIES

### Appendix (1): The Questionnaire

Online Questionnaire Sample:



The screenshot displays a web-based questionnaire interface. At the top, there is a vertical list of age ranges: 20-24, 25-29, 30-34 (selected), 35-39, 40-45, 46-49, and 50+. Below this, a question is posed: "Q3. 3. Which Emirate are you from? من أي اماره؟". Underneath the question, there is a list of emirates with radio buttons: Abu Dhabi (أبوظبي), Dubai (دبي) (selected), Sharjah (الشارقة), Ajman (عجمان), Umm AlQuwain (أم القيوين), and Ras Al Khaimah (رأس الخيمة). A "Close" button with a red 'X' icon is located in the bottom right corner of the form area.

### Participant's Consent Form

I am a PhD in Education student at The British University in Dubai and my supervisor is Dr. Solomon Arulraj. I am conducting a study on the level of grit (perseverance, persistence and resilient to face setbacks, to cope and recover from them). This questionnaire will measure the level of grit and how it is related to Grade Point Average (GPA) in Emirati participants. Your contribution is valued and important. Your answers and the information that you provide will be kept confidential, and no one will have access to it with the exception of the researcher and the ones involved in this study. The data collected from the questionnaire will be locked in a secured cupboard; and the data will be entered in a password-protected laptop, where only the researcher has access to the information provided. Participating in this questionnaire is totally voluntarily, you can withdraw at any time without any consequences. Please answer all questions as truthfully and candidly as possible. For further inquiries, please contact:

Nayela Mohammad

Email: 110006@student.buid.ac.ae

Thank you in advance for your cooperation and for taking part in this questionnaire.

### الموافقة على المشاركة في الاستبيان

مساھمتكم مهمه، أنا طالبه دكتوراه في الجامعة البريطانية في دبي واقوم بإجراء دراسة حول العزيمو التحصيل العلميلإماراتيين وسوف تتكون الاجابات سرية والمشاركة مجهولة حيث لن يتم التعرف على هويه المشاركين ولن يتطلع عليها أحد باستثناء سيتم تأمين البيانات التي تم جمعها من الاستبيان في خزانة أمنة؛ وسيتم إدخال البيانات .الباحثة والمعنيين في هذه الدراسة فقط المشاركة في هذا الاستبيان هو تطوعي، .في جهاز كمبيوتر محمول تأمينها مع كلمة مرور ولن يطلع على البيانات سوى للباحثة لا يوجد أي خطر في المشاركة في هذا الاستبيان أكبر من المخاطر التي تواجهها .يمكنك الانسحاب في أي وقت دون أي عواقب .شكرا لكم مقدما على تعاونكم وعن المشاركة في هذا الاستبيان ..يرجى ملاحظة للرد على جميع الأسئلة بصدق .في الحياة اليومية :لمزيد من الاستفسارات يرجى التواصل على

نائلة محمد

البريد الإلكتروني

: 110006@student.buid.ac.ae

### The Questionnaire الاستبيان

اختار الاجابة الاكثر مناسبة لك: Tick the answer, which is most applicable to you:

Q1. Gender الجنس

Male ذكر

Female أنثى

Q2. Your Age Group: العمر

18-19

20-24

- 25-29
- 30-34
- 35-39
- 40-45
- 46-49
- 50+

Q3. Which Emirate are you from? من أي امارة؟

- Abu Dhabi أبوظبي
- Dubai دبي
- Sharjah الشارقة
- Ajman عجمان
- Umm AlQuwain أم القيوين
- Ras Al Khaimah رأس الخيمة
- Fujairah الفجيرة

Q4. Which type of school did you study in? المدرسة التي درست فيها

- Government/Public المدارس الحكوميه
- Private المدارس الخاصه
- Model School المدارس النموذجيه
- Others (please specify)  اخرى الرجاء الكتابه

Q5. Which section did you study in? في أي قسم درست؟

- Science Section القسم العلمي
- Art Section القسم الأدبي

Others (please specify) .....  أخرى الرجاء الكتابة

Q6. Last Academic Degree obtained: آخر درجه علميه حصلت عليها:

High School الثانوية العامة

Diploma الدبلوم

Higher Diploma الدبلوم العالي

Bachelor البكالوريوس

Others (please specify)  اخرى الرجاء الكتابة

Q7. Which year are you in? في أي سنه انت؟

Foundations

Year 1 سنة

Year 2 سنة

Year 3 سنة

Year 4 سنة

Q8. What is your current GPA? ما هو معدلك الحالي؟

4 - 3.6

3.5 - 2.6

2.5 - 1.6

1.5 - 1

Less than 1 أقل من 1

Q9. What is your current major? ما هو تخصصك الحالي؟

Applied Communication/Media الاعلام والاتصال الجماهيري

Business إدارة الاعمال

- Education التربية و التعليم
- Health Science العلوم الصحيه
- IT/CIS تكنولوجيا المعلومات
- Engineering الهندسه
- Others (please specify)  اخر الرجاء الكتابه

Q10. How many times have you changed your major? كم مرة غيرت تخصصك ؟

- Never ابدالم اغير
- 1 time مره
- 2 times مرتين
- Others (please specify)  اخر الرجاء الكتابه

Q11. If yes, why did you change your major? If not, why not? (Explain your choice) لماذا غيرت  
التخصص او لماذا لم تغيره ؟

يناسب وقتي وهي فترة المسائية

دسة الإلكترونية ولكن لا يوجد فترة المسائية

Q12. I often set a goal, but I pursue a different one:

غالبا ما اضع هدف معين لكن اتابع هدف آخر بعد فترة

- Strongly Agree اوافق بشده
- Agree اوافق
- Neither agree nor disagree محايد
- Disagree لا اوافق
- Strongly Disagree لا اوافق بشده

Q13. New ideas and new projects sometimes distract me from previous ones:

المشاريع الجديده و الافكار الجديده تشتت انتباهي عن المشاريع السابقه .

- Strongly Agree اوافق بشده
- Agree اوافق
- Neither agree nor disagree محايد
- Disagree لا اوافق
- Strongly Disagree لا اوافق بشده

Q14. I become interested in new pursuits every few months: كل بضعة اشهر اهتم بنشاط او عمل جديد

- Strongly Agree اوافق بشده
- Agree اوافق
- Neither agree nor disagree محايد
- Disagree لا اوافق
- Strongly Disagree لا اوافق بشده

Q15. My interest changes frequently: تتغير اهتماماتي من سنه لأخرى

- Strongly Agree اوافق بشده
- Agree اوافق
- Neither agree nor disagree محايد
- Disagree لا اوافق
- Strongly Disagree لا اوافق بشده

Q16. I had been obsessed with a certain idea or project for a short time, but later lost interest: اهتم بالفكرة او المشروع لفترة قصيره و لكن افقد الاهتمام فيما بعد

- Strongly Agree اوافق بشده
- Agree اوافق
- Neither agree nor disagree محايد

- Disagree لا اوافق
- Strongly Disagree لا اوافق بشده

Q17. I have achieved a goal that took years of work:

استطعت الوصول الى هدفي الذي استغرق سنين من العمل

- Strongly Agree اوافق بشده
- Agree اوافق
- Neither agree nor disagree محايد
- Disagree لا اوافق
- Strongly Disagree لا اوافق بشده

Q18. I finish whatever I begin:

أنهي أي عمل ابده

- Strongly Agree اوافق بشده
- Agree اوافق
- Neither agree nor disagree محايد
- Disagree لا اوافق
- Strongly Disagree لا اوافق بشده

Q19. Setbacks do not discourage me: الاخفاق لا يثني و لا يحبطني

- Strongly Agree اوافق بشده
- Agree اوافق
- Neither agree nor disagree محايد
- Disagree لا اوافق
- Strongly Disagree لا اوافق بشده

Q20. I have overcome setbacks to conquer an important challenge: استطعت أن أتخطى الكثير من الاخفاق و اتجاوز الكثير من التحديات

- Strongly Agree اوافق بشده
- Agree اوافق
- Neither agree nor disagree محايد
- Disagree لا اوافق
- Strongly Disagree لا اوافق بشده

Q21. I have difficulty maintaining my focus on projects that take more than a few months to complete: لا استطيع التركيز على المشاريع التي تتطلب عدة شهور لاستكمالها

- Strongly Agree اوافق بشده
- Agree اوافق
- Neither agree nor disagree محايد
- Disagree لا اوافق
- Strongly Disagree لا اوافق بشده

Q22. I am a hard worker: أعمل بجد .

- Strongly Agree اوافق بشده
- Agree اوافق
- Neither agree nor disagree محايد
- Disagree لا اوافق
- Strongly Disagree لا اوافق بشده

Q23. I am diligent: انا مجتهد

- Strongly Agree اوافق بشده
- Agree اوافق

- Neither agree nor disagree محايد
- Disagree لا اوافق
- Strongly Disagree لا أوافق بشدة

Q24. My social life - family gatherings and friends- negatively hinders my focus on completing tasks and projects: حياتي الاجتماعية مثل الزيارات العائلية و الاصدقاء تعيق تركيزي على اتمام المشاريع

- Strongly Agree اوافق بشده
- Agree اوافق
- Neither agree nor disagree محايد
- Disagree لا اوافق
- Strongly disagree لا أوافق بشدة

Q25. My family responsibilities negatively affect my focus on completing tasks and projects: مسؤولياتي العائليه تؤثر على اكمال المشاريع.

- Strongly Agree اوافق بشده
- Agree اوافق
- Neither agree nor disagree محايد
- Disagree لا اوافق
- Strongly Disagree لا أوافق بشدة

Q26. The use of social media negatively affects my focus on projects and tasks: استخدام وسائل التواصل الاجتماعي يؤثر على تركيزي في كمال المشاريع

- Strongly Agree اوافق بشده
- Agree اوافق
- Neither agree nor disagree محايد
- Disagree لا أوافق

Strongly Disagree لا أوافق بشدة

Q27. The use of video games negatively affects my focus on projects and tasks: الألعاب الالكترونية تؤثر على تركيزي في اكمال المشاريع

Strongly Agree اوافق بشده

Agree اوافق

Neither agree nor disagree محايد

Disagree لا أوافق

Strongly Disagree لا أوافق بشدة

. Answer the following questions as truthfully as possible: أجب على الأسئلة التالية بصدق

Q28. What do you tell yourself when you succeed? Or How do you feel about yourself when you succeed? ما ذا تقول لنفسك عند النجاح؟ أو ما تشعر به؟

الحمد لله واشعر بسعادة

Q29. What do you tell yourself when you fail? Or How do you feel about yourself when you fail? ما ذا تقول لنفسك عند الفشل؟ أو ما تشعر به؟

بالحزن ولكن لا يقف محاولاتي لكي انجح

Q30. If you have any further comments, please add them in the space below:

للاقتراحات أو التعليقات الرجاء الكتابة بالأسفل.

شكراً جزيلاً  
وتمنيتاتي بالنجاح والسعادة

Click the arrow below to submit the questionnaire, please.

If you would like to participate in the second part of this research -interview-  
please, contact me at:

email: 110006@student.buid.ac.ae

للراغبين في المشاركة في الجزء الثاني من البحث

المقابلة الرجاء التواصل على البريد الالكتروني-

110006@student.buid.ac.ae

الرجاء الضغط على السهم بالاسفل لتسليم الاستبيان

## Appendix (2): The Interview Sample

### Interview Protocol

I am a PhD/ Ed D student in education at The British University in Dubai and I would like to conduct a study on the effect of grit (perseverance, persistence and resilient to face setbacks, to cope and recover from them) on academic performance (Grade Point Average GPA). For this study your identity will be kept anonymous and the information that you share will be confidential. No information given will be traced back to you. The information obtained will be used for academic purposes only. Your participation is totally voluntary and you can withdraw at any time during the interview, without any consequences. A copy of the results will be provided upon request.

Thank you for participating in this interview.

For further information, please contact:

Nayela Mohammad

Mobile: 0507888133

Email: [110006@student.buid.ac.ae](mailto:110006@student.buid.ac.ae)

### الموافقة على المشاركة على المقابلة

أنا طالبه دكتوراه في الجامعة البريطانية في دبي واقوم بإجراء دراسة حول العزيمة و العمرلاماراتيين. مساهمتكم مهمه، و سوف تكون الاجابات سرية و المشاركة مجهولة حيث لن يتم التعرف على هويه المشاركين و لن يتطلع عليها أحد باستثناء الباحثة والمعنيين في هذه الدراسة فقط. نسخه عن النتيجة ستكون متوفرة عند الطلب.

شكراً على المشاركة

لمزيد من المعلومات الرجاء التواصل مع:

نانلة محمد

الهاتف المتحرك: ٠٥٠٧٨٨٨١٣٣

البريد الالكتروني: [110006@student.buid.ac.ae](mailto:110006@student.buid.ac.ae)

## Interview Transcription

### Male Student 1

Researcher: ok, tell me about yourself.

Male Student 1: hello my name is Male student 1, I am a student at xxxxxxxx in Dubai. I am an Aviation student I am in my fourth year, I am a graduate this is my eighth semester and I hope to graduate soon with a good GPA.

Researcher: Inshallah

Male Student 1: Inshallah

Researcher: ok, are you working Male student 1?

Male Student 1: no, currently I am not working, only a student.

Researcher: ok, alright amm tell me about a time when you were successful.

Male Student 1: a time when I was successful, can you make the question more clear [sic]? Successful at what?

Researcher: ok, academically.

Male Student 1: ahhh

Researcher: think of anything related to academics.

Male Student 1: I think ahhh, in Aviation we have something called resets and I think passing these resets and passing such difficult course is considered as an achievement. And whenever, I pass a subject that is related to aviation I think of it as a success.

Researcher: ok, what were the factors that made you successful?

Male Student 1: first of all aahh believing in Allah, always counting on Allah before I study and before I do anything because first of all and at the end of all everything good that happens it comes from Allah and no matter how hard you do, if it is without believing in Allah, in my opinion it is worthless.

Researcher: ok, now tell me about a time when you failed, and think of academically.

Male Student 1: When I failed ahhhh (short pause)

Male Student 1: what was the question?

Researcher: tell me about a time when you failed.

Male Student 1: I failed when I was in academic point of view, I failed when I was in semester two, ah there were five subjects, elective you call them and three were majors subjects, and the three major subjects I got two resets that means I did not pass them yet, so Fs and one subject I repeated them completely so that was a total F. and that was very depressing period for me.

Researcher: and what were the factors that made you fail, those courses?

Male Student 1: mmmm maybe let's call them psychological factors maybe, maybe stress, maybe some problems with the communication between the teacher and the student. Aah the difficulty of the subjects and you know it's like it was my second semester so I was in my first year I was fresh out from high school, and you know year pressure it is like it was very tense and these are the reasons I think.

Researcher: how did you overcome this failure and se back?

Male Student 1: I studied very hard, first of all I ah I counted on Allah and I believed in him and believed that he will help me then I put my effort into it and Alhamdellah I passed.

Researcher: now what are your responsibilities? Think of it as a student as a son? Do you have any roles that you play?

Male Student 1: as a student or as a son, cause these two positions they have different answers.

Researcher: you can answer them both, if that is ok

Male Student 1: ok. As a son I think , I should be caring for my parents I should work hard to please them because as in Islam they are regarded very high and they have high priorities that I should and high privileges that I should give it to them, that's as a son, but as a student I think I should I think as a local student I think I need to be a factor in the improvement wheel in my country I think I should be an active member in my community, as a big a a big ah what do you call it a big stone ah ah or a big part of the community and a big part of this culture and you know

make it evelote especially now in the smart government that is going on now, and the thing the that happen now in the work summit the government summit I mean I think it would be nice maybe in the future to be part of that all inshallah.

Researcher: Is there any other responsibilities or roles that you have part from?

Male Student 1: as a student?

Researcher: any other responsibilities

Male Student 1: you mean now or later?

Researcher: at the moment

Male Student 1: at the moment no just studying aviation.

Researcher: now does these responsibilities hinder your progress? To focus in you project? I mean being a son? You do have responsibilities towards your parents.

Male Student 1: yes, I do some work for my father and these kinds of, yes.

Researcher: yeah, so, does this affect your studies?

Male Student 1: no.

Researcher: No, not at all, you use social media platform?

Male Student 1: yes.

Researcher: Ok, so which ones do you use?

Male Student 1: I use a lot of things, general Social Media Platform.

Researcher: and how often do you use them?

Male Student 1: you can say almost daily, especially one type.

Researcher: and does this affect your studies?

Male Student 1: do you mean distracts me?

Researcher: eham

Male Student 1: for me most of the electronics distract me when you are studying not only the phone is why you need to isolate yourself if the phone keeps on ringing when I am studying, of course this it will distract you from the thing you are doing now.

Researcher: and those for example that ones that you are using; how does it affect your focus or it doesn't?

Male Student 1: While I am studying it's better to stay away from these things, because you know it will limit my studying hours it will make me more concentrate on these stuff than my studying and I think if you find something interesting in these programmes it will take you a while to finish with it and it will get you distracted a lot from your studies

Researcher: mmm, now do you play video games?

Male Student 1: yes

Researcher: ok, which game do you lay the most?

Male Student 1: FIFA 16

Researcher: does that affect your studies? Or the focus on your project?

Male Student 1: No, because when I entered college it's not like I play a lot, considered very rare. Not like when I was in school. So, no

Researcher: ok, any final thought?

Male Student 1: about what?

Researcher: about this study you want to add something? You feel that you want to say something.

Male Student 1: no, just I hope this study helps all other local students in the country and that's all.

Researcher: so this brings us to the end of the interview.

Male Student 1: Nice meeting you

Researcher: nice meeting you too. Thank you for taking part in this interview, I really appreciate it

Male Student 1: welcome

End.

## Appendix 3

### Questionnaire results:

#### Means

Group Statistics

	Gender	N	Mean	Std. Deviation	Std. Error Mean
Current Major	Male	125	4.46	1.978	.177
	Female	209	3.35	1.732	.120
Current GPA	Male	125	2.02	.837	.075
	Female	209	1.81	.739	.051
Set Goals but Pursue a Different One	Male	125	2.60	1.116	.100
	Female	209	2.46	1.015	.070
New Ideas or Projects Distracts me from Previous Ones	Male	125	2.47	1.038	.093
	Female	209	2.62	1.023	.071
Interested in New Pursuits every few Months	Male	125	2.64	1.105	.099
	Female	209	2.41	.959	.066
Interest Change Frequently	Male	125	2.72	1.155	.103
	Female	209	2.25	1.065	.074
Obsessed with a Certain Idea but Lost Interest Later	Male	125	2.85	1.287	.115
	Female	209	2.88	1.114	.077
Achieved Goals that Took Years of Work	Male	125	3.49	1.114	.100
	Female	209	3.65	.995	.069
I Finish Whatever I begin	Male	125	4.01	.996	.089
	Female	209	4.10	.866	.060
Setbacks do not Discourage ME	Male	125	4.02	1.081	.097
	Female	209	3.87	1.071	.074

I Have Overcome Setbacks to Conquer an Important Challenge	Male	125	4.16	.842	.075
	Female	209	4.15	.938	.065
I have difficulty maintaining my focus on projects that take more than a month	Male	125	2.95	1.063	.095
	Female	209	2.89	1.182	.082
I am a hard worker	Male	125	4.23	.792	.071
	Female	209	4.33	.823	.057
I am diligent	Male	125	4.01	.805	.072
	Female	209	4.19	.862	.060
My social life negatively hinders my focus on completing tasks	Male	125	3.23	1.174	.105
	Female	209	3.20	1.212	.084
My family responsibilities hinders my focus on completing tasks	Male	125	3.18	1.164	.104
	Female	209	3.13	1.185	.082

### Group Statistics

	Gender	N	Mean	Std. Deviation	Std. Error Mean
The use of social Media negatively affects my focus on tasks	Male	125	2.95	1.358	.121
	Female	209	2.94	1.201	.083
The use of social Media negatively affects my focus on tasks	Male	125	3.17	1.358	.121
	Female	209	3.23	1.271	.088

Independent t-test

Gender

<b>Group Statistics</b>						
Gender		N	Mean	Std. Deviation	Std. Error Mean	
CurrentGPA	Male	125	2.02	.837	.075	
	Female	209	1.81	.739	.051	
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My social life negatively hinders my focus on completing tasks	Male	125	3.23	1.174	.105	
	Female	209	3.20	1.212	.084	

My family responsibilities hinders my focus on completing tasks	Male	125	3.18	1.164	.104	
	Female	209	3.13	1.185	.082	
The use of social Media negatively affects my focus on tasks	Male	125	2.95	1.358	.121	
	Female	209	2.94	1.201	.083	
The use of videogames negatively affects my focus on tasks	Male	125	3.17	1.358	.121	
	Female	209	3.23	1.271	.088	

		Independent Samples Test								
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper	
Current GPA	Equal variances assumed	.098	.755	2.396	332	.017	.211	.088	.038	.384
	Equal variances not assumed			2.322	236.043	.021	.211	.091	.032	.389
Set Goals but Pursue a Different One	Equal variances assumed	1.428	.233	1.182	332	.238	.141	.119	-.094	.375
	Equal variances not assumed			1.154	241.792	.249	.141	.122	-.100	.381
New Ideas or Projects Distracts me from Previous Ones	Equal variances assumed	.192	.662	-1.348	332	.179	-.157	.116	-.386	.072
	Equal variances not assumed			-1.343	257.927	.181	-.157	.117	-.387	.073
Interested in New Pursuits every few Months	Equal variances assumed	6.163	.014	1.990	332	.047	.228	.115	.003	.454
	Equal variances not assumed			1.920	232.700	.056	.228	.119	-.006	.463
Interest Changes Frequently	Equal variances assumed	2.044	.154	3.805	332	.000	.473	.124	.228	.718
	Equal variances not assumed			3.728	244.434	.000	.473	.127	.223	.723
Obsessed with a Certain Idea but Lost Interest Later	Equal variances assumed	6.638	.010	-.202	332	.840	-.027	.134	-.290	.236
	Equal variances not assumed			-.195	232.205	.846	-.027	.138	-.300	.246
Achieved Goals that Took Years of Work	Equal variances assumed	2.716	.100	-1.367	332	.172	-.161	.118	-.392	.071
	Equal variances not assumed			-1.329	238.263	.185	-.161	.121	-.399	.078

I Finish Whatever I begin	Equal variances assumed	2.122	.146	-.834	332	.405	-.086	.104	-.290	.117
	Equal variances not assumed			-.805	233.104	.422	-.086	.107	-.298	.125
Setbacks do not Discourage ME	Equal variances assumed	.056	.813	1.262	332	.208	.153	.122	-.086	.392
	Equal variances not assumed			1.259	259.004	.209	.153	.122	-.087	.393
I Have Overcome Setbacks to Conquer an Important Challenge	Equal variances assumed	.663	.416	.138	332	.891	.014	.102	-.187	.215
	Equal variances not assumed			.141	283.266	.888	.014	.099	-.182	.210
I have difficulty maintaining my focus on projects that take more than a month	Equal variances assumed	4.801	.029	.450	332	.653	.058	.129	-.195	.311
	Equal variances not assumed			.463	282.931	.644	.058	.125	-.189	.305
I am a hard worker	Equal variances assumed	.001	.970	-1.156	332	.249	-.106	.092	-.287	.074
	Equal variances not assumed			-1.167	269.028	.244	-.106	.091	-.285	.073
I am diligent	Equal variances assumed	.415	.520	-1.926	332	.055	-.183	.095	-.370	.004
	Equal variances not assumed			-1.960	275.265	.051	-.183	.093	-.367	.001
My social life negatively hinders my focus on completing tasks	Equal variances assumed	1.191	.276	.181	332	.856	.025	.135	-.242	.291
	Equal variances not assumed			.183	267.728	.855	.025	.134	-.240	.289
My family responsibilities hinders my focus on completing tasks	Equal variances assumed	.572	.450	.374	332	.709	.050	.133	-.212	.312

	Equal variances not assumed			.376	264.765	.707	.050	.132	-.211	.311
The use of social Media negatively affects my focus on tasks	Equal variances assumed	3.258	.072	.035	332	.972	.005	.143	-.276	.286
	Equal variances not assumed			.034	236.324	.973	.005	.147	-.285	.295
The use of videogames negatively affects my focus on tasks	Equal variances assumed	.914	.340	-.379	332	.705	-.056	.147	-.346	.234
	Equal variances not assumed			-.373	247.544	.709	-.056	.150	-.351	.239

Independent t-test:

GPA

Group Statistics					
	CurrentGPA	N	Mean	Std. Deviation	Std. Error Mean
Set Goals but Pursue a Different One	4-3.6 Very High	105	2.57	1.123	0.11
	Achievers				
	3.5-2.6 High	173	2.51	1.055	0.08
	Achievers				
New Ideas or Projects Distracts me from Previous Ones	4-3.6 Very High	105	2.55	1.081	0.105
	Achievers				
	3.5-2.6 High	173	2.68	1.046	0.08
	Achievers				
Interested in New Pursuits every few Months	4-3.6 Very High	105	2.55	0.978	0.095
	Achievers				
	3.5-2.6 High	173	2.51	1.055	0.08
	Achievers				

Interest Changes Frequently	4-3.6 Very High Achievers	105	2.42	1.156	0.113
	3.5-2.6 High Achievers	173	2.46	1.139	0.087
Obsessed with a Certain Idea but Lost Interest Later	4-3.6 Very High Achievers	105	2.91	1.153	0.113
	3.5-2.6 High Achievers	173	2.87	1.227	0.093
Achieved Goals that Took Years of Work	4-3.6 Very High Achievers	105	3.68	1.002	0.098
	3.5-2.6 High Achievers	173	3.58	1.057	0.08
I Finish Whatever I begin	4-3.6 Very High Achievers	105	4.06	0.853	0.083
	3.5-2.6 High Achievers	173	4.03	0.985	0.075
Setbacks do not Discourage ME	4-3.6 Very High Achievers	105	4.01	1.015	0.099
	3.5-2.6 High Achievers	173	3.87	1.115	0.085
I Have Overcome Setbacks to Conquer an Important Challenge	4-3.6 Very High Achievers	105	4.28	0.78	0.076
	3.5-2.6 High Achievers	173	4.07	0.972	0.074
I have difficulty maintaining my focus on projects that take more than a month	4-3.6 Very High Achievers	105	3.09	1.145	0.112
	3.5-2.6 High Achievers	173	2.8	1.145	0.087

I am a hard worker	4-3.6 Very High Achievers	105	4.46	0.816	0.08
	3.5-2.6 High Achievers	173	4.24	0.815	0.062
I am diligent	4-3.6 Very High Achievers	105	4.35	0.842	0.082
	3.5-2.6 High Achievers	173	4.1	0.816	0.062
My social life negatively hinders my focus on completing tasks	4-3.6 Very High Achievers	105	3.23	1.187	0.116
	3.5-2.6 High Achievers	173	3.29	1.203	0.091
My family responsibilities hinders my focus on completing tasks	4-3.6 Very High Achievers	105	3.16	1.137	0.111
	3.5-2.6 High Achievers	173	3.2	1.227	0.093
The use of social Media negatively affects my focus on tasks	4-3.6 Very High Achievers	105	3.09	1.195	0.117
	3.5-2.6 High Achievers	173	2.91	1.313	0.1
The use of videogames negatively affects my focus on tasks	4-3.6 Very High Achievers	105	3.17	1.246	0.122
	3.5-2.6 High Achievers	173	3.21	1.293	0.098

#### Independent Samples Test

	Levene's Test for	t-test for Equality of Means
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		Equality of Variances								
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Set Goals but Pursue a Different One	Equal variances assumed	.924	.337	.489	276	.625	.065	.134	-.198	.32
	Equal variances not assumed			.481	208.988	.631	.065	.136	-.202	.33
New Ideas or Projects Distracts me from Previous Ones	Equal variances assumed	.146	.703	-.934	276	.351	-.122	.131	-.380	.13
	Equal variances not assumed			-.927	214.042	.355	-.122	.132	-.383	.13
Interested in New Pursuits every few Months	Equal variances assumed	.413	.521	.322	276	.748	.041	.127	-.209	.29
	Equal variances not assumed			.328	232.647	.743	.041	.125	-.205	.28
Interest Changes Frequently	Equal variances assumed	.728	.394	-.275	276	.784	-.039	.142	-.318	.24
	Equal variances not assumed			-.274	217.076	.784	-.039	.142	-.319	.24
Obsessed with a Certain Idea but Lost Interest Later	Equal variances assumed	1.703	.193	.299	276	.766	.044	.148	-.248	.33
	Equal variances not assumed			.303	230.379	.762	.044	.146	-.244	.33
Achieved Goals that Took Years of Work	Equal variances assumed	.475	.491	.727	276	.468	.093	.128	-.159	.34
	Equal variances not assumed			.737	228.860	.462	.093	.127	-.156	.34
I Finish Whatever I begin	Equal variances assumed	.123	.727	.231	276	.817	.027	.116	-.201	.25

	Equal variances not assumed			.240	243.885	.811	.027	.112	-.194	.24
Setbacks do not Discourage ME	Equal variances assumed	3.197	.075	1.092	276	.276	.146	.133	-.117	.40
	Equal variances not assumed			1.117	235.802	.265	.146	.130	-.111	.40
I Have Overcome Setbacks to Conquer an Important Challenge	Equal variances assumed	.768	.382	1.942	276	.053	.217	.112	-.003	.43
	Equal variances not assumed			2.049	255.411	.042	.217	.106	.008	.42
I have difficulty maintaining my focus on projects that take more than a month	Equal variances assumed	.049	.825	2.002	276	.046	.284	.142	.005	.56
	Equal variances not assumed			2.002	219.663	.046	.284	.142	.004	.56
I am a hard worker	Equal variances assumed	.000	.985	2.126	276	.034	.214	.101	.016	.41
	Equal variances not assumed			2.125	219.336	.035	.214	.101	.016	.41
I am diligent	Equal variances assumed	1.688	.195	2.502	276	.013	.256	.102	.055	.45
	Equal variances not assumed			2.483	214.318	.014	.256	.103	.053	.45
My social life negatively hinders my focus on completing tasks	Equal variances assumed	.016	.899	-.362	276	.718	-.054	.148	-.345	.23
	Equal variances not assumed			-.363	221.946	.717	-.054	.148	-.344	.23
My family responsibilities hinders my focus on completing tasks	Equal variances assumed	1.053	.306	-.265	276	.791	-.039	.148	-.330	.25
	Equal variances not assumed			-.270	232.703	.787	-.039	.145	-.325	.24

The use of social Media negatively affects my focus on tasks	Equal variances assumed	1.502	.221	1.146	276	.253	.180	.157	-.129	.48
	Equal variances not assumed			1.172	235.767	.242	.180	.154	-.122	.48
The use of videogames negatively affects my focus on tasks	Equal variances assumed	.695	.405	-.265	276	.791	-.042	.158	-.352	.26
	Equal variances not assumed			-.268	226.043	.789	-.042	.156	-.350	.26

### Group Statistics

Current GPA		N	Mean	Std. Deviation	Std. Error Mean
Set Goals but Pursue a Different One	2.5-1.6 Moderate	47	2.48	.950	.139
	1.5-1 Low Achievers	5	2.20	.761	.340
New Ideas or Projects Distracts me from Previous Ones	2.5-1.6 Moderate	47	2.22	.779	.114
	1.5-1 Low Achievers	5	2.43	1.088	.486
Interested in New Pursuits every few Months	2.5-1.6 Moderate	47	2.33	.980	.143
	1.5-1 Low Achievers	5	1.80	.757	.338
Interest Change Frequently	2.5-1.6 Moderate	47	2.39	1.073	.157
	1.5-1 Low Achievers	5	2.37	.412	.184
Obsessed with a Certain Idea but Lost Interest Later	2.5-1.6 Moderate	47	2.81	1.116	.163

	1.5-1 Low Achievers	5	2.75	.824	.368
Achieved Goals that Took Years of Work	2.5-1.6 Moderate	47	3.44	1.056	.154
	1.5-1 Low Achievers	5	4.04	.912	.408
I Finish Whatever I begin	2.5-1.6 Moderate	47	4.26	.765	.112
	1.5-1 Low Achievers	5	4.03	.708	.317
Setbacks do not Discourage ME	2.5-1.6 Moderate	47	4.02	.989	.144
	1.5-1 Low Achievers	5	4.17	.847	.379
I Have Overcome Setbacks to Conquer an Important Challenge	2.5-1.6 Moderate	47	4.28	.798	.116
	1.5-1 Low Achievers	5	3.86	1.113	.498
I have difficulty maintaining my focus on projects that take more than a month	2.5-1.6 Moderate	47	2.89	1.026	.150
	1.5-1 Low Achievers	5	3.17	1.490	.666
I am a hard worker	2.5-1.6 Moderate	47	4.18	.636	.093
	1.5-1 Low Achievers	5	4.52	.457	.204
I am diligent	2.5-1.6 Moderate	47	3.88	.771	.112
	1.5-1 Low Achievers	5	3.85	.479	.214

My social life negatively hinders my focus on completing tasks	2.5-1.6 Moderate	47	2.97	1.162	.169
	1.5-1 Low Achievers	5	3.29	1.473	.659
My family responsibilities hinders my focus on completing tasks	2.5-1.6 Moderate	47	2.98	1.094	.160
	1.5-1 Low Achievers	5	3.26	1.475	.660
The use of social Media negatively affects my focus on tasks	2.5-1.6 Moderate	47	2.89	1.202	.175
	1.5-1 Low Achievers	5	2.58	1.131	.506
The use of videogames negatively affects my focus on tasks	2.5-1.6 Moderate	47	3.44	1.392	.203
	1.5-1 Low Achievers	5	3.08	1.419	.634

### Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Set Goals but Pursue a Different One	Equal variances assumed	.620	.435	.622	50	.536	.274	.440	-.610	1.158
	Equal variances not assumed			.746	5.423	.487	.274	.367	-.649	1.197

New Ideas or Projects Distracts me from Previous Ones	Equal variances assumed	.255	.616	-.529	50	.599	-.201	.380	-.965	.563
	Equal variances not assumed			-.403	4.448	.706	-.201	.499	-	1.132
Interested in New Pursuits every few Months	Equal variances assumed	.341	.562	1.171	50	.247	.531	.453	-.379	1.444
	Equal variances not assumed			1.445	5.537	.203	.531	.367	-.387	1.444
Interest Changes Frequently	Equal variances assumed	4.102	.048	.042	50	.966	.021	.487	-.958	.999
	Equal variances not assumed			.086	11.359	.933	.021	.242	-.509	.550
Obsessed with a Certain Idea but Lost Interest Later	Equal variances assumed	.847	.362	.115	50	.909	.059	.515	-.976	1.094
	Equal variances not assumed			.147	5.694	.888	.059	.403	-.939	1.058
Achieved Goals that Took Years of Work	Equal variances assumed	.194	.662	-	50	.229	-.599	.492	-	.388
	Equal variances not assumed			-	5.215	.225	-.599	.436	-	.507
I Finish Whatever I begin	Equal variances assumed	1.835	.182	.645	50	.522	.231	.358	-.488	.944
	Equal variances not assumed			.687	5.048	.522	.231	.336	-.630	1.094
Setbacks do not Discourage ME	Equal variances assumed	.021	.886	-.327	50	.745	-.150	.460	-	.774
	Equal variances not assumed			-.371	5.236	.725	-.150	.405	-	.874
I Have Overcome Setbacks to Conquer an Important Challenge	Equal variances assumed	.200	.656	1.080	50	.285	.420	.389	-.362	1.202

	Equal variances not assumed			.822	4.448	.453	.420	.511	-.944	1.783
I have difficulty maintaining my focus on projects that take more than a month	Equal variances assumed	.703	.406	-.542	50	.590	-.273	.504	-	.733
	Equal variances not assumed			-.400	4.413	.708	-.273	.683	-	1.553
I am a hard worker	Equal variances assumed	.385	.538	-	50	.261	-.334	.293	-.923	.253
	Equal variances not assumed			-	5.797	.189	-.334	.224	-.888	.220
I am diligent	Equal variances assumed	1.476	.230	.079	50	.937	.028	.354	-.682	.733
	Equal variances not assumed			.115	6.461	.912	.028	.242	-.554	.610
My social life negatively hinders my focus on completing tasks	Equal variances assumed	.003	.959	-.568	50	.573	-.318	.560	-	.803
	Equal variances not assumed			-.467	4.545	.662	-.318	.680	-	1.483
My family responsibilities hinders my focus on completing tasks	Equal variances assumed	.203	.654	-.524	50	.603	-.278	.531	-	.783
	Equal variances not assumed			-.410	4.480	.701	-.278	.679	-	1.533
The use of social Media negatively affects my focus on tasks	Equal variances assumed	.052	.821	.562	50	.577	.316	.563	-.815	1.443
	Equal variances not assumed			.591	5.013	.580	.316	.535	-	1.693
The use of videogames negatively affects my focus on tasks	Equal variances assumed	1.107	.298	.546	50	.588	.358	.656	-.960	1.673
	Equal variances not assumed			.537	4.857	.615	.358	.666	-	2.083

## Appendix 4

### Questionnaire results:

### Chi-square

CurrentGPA and I finish Whatever I begin			Value	df	Asymp. Sig. (2-sided)
4-3.6 Very High Achievers	Male	Pearson Chi-Square	60.375 <sup>e</sup>	20	.000
		Likelihood Ratio	36.817	20	.012
		Linear-by- Linear Association	15.170	1	.000
		N of Valid Cases	32		
	Female	Pearson Chi-Square	95.328 <sup>f</sup>	20	.000
		Likelihood Ratio	40.332	20	.005
		Linear-by- Linear Association	.587	1	.443
		N of Valid Cases	73		
	Total	Pearson Chi-Square	142.696 <sup>d</sup>	25	.000
		Likelihood Ratio	60.157	25	.000
Linear-by- Linear Association		9.786	1	.002	
	N of Valid Cases	105			
3.5-2.6 High Achievers	Male	Pearson Chi-Square	78.459 <sup>h</sup>	25	.000

		Likelihood Ratio	50.582	25	.002
		Linear-by-Linear Association	1.493	1	.222
		N of Valid Cases	65		
	Female	Pearson Chi-Square	230.916 <sup>i</sup>	36	.000
		Likelihood Ratio	45.838	36	.126
		Linear-by-Linear Association	1.381	1	.240
		N of Valid Cases	108		
	Total	Pearson Chi-Square	357.539 <sup>g</sup>	36	.000
		Likelihood Ratio	84.439	36	.000
		Linear-by-Linear Association	2.482	1	.115
		N of Valid Cases	173		
2.5-1.6 Moderate	Male	Pearson Chi-Square	13.933 <sup>k</sup>	8	.084
		Likelihood Ratio	16.613	8	.034
		Linear-by-Linear Association	.628	1	.428
		N of Valid Cases	24		
	Female	Pearson Chi-Square	36.761 <sup>l</sup>	15	.001
		Likelihood Ratio	24.845	15	.052
		Linear-by-Linear Association	4.685	1	.030
		N of Valid Cases	23		

	Total	Pearson Chi-Square	70.163 <sup>l</sup>	15	.000
		Likelihood Ratio	37.432	15	.001
		Linear-by-Linear Association	.746	1	.388
		N of Valid Cases	47		
1.5-1 Low Achievers	Male	Pearson Chi-Square	. <sup>n</sup>		
		N of Valid Cases	1		
	Female	Pearson Chi-Square	8.000 <sup>o</sup>	4	.092
		Likelihood Ratio	8.318	4	.081
		Linear-by-Linear Association	1.882	1	.170
		N of Valid Cases	4		
	Total	Pearson Chi-Square	15.000 <sup>m</sup>	9	.091
		Likelihood Ratio	13.322	9	.149
		Linear-by-Linear Association	.794	1	.373
		N of Valid Cases	5		
Less than One Very Low Achievers	Male	Pearson Chi-Square	3.000 <sup>q</sup>	2	.223
		Likelihood Ratio	3.819	2	.148
		Linear-by-Linear Association	0.000	1	1.000
		N of Valid Cases	3		
	Female	Pearson Chi-Square	. <sup>n</sup>		
		N of Valid Cases	1		

	Total	Pearson Chi-Square	8.000 <sup>p</sup>	6	.238
		Likelihood Ratio	8.318	6	.216
		Linear-by-Linear Association	1.200	1	.273
		N of Valid Cases	4		
Total	Male	Pearson Chi-Square	150.141 <sup>b</sup>	25	.000
		Likelihood Ratio	73.798	25	.000
		Linear-by-Linear Association	6.419	1	.011
		N of Valid Cases	125		
	Female	Pearson Chi-Square	434.127 <sup>c</sup>	36	.000
		Likelihood Ratio	84.088	36	.000
		Linear-by-Linear Association	4.814	1	.028
		N of Valid Cases	209		
	Total	Pearson Chi-Square	698.814 <sup>a</sup>	36	.000
		Likelihood Ratio	150.499	36	.000
		Linear-by-Linear Association	10.903	1	.001
		N of Valid Cases	334		

a. 36 cells (73.5%) have expected count less than 5. The minimum expected count is .00.

b. 26 cells (72.2%) have expected count less than 5. The minimum expected count is .14.

c. 38 cells (77.6%) have expected count less than 5. The minimum expected count is .00.

d. 26 cells (72.2%) have expected count less than 5. The minimum expected count is .02.

- e. 30 cells (100.0%) have expected count less than 5. The minimum expected count is .03.
- f. 25 cells (83.3%) have expected count less than 5. The minimum expected count is .01.
- g. 39 cells (79.6%) have expected count less than 5. The minimum expected count is .01.
- h. 34 cells (94.4%) have expected count less than 5. The minimum expected count is .12.
- i. 41 cells (83.7%) have expected count less than 5. The minimum expected count is .01.
- j. 20 cells (83.3%) have expected count less than 5. The minimum expected count is .02.
- k. 14 cells (93.3%) have expected count less than 5. The minimum expected count is .13.
- l. 24 cells (100.0%) have expected count less than 5. The minimum expected count is .04.
- m. 16 cells (100.0%) have expected count less than 5. The minimum expected count is .20.
- n. No statistics are computed because SetGoalsbutPersueaDifferentOne and IFinishWhateverIbegin are constants.
- o. 9 cells (100.0%) have expected count less than 5. The minimum expected count is .25.
- p. 12 cells (100.0%) have expected count less than 5. The minimum expected count is .25.
- q. 6 cells (100.0%) have expected count less than 5. The minimum expected count is .33.

### Chi-Square Tests

CurrentGPA and setbacks do not discourage me			Value	df	Asymp. Sig. (2-sided)
4-3.6 Very High Achievers	Male	Pearson Chi-Square	44.731 <sup>e</sup>	20	.001
		Likelihood Ratio	22.942	20	.292
		Linear-by-Linear Association	1.991	1	.158
N of Valid Cases			32		
	Female	Pearson Chi-Square	100.529 <sup>f</sup>	35	.000
		Likelihood Ratio	37.526	35	.354
		Linear-by-Linear Association	.140	1	.708

		N of Valid Cases	73		
	Total	Pearson Chi-Square	134.811 <sup>d</sup>	35	.000
		Likelihood Ratio	48.833	35	.060
		Linear-by-Linear Association	1.610	1	.204
3.5-2.6 High Achievers	Male	N of Valid Cases	105		
		Pearson Chi-Square	80.958 <sup>h</sup>	25	.000
		Likelihood Ratio	55.047	25	.000
		Linear-by-Linear Association	4.213	1	.040
	Female	N of Valid Cases	65		
		Pearson Chi-Square	246.380 <sup>i</sup>	42	.000
Likelihood Ratio		61.043	42	.029	
	Linear-by-Linear Association	1.706	1	.191	
2.5-1.6 Moderate	Total	N of Valid Cases	108		
		Pearson Chi-Square	383.273 <sup>g</sup>	42	.000
		Likelihood Ratio	111.195	42	.000
		Linear-by-Linear Association	5.465	1	.019
	Male	N of Valid Cases	173		
		Pearson Chi-Square	24.657 <sup>k</sup>	20	.215
Likelihood Ratio		27.391	20	.125	

		Linear-by-Linear Association	2.287	1	.130
		N of Valid Cases	24		
	Female	Pearson Chi-Square	38.035 <sup>l</sup>	20	.009
		Likelihood Ratio	25.364	20	.188
		Linear-by-Linear Association	.161	1	.688
		N of Valid Cases	23		
	Total	Pearson Chi-Square	73.447 <sup>i</sup>	30	.000
		Likelihood Ratio	39.563	30	.114
		Linear-by-Linear Association	1.049	1	.306
		N of Valid Cases	47		
1.5-1 Low Achievers	Male	Pearson Chi-Square	. <sup>n</sup>		
		N of Valid Cases	1		
	Female	Pearson Chi-Square	8.000 <sup>o</sup>	4	.092
		Likelihood Ratio	8.318	4	.081
		Linear-by-Linear Association	2.985	1	.084
		N of Valid Cases	4		
	Total	Pearson Chi-Square	10.000 <sup>m</sup>	6	.125
		Likelihood Ratio	10.549	6	.103
		Linear-by-Linear Association	.038	1	.845

		N of Valid Cases	5		
Less than One Very Low Achievers	Male	Pearson Chi-Square	3.000 <sup>a</sup>	2	.223
		Likelihood Ratio	3.819	2	.148
		Linear-by-Linear Association	.071	1	.789
		N of Valid Cases	3		
	Female	Pearson Chi-Square	. <sup>n</sup>		
		N of Valid Cases	1		
Total	Total	Pearson Chi-Square	8.000 <sup>p</sup>	6	.238
		Likelihood Ratio	8.318	6	.216
		Linear-by-Linear Association	.686	1	.408
		N of Valid Cases	4		
Total	Male	Pearson Chi-Square	147.931 <sup>b</sup>	30	.000
		Likelihood Ratio	75.238	30	.000
		Linear-by-Linear Association	7.679	1	.006
		N of Valid Cases	125		
	Female	Pearson Chi-Square	461.974 <sup>c</sup>	54	.000
		Likelihood Ratio	106.543	54	.000
		Linear-by-Linear Association	2.088	1	.148
		N of Valid Cases	209		

Total	Pearson Chi-Square	725.068 <sup>a</sup>	60	.000
	Likelihood Ratio	174.078	60	.000
	Linear-by-Linear Association	8.849	1	.003
	N of Valid Cases	334		

- a. 63 cells (81.8%) have expected count less than 5. The minimum expected count is .00.
- b. 35 cells (83.3%) have expected count less than 5. The minimum expected count is .05.
- c. 58 cells (82.9%) have expected count less than 5. The minimum expected count is .00.
- d. 40 cells (83.3%) have expected count less than 5. The minimum expected count is .02.
- e. 30 cells (100.0%) have expected count less than 5. The minimum expected count is .03.
- f. 43 cells (89.6%) have expected count less than 5. The minimum expected count is .01.
- g. 44 cells (78.6%) have expected count less than 5. The minimum expected count is .01.
- h. 34 cells (94.4%) have expected count less than 5. The minimum expected count is .06.
- i. 47 cells (83.9%) have expected count less than 5. The minimum expected count is .01.
- j. 38 cells (90.5%) have expected count less than 5. The minimum expected count is .02.
- k. 29 cells (96.7%) have expected count less than 5. The minimum expected count is .04.
- l. 30 cells (100.0%) have expected count less than 5. The minimum expected count is .04.
- m. 12 cells (100.0%) have expected count less than 5. The minimum expected count is .20.
- n. No statistics are computed because SetGoalsbutPersueaDifferentOne and Setbacksdo not DiscourageME are constants.
- o. 9 cells (100.0%) have expected count less than 5. The minimum expected count is .25.
- p. 12 cells (100.0%) have expected count less than 5. The minimum expected count is .25.
- q. 6 cells (100.0%) have expected count less than 5. The minimum expected count is .33.

### Chi-Square Tests

CurrentGPA and I have overcome setbacks			Value	df	Asymp. Sig. (2-sided)
4-3.6	Male	Pearson Chi-Square	46.407 <sup>e</sup>	25	.006
Very High Achievers					

		Likelihood Ratio	22.945	25	.581
		Linear-by-Linear Association	1.279	1	.258
		N of Valid Cases	32		
	Female	Pearson Chi-Square	102.723 <sup>f</sup>	45	.000
		Likelihood Ratio	38.468	45	.743
		Linear-by-Linear Association	1.414	1	.234
		N of Valid Cases	73		
	Total	Pearson Chi-Square	145.254 <sup>d</sup>	55	.000
		Likelihood Ratio	54.854	55	.480
		Linear-by-Linear Association	2.638	1	.104
		N of Valid Cases	105		
3.5-2.6 High Achievers	Male	Pearson Chi-Square	96.322 <sup>h</sup>	35	.000
		Likelihood Ratio	65.965	35	.001
		Linear-by-Linear Association	.068	1	.794
		N of Valid Cases	65		
	Female	Pearson Chi-Square	249.327 <sup>i</sup>	78	.000
		Likelihood Ratio	61.247	78	.919
		Linear-by-Linear Association	3.496	1	.062
		N of Valid Cases	108		

	Total	Pearson Chi-Square	394.155 <sup>g</sup>	90	.000
		Likelihood Ratio	113.399	90	.048
		Linear-by-Linear Association	2.509	1	.113
		N of Valid Cases	173		
2.5-1.6 Moderate	Male	Pearson Chi-Square	11.967 <sup>k</sup>	16	.746
		Likelihood Ratio	11.992	16	.745
		Linear-by-Linear Association	.951	1	.330
		N of Valid Cases	24		
	Female	Pearson Chi-Square	38.163 <sup>l</sup>	20	.008
		Likelihood Ratio	24.993	20	.202
		Linear-by-Linear Association	1.452	1	.228
		N of Valid Cases	23		
	Total	Pearson Chi-Square	63.826 <sup>j</sup>	25	.000
		Likelihood Ratio	28.074	25	.304
		Linear-by-Linear Association	2.256	1	.133
		N of Valid Cases	47		
1.5-1 Low Achievers	Male	Pearson Chi-Square	. <sup>n</sup>		
		N of Valid Cases	1		
	Female	Pearson Chi-Square	8.000 <sup>o</sup>	4	.092
		Likelihood Ratio	8.318	4	.081

		Linear-by-Linear Association	2.383	1	.123
		N of Valid Cases	4		
	Total	Pearson Chi-Square	15.000 <sup>m</sup>	9	.091
		Likelihood Ratio	13.322	9	.149
		Linear-by-Linear Association	3.800	1	.051
		N of Valid Cases	5		
Less than One Very Low Achievers	Male	Pearson Chi-Square	3.000 <sup>q</sup>	2	.223
		Likelihood Ratio	3.819	2	.148
		Linear-by-Linear Association	0.000	1	1.000
		N of Valid Cases	3		
	Female	Pearson Chi-Square	. <sup>n</sup>		
		N of Valid Cases	1		
	Total	Pearson Chi-Square	8.000 <sup>p</sup>	6	.238
		Likelihood Ratio	8.318	6	.216
		Linear-by-Linear Association	1.200	1	.273
		N of Valid Cases	4		
Total	Male	Pearson Chi-Square	162.040 <sup>b</sup>	50	.000
		Likelihood Ratio	81.583	50	.003
		Linear-by-Linear Association	1.874	1	.171

	N of Valid Cases	125		
Female	Pearson Chi-Square	368.204 <sup>c</sup>	102	.000
	Likelihood Ratio	114.511	102	.187
	Linear-by-Linear Association	7.191	1	.007
	N of Valid Cases	209		
Total	Pearson Chi-Square	582.118 <sup>a</sup>	132	.000
	Likelihood Ratio	184.866	132	.002
	Linear-by-Linear Association	8.736	1	.003
	N of Valid Cases	334		

- a. 148 cells (91.9%) have expected count less than 5. The minimum expected count is .00.
- b. 58 cells (87.9%) have expected count less than 5. The minimum expected count is .05.
- c. 116 cells (92.1%) have expected count less than 5. The minimum expected count is .00.
- d. 64 cells (88.9%) have expected count less than 5. The minimum expected count is .02.
- e. 35 cells (97.2%) have expected count less than 5. The minimum expected count is .03.
- f. 54 cells (90.0%) have expected count less than 5. The minimum expected count is .01.
- g. 103 cells (92.0%) have expected count less than 5. The minimum expected count is .01.
- h. 44 cells (91.7%) have expected count less than 5. The minimum expected count is .06.
- i. 90 cells (91.8%) have expected count less than 5. The minimum expected count is .01.
- j. 32 cells (88.9%) have expected count less than 5. The minimum expected count is .02.
- k. 25 cells (100.0%) have expected count less than 5. The minimum expected count is .04.
- l. 30 cells (100.0%) have expected count less than 5. The minimum expected count is .04.
- m. 16 cells (100.0%) have expected count less than 5. The minimum expected count is .20.
- n. No statistics are computed because Set Goals but Pursue a Different One and I Have Overcome Setbacks to Conquer an Important Challenge are constants.
- o. 9 cells (100.0%) have expected count less than 5. The minimum expected count is .25.
- p. 12 cells (100.0%) have expected count less than 5. The minimum expected count is .25.

q. 6 cells (100.0%) have expected count less than 5. The minimum expected count is .33.

**Chi-Square Tests**

CurrentGPA and I have difficulty to focus			Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
4-3.6 Very High Achievers	Male	Pearson Chi-Square	75.720 <sup>e</sup>	35	.000		
		Likelihood Ratio	44.563	35	.129		
		Linear-by-Linear Association	7.074	1	.008		
		N of Valid Cases	32				
	Female	Pearson Chi-Square	127.458 <sup>f</sup>	50	.000		
		Likelihood Ratio	61.550	50	.127		
		Linear-by-Linear Association	12.764	1	.000		
		N of Valid Cases	73				
	Total	Pearson Chi-Square	184.647 <sup>d</sup>	60	.000		
		Likelihood Ratio	85.445	60	.017		
Linear-by-Linear Association		20.523	1	.000			
	N of Valid Cases	105					
3.5-2.6 High Achievers	Male	Pearson Chi-Square	94.903 <sup>h</sup>	35	.000		
		Likelihood Ratio	63.120	35	.002		
		Linear-by-Linear Association	1.982	1	.159		

		N of Valid Cases	65			
	Female	Pearson Chi-Square	265.902 <sup>i</sup>	78	.000	
		Likelihood Ratio	76.939	78	.513	
		Linear-by-Linear Association	.976	1	.323	
	Total	N of Valid Cases	108			
		Pearson Chi-Square	399.671 <sup>g</sup>	90	.000	
		Likelihood Ratio	119.332	90	.021	
		Linear-by-Linear Association	2.491	1	.114	
2.5-1.6 Moderate	Male	N of Valid Cases	173			
		Pearson Chi-Square	24.846 <sup>k</sup>	20	.207	
		Likelihood Ratio	21.743	20	.355	
		Linear-by-Linear Association	3.701	1	.054	
	Female	N of Valid Cases	24			
		Pearson Chi-Square	35.705 <sup>l</sup>	20	.017	
		Likelihood Ratio	21.116	20	.390	
		Linear-by-Linear Association	.004	1	.947	
	Total	N of Valid Cases	23			
		Pearson Chi-Square	68.598 <sup>j</sup>	30	.000	
		Likelihood Ratio	28.290	30	.555	

		Linear-by-Linear Association	2.011	1	.156		
		N of Valid Cases	47				
1.5-1 Low Achievers	Male	Pearson Chi-Square	. <sup>n</sup>				
		N of Valid Cases	1				
	Female	Pearson Chi-Square	8.000 <sup>o</sup>	4	.092		
		Likelihood Ratio	8.318	4	.081		
		Linear-by-Linear Association	2.909	1	.088		
		N of Valid Cases	4				
	Total	Pearson Chi-Square	15.000 <sup>m</sup>	9	.091		
		Likelihood Ratio	13.322	9	.149		
		Linear-by-Linear Association	.308	1	.579		
		N of Valid Cases	5				
Less than One Very Low Achievers	Male	Pearson Chi-Square	3.000 <sup>p</sup>	1	.083		
		Continuity Correction <sup>q</sup>	.188	1	.665		
		Likelihood Ratio	3.819	1	.051		
		Fisher's Exact Test				.333	.333
		Linear-by-Linear Association	2.000	1	.157		
		N of Valid Cases	3				
	Female	Pearson Chi-Square	. <sup>n</sup>				

		N of Valid Cases	1			
	Total	Pearson Chi-Square	8.000 <sup>o</sup>	4	.092	
		Likelihood Ratio	8.318	4	.081	
		Linear-by-Linear Association	1.000	1	.317	
		N of Valid Cases	4			
Total	Male	Pearson Chi-Square	177.997 <sup>b</sup>	50	.000	
		Likelihood Ratio	94.085	50	.000	
		Linear-by-Linear Association	8.494	1	.004	
		N of Valid Cases	125			
	Female	Pearson Chi-Square	387.647 <sup>c</sup>	102	.000	
		Likelihood Ratio	132.482	102	.023	
		Linear-by-Linear Association	10.500	1	.001	
		N of Valid Cases	209			
	Total	Pearson Chi-Square	603.759 <sup>a</sup>	132	.000	
		Likelihood Ratio	201.562	132	.000	
		Linear-by-Linear Association	18.915	1	.000	
		N of Valid Cases	334			

a. 143 cells (88.8%) have expected count less than 5. The minimum expected count is .00.

b. 58 cells (87.9%) have expected count less than 5. The minimum expected count is .05.

c. 111 cells (88.1%) have expected count less than 5. The minimum expected count is .00.

d. 72 cells (92.3%) have expected count less than 5. The minimum expected count is .02.

e. 48 cells (100.0%) have expected count less than 5. The minimum expected count is .03.

- f. 64 cells (97.0%) have expected count less than 5. The minimum expected count is .01.
- g. 99 cells (88.4%) have expected count less than 5. The minimum expected count is .01.
- h. 45 cells (93.8%) have expected count less than 5. The minimum expected count is .06.
- i. 91 cells (92.9%) have expected count less than 5. The minimum expected count is .01.
- j. 40 cells (95.2%) have expected count less than 5. The minimum expected count is .02.
- k. 30 cells (100.0%) have expected count less than 5. The minimum expected count is .04.
- l. 30 cells (100.0%) have expected count less than 5. The minimum expected count is .04.
- m. 16 cells (100.0%) have expected count less than 5. The minimum expected count is .20.
- n. No statistics are computed because Set Goals but Pursue a Different One and I have difficulty maintaining my focus on projects that take more than are constants.
- o. 9 cells (100.0%) have expected count less than 5. The minimum expected count is .25.
- p. 4 cells (100.0%) have expected count less than 5. The minimum expected count is .33.
- q. Computed only for a 2x2 table

**Chi-Square Tests**

			Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
<b>CurrentGPA I am a hrd worker</b>							
4-3.6	Male	Pearson Chi-Square	46.730 <sup>e</sup>	25	.005		
Very High Achievers		Likelihood Ratio	21.900	25	.642		
		Linear-by-Linear Association	2.029	1	.154		
		N of Valid Cases	32				
	Female	Pearson Chi-Square	104.577 <sup>f</sup>	40	.000		
		Likelihood Ratio	43.597	40	.321		
		Linear-by-Linear Association	.952	1	.329		
		N of Valid Cases	73				
	Total	Pearson Chi-Square	147.651 <sup>d</sup>	50	.000		
		Likelihood Ratio	60.196	50	.153		

		Linear-by-Linear Association	1.949	1	.163	
		N of Valid Cases	105			
3.5-2.6 High Achievers	Male	Pearson Chi-Square	90.385 <sup>h</sup>	30	.000	
		Likelihood Ratio	60.150	30	.001	
		Linear-by-Linear Association	3.116	1	.078	
		N of Valid Cases	65			
	Female	Pearson Chi-Square	250.461 <sup>i</sup>	72	.000	
		Likelihood Ratio	61.601	72	.804	
		Linear-by-Linear Association	7.178	1	.007	
		N of Valid Cases	108			
	Total	Pearson Chi-Square	393.403 <sup>g</sup>	90	.000	
		Likelihood Ratio	112.166	90	.057	
		Linear-by-Linear Association	9.624	1	.002	
		N of Valid Cases	173			
2.5-1.6 Moderate	Male	Pearson Chi-Square	13.833 <sup>k</sup>	12	.311	
		Likelihood Ratio	15.934	12	.194	
		Linear-by-Linear Association	.119	1	.730	
		N of Valid Cases	24			
	Female	Pearson Chi-Square	27.988 <sup>l</sup>	15	.022	

		Likelihood Ratio	14.400	15	.495	
		Linear-by-Linear Association	.028	1	.867	
		N of Valid Cases	23			
	Total	Pearson Chi-Square	60.895 <sup>i</sup>	20	.000	
		Likelihood Ratio	25.503	20	.183	
		Linear-by-Linear Association	.056	1	.813	
		N of Valid Cases	47			
1.5-1 Low Achievers	Male	Pearson Chi-Square	. <sup>n</sup>			
		N of Valid Cases	1			
	Female	Pearson Chi-Square	8.000 <sup>o</sup>	4	.092	
		Likelihood Ratio	8.318	4	.081	
		Linear-by-Linear Association	2.731	1	.098	
		N of Valid Cases	4			
	Total	Pearson Chi-Square	10.000 <sup>m</sup>	6	.125	
		Likelihood Ratio	10.549	6	.103	
		Linear-by-Linear Association	.110	1	.740	
		N of Valid Cases	5			
Less than One Very Low Achievers	Male	Pearson Chi-Square	.750 <sup>p</sup>	1	.386	
		Continuity Correction <sup>q</sup>	0.000	1	1.000	

		Likelihood Ratio	1.046	1	.306		
		Fisher's Exact Test				1.000	.667
		Linear-by-Linear Association	.500	1	.480		
		N of Valid Cases	3				
	Female	Pearson Chi-Square	. <sup>n</sup>				
		N of Valid Cases	1				
	Total	Pearson Chi-Square	5.000 <sup>o</sup>	4	.287		
		Likelihood Ratio	5.545	4	.236		
		Linear-by-Linear Association	2.250	1	.134		
		N of Valid Cases	4				
Total	Male	Pearson Chi-Square	157.407 <sup>b</sup>	45	.000		
		Likelihood Ratio	78.818	45	.001		
		Linear-by-Linear Association	4.177	1	.041		
		N of Valid Cases	125				
	Female	Pearson Chi-Square	372.125 <sup>c</sup>	102	.000		
		Likelihood Ratio	117.675	102	.137		
		Linear-by-Linear Association	8.158	1	.004		
		N of Valid Cases	209				
	Total	Pearson Chi-Square	586.101 <sup>a</sup>	132	.000		

Likelihood Ratio	189.267	132	.001		
Linear-by-Linear Association	11.662	1	.001		
N of Valid Cases	334				

- a. 148 cells (91.9%) have expected count less than 5. The minimum expected count is .00.
- b. 52 cells (86.7%) have expected count less than 5. The minimum expected count is .05.
- c. 118 cells (93.7%) have expected count less than 5. The minimum expected count is .00.
- d. 58 cells (87.9%) have expected count less than 5. The minimum expected count is .02.
- e. 36 cells (100.0%) have expected count less than 5. The minimum expected count is .03.
- f. 49 cells (90.7%) have expected count less than 5. The minimum expected count is .01.
- g. 104 cells (92.9%) have expected count less than 5. The minimum expected count is .01.
- h. 38 cells (90.5%) have expected count less than 5. The minimum expected count is .06.
- i. 83 cells (91.2%) have expected count less than 5. The minimum expected count is .01.
- j. 27 cells (90.0%) have expected count less than 5. The minimum expected count is .02.
- k. 19 cells (95.0%) have expected count less than 5. The minimum expected count is .04.
- l. 22 cells (91.7%) have expected count less than 5. The minimum expected count is .04.
- m. 12 cells (100.0%) have expected count less than 5. The minimum expected count is .20.
- n. No statistics are computed because SetGoalsbutPersueaDifferentOne and lamahardworker are constants.
- o. 9 cells (100.0%) have expected count less than 5. The minimum expected count is .25.
- p. 4 cells (100.0%) have expected count less than 5. The minimum expected count is .33.
- q. Computed only for a 2x2 table

### Chi-Square Tests

			Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
CurrentGPA and I am diligent							
4-3.6 Very High Achievers	Male	Pearson Chi-Square	48.483 <sup>e</sup>	25	.003		
		Likelihood Ratio	24.993	25	.463		
		Linear-by-Linear Association	5.980	1	.014		
		N of Valid Cases	32				
	Female	Pearson Chi-Square	115.779 <sup>f</sup>	50	.000		

		Likelihood Ratio	52.043	50	.394
		Linear-by-Linear Association	1.473	1	.225
		N of Valid Cases	73		
	Total	Pearson Chi-Square	162.480 <sup>d</sup>	60	.000
		Likelihood Ratio	73.769	60	.109
		Linear-by-Linear Association	4.091	1	.043
		N of Valid Cases	105		
3.5-2.6 High Achievers	Male	Pearson Chi-Square	93.289 <sup>h</sup>	35	.000
		Likelihood Ratio	59.411	35	.006
		Linear-by-Linear Association	2.196	1	.138
		N of Valid Cases	65		
	Female	Pearson Chi-Square	253.094 <sup>i</sup>	78	.000
		Likelihood Ratio	61.834	78	.910
		Linear-by-Linear Association	4.659	1	.031
		N of Valid Cases	108		
	Total	Pearson Chi-Square	389.090 <sup>g</sup>	90	.000
		Likelihood Ratio	108.877	90	.086
		Linear-by-Linear Association	6.433	1	.011
		N of Valid Cases	173		

2.5-1.6 Moderate	Male	Pearson Chi-Square	30.176 <sup>k</sup>	16	.017	
		Likelihood Ratio	25.733	16	.058	
		Linear-by- Linear Association	7.024	1	.008	
		N of Valid Cases	24			
	Female	Pearson Chi-Square	30.583 <sup>l</sup>	15	.010	
		Likelihood Ratio	16.184	15	.370	
		Linear-by- Linear Association	.029	1	.865	
		N of Valid Cases	23			
	Total	Pearson Chi-Square	77.597 <sup>i</sup>	25	.000	
		Likelihood Ratio	32.119	25	.155	
		Linear-by- Linear Association	4.214	1	.040	
		N of Valid Cases	47			
	1.5-1 Low Achievers	Male	Pearson Chi-Square	. <sup>n</sup>		
			N of Valid Cases	1		
Female		Pearson Chi-Square	8.000 <sup>o</sup>	4	.092	
		Likelihood Ratio	8.318	4	.081	
		Linear-by- Linear Association	1.735	1	.188	
		N of Valid Cases	4			
Total		Pearson Chi-Square	10.000 <sup>m</sup>	6	.125	
		Likelihood Ratio	10.549	6	.103	

		Linear-by-Linear Association	.150	1	.699			
		N of Valid Cases	5					
Less than One Very Low Achievers	Male	Pearson Chi-Square	.750 <sup>p</sup>	1	.386			
		Continuity Correction <sup>q</sup>	0.000	1	1.000			
		Likelihood Ratio	1.046	1	.306			
		Fisher's Exact Test				1.000	.667	
		Linear-by-Linear Association	.500	1	.480			
		N of Valid Cases	3					
	Female	Pearson Chi-Square	. <sup>n</sup>					
		N of Valid Cases	1					
	Total	Pearson Chi-Square	5.000 <sup>o</sup>	4	.287			
		Likelihood Ratio	5.545	4	.236			
		Linear-by-Linear Association	1.263	1	.261			
		N of Valid Cases	4					
Total	Male	Pearson Chi-Square	169.479 <sup>b</sup>	50	.000			
		Likelihood Ratio	86.806	50	.001			
		Linear-by-Linear Association	1.906	1	.167			
		N of Valid Cases	125					
		Female	Pearson Chi-Square	379.228 <sup>c</sup>	102	.000		

	Likelihood Ratio	120.795	102	.099	
	Linear-by-Linear Association	7.046	1	.008	
	N of Valid Cases	209			
Total	Pearson Chi-Square	586.541 <sup>a</sup>	132	.000	
	Likelihood Ratio	189.640	132	.001	
	Linear-by-Linear Association	7.765	1	.005	
	N of Valid Cases	334			

- a. 147 cells (91.3%) have expected count less than 5. The minimum expected count is .00.
- b. 57 cells (86.4%) have expected count less than 5. The minimum expected count is .05.
- c. 117 cells (92.9%) have expected count less than 5. The minimum expected count is .00.
- d. 70 cells (89.7%) have expected count less than 5. The minimum expected count is .02.
- e. 36 cells (100.0%) have expected count less than 5. The minimum expected count is .03.
- f. 60 cells (90.9%) have expected count less than 5. The minimum expected count is .01.
- g. 102 cells (91.1%) have expected count less than 5. The minimum expected count is .01.
- h. 45 cells (93.8%) have expected count less than 5. The minimum expected count is .06.
- i. 92 cells (93.9%) have expected count less than 5. The minimum expected count is .01.
- j. 33 cells (91.7%) have expected count less than 5. The minimum expected count is .02.
- k. 25 cells (100.0%) have expected count less than 5. The minimum expected count is .04.
- l. 22 cells (91.7%) have expected count less than 5. The minimum expected count is .04.
- m. 12 cells (100.0%) have expected count less than 5. The minimum expected count is .20.
- n. No statistics are computed because Set Goals but Pursue a Different One and I am diligent are constants.
- o. 9 cells (100.0%) have expected count less than 5. The minimum expected count is .25.
- p. 4 cells (100.0%) have expected count less than 5. The minimum expected count is .33.
- q. Computed only for a 2x2 table

#### Chi-Square Tests

CurrentGPA My social life negatively affects Task/project completion	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)

4-3.6 Very High Achievers	Male	Pearson Chi-Square	65.784 <sup>e</sup>	35	.001
		Likelihood Ratio	33.956	35	.518
		Linear-by- Linear Association	6.559	1	.010
		N of Valid Cases	32		
	Female	Pearson Chi-Square	106.002 <sup>f</sup>	50	.000
		Likelihood Ratio	41.557	50	.797
		Linear-by- Linear Association	1.945	1	.163
		N of Valid Cases	73		
	Total	Pearson Chi-Square	153.841 <sup>d</sup>	60	.000
		Likelihood Ratio	61.755	60	.413
Linear-by- Linear Association		5.974	1	.015	
	N of Valid Cases	105			
3.5-2.6 High Achievers	Male	Pearson Chi-Square	97.120 <sup>h</sup>	35	.000
		Likelihood Ratio	64.693	35	.002
		Linear-by- Linear Association	.010	1	.920
		N of Valid Cases	65		
	Female	Pearson Chi-Square	265.460 <sup>i</sup>	78	.000
		Likelihood Ratio	74.086	78	.605
		Linear-by- Linear Association	4.922	1	.027

		N of Valid Cases	108			
	Total	Pearson Chi-Square	397.959 <sup>g</sup>	90	.000	
		Likelihood Ratio	119.085	90	.022	
		Linear-by-Linear Association	3.115	1	.078	
		N of Valid Cases	173			
2.5-1.6 Moderate	Male	Pearson Chi-Square	29.620 <sup>k</sup>	20	.076	
		Likelihood Ratio	28.299	20	.103	
		Linear-by-Linear Association	1.460	1	.227	
		N of Valid Cases	24			
	Female	Pearson Chi-Square	43.586 <sup>l</sup>	25	.012	
		Likelihood Ratio	24.903	25	.468	
		Linear-by-Linear Association	2.388	1	.122	
		N of Valid Cases	23			
	Total	Pearson Chi-Square	70.267 <sup>i</sup>	30	.000	
		Likelihood Ratio	37.914	30	.152	
		Linear-by-Linear Association	3.934	1	.047	
		N of Valid Cases	47			
1.5-1 Low Achievers	Male	Pearson Chi-Square	. <sup>n</sup>			
		N of Valid Cases	1			
	Female	Pearson Chi-Square	8.000 <sup>o</sup>	4	.092	

		Likelihood Ratio	8.318	4	.081		
		Linear-by-Linear Association	2.726	1	.099		
		N of Valid Cases	4				
	Total	Pearson Chi-Square	15.000 <sup>m</sup>	9	.091		
		Likelihood Ratio	13.322	9	.149		
		Linear-by-Linear Association	.229	1	.632		
		N of Valid Cases	5				
Less than One Very Low Achievers	Male	Pearson Chi-Square	.750 <sup>p</sup>	1	.386		
		Continuity Correction <sup>q</sup>	0.000	1	1.000		
		Likelihood Ratio	1.046	1	.306		
		Fisher's Exact Test				1.000	.667
		Linear-by-Linear Association	.500	1	.480		
		N of Valid Cases	3				
	Female	Pearson Chi-Square	. <sup>n</sup>				
		N of Valid Cases	1				
	Total	Pearson Chi-Square	5.000 <sup>o</sup>	4	.287		
		Likelihood Ratio	5.545	4	.236		
		Linear-by-Linear Association	.545	1	.460		
		N of Valid Cases	4				

Total	Male	Pearson Chi-Square	175.544 <sup>b</sup>	50	.000		
		Likelihood Ratio	96.283	50	.000		
		Linear-by-Linear Association	2.919	1	.088		
		N of Valid Cases	125				
	Female	Pearson Chi-Square	378.696 <sup>c</sup>	102	.000		
		Likelihood Ratio	124.570	102	.064		
		Linear-by-Linear Association	9.421	1	.002		
		N of Valid Cases	209				
Total	Total	Pearson Chi-Square	590.233 <sup>a</sup>	132	.000		
		Likelihood Ratio	194.410	132	.000		
		Linear-by-Linear Association	11.975	1	.001		
		N of Valid Cases	334				

a. 143 cells (88.8%) have expected count less than 5. The minimum expected count is .00.

b. 57 cells (86.4%) have expected count less than 5. The minimum expected count is .05.

c. 110 cells (87.3%) have expected count less than 5. The minimum expected count is .00.

d. 70 cells (89.7%) have expected count less than 5. The minimum expected count is .02.

e. 48 cells (100.0%) have expected count less than 5. The minimum expected count is .03.

f. 64 cells (97.0%) have expected count less than 5. The minimum expected count is .01.

g. 98 cells (87.5%) have expected count less than 5. The minimum expected count is .01.

h. 47 cells (97.9%) have expected count less than 5. The minimum expected count is .06.

i. 91 cells (92.9%) have expected count less than 5. The minimum expected count is .01.

j. 40 cells (95.2%) have expected count less than 5. The minimum expected count is .02.

k. 30 cells (100.0%) have expected count less than 5. The minimum expected count is .04.

l. 36 cells (100.0%) have expected count less than 5. The minimum expected count is .04.

m. 16 cells (100.0%) have expected count less than 5. The minimum expected count is .20.

n. No statistics are computed because Set Goals but Pursue a Different One and My social life negatively hinders my focus on completing tasks are constants.

o. 9 cells (100.0%) have expected count less than 5. The minimum expected count is .25.

p. 4 cells (100.0%) have expected count less than 5. The minimum expected count is .33.

q. Computed only for a 2x2 table

**Chi-Square Tests**

CurrentGPA and Social Media negatively affecting tasks/project completion			Value	df	Asymp. Sig. (2-sided)
4-3.6 Very High Achievers	Male	Pearson Chi-Square	66.774 <sup>e</sup>	35	.001
		Likelihood Ratio	35.584	35	.441
		Linear-by-Linear Association	4.727	1	.030
		N of Valid Cases	32		
	Female	Pearson Chi-Square	105.611 <sup>f</sup>	50	.000
		Likelihood Ratio	42.359	50	.770
		Linear-by-Linear Association	1.230	1	.267
		N of Valid Cases	73		
	Total	Pearson Chi-Square	154.160 <sup>d</sup>	60	.000
		Likelihood Ratio	63.910	60	.341
Linear-by-Linear Association		4.124	1	.042	
	N of Valid Cases	105			
3.5-2.6 High Achievers	Male	Pearson Chi-Square	85.754 <sup>h</sup>	35	.000
		Likelihood Ratio	55.257	35	.016

		Linear-by-Linear Association	.808	1	.369
		N of Valid Cases	65		
	Female	Pearson Chi-Square	256.932 <sup>i</sup>	78	.000
		Likelihood Ratio	69.502	78	.743
		Linear-by-Linear Association	4.626	1	.031
		N of Valid Cases	108		
	Total	Pearson Chi-Square	393.797 <sup>g</sup>	90	.000
		Likelihood Ratio	113.659	90	.047
		Linear-by-Linear Association	4.755	1	.029
		N of Valid Cases	173		
2.5-1.6 Moderate	Male	Pearson Chi-Square	21.500 <sup>k</sup>	20	.368
		Likelihood Ratio	18.935	20	.526
		Linear-by-Linear Association	1.149	1	.284
		N of Valid Cases	24		
	Female	Pearson Chi-Square	38.557 <sup>l</sup>	25	.041
		Likelihood Ratio	24.085	25	.514
		Linear-by-Linear Association	.731	1	.392
		N of Valid Cases	23		
	Total	Pearson Chi-Square	71.283 <sup>j</sup>	30	.000

		Likelihood Ratio	35.263	30	.233
		Linear-by-Linear Association	1.809	1	.179
1.5-1 Low Achievers	Male	N of Valid Cases	47		
		Pearson Chi-Square	. <sup>n</sup>		
	Female	N of Valid Cases	1		
		Pearson Chi-Square	8.000 <sup>o</sup>	4	.092
	Total	Likelihood Ratio	8.318	4	.081
		Linear-by-Linear Association	2.770	1	.096
N of Valid Cases		4			
		Pearson Chi-Square	15.000 <sup>m</sup>	9	.091
Less than One Very Low Achievers	Male	Likelihood Ratio	13.322	9	.149
		Linear-by-Linear Association	.245	1	.620
		N of Valid Cases	5		
	Female	Pearson Chi-Square	. <sup>q</sup>		
		N of Valid Cases	3		
	Total	Pearson Chi-Square	. <sup>n</sup>		
		N of Valid Cases	1		
		Pearson Chi-Square	4.000 <sup>p</sup>	2	.135
			Likelihood Ratio	4.499	2
		Linear-by-Linear Association	2.000	1	.157

		N of Valid Cases	4		
Total	Male	Pearson Chi-Square	171.205 <sup>b</sup>	50	.000
		Likelihood Ratio	91.600	50	.000
		Linear-by-Linear Association	3.661	1	.056
		N of Valid Cases	125		
	Female	Pearson Chi-Square	372.694 <sup>c</sup>	102	.000
		Likelihood Ratio	118.930	102	.121
		Linear-by-Linear Association	6.882	1	.009
		N of Valid Cases	209		
	Total	Pearson Chi-Square	592.893 <sup>a</sup>	132	.000
		Likelihood Ratio	196.495	132	.000
		Linear-by-Linear Association	10.622	1	.001
		N of Valid Cases	334		

a. 143 cells (88.8%) have expected count less than 5. The minimum expected count is .00.

b. 57 cells (86.4%) have expected count less than 5. The minimum expected count is .05.

c. 112 cells (88.9%) have expected count less than 5. The minimum expected count is .00.

d. 71 cells (91.0%) have expected count less than 5. The minimum expected count is .02.

e. 48 cells (100.0%) have expected count less than 5. The minimum expected count is .03.

f. 63 cells (95.5%) have expected count less than 5. The minimum expected count is .01.

g. 99 cells (88.4%) have expected count less than 5. The minimum expected count is .01.

h. 48 cells (100.0%) have expected count less than 5. The minimum expected count is .06.

i. 91 cells (92.9%) have expected count less than 5. The minimum expected count is .01.

j. 40 cells (95.2%) have expected count less than 5. The minimum expected count is .02.

- k. 30 cells (100.0%) have expected count less than 5. The minimum expected count is .04.
- l. 36 cells (100.0%) have expected count less than 5. The minimum expected count is .04.
- m. 16 cells (100.0%) have expected count less than 5. The minimum expected count is .20.
- n. No statistics are computed because Set Goals but Pursue a Different One and My family responsibilities hinders my focus on completing tasks are constants.
- o. 9 cells (100.0%) have expected count less than 5. The minimum expected count is .25.
- p. 6 cells (100.0%) have expected count less than 5. The minimum expected count is .25.
- q. No statistics are computed because My family responsibilities hinders my focus on completing tasks is a constant.

**Chi-Square Tests**

CurrentGPA and family responsibilities negatively affecting tasks/project completion			Value	df	Asymp. Sig. (2-sided)
4-3.6 Very High Achievers	Male	Pearson Chi-Square	66.774 <sup>e</sup>	35	.001
		Likelihood Ratio	35.584	35	.441
		Linear-by-Linear Association	4.727	1	.030
		N of Valid Cases	32		
Female	Pearson Chi-Square		105.611 <sup>f</sup>	50	.000
		Likelihood Ratio	42.359	50	.770
		Linear-by-Linear Association	1.230	1	.267
		N of Valid Cases	73		
Total	Pearson Chi-Square		154.160 <sup>d</sup>	60	.000
		Likelihood Ratio	63.910	60	.341
		Linear-by-Linear Association	4.124	1	.042

		N of Valid Cases	105			
3.5-2.6 High Achievers	Male	Pearson Chi-Square	85.754 <sup>h</sup>	35	.000	
		Likelihood Ratio	55.257	35	.016	
		Linear-by-Linear Association	.808	1	.369	
		Female	N of Valid Cases	65		
	Pearson Chi-Square		256.932 <sup>i</sup>	78	.000	
	Likelihood Ratio		69.502	78	.743	
			Linear-by-Linear Association	4.626	1	.031
		Total	N of Valid Cases	108		
	Pearson Chi-Square		393.797 <sup>g</sup>	90	.000	
Likelihood Ratio	113.659		90	.047		
		Linear-by-Linear Association	4.755	1	.029	
2.5-1.6 Moderate	Male	N of Valid Cases	173			
		Pearson Chi-Square	21.500 <sup>k</sup>	20	.368	
		Likelihood Ratio	18.935	20	.526	
			Linear-by-Linear Association	1.149	1	.284
		Female	N of Valid Cases	24		
	Pearson Chi-Square		38.557 <sup>l</sup>	25	.041	
		Likelihood Ratio	24.085	25	.514	

		Linear-by-Linear Association	.731	1	.392
		N of Valid Cases	23		
	Total	Pearson Chi-Square	71.283 <sup>i</sup>	30	.000
		Likelihood Ratio	35.263	30	.233
		Linear-by-Linear Association	1.809	1	.179
		N of Valid Cases	47		
1.5-1 Low Achievers	Male	Pearson Chi-Square	. <sup>n</sup>		
		N of Valid Cases	1		
	Female	Pearson Chi-Square	8.000 <sup>o</sup>	4	.092
		Likelihood Ratio	8.318	4	.081
		Linear-by-Linear Association	2.770	1	.096
		N of Valid Cases	4		
	Total	Pearson Chi-Square	15.000 <sup>m</sup>	9	.091
		Likelihood Ratio	13.322	9	.149
		Linear-by-Linear Association	.245	1	.620
		N of Valid Cases	5		
Less than One Very Low Achievers	Male	Pearson Chi-Square	. <sup>q</sup>		
		N of Valid Cases	3		
	Female	Pearson Chi-Square	. <sup>n</sup>		
		N of Valid Cases	1		

	Total	Pearson Chi-Square	4.000 <sup>p</sup>	2	.135
		Likelihood Ratio	4.499	2	.105
		Linear-by-Linear Association	2.000	1	.157
		N of Valid Cases	4		
Total	Male	Pearson Chi-Square	171.205 <sup>b</sup>	50	.000
		Likelihood Ratio	91.600	50	.000
		Linear-by-Linear Association	3.661	1	.056
		N of Valid Cases	125		
	Female	Pearson Chi-Square	372.694 <sup>c</sup>	102	.000
		Likelihood Ratio	118.930	102	.121
		Linear-by-Linear Association	6.882	1	.009
		N of Valid Cases	209		
	Total	Pearson Chi-Square	592.893 <sup>a</sup>	132	.000
		Likelihood Ratio	196.495	132	.000
		Linear-by-Linear Association	10.622	1	.001
		N of Valid Cases	334		

a. 143 cells (88.8%) have expected count less than 5. The minimum expected count is .00.

b. 57 cells (86.4%) have expected count less than 5. The minimum expected count is .05.

c. 112 cells (88.9%) have expected count less than 5. The minimum expected count is .00.

d. 71 cells (91.0%) have expected count less than 5. The minimum expected count is .02.

- e. 48 cells (100.0%) have expected count less than 5. The minimum expected count is .03.
- f. 63 cells (95.5%) have expected count less than 5. The minimum expected count is .01.
- g. 99 cells (88.4%) have expected count less than 5. The minimum expected count is .01.
- h. 48 cells (100.0%) have expected count less than 5. The minimum expected count is .06.
- i. 91 cells (92.9%) have expected count less than 5. The minimum expected count is .01.
- j. 40 cells (95.2%) have expected count less than 5. The minimum expected count is .02.
- k. 30 cells (100.0%) have expected count less than 5. The minimum expected count is .04.
- l. 36 cells (100.0%) have expected count less than 5. The minimum expected count is .04.
- m. 16 cells (100.0%) have expected count less than 5. The minimum expected count is .20.
- n. No statistics are computed because Set Goals but Pursue a Different One and Myfamilyresponsibilitieshindersmyfocusoncompletingtasks are constants.
- o. 9 cells (100.0%) have expected count less than 5. The minimum expected count is .25.
- p. 6 cells (100.0%) have expected count less than 5. The minimum expected count is .25.
- q. No statistics are computed because Myfamilyresponsibilitieshindersmyfocusoncompletingtasks is a constant.

#### Chi-Square Tests

CurrentGPA and social media negatively affect task/project completion			Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
4-3.6 Very High Achievers	Male	Pearson Chi-Square	61.591 <sup>e</sup>	35	.004		
		Likelihood Ratio	39.880	35	.262		
		Linear-by-Linear Association	6.157	1	.013		
	N of Valid Cases		32				
	Female	Pearson Chi-Square	107.456 <sup>f</sup>	50	.000		
Likelihood Ratio		46.192	50	.627			

		Linear-by-Linear Association	.026	1	.872	
		N of Valid Cases	73			
	Total	Pearson Chi-Square	143.614 <sup>d</sup>	60	.000	
		Likelihood Ratio	56.897	60	.590	
		Linear-by-Linear Association	2.260	1	.133	
		N of Valid Cases	105			
3.5-2.6 High Achievers	Male	Pearson Chi-Square	85.253 <sup>h</sup>	35	.000	
		Likelihood Ratio	55.231	35	.016	
		Linear-by-Linear Association	3.308	1	.069	
		N of Valid Cases	65			
	Female	Pearson Chi-Square	258.911 <sup>i</sup>	78	.000	
		Likelihood Ratio	68.814	78	.762	
		Linear-by-Linear Association	2.295	1	.130	
		N of Valid Cases	108			
	Total	Pearson Chi-Square	392.998 <sup>g</sup>	90	.000	
		Likelihood Ratio	110.361	90	.071	
		Linear-by-Linear Association	5.718	1	.017	
		N of Valid Cases	173			
2.5-1.6 Moderate	Male	Pearson Chi-Square	11.993 <sup>k</sup>	20	.916	

		Likelihood Ratio	13.506	20	.855	
		Linear-by-Linear Association	.328	1	.567	
		N of Valid Cases	24			
	Female	Pearson Chi-Square	41.041 <sup>l</sup>	25	.023	
		Likelihood Ratio	26.938	25	.359	
		Linear-by-Linear Association	2.793	1	.095	
		N of Valid Cases	23			
	Total	Pearson Chi-Square	63.226 <sup>j</sup>	30	.000	
		Likelihood Ratio	27.404	30	.602	
		Linear-by-Linear Association	.478	1	.489	
		N of Valid Cases	47			
1.5-1 Low Achievers	Male	Pearson Chi-Square	. <sup>n</sup>			
		N of Valid Cases	1			
	Female	Pearson Chi-Square	8.000 <sup>o</sup>	4	.092	
		Likelihood Ratio	8.318	4	.081	
		Linear-by-Linear Association	2.851	1	.091	
		N of Valid Cases	4			
	Total	Pearson Chi-Square	15.000 <sup>m</sup>	9	.091	
		Likelihood Ratio	13.322	9	.149	

		Linear-by-Linear Association	.131	1	.717		
		N of Valid Cases	5				
Less than One Very Low Achievers	Male	Pearson Chi-Square	3.000 <sup>p</sup>	1	.083		
		Continuity Correction <sup>q</sup>	.188	1	.665		
		Likelihood Ratio	3.819	1	.051		
		Fisher's Exact Test				.333	.333
		Linear-by-Linear Association	2.000	1	.157		
		N of Valid Cases	3				
	Female	Pearson Chi-Square	. <sup>n</sup>				
		N of Valid Cases	1				
	Total	Pearson Chi-Square	8.000 <sup>o</sup>	4	.092		
		Likelihood Ratio	8.318	4	.081		
		Linear-by-Linear Association	.545	1	.460		
		N of Valid Cases	4				
Total	Male	Pearson Chi-Square	164.685 <sup>b</sup>	50	.000		
		Likelihood Ratio	83.075	50	.002		
		Linear-by-Linear Association	7.999	1	.005		
		N of Valid Cases	125				
		Female	Pearson Chi-Square	368.289 <sup>c</sup>	102	.000	

	Likelihood Ratio	111.458	102	.245	
	Linear-by-Linear Association	2.189	1	.139	
	N of Valid Cases	209			
Total	Pearson Chi-Square	582.398 <sup>a</sup>	132	.000	
	Likelihood Ratio	183.540	132	.002	
	Linear-by-Linear Association	9.263	1	.002	
	N of Valid Cases	334			

- a. 141 cells (87.6%) have expected count less than 5. The minimum expected count is .00.
- b. 56 cells (84.8%) have expected count less than 5. The minimum expected count is .05.
- c. 111 cells (88.1%) have expected count less than 5. The minimum expected count is .00.
- d. 71 cells (91.0%) have expected count less than 5. The minimum expected count is .02.
- e. 48 cells (100.0%) have expected count less than 5. The minimum expected count is .03.
- f. 62 cells (93.9%) have expected count less than 5. The minimum expected count is .01.
- g. 98 cells (87.5%) have expected count less than 5. The minimum expected count is .01.
- h. 48 cells (100.0%) have expected count less than 5. The minimum expected count is .06.
- i. 92 cells (93.9%) have expected count less than 5. The minimum expected count is .01.
- j. 41 cells (97.6%) have expected count less than 5. The minimum expected count is .02.
- k. 30 cells (100.0%) have expected count less than 5. The minimum expected count is .04.
- l. 36 cells (100.0%) have expected count less than 5. The minimum expected count is .04.
- m. 16 cells (100.0%) have expected count less than 5. The minimum expected count is .20.
- n. No statistics are computed because SetGoalsbutPersueaDifferentOne and TheuseofsocialMedianegativelyaffectsmyfocusontasks are constants.
- o. 9 cells (100.0%) have expected count less than 5. The minimum expected count is .25.
- p. 4 cells (100.0%) have expected count less than 5. The minimum expected count is .33.
- q. Computed only for a 2x2 table

#### Chi-Square Tests

CurrentGPA and videogames affecting task/project completion	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
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4-3.6 Very High Achievers	Male	Pearson Chi-Square	62.626 <sup>e</sup>	35	.003
		Likelihood Ratio	36.593	35	.395
		Linear-by- Linear Association	.242	1	.623
		N of Valid Cases	32		
	Female	Pearson Chi-Square	101.950 <sup>f</sup>	50	.000
		Likelihood Ratio	39.074	50	.868
		Linear-by- Linear Association	.776	1	.378
		N of Valid Cases	73		
	Total	Pearson Chi-Square	149.715 <sup>d</sup>	60	.000
		Likelihood Ratio	62.680	60	.381
Linear-by- Linear Association		1.325	1	.250	
	N of Valid Cases	105			
3.5-2.6 High Achievers	Male	Pearson Chi-Square	93.962 <sup>h</sup>	35	.000
		Likelihood Ratio	66.219	35	.001
		Linear-by- Linear Association	.187	1	.666
		N of Valid Cases	65		
	Female	Pearson Chi-Square	265.463 <sup>i</sup>	78	.000
		Likelihood Ratio	78.345	78	.468
		Linear-by- Linear Association	.330	1	.565

		N of Valid Cases	108			
	Total	Pearson Chi-Square	393.775 <sup>g</sup>	90	.000	
		Likelihood Ratio	113.204	90	.050	
		Linear-by-Linear Association	.417	1	.518	
		N of Valid Cases	173			
2.5-1.6 Moderate	Male	Pearson Chi-Square	12.874 <sup>k</sup>	20	.883	
		Likelihood Ratio	14.472	20	.806	
		Linear-by-Linear Association	3.295	1	.069	
		N of Valid Cases	24			
	Female	Pearson Chi-Square	35.160 <sup>l</sup>	25	.085	
		Likelihood Ratio	20.266	25	.733	
		Linear-by-Linear Association	4.310	1	.038	
		N of Valid Cases	23			
	Total	Pearson Chi-Square	62.434 <sup>i</sup>	30	.000	
		Likelihood Ratio	26.961	30	.625	
		Linear-by-Linear Association	7.279	1	.007	
		N of Valid Cases	47			
1.5-1 Low Achievers	Male	Pearson Chi-Square	. <sup>n</sup>			
		N of Valid Cases	1			
	Female	Pearson Chi-Square	8.000 <sup>o</sup>	4	.092	

		Likelihood Ratio	8.318	4	.081		
		Linear-by-Linear Association	2.976	1	.085		
		N of Valid Cases	4				
	Total	Pearson Chi-Square	15.000 <sup>m</sup>	9	.091		
		Likelihood Ratio	13.322	9	.149		
		Linear-by-Linear Association	.753	1	.386		
		N of Valid Cases	5				
Less than One Very Low Achievers	Male	Pearson Chi-Square	3.000 <sup>q</sup>	1	.083		
		Continuity Correction <sup>r</sup>	.188	1	.665		
		Likelihood Ratio	3.819	1	.051		
		Fisher's Exact Test				.333	.333
		Linear-by-Linear Association	2.000	1	.157		
		N of Valid Cases	3				
	Female	Pearson Chi-Square	. <sup>n</sup>				
		N of Valid Cases	1				
	Total	Pearson Chi-Square	4.000 <sup>p</sup>	2	.135		
		Likelihood Ratio	4.499	2	.105		
		Linear-by-Linear Association	2.000	1	.157		
		N of Valid Cases	4				

Total	Male	Pearson Chi-Square	165.605 <sup>b</sup>	50	.000		
		Likelihood Ratio	87.513	50	.001		
		Linear-by-Linear Association	2.212	1	.137		
		N of Valid Cases	125				
	Female	Pearson Chi-Square	377.401 <sup>c</sup>	102	.000		
		Likelihood Ratio	122.279	102	.084		
		Linear-by-Linear Association	2.671	1	.102		
		N of Valid Cases	209				
Total	Total	Pearson Chi-Square	586.413 <sup>a</sup>	132	.000		
		Likelihood Ratio	191.803	132	.001		
		Linear-by-Linear Association	4.796	1	.029		
		N of Valid Cases	334				

a. 142 cells (88.2%) have expected count less than 5. The minimum expected count is .00.

b. 57 cells (86.4%) have expected count less than 5. The minimum expected count is .05.

c. 110 cells (87.3%) have expected count less than 5. The minimum expected count is .00.

d. 71 cells (91.0%) have expected count less than 5. The minimum expected count is .02.

e. 48 cells (100.0%) have expected count less than 5. The minimum expected count is .03.

f. 63 cells (95.5%) have expected count less than 5. The minimum expected count is .01.

g. 98 cells (87.5%) have expected count less than 5. The minimum expected count is .01.

h. 48 cells (100.0%) have expected count less than 5. The minimum expected count is .06.

i. 91 cells (92.9%) have expected count less than 5. The minimum expected count is .01.

j. 40 cells (95.2%) have expected count less than 5. The minimum expected count is .02.

k. 30 cells (100.0%) have expected count less than 5. The minimum expected count is .04.

l. 36 cells (100.0%) have expected count less than 5. The minimum expected count is .04.

m. 16 cells (100.0%) have expected count less than 5. The minimum expected count is .20.

n. No statistics are computed because SetGoalsbutPursueaDifferentOne and Theuseofvideogamesnegativelyaffectsmyfocusontasks are constants.

o. 9 cells (100.0%) have expected count less than 5. The minimum expected count is .25.

p. 6 cells (100.0%) have expected count less than 5. The minimum expected count is .25.

q. 4 cells (100.0%) have expected count less than 5. The minimum expected count is .33.

r. Computed only for a 2x2 table

### Chi-Square Tests

CurrentGPA/new ideas/setbacks do not discourage me			Value	df	Asymp. Sig. (2-sided)
4-3.6 Very High Achievers	Male	Pearson Chi-Square	47.981 <sup>e</sup>	20	.000
		Likelihood Ratio	26.873	20	.139
		Linear-by-Linear Association	5.000	1	.025
		N of Valid Cases	32		
	Female	Pearson Chi-Square	97.610 <sup>f</sup>	35	.000
		Likelihood Ratio	35.443	35	.447
		Linear-by-Linear Association	.270	1	.604
		N of Valid Cases	73		
	Total	Pearson Chi-Square	131.995 <sup>d</sup>	35	.000
		Likelihood Ratio	48.901	35	.059
		Linear-by-Linear Association	.623	1	.430
		N of Valid Cases	105		
3.5-2.6 High Achievers	Male	Pearson Chi-Square	74.676 <sup>h</sup>	25	.000
		Likelihood Ratio	46.430	25	.006

		Linear-by-Linear Association	1.794	1	.180
		N of Valid Cases	65		
	Female	Pearson Chi-Square	239.234 <sup>i</sup>	42	.000
		Likelihood Ratio	57.251	42	.058
		Linear-by-Linear Association	1.672	1	.196
		N of Valid Cases	108		
	Total	Pearson Chi-Square	366.514 <sup>g</sup>	42	.000
		Likelihood Ratio	92.419	42	.000
		Linear-by-Linear Association	3.278	1	.070
		N of Valid Cases	173		
2.5-1.6 Moderate	Male	Pearson Chi-Square	10.950 <sup>k</sup>	15	.756
		Likelihood Ratio	12.424	15	.647
		Linear-by-Linear Association	3.408	1	.065
		N of Valid Cases	24		
	Female	Pearson Chi-Square	36.736 <sup>l</sup>	16	.002
		Likelihood Ratio	21.886	16	.147
		Linear-by-Linear Association	.148	1	.700
		N of Valid Cases	23		
	Total	Pearson Chi-Square	60.299 <sup>j</sup>	24	.000

		Likelihood Ratio	24.619	24	.427
		Linear-by-Linear Association	1.668	1	.197
1.5-1 Low Achievers	Male	N of Valid Cases	47		
		Pearson Chi-Square	. <sup>n</sup>		
	Female	N of Valid Cases	1		
		Pearson Chi-Square	8.000 <sup>o</sup>	4	.092
	Total	Likelihood Ratio	8.318	4	.081
		Linear-by-Linear Association	2.824	1	.093
		N of Valid Cases	4		
		Pearson Chi-Square	10.000 <sup>m</sup>	6	.125
		Likelihood Ratio	10.549	6	.103
		Linear-by-Linear Association	.090	1	.764
Less than One Very Low Achievers	Male	N of Valid Cases	5		
		Pearson Chi-Square	3.000 <sup>q</sup>	2	.223
	Female	Likelihood Ratio	3.819	2	.148
		Linear-by-Linear Association	1.143	1	.285
	Total	N of Valid Cases	3		
		Pearson Chi-Square	. <sup>n</sup>		
		N of Valid Cases	1		
		Pearson Chi-Square	8.000 <sup>p</sup>	6	.238

		Likelihood Ratio	8.318	6	.216
		Linear-by-Linear Association	2.252	1	.133
		N of Valid Cases	4		
Total	Male	Pearson Chi-Square	143.660 <sup>b</sup>	30	.000
		Likelihood Ratio	69.169	30	.000
		Linear-by-Linear Association	6.784	1	.009
		N of Valid Cases	125		
	Female	Pearson Chi-Square	457.060 <sup>c</sup>	54	.000
		Likelihood Ratio	108.409	54	.000
		Linear-by-Linear Association	1.021	1	.312
		N of Valid Cases	209		
	Total	Pearson Chi-Square	704.714 <sup>a</sup>	60	.000
		Likelihood Ratio	155.260	60	.000
		Linear-by-Linear Association	5.323	1	.021
		N of Valid Cases	334		

a. 62 cells (80.5%) have expected count less than 5. The minimum expected count is .00.

b. 33 cells (78.6%) have expected count less than 5. The minimum expected count is .05.

c. 58 cells (82.9%) have expected count less than 5. The minimum expected count is .00.

d. 40 cells (83.3%) have expected count less than 5. The minimum expected count is .02.

e. 29 cells (96.7%) have expected count less than 5. The minimum expected count is .03.

f. 44 cells (91.7%) have expected count less than 5. The minimum expected count is .01.

- g. 44 cells (78.6%) have expected count less than 5. The minimum expected count is .01.
- h. 33 cells (91.7%) have expected count less than 5. The minimum expected count is .06.
- i. 47 cells (83.9%) have expected count less than 5. The minimum expected count is .01.
- j. 31 cells (88.6%) have expected count less than 5. The minimum expected count is .02.
- k. 23 cells (95.8%) have expected count less than 5. The minimum expected count is .04.
- l. 24 cells (96.0%) have expected count less than 5. The minimum expected count is .04.
- m. 12 cells (100.0%) have expected count less than 5. The minimum expected count is .20.
- n. No statistics are computed because NewIdeasorProjectsDistractsmeFromPreviousOnes and SetbacksdoNotDiscourageME are constants.
- o. 9 cells (100.0%) have expected count less than 5. The minimum expected count is .25.
- p. 12 cells (100.0%) have expected count less than 5. The minimum expected count is .25.
- q. 6 cells (100.0%) have expected count less than 5. The minimum expected count is .33.

#### Chi-Square Tests

CurrentGPA/new ideas/ overcome setbacks			Value	df	Asymp. Sig. (2-sided)
4-3.6 Very High Achievers	Male	Pearson Chi-Square	49.872 <sup>e</sup>	25	.002
		Likelihood Ratio	27.726	25	.321
		Linear-by-Linear Association	2.454	1	.117
	N of Valid Cases		32		
	Female	Pearson Chi-Square	108.264 <sup>f</sup>	45	.000
Likelihood Ratio		41.510	45	.621	
Linear-by-Linear Association		.205	1	.651	
N of Valid Cases		73			
Total	Pearson Chi-Square	155.854 <sup>d</sup>	55	.000	

		Likelihood Ratio	65.129	55	.165
		Linear-by-Linear Association	.033	1	.857
		N of Valid Cases	105		
3.5-2.6 High Achievers	Male	Pearson Chi-Square	100.986 <sup>h</sup>	35	.000
		Likelihood Ratio	64.925	35	.002
		Linear-by-Linear Association	.055	1	.815
		N of Valid Cases	65		
	Female	Pearson Chi-Square	316.268 <sup>i</sup>	78	.000
		Likelihood Ratio	82.555	78	.341
		Linear-by-Linear Association	12.675	1	.000
		N of Valid Cases	108		
	Total	Pearson Chi-Square	427.118 <sup>g</sup>	90	.000
		Likelihood Ratio	125.963	90	.007
		Linear-by-Linear Association	7.423	1	.006
		N of Valid Cases	173		
2.5-1.6 Moderate	Male	Pearson Chi-Square	9.200 <sup>k</sup>	12	.686
		Likelihood Ratio	9.863	12	.628
		Linear-by-Linear Association	.929	1	.335
		N of Valid Cases	24		

	Female	Pearson Chi-Square	28.369 <sup>l</sup>	16	.029
		Likelihood Ratio	14.037	16	.596
		Linear-by-Linear Association	.732	1	.392
		N of Valid Cases	23		
	Total	Pearson Chi-Square	52.066 <sup>i</sup>	20	.000
		Likelihood Ratio	15.508	20	.747
		Linear-by-Linear Association	1.463	1	.226
		N of Valid Cases	47		
1.5-1 Low Achievers	Male	Pearson Chi-Square	. <sup>n</sup>		
		N of Valid Cases	1		
	Female	Pearson Chi-Square	8.000 <sup>o</sup>	4	.092
		Likelihood Ratio	8.318	4	.081
		Linear-by-Linear Association	2.928	1	.087
		N of Valid Cases	4		
	Total	Pearson Chi-Square	15.000 <sup>m</sup>	9	.091
		Likelihood Ratio	13.322	9	.149
		Linear-by-Linear Association	3.409	1	.065
		N of Valid Cases	5		
Less than One Very Low Achievers	Male	Pearson Chi-Square	3.000 <sup>q</sup>	2	.223
		Likelihood Ratio	3.819	2	.148

		Linear-by-Linear Association	1.500	1	.221
		N of Valid Cases	3		
	Female	Pearson Chi-Square	. <sup>n</sup>		
		N of Valid Cases	1		
	Total	Pearson Chi-Square	8.000 <sup>p</sup>	6	.238
		Likelihood Ratio	8.318	6	.216
		Linear-by-Linear Association	2.673	1	.102
		N of Valid Cases	4		
Total	Male	Pearson Chi-Square	182.388 <sup>b</sup>	50	.000
		Likelihood Ratio	96.107	50	.000
		Linear-by-Linear Association	.790	1	.374
		N of Valid Cases	125		
	Female	Pearson Chi-Square	420.556 <sup>c</sup>	102	.000
		Likelihood Ratio	129.908	102	.032
		Linear-by-Linear Association	8.197	1	.004
		N of Valid Cases	209		
	Total	Pearson Chi-Square	628.384 <sup>a</sup>	132	.000
		Likelihood Ratio	208.570	132	.000

Linear-by-Linear Association	8.050	1	.005
N of Valid Cases	334		

- a. 150 cells (93.2%) have expected count less than 5. The minimum expected count is .00.
- b. 59 cells (89.4%) have expected count less than 5. The minimum expected count is .05.
- c. 117 cells (92.9%) have expected count less than 5. The minimum expected count is .00.
- d. 64 cells (88.9%) have expected count less than 5. The minimum expected count is .02.
- e. 35 cells (97.2%) have expected count less than 5. The minimum expected count is .03.
- f. 55 cells (91.7%) have expected count less than 5. The minimum expected count is .01.
- g. 103 cells (92.0%) have expected count less than 5. The minimum expected count is .01.
- h. 45 cells (93.8%) have expected count less than 5. The minimum expected count is .06.
- i. 92 cells (93.9%) have expected count less than 5. The minimum expected count is .01.
- j. 26 cells (86.7%) have expected count less than 5. The minimum expected count is .02.
- k. 20 cells (100.0%) have expected count less than 5. The minimum expected count is .04.
- l. 24 cells (96.0%) have expected count less than 5. The minimum expected count is .04.
- m. 16 cells (100.0%) have expected count less than 5. The minimum expected count is .20.
- n. No statistics are computed because NewIdeas or Projects Distracts me from Previous Ones and I Have Overcome Setbacks to Conquer an Important Challenge are constants.
- o. 9 cells (100.0%) have expected count less than 5. The minimum expected count is .25.
- p. 12 cells (100.0%) have expected count less than 5. The minimum expected count is .25.
- q. 6 cells (100.0%) have expected count less than 5. The minimum expected count is .33.

#### Chi-Square Tests

			Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
4-3.6 Very High Achievers	Male	Pearson Chi-Square	61.792 <sup>e</sup>	35	.003		
		Likelihood Ratio	35.897	35	.426		

		Linear-by-Linear Association	.683	1	.409	
		N of Valid Cases	32			
	Female	Pearson Chi-Square	109.281 <sup>f</sup>	50	.000	
		Likelihood Ratio	43.082	50	.745	
		Linear-by-Linear Association	.207	1	.649	
		N of Valid Cases	73			
	Total	Pearson Chi-Square	146.543 <sup>d</sup>	60	.000	
		Likelihood Ratio	56.109	60	.619	
		Linear-by-Linear Association	.631	1	.427	
		N of Valid Cases	105			
3.5-2.6 High Achievers	Male	Pearson Chi-Square	95.599 <sup>h</sup>	35	.000	
		Likelihood Ratio	60.384	35	.005	
		Linear-by-Linear Association	1.478	1	.224	
		N of Valid Cases	65			
	Female	Pearson Chi-Square	305.647 <sup>i</sup>	78	.000	
		Likelihood Ratio	75.231	78	.568	
		Linear-by-Linear Association	10.764	1	.001	
		N of Valid Cases	108			
	Total	Pearson Chi-Square	419.679 <sup>g</sup>	90	.000	

		Likelihood Ratio	119.414	90	.021
		Linear-by-Linear Association	4.291	1	.038
		N of Valid Cases	173		
2.5-1.6 Moderate	Male	Pearson Chi-Square	17.702 <sup>k</sup>	15	.279
		Likelihood Ratio	19.789	15	.180
		Linear-by-Linear Association	4.306	1	.038
		N of Valid Cases	24		
	Female	Pearson Chi-Square	37.212 <sup>l</sup>	16	.002
		Likelihood Ratio	21.850	16	.148
		Linear-by-Linear Association	6.904	1	.009
		N of Valid Cases	23		
	Total	Pearson Chi-Square	63.324 <sup>j</sup>	24	.000
		Likelihood Ratio	28.461	24	.241
		Linear-by-Linear Association	9.917	1	.002
		N of Valid Cases	47		
1.5-1 Low Achievers	Male	Pearson Chi-Square	. <sup>n</sup>		
		N of Valid Cases	1		
	Female	Pearson Chi-Square	8.000 <sup>o</sup>	4	.092
		Likelihood Ratio	8.318	4	.081

		Linear-by-Linear Association	2.333	1	.127		
		N of Valid Cases	4				
	Total	Pearson Chi-Square	15.000 <sup>m</sup>	9	.091		
		Likelihood Ratio	13.322	9	.149		
		Linear-by-Linear Association	.019	1	.890		
		N of Valid Cases	5				
Less than One Very Low Achievers	Male	Pearson Chi-Square	.750 <sup>p</sup>	1	.386		
		Continuity Correction <sup>q</sup>	0.000	1	1.000		
		Likelihood Ratio	1.046	1	.306		
		Fisher's Exact Test				1.000	.667
		Linear-by-Linear Association	.500	1	.480		
		N of Valid Cases	3				
	Female	Pearson Chi-Square	. <sup>n</sup>				
		N of Valid Cases	1				
	Total	Pearson Chi-Square	5.000 <sup>o</sup>	4	.287		
		Likelihood Ratio	5.545	4	.236		
		Linear-by-Linear Association	1.636	1	.201		
		N of Valid Cases	4				
Total	Male	Pearson Chi-Square	158.997 <sup>b</sup>	50	.000		

	Likelihood Ratio	77.208	50	.008	
	Linear-by-Linear Association	.004	1	.948	
	N of Valid Cases	125			
Female	Pearson Chi-Square	416.914 <sup>c</sup>	102	.000	
	Likelihood Ratio	128.815	102	.038	
	Linear-by-Linear Association	12.432	1	.000	
	N of Valid Cases	209			
Total	Pearson Chi-Square	604.118 <sup>a</sup>	132	.000	
	Likelihood Ratio	186.319	132	.001	
	Linear-by-Linear Association	7.866	1	.005	
	N of Valid Cases	334			

a. 143 cells (88.8%) have expected count less than 5. The minimum expected count is .00.

b. 58 cells (87.9%) have expected count less than 5. The minimum expected count is .05.

c. 111 cells (88.1%) have expected count less than 5. The minimum expected count is .00.

d. 71 cells (91.0%) have expected count less than 5. The minimum expected count is .02.

e. 48 cells (100.0%) have expected count less than 5. The minimum expected count is .03.

f. 64 cells (97.0%) have expected count less than 5. The minimum expected count is .01.

g. 100 cells (89.3%) have expected count less than 5. The minimum expected count is .01.

h. 46 cells (95.8%) have expected count less than 5. The minimum expected count is .06.

i. 88 cells (89.8%) have expected count less than 5. The minimum expected count is .01.

j. 32 cells (91.4%) have expected count less than 5. The minimum expected count is .02.

k. 24 cells (100.0%) have expected count less than 5. The minimum expected count is .04.

l. 25 cells (100.0%) have expected count less than 5. The minimum expected count is .04.

m. 16 cells (100.0%) have expected count less than 5. The minimum expected count is .20.

n. No statistics are computed because NewIdeas or Projects Distracts me from Previous Ones and I have difficulty maintaining my focus on projects that take more than one month are constants.

o. 9 cells (100.0%) have expected count less than 5. The minimum expected count is .25.

p. 4 cells (100.0%) have expected count less than 5. The minimum expected count is .33.

q. Computed only for a 2x2 table

**Chi-Square Tests**

CurrentGPA			Value	df	Asymp. Sig. (2- sided)	Exact Sig. (2- sided)	Exact Sig. (1- sided)
4-3.6 Very High Achievers	Male	Pearson Chi-Square	51.086 <sup>e</sup>	25	.002		
		Likelihood Ratio	29.766	25	.233		
		Linear-by- Linear Association	2.058	1	.151		
		N of Valid Cases	32				
	Female	Pearson Chi-Square	105.871 <sup>f</sup>	40	.000		
		Likelihood Ratio	39.007	40	.515		
		Linear-by- Linear Association	1.615	1	.204		
		N of Valid Cases	73				
	Total	Pearson Chi-Square	154.394 <sup>d</sup>	50	.000		
		Likelihood Ratio	65.110	50	.074		
Linear-by- Linear Association		3.386	1	.066			
N of Valid Cases		105					
3.5-2.6 High Achievers	Male	Pearson Chi-Square	103.285 <sup>h</sup>	30	.000		
		Likelihood Ratio	74.641	30	.000		
		Linear-by- Linear Association	5.448	1	.020		
		N of Valid Cases	65				

	Female	Pearson Chi-Square	298.960 <sup>i</sup>	72	.000	
		Likelihood Ratio	69.315	72	.568	
		Linear-by-Linear Association	5.882	1	.015	
		N of Valid Cases	108			
	Total	Pearson Chi-Square	429.072 <sup>g</sup>	90	.000	
		Likelihood Ratio	133.016	90	.002	
		Linear-by-Linear Association	11.872	1	.001	
		N of Valid Cases	173			
2.5-1.6 Moderate	Male	Pearson Chi-Square	8.911 <sup>k</sup>	9	.446	
		Likelihood Ratio	10.022	9	.349	
		Linear-by-Linear Association	2.605	1	.107	
		N of Valid Cases	24			
	Female	Pearson Chi-Square	27.916 <sup>l</sup>	12	.006	
		Likelihood Ratio	14.937	12	.245	
		Linear-by-Linear Association	2.395	1	.122	
		N of Valid Cases	23			
	Total	Pearson Chi-Square	51.282 <sup>j</sup>	16	.000	
		Likelihood Ratio	15.425	16	.494	
		Linear-by-Linear Association	.005	1	.945	

1.5-1 Low Achievers	Male	N of Valid Cases	47				
		Pearson Chi-Square	. <sup>n</sup>				
		N of Valid Cases	1				
	Female	Pearson Chi-Square	8.000 <sup>o</sup>	4	.092		
		Likelihood Ratio	8.318	4	.081		
		Linear-by-Linear Association	3.000	1	.083		
	Total	N of Valid Cases	4				
		Pearson Chi-Square	10.000 <sup>m</sup>	6	.125		
		Likelihood Ratio	10.549	6	.103		
	Less than One Very Low Achievers	Male	Linear-by-Linear Association	.053	1	.818	
N of Valid Cases			5				
Pearson Chi-Square			3.000 <sup>p</sup>	1	.083		
Female		Continuity Correction <sup>q</sup>	.188	1	.665		
		Likelihood Ratio	3.819	1	.051		
		Fisher's Exact Test				.333	.333
Total		Linear-by-Linear Association	2.000	1	.157		
		N of Valid Cases	3				
		Pearson Chi-Square	. <sup>n</sup>				
Total		N of Valid Cases	1				
	Pearson Chi-Square	8.000 <sup>o</sup>	4	.092			

		Likelihood Ratio	8.318	4	.081	
		Linear-by-Linear Association	2.909	1	.088	
		N of Valid Cases	4			
Total	Male	Pearson Chi-Square	180.275 <sup>b</sup>	45	.000	
		Likelihood Ratio	103.204	45	.000	
		Linear-by-Linear Association	8.297	1	.004	
		N of Valid Cases	125			
	Female	Pearson Chi-Square	416.352 <sup>c</sup>	102	.000	
		Likelihood Ratio	129.526	102	.034	
		Linear-by-Linear Association	7.805	1	.005	
		N of Valid Cases	209			
	Total	Pearson Chi-Square	626.565 <sup>a</sup>	132	.000	
		Likelihood Ratio	215.508	132	.000	
		Linear-by-Linear Association	16.292	1	.000	
		N of Valid Cases	334			

a. 151 cells (93.8%) have expected count less than 5. The minimum expected count is .00.

b. 53 cells (88.3%) have expected count less than 5. The minimum expected count is .05.

c. 118 cells (93.7%) have expected count less than 5. The minimum expected count is .00.

d. 59 cells (89.4%) have expected count less than 5. The minimum expected count is .02.

e. 35 cells (97.2%) have expected count less than 5. The minimum expected count is .03.

f. 49 cells (90.7%) have expected count less than 5. The minimum expected count is .01.

g. 103 cells (92.0%) have expected count less than 5. The minimum expected count is .01.

h. 38 cells (90.5%) have expected count less than 5. The minimum expected count is .06.

i. 85 cells (93.4%) have expected count less than 5. The minimum expected count is .01.

- j. 22 cells (88.0%) have expected count less than 5. The minimum expected count is .02.
- k. 15 cells (93.8%) have expected count less than 5. The minimum expected count is .04.
- l. 19 cells (95.0%) have expected count less than 5. The minimum expected count is .04.
- m. 12 cells (100.0%) have expected count less than 5. The minimum expected count is .20.
- n. No statistics are computed because NewIdeasorProjectsDistractsmeFromPreviousOnes and lamahardworker are constants.
- o. 9 cells (100.0%) have expected count less than 5. The minimum expected count is .25.
- p. 4 cells (100.0%) have expected count less than 5. The minimum expected count is .33.
- q. Computed only for a 2x2 table

**Chi-Square Tests**

CurrentGPA			Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
4-3.6 Very High Achievers	Male	Pearson Chi-Square	46.794 <sup>e</sup>	25	.005		
		Likelihood Ratio	24.197	25	.508		
		Linear-by-Linear Association	4.527	1	.033		
		N of Valid Cases	32				
	Female	Pearson Chi-Square	109.105 <sup>f</sup>	50	.000		
		Likelihood Ratio	42.365	50	.770		
		Linear-by-Linear Association	.807	1	.369		
		N of Valid Cases	73				
Total		Pearson Chi-Square	155.189 <sup>d</sup>	60	.000		
		Likelihood Ratio	65.606	60	.289		
		Linear-by-Linear Association	2.916	1	.088		
		N of Valid Cases	105				

3.5-2.6 High Achievers	Male	Pearson Chi-Square	96.304 <sup>h</sup>	35	.000	
		Likelihood Ratio	62.991	35	.003	
		Linear-by- Linear Association	2.077	1	.150	
			N of Valid Cases	65		
	Female	Pearson Chi-Square	300.154 <sup>i</sup>	78	.000	
		Likelihood Ratio	71.381	78	.689	
		Linear-by- Linear Association	4.222	1	.040	
			N of Valid Cases	108		
	Total	Pearson Chi-Square	419.283 <sup>g</sup>	90	.000	
		Likelihood Ratio	121.917	90	.014	
		Linear-by- Linear Association	6.662	1	.010	
			N of Valid Cases	173		
2.5-1.6 Moderate	Male	Pearson Chi-Square	13.616 <sup>k</sup>	12	.326	
		Likelihood Ratio	17.048	12	.148	
		Linear-by- Linear Association	.106	1	.745	
			N of Valid Cases	24		
	Female	Pearson Chi-Square	27.916 <sup>l</sup>	12	.006	
		Likelihood Ratio	14.937	12	.245	
		Linear-by- Linear Association	2.467	1	.116	

		N of Valid Cases	23				
	Total	Pearson Chi-Square	58.646 <sup>i</sup>	20	.000		
		Likelihood Ratio	22.141	20	.333		
		Linear-by-Linear Association	.798	1	.372		
		N of Valid Cases	47				
1.5-1 Low Achievers	Male	Pearson Chi-Square	. <sup>n</sup>				
		N of Valid Cases	1				
	Female	Pearson Chi-Square	8.000 <sup>o</sup>	4	.092		
		Likelihood Ratio	8.318	4	.081		
		Linear-by-Linear Association	.815	1	.367		
		N of Valid Cases	4				
	Total	Pearson Chi-Square	10.000 <sup>m</sup>	6	.125		
		Likelihood Ratio	10.549	6	.103		
		Linear-by-Linear Association	.195	1	.658		
		N of Valid Cases	5				
Less than One Very Low Achievers	Male	Pearson Chi-Square	.750 <sup>p</sup>	1	.386		
		Continuity Correction <sup>q</sup>	0.000	1	1.000		
		Likelihood Ratio	1.046	1	.306		
		Fisher's Exact Test				1.000	.667

		Linear-by-Linear Association	.500	1	.480	
		N of Valid Cases	3			
	Female	Pearson Chi-Square	. <sup>n</sup>			
		N of Valid Cases	1			
	Total	Pearson Chi-Square	5.000 <sup>o</sup>	4	.287	
		Likelihood Ratio	5.545	4	.236	
		Linear-by-Linear Association	2.426	1	.119	
		N of Valid Cases	4			
Total	Male	Pearson Chi-Square	170.337 <sup>b</sup>	50	.000	
		Likelihood Ratio	90.276	50	.000	
		Linear-by-Linear Association	4.823	1	.028	
		N of Valid Cases	125			
	Female	Pearson Chi-Square	408.222 <sup>c</sup>	102	.000	
		Likelihood Ratio	122.180	102	.085	
		Linear-by-Linear Association	4.561	1	.033	
		N of Valid Cases	209			
	Total	Pearson Chi-Square	609.180 <sup>a</sup>	132	.000	
		Likelihood Ratio	196.931	132	.000	

Linear-by-Linear Association	9.860	1	.002		
N of Valid Cases	334				

- a. 148 cells (91.9%) have expected count less than 5. The minimum expected count is .00.
- b. 57 cells (86.4%) have expected count less than 5. The minimum expected count is .05.
- c. 117 cells (92.9%) have expected count less than 5. The minimum expected count is .00.
- d. 70 cells (89.7%) have expected count less than 5. The minimum expected count is .02.
- e. 35 cells (97.2%) have expected count less than 5. The minimum expected count is .03.
- f. 61 cells (92.4%) have expected count less than 5. The minimum expected count is .01.
- g. 103 cells (92.0%) have expected count less than 5. The minimum expected count is .01.
- h. 45 cells (93.8%) have expected count less than 5. The minimum expected count is .06.
- i. 92 cells (93.9%) have expected count less than 5. The minimum expected count is .01.
- j. 27 cells (90.0%) have expected count less than 5. The minimum expected count is .02.
- k. 20 cells (100.0%) have expected count less than 5. The minimum expected count is .04.
- l. 19 cells (95.0%) have expected count less than 5. The minimum expected count is .04.
- m. 12 cells (100.0%) have expected count less than 5. The minimum expected count is .20.
- n. No statistics are computed because NewIdeas or Projects Distracts me from Previous Ones and lam diligent are constants.
- o. 9 cells (100.0%) have expected count less than 5. The minimum expected count is .25.
- p. 4 cells (100.0%) have expected count less than 5. The minimum expected count is .33.
- q. Computed only for a 2x2 table

### Chi-Square Tests

CurrentGPA			Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
4-3.6 Very High Achievers	Male	Pearson Chi-Square	60.278 <sup>e</sup>	35	.005		
		Likelihood Ratio	36.554	35	.396		
	Female	Linear-by-Linear Association	2.969	1	.085		
		N of Valid Cases	32				
4-3.6 Very High Achievers	Female	Pearson Chi-Square	121.845 <sup>f</sup>	50	.000		
		Likelihood Ratio	59.348	50	.172		

		Linear-by-Linear Association	2.287	1	.130	
		N of Valid Cases	73			
	Total	Pearson Chi-Square	166.847 <sup>d</sup>	60	.000	
		Likelihood Ratio	78.990	60	.051	
		Linear-by-Linear Association	4.642	1	.031	
		N of Valid Cases	105			
3.5-2.6 High Achievers	Male	Pearson Chi-Square	84.301 <sup>h</sup>	35	.000	
		Likelihood Ratio	51.413	35	.036	
		Linear-by-Linear Association	.264	1	.608	
		N of Valid Cases	65			
	Female	Pearson Chi-Square	300.183 <sup>i</sup>	78	.000	
		Likelihood Ratio	69.925	78	.731	
		Linear-by-Linear Association	6.725	1	.010	
		N of Valid Cases	108			
	Total	Pearson Chi-Square	413.984 <sup>g</sup>	90	.000	
		Likelihood Ratio	115.414	90	.037	
		Linear-by-Linear Association	5.185	1	.023	
		N of Valid Cases	173			
2.5-1.6 Moderate	Male	Pearson Chi-Square	15.867 <sup>k</sup>	15	.391	

		Likelihood Ratio	18.796	15	.223
		Linear-by-Linear Association	.555	1	.456
		N of Valid Cases	24		
	Female	Pearson Chi-Square	42.577 <sup>l</sup>	20	.002
		Likelihood Ratio	22.668	20	.305
		Linear-by-Linear Association	.266	1	.606
		N of Valid Cases	23		
	Total	Pearson Chi-Square	67.656 <sup>j</sup>	24	.000
		Likelihood Ratio	30.443	24	.171
		Linear-by-Linear Association	.161	1	.688
		N of Valid Cases	47		
1.5-1 Low Achievers	Male	Pearson Chi-Square	. <sup>n</sup>		
		N of Valid Cases	1		
	Female	Pearson Chi-Square	8.000 <sup>o</sup>	4	.092
		Likelihood Ratio	8.318	4	.081
		Linear-by-Linear Association	1.980	1	.159
		N of Valid Cases	4		
	Total	Pearson Chi-Square	15.000 <sup>m</sup>	9	.091
		Likelihood Ratio	13.322	9	.149

		Linear-by-Linear Association	.013	1	.909			
		N of Valid Cases	5					
Less than One Very Low Achievers	Male	Pearson Chi-Square	3.000 <sup>p</sup>	1	.083			
		Continuity Correction <sup>q</sup>	.188	1	.665			
		Likelihood Ratio	3.819	1	.051			
		Fisher's Exact Test				.333	.333	
		Linear-by-Linear Association	2.000	1	.157			
		N of Valid Cases	3					
	Female	Pearson Chi-Square	. <sup>n</sup>					
		N of Valid Cases	1					
	Total	Pearson Chi-Square	8.000 <sup>o</sup>	4	.092			
		Likelihood Ratio	8.318	4	.081			
		Linear-by-Linear Association	1.215	1	.270			
		N of Valid Cases	4					
Total	Male	Pearson Chi-Square	167.386 <sup>b</sup>	50	.000			
		Likelihood Ratio	86.416	50	.001			
		Linear-by-Linear Association	2.718	1	.099			
		N of Valid Cases	125					
		Female	Pearson Chi-Square	413.867 <sup>c</sup>	102	.000		

	Likelihood Ratio	125.871	102	.055	
	Linear-by-Linear Association	9.132	1	.003	
	N of Valid Cases	209			
Total	Pearson Chi-Square	616.740 <sup>a</sup>	132	.000	
	Likelihood Ratio	199.410	132	.000	
	Linear-by-Linear Association	11.461	1	.001	
	N of Valid Cases	334			

- a. 142 cells (88.2%) have expected count less than 5. The minimum expected count is .00.
- b. 57 cells (86.4%) have expected count less than 5. The minimum expected count is .05.
- c. 112 cells (88.9%) have expected count less than 5. The minimum expected count is .00.
- d. 72 cells (92.3%) have expected count less than 5. The minimum expected count is .02.
- e. 48 cells (100.0%) have expected count less than 5. The minimum expected count is .03.
- f. 62 cells (93.9%) have expected count less than 5. The minimum expected count is .01.
- g. 99 cells (88.4%) have expected count less than 5. The minimum expected count is .01.
- h. 46 cells (95.8%) have expected count less than 5. The minimum expected count is .06.
- i. 90 cells (91.8%) have expected count less than 5. The minimum expected count is .01.
- j. 33 cells (94.3%) have expected count less than 5. The minimum expected count is .02.
- k. 24 cells (100.0%) have expected count less than 5. The minimum expected count is .04.
- l. 30 cells (100.0%) have expected count less than 5. The minimum expected count is .04.
- m. 16 cells (100.0%) have expected count less than 5. The minimum expected count is .20.
- n. No statistics are computed because NewIdeasorProjectsDistractsmeFromPreviousOnes and Mysociallifenegativelyhindersmyfocusoncompletingtasks are constants.
- o. 9 cells (100.0%) have expected count less than 5. The minimum expected count is .25.
- p. 4 cells (100.0%) have expected count less than 5. The minimum expected count is .33.
- q. Computed only for a 2x2 table

### Chi-Square Tests

CurrentGPA			Value	df	Asymp. Sig. (2-sided)
4-3.6	Male	Pearson Chi-Square	62.422 <sup>e</sup>	35	.003
Very High Achievers					

		Likelihood Ratio	36.595	35	.395
		Linear-by-Linear Association	3.143	1	.076
		N of Valid Cases	32		
	Female	Pearson Chi-Square	113.851 <sup>f</sup>	50	.000
		Likelihood Ratio	50.850	50	.440
		Linear-by-Linear Association	.388	1	.533
		N of Valid Cases	73		
	Total	Pearson Chi-Square	155.853 <sup>d</sup>	60	.000
		Likelihood Ratio	64.939	60	.309
		Linear-by-Linear Association	.069	1	.793
		N of Valid Cases	105		
3.5-2.6 High Achievers	Male	Pearson Chi-Square	100.498 <sup>h</sup>	35	.000
		Likelihood Ratio	70.172	35	.000
		Linear-by-Linear Association	2.025	1	.155
		N of Valid Cases	65		
	Female	Pearson Chi-Square	310.082 <sup>i</sup>	78	.000
		Likelihood Ratio	80.886	78	.389
		Linear-by-Linear Association	15.303	1	.000
		N of Valid Cases	108		

2.5-1.6 Moderate	Total	Pearson Chi-Square	429.693 <sup>g</sup>	90	.000
		Likelihood Ratio	133.916	90	.002
		Linear-by- Linear Association	15.344	1	.000
		N of Valid Cases	173		
	Male	Pearson Chi-Square	14.300 <sup>k</sup>	15	.503
		Likelihood Ratio	14.436	15	.493
		Linear-by- Linear Association	.068	1	.794
		N of Valid Cases	24		
	Female	Pearson Chi-Square	53.733 <sup>l</sup>	20	.000
		Likelihood Ratio	24.081	20	.239
1.5-1 Low Achievers		Linear-by- Linear Association	4.419	1	.036
		N of Valid Cases	23		
	Total	Pearson Chi-Square	62.840 <sup>j</sup>	24	.000
		Likelihood Ratio	23.028	24	.518
		Linear-by- Linear Association	.831	1	.362
		N of Valid Cases	47		
	Male	Pearson Chi-Square	. <sup>n</sup>		
		N of Valid Cases	1		
	Female	Pearson Chi-Square	8.000 <sup>o</sup>	4	.092

		Likelihood Ratio	8.318	4	.081
		Linear-by-Linear Association	2.054	1	.152
		N of Valid Cases	4		
	Total	Pearson Chi-Square	15.000 <sup>m</sup>	9	.091
		Likelihood Ratio	13.322	9	.149
		Linear-by-Linear Association	.014	1	.905
		N of Valid Cases	5		
Less than One Very Low Achievers	Male	Pearson Chi-Square	. <sup>q</sup>		
		N of Valid Cases	3		
	Female	Pearson Chi-Square	. <sup>n</sup>		
		N of Valid Cases	1		
	Total	Pearson Chi-Square	4.000 <sup>p</sup>	2	.135
		Likelihood Ratio	4.499	2	.105
		Linear-by-Linear Association	2.273	1	.132
		N of Valid Cases	4		
Total	Male	Pearson Chi-Square	157.131 <sup>b</sup>	50	.000
		Likelihood Ratio	75.897	50	.011
		Linear-by-Linear Association	2.831	1	.092
		N of Valid Cases	125		

Female	Pearson Chi-Square	422.571 <sup>c</sup>	102	.000
	Likelihood Ratio	137.900	102	.010
	Linear-by-Linear Association	10.762	1	.001
	N of Valid Cases	209		
Total	Pearson Chi-Square	615.354 <sup>a</sup>	132	.000
	Likelihood Ratio	199.623	132	.000
	Linear-by-Linear Association	12.907	1	.000
	N of Valid Cases	334		

a. 143 cells (88.8%) have expected count less than 5. The minimum expected count is .00.

b. 57 cells (86.4%) have expected count less than 5. The minimum expected count is .05.

c. 111 cells (88.1%) have expected count less than 5. The minimum expected count is .00.

d. 72 cells (92.3%) have expected count less than 5. The minimum expected count is .02.

e. 48 cells (100.0%) have expected count less than 5. The minimum expected count is .03.

f. 64 cells (97.0%) have expected count less than 5. The minimum expected count is .01.

g. 98 cells (87.5%) have expected count less than 5. The minimum expected count is .01.

h. 47 cells (97.9%) have expected count less than 5. The minimum expected count is .06.

i. 90 cells (91.8%) have expected count less than 5. The minimum expected count is .01.

j. 33 cells (94.3%) have expected count less than 5. The minimum expected count is .02.

k. 24 cells (100.0%) have expected count less than 5. The minimum expected count is .04.

l. 30 cells (100.0%) have expected count less than 5. The minimum expected count is .04.

m. 16 cells (100.0%) have expected count less than 5. The minimum expected count is .20.

n. No statistics are computed because

NewIdeasorProjectsDistractsmeFromPreviousOnes and Myfamilyresponsibilitieshindersmyfocusoncompletingtasks are constants.

o. 9 cells (100.0%) have expected count less than 5. The minimum expected count is .25.

p. 6 cells (100.0%) have expected count less than 5. The minimum expected count is .25.

q. No statistics are computed because  
 Myfamilyresponsibilitieshindersmyfocusoncompletingtasks is a  
 constant.

**Chi-Square Tests**

CurrentGPA			Value	df	Asymp. Sig. (2- sided)	Exact Sig. (2- sided)	Exact Sig. (1- sided)
4-3.6 Very High Achievers	Male	Pearson Chi-Square	47.693 <sup>e</sup>	35	.075		
		Likelihood Ratio	25.843	35	.870		
		Linear-by- Linear Association	.470	1	.493		
		N of Valid Cases	32				
	Female	Pearson Chi-Square	108.448 <sup>f</sup>	50	.000		
		Likelihood Ratio	43.117	50	.744		
		Linear-by- Linear Association	.542	1	.462		
		N of Valid Cases	73				
	Total	Pearson Chi-Square	149.134 <sup>d</sup>	60	.000		
		Likelihood Ratio	60.162	60	.470		
		Linear-by- Linear Association	1.002	1	.317		
		N of Valid Cases	105				
3.5-2.6 High Achievers	Male	Pearson Chi-Square	101.212 <sup>h</sup>	35	.000		
		Likelihood Ratio	64.878	35	.002		
		Linear-by- Linear Association	.013	1	.909		

		N of Valid Cases	65			
	Female	Pearson Chi-Square	304.489 <sup>i</sup>	78	.000	
		Likelihood Ratio	79.358	78	.436	
		Linear-by-Linear Association	1.931	1	.165	
	Total	N of Valid Cases	108			
		Pearson Chi-Square	425.629 <sup>g</sup>	90	.000	
		Likelihood Ratio	127.812	90	.005	
		Linear-by-Linear Association	1.201	1	.273	
2.5-1.6 Moderate	Male	N of Valid Cases	173			
		Pearson Chi-Square	7.575 <sup>k</sup>	15	.940	
		Likelihood Ratio	8.640	15	.896	
		Linear-by-Linear Association	.010	1	.921	
	Female	N of Valid Cases	24			
		Pearson Chi-Square	43.836 <sup>l</sup>	20	.002	
		Likelihood Ratio	24.564	20	.219	
		Linear-by-Linear Association	.006	1	.937	
	Total	N of Valid Cases	23			
		Pearson Chi-Square	56.032 <sup>j</sup>	24	.000	
		Likelihood Ratio	20.115	24	.690	

		Linear-by-Linear Association	.029	1	.864		
		N of Valid Cases	47				
1.5-1 Low Achievers	Male	Pearson Chi-Square	. <sup>n</sup>				
		N of Valid Cases	1				
	Female	Pearson Chi-Square	8.000 <sup>o</sup>	4	.092		
		Likelihood Ratio	8.318	4	.081		
		Linear-by-Linear Association	2.975	1	.085		
		N of Valid Cases	4				
	Total	Pearson Chi-Square	15.000 <sup>m</sup>	9	.091		
		Likelihood Ratio	13.322	9	.149		
		Linear-by-Linear Association	.773	1	.379		
		N of Valid Cases	5				
Less than One Very Low Achievers	Male	Pearson Chi-Square	.750 <sup>p</sup>	1	.386		
		Continuity Correction <sup>q</sup>	0.000	1	1.000		
		Likelihood Ratio	1.046	1	.306		
		Fisher's Exact Test				1.000	.667
		Linear-by-Linear Association	.500	1	.480		
		N of Valid Cases	3				
	Female	Pearson Chi-Square	. <sup>n</sup>				

		N of Valid Cases	1			
	Total	Pearson Chi-Square	5.000 <sup>o</sup>	4	.287	
		Likelihood Ratio	5.545	4	.236	
		Linear-by-Linear Association	.025	1	.875	
		N of Valid Cases	4			
Total	Male	Pearson Chi-Square	162.721 <sup>b</sup>	50	.000	
		Likelihood Ratio	79.272	50	.005	
		Linear-by-Linear Association	.418	1	.518	
		N of Valid Cases	125			
	Female	Pearson Chi-Square	414.814 <sup>c</sup>	102	.000	
		Likelihood Ratio	130.713	102	.029	
		Linear-by-Linear Association	1.796	1	.180	
		N of Valid Cases	209			
	Total	Pearson Chi-Square	613.532 <sup>a</sup>	132	.000	
		Likelihood Ratio	196.366	132	.000	
		Linear-by-Linear Association	2.041	1	.153	
		N of Valid Cases	334			

a. 141 cells (87.6%) have expected count less than 5. The minimum expected count is .00.

b. 56 cells (84.8%) have expected count less than 5. The minimum expected count is .05.

c. 112 cells (88.9%) have expected count less than 5. The minimum expected count is .00.

d. 73 cells (93.6%) have expected count less than 5. The minimum expected count is .02.

e. 48 cells (100.0%) have expected count less than 5. The minimum expected count is .03.

- f. 63 cells (95.5%) have expected count less than 5. The minimum expected count is .01.
- g. 97 cells (86.6%) have expected count less than 5. The minimum expected count is .01.
- h. 46 cells (95.8%) have expected count less than 5. The minimum expected count is .06.
- i. 90 cells (91.8%) have expected count less than 5. The minimum expected count is .01.
- j. 33 cells (94.3%) have expected count less than 5. The minimum expected count is .02.
- k. 24 cells (100.0%) have expected count less than 5. The minimum expected count is .04.
- l. 30 cells (100.0%) have expected count less than 5. The minimum expected count is .04.
- m. 16 cells (100.0%) have expected count less than 5. The minimum expected count is .20.
- n. No statistics are computed because NewIdeasorProjectsDistractsmeFromPreviousOnes and TheUseofSocialMediaNegativelyAffectsMyFocusOnTasks are constants.
- o. 9 cells (100.0%) have expected count less than 5. The minimum expected count is .25.
- p. 4 cells (100.0%) have expected count less than 5. The minimum expected count is .33.
- q. Computed only for a 2x2 table

### Chi-Square Tests

CurrentGPA			Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
4-3.6 Very High Achievers	Male	Pearson Chi-Square	48.150 <sup>e</sup>	35	.069		
		Likelihood Ratio	26.236	35	.857		
		Linear-by-Linear Association	.748	1	.387		
		N of Valid Cases	32				
	Female	Pearson Chi-Square	105.929 <sup>f</sup>	50	.000		
		Likelihood Ratio	42.278	50	.773		
		Linear-by-Linear Association	.047	1	.828		
		N of Valid Cases	73				
Total		Pearson Chi-Square	143.509 <sup>d</sup>	60	.000		
		Likelihood Ratio	55.846	60	.628		
		Linear-by-Linear Association	.373	1	.541		

		N of Valid Cases	105				
3.5-2.6 High Achievers	Male	Pearson Chi-Square	94.421 <sup>h</sup>	35	.000		
		Likelihood Ratio	62.558	35	.003		
		Linear-by-Linear Association	.081	1	.776		
		Female	N of Valid Cases	65			
	Pearson Chi-Square		305.999 <sup>i</sup>	78	.000		
	Likelihood Ratio		75.897	78	.546		
		Total	Linear-by-Linear Association	6.949	1	.008	
	N of Valid Cases		108				
	Pearson Chi-Square		421.288 <sup>g</sup>	90	.000		
		Likelihood Ratio	123.466	90	.011		
		Linear-by-Linear Association	3.578	1	.059		
		N of Valid Cases	173				
2.5-1.6 Moderate	Male	Pearson Chi-Square	20.469 <sup>k</sup>	15	.155		
		Likelihood Ratio	20.017	15	.171		
		Linear-by-Linear Association	.489	1	.484		
		Female	N of Valid Cases	24			
	Pearson Chi-Square		34.094 <sup>l</sup>	20	.025		
	Likelihood Ratio		19.757	20	.473		

		Linear-by-Linear Association	.154	1	.695		
		N of Valid Cases	23				
	Total	Pearson Chi-Square	74.179 <sup>i</sup>	24	.000		
		Likelihood Ratio	35.802	24	.057		
		Linear-by-Linear Association	.112	1	.738		
		N of Valid Cases	47				
1.5-1 Low Achievers	Male	Pearson Chi-Square	. <sup>n</sup>				
		N of Valid Cases	1				
	Female	Pearson Chi-Square	8.000 <sup>o</sup>	4	.092		
		Likelihood Ratio	8.318	4	.081		
		Linear-by-Linear Association	2.850	1	.091		
		N of Valid Cases	4				
	Total	Pearson Chi-Square	15.000 <sup>m</sup>	9	.091		
		Likelihood Ratio	13.322	9	.149		
		Linear-by-Linear Association	1.632	1	.201		
		N of Valid Cases	5				
Less than One Very Low Achievers	Male	Pearson Chi-Square	.750 <sup>q</sup>	1	.386		
		Continuity Correction <sup>r</sup>	0.000	1	1.000		
		Likelihood Ratio	1.046	1	.306		

		Fisher's Exact Test				1.000	.667
		Linear-by-Linear Association	.500	1	.480		
		N of Valid Cases	3				
	Female	Pearson Chi-Square	. <sup>n</sup>				
		N of Valid Cases	1				
	Total	Pearson Chi-Square	1.333 <sup>p</sup>	2	.513		
		Likelihood Ratio	1.726	2	.422		
		Linear-by-Linear Association	.818	1	.366		
		N of Valid Cases	4				
Total	Male	Pearson Chi-Square	156.402 <sup>b</sup>	50	.000		
		Likelihood Ratio	76.908	50	.009		
		Linear-by-Linear Association	.042	1	.838		
		N of Valid Cases	125				
	Female	Pearson Chi-Square	403.193 <sup>c</sup>	102	.000		
		Likelihood Ratio	115.305	102	.174		
		Linear-by-Linear Association	3.747	1	.053		
		N of Valid Cases	209				
	Total	Pearson Chi-Square	594.413 <sup>a</sup>	132	.000		
		Likelihood Ratio	178.389	132	.004		

Linear-by-Linear Association	2.696	1	.101		
N of Valid Cases	334				

- a. 142 cells (88.2%) have expected count less than 5. The minimum expected count is .00.
- b. 57 cells (86.4%) have expected count less than 5. The minimum expected count is .05.
- c. 112 cells (88.9%) have expected count less than 5. The minimum expected count is .00.
- d. 74 cells (94.9%) have expected count less than 5. The minimum expected count is .02.
- e. 48 cells (100.0%) have expected count less than 5. The minimum expected count is .03.
- f. 62 cells (93.9%) have expected count less than 5. The minimum expected count is .01.
- g. 99 cells (88.4%) have expected count less than 5. The minimum expected count is .01.
- h. 47 cells (97.9%) have expected count less than 5. The minimum expected count is .06.
- i. 88 cells (89.8%) have expected count less than 5. The minimum expected count is .01.
- j. 34 cells (97.1%) have expected count less than 5. The minimum expected count is .02.
- k. 24 cells (100.0%) have expected count less than 5. The minimum expected count is .04.
- l. 30 cells (100.0%) have expected count less than 5. The minimum expected count is .04.
- m. 16 cells (100.0%) have expected count less than 5. The minimum expected count is .20.
- n. No statistics are computed because NewIdeasorProjectsDistractsmefromPreviousOnes and Theuseofvideogamesnegativelyaffectsmyfocusontasks are constants.
- o. 9 cells (100.0%) have expected count less than 5. The minimum expected count is .25.
- p. 6 cells (100.0%) have expected count less than 5. The minimum expected count is .25.
- q. 4 cells (100.0%) have expected count less than 5. The minimum expected count is .33.
- r. Computed only for a 2x2 table

### Chi-Square Tests

CurrentGPA			Value	df	Asymp. Sig. (2-sided)
4-3.6 Very High Achievers	Male	Pearson Chi-Square	46.026 <sup>e</sup>	16	.000
		Likelihood Ratio	22.844	16	.118
		Linear-by-Linear Association	1.299	1	.254
	Female	N of Valid Cases	32		
		Pearson Chi-Square	90.550 <sup>f</sup>	20	.000
		Likelihood Ratio	28.553	20	.097

		Linear-by-Linear Association	.448	1	.503
		N of Valid Cases	73		
	Total	Pearson Chi-Square	129.192 <sup>d</sup>	25	.000
		Likelihood Ratio	44.551	25	.009
		Linear-by-Linear Association	.099	1	.753
		N of Valid Cases	105		
3.5-2.6 High Achievers	Male	Pearson Chi-Square	93.887 <sup>h</sup>	25	.000
		Likelihood Ratio	62.999	25	.000
		Linear-by-Linear Association	1.592	1	.207
		N of Valid Cases	65		
	Female	Pearson Chi-Square	232.430 <sup>i</sup>	36	.000
		Likelihood Ratio	46.473	36	.113
		Linear-by-Linear Association	.022	1	.882
		N of Valid Cases	108		
	Total	Pearson Chi-Square	377.657 <sup>g</sup>	36	.000
		Likelihood Ratio	98.509	36	.000
		Linear-by-Linear Association	1.477	1	.224
		N of Valid Cases	173		
2.5-1.6 Moderate	Male	Pearson Chi-Square	8.178 <sup>k</sup>	8	.416

		Likelihood Ratio	10.621	8	.224
		Linear-by-Linear Association	1.250	1	.264
		N of Valid Cases	24		
	Female	Pearson Chi-Square	31.199 <sup>l</sup>	12	.002
		Likelihood Ratio	18.205	12	.110
		Linear-by-Linear Association	.000	1	.992
		N of Valid Cases	23		
	Total	Pearson Chi-Square	53.776 <sup>i</sup>	15	.000
		Likelihood Ratio	16.643	15	.341
		Linear-by-Linear Association	.603	1	.437
		N of Valid Cases	47		
1.5-1 Low Achievers	Male	Pearson Chi-Square	. <sup>n</sup>		
		N of Valid Cases	1		
	Female	Pearson Chi-Square	8.000 <sup>o</sup>	4	.092
		Likelihood Ratio	8.318	4	.081
		Linear-by-Linear Association	2.772	1	.096
		N of Valid Cases	4		
	Total	Pearson Chi-Square	10.000 <sup>m</sup>	6	.125
		Likelihood Ratio	10.549	6	.103

		Linear-by-Linear Association	.007	1	.932
		N of Valid Cases	5		
Less than One Very Low Achievers	Male	Pearson Chi-Square	6.000 <sup>a</sup>	4	.199
		Likelihood Ratio	6.592	4	.159
	Linear-by-Linear Association	.500	1	.480	
	N of Valid Cases	3			
	Female	Pearson Chi-Square	. <sup>n</sup>		
		N of Valid Cases	1		
	Total	Pearson Chi-Square	8.000 <sup>p</sup>	6	.238
Likelihood Ratio		8.318	6	.216	
		Linear-by-Linear Association	.055	1	.815
		N of Valid Cases	4		
Total	Male	Pearson Chi-Square	156.437 <sup>b</sup>	25	.000
		Likelihood Ratio	82.026	25	.000
	Linear-by-Linear Association	1.074	1	.300	
	N of Valid Cases	125			
	Female	Pearson Chi-Square	438.157 <sup>c</sup>	36	.000
		Likelihood Ratio	86.325	36	.000
		Linear-by-Linear Association	.361	1	.548

	N of Valid Cases	209		
Total	Pearson Chi-Square	704.678 <sup>a</sup>	36	.000
	Likelihood Ratio	150.949	36	.000
	Linear-by-Linear Association	1.579	1	.209
	N of Valid Cases	334		

- a. 36 cells (73.5%) have expected count less than 5. The minimum expected count is .00.
- b. 27 cells (75.0%) have expected count less than 5. The minimum expected count is .12.
- c. 39 cells (79.6%) have expected count less than 5. The minimum expected count is .00.
- d. 28 cells (77.8%) have expected count less than 5. The minimum expected count is .02.
- e. 24 cells (96.0%) have expected count less than 5. The minimum expected count is .03.
- f. 25 cells (83.3%) have expected count less than 5. The minimum expected count is .01.
- g. 40 cells (81.6%) have expected count less than 5. The minimum expected count is .01.
- h. 34 cells (94.4%) have expected count less than 5. The minimum expected count is .12.
- i. 41 cells (83.7%) have expected count less than 5. The minimum expected count is .01.
- j. 22 cells (91.7%) have expected count less than 5. The minimum expected count is .02.
- k. 14 cells (93.3%) have expected count less than 5. The minimum expected count is .13.
- l. 20 cells (100.0%) have expected count less than 5. The minimum expected count is .04.
- m. 12 cells (100.0%) have expected count less than 5. The minimum expected count is .20.
- n. No statistics are computed because InterestedinNew Pursuits everyfewMonths and IFinishWhateverbegin are constants.
- o. 9 cells (100.0%) have expected count less than 5. The minimum expected count is .25.
- p. 12 cells (100.0%) have expected count less than 5. The minimum expected count is .25.
- q. 9 cells (100.0%) have expected count less than 5. The minimum expected count is .33.

### Chi-Square Tests

			Value	df	Asymp. Sig. (2-sided)
CurrentGPA					
4-3.6	Male	Pearson Chi-Square	52.551 <sup>e</sup>	16	.000
Very High Achievers					

		Likelihood Ratio	20.828	16	.185
		Linear-by-Linear Association	.235	1	.628
		N of Valid Cases	32		
	Female	Pearson Chi-Square	99.033 <sup>f</sup>	35	.000
		Likelihood Ratio	37.502	35	.355
		Linear-by-Linear Association	.365	1	.546
		N of Valid Cases	73		
	Total	Pearson Chi-Square	129.735 <sup>d</sup>	35	.000
		Likelihood Ratio	42.233	35	.187
		Linear-by-Linear Association	.002	1	.961
		N of Valid Cases	105		
3.5-2.6 High Achievers	Male	Pearson Chi-Square	90.610 <sup>h</sup>	25	.000
		Likelihood Ratio	62.386	25	.000
		Linear-by-Linear Association	.149	1	.699
		N of Valid Cases	65		
	Female	Pearson Chi-Square	234.716 <sup>i</sup>	42	.000
		Likelihood Ratio	51.740	42	.144
		Linear-by-Linear Association	1.150	1	.284
		N of Valid Cases	108		

	Total	Pearson Chi-Square	370.471 <sup>9</sup>	42	.000
		Likelihood Ratio	95.004	42	.000
		Linear-by-Linear Association	.274	1	.600
		N of Valid Cases	173		
2.5-1.6 Moderate	Male	Pearson Chi-Square	12.362 <sup>k</sup>	20	.903
		Likelihood Ratio	13.564	20	.852
		Linear-by-Linear Association	.417	1	.519
		N of Valid Cases	24		
	Female	Pearson Chi-Square	35.778 <sup>l</sup>	16	.003
		Likelihood Ratio	23.760	16	.095
		Linear-by-Linear Association	.075	1	.785
		N of Valid Cases	23		
	Total	Pearson Chi-Square	64.345 <sup>j</sup>	30	.000
		Likelihood Ratio	30.118	30	.460
		Linear-by-Linear Association	.503	1	.478
		N of Valid Cases	47		
1.5-1 Low Achievers	Male	Pearson Chi-Square	. <sup>n</sup>		
		N of Valid Cases	1		
	Female	Pearson Chi-Square	8.000 <sup>o</sup>	4	.092
		Likelihood Ratio	8.318	4	.081

		Linear-by-Linear Association	.856	1	.355
		N of Valid Cases	4		
	Total	Pearson Chi-Square	6.250 <sup>m</sup>	4	.181
		Likelihood Ratio	7.777	4	.100
		Linear-by-Linear Association	.006	1	.941
		N of Valid Cases	5		
Less than One Very Low Achievers	Male	Pearson Chi-Square	6.000 <sup>q</sup>	4	.199
		Likelihood Ratio	6.592	4	.159
		Linear-by-Linear Association	.857	1	.355
		N of Valid Cases	3		
	Female	Pearson Chi-Square	. <sup>n</sup>		
		N of Valid Cases	1		
	Total	Pearson Chi-Square	8.000 <sup>p</sup>	6	.238
		Likelihood Ratio	8.318	6	.216
		Linear-by-Linear Association	.008	1	.930
		N of Valid Cases	4		
Total	Male	Pearson Chi-Square	149.768 <sup>b</sup>	30	.000
		Likelihood Ratio	73.674	30	.000
		Linear-by-Linear Association	.583	1	.445

	N of Valid Cases	125		
Female	Pearson Chi-Square	443.657 <sup>c</sup>	54	.000
	Likelihood Ratio	91.187	54	.001
	Linear-by-Linear Association	1.874	1	.171
	N of Valid Cases	209		
Total	Pearson Chi-Square	699.931 <sup>a</sup>	60	.000
	Likelihood Ratio	146.878	60	.000
	Linear-by-Linear Association	.136	1	.713
	N of Valid Cases	334		

a. 63 cells (81.8%) have expected count less than 5. The minimum expected count is .00.

b. 33 cells (78.6%) have expected count less than 5. The minimum expected count is .04.

c. 58 cells (82.9%) have expected count less than 5. The minimum expected count is .00.

d. 42 cells (87.5%) have expected count less than 5. The minimum expected count is .02.

e. 23 cells (92.0%) have expected count less than 5. The minimum expected count is .03.

f. 44 cells (91.7%) have expected count less than 5. The minimum expected count is .01.

g. 44 cells (78.6%) have expected count less than 5. The minimum expected count is .01.

h. 35 cells (97.2%) have expected count less than 5. The minimum expected count is .06.

i. 48 cells (85.7%) have expected count less than 5. The minimum expected count is .01.

j. 40 cells (95.2%) have expected count less than 5. The minimum expected count is .02.

k. 29 cells (96.7%) have expected count less than 5. The minimum expected count is .04.

l. 25 cells (100.0%) have expected count less than 5. The minimum expected count is .04.

m. 9 cells (100.0%) have expected count less than 5. The minimum expected count is .20.

n. No statistics are computed because InterestedinNewPersuitseveryfewMonths and SetbacksdoNotDiscourageME are constants.

o. 9 cells (100.0%) have expected count less than 5. The minimum expected count is .25.

p. 12 cells (100.0%) have expected count less than 5. The minimum expected count is .25.

q. 9 cells (100.0%) have expected count less than 5. The minimum expected count is .33.

**Chi-Square Tests**

CurrentGPA			Value	df	Asymp. Sig. (2-sided)
4-3.6 Very High Achievers	Male	Pearson Chi-Square	52.000 <sup>e</sup>	20	.000
		Likelihood Ratio	20.831	20	.407
		Linear-by-Linear Association	.074	1	.785
		N of Valid Cases	32		
	Female	Pearson Chi-Square	92.812 <sup>f</sup>	45	.000
		Likelihood Ratio	30.592	45	.950
		Linear-by-Linear Association	.023	1	.879
		N of Valid Cases	73		
	Total	Pearson Chi-Square	140.327 <sup>d</sup>	55	.000
		Likelihood Ratio	50.403	55	.651
Linear-by-Linear Association		.016	1	.900	
	N of Valid Cases	105			
3.5-2.6 High Achievers	Male	Pearson Chi-Square	92.926 <sup>h</sup>	35	.000
		Likelihood Ratio	59.132	35	.007
		Linear-by-Linear Association	.532	1	.466

		N of Valid Cases	65		
	Female	Pearson Chi-Square	252.005 <sup>i</sup>	78	.000
		Likelihood Ratio	64.972	78	.854
		Linear-by-Linear Association	.375	1	.540
	Total	N of Valid Cases	108		
		Pearson Chi-Square	402.023 <sup>g</sup>	90	.000
		Likelihood Ratio	118.685	90	.023
		Linear-by-Linear Association	.001	1	.976
2.5-1.6 Moderate	Male	N of Valid Cases	173		
		Pearson Chi-Square	10.211 <sup>k</sup>	16	.855
		Likelihood Ratio	11.509	16	.777
		Linear-by-Linear Association	.360	1	.549
	Female	N of Valid Cases	24		
		Pearson Chi-Square	31.366 <sup>l</sup>	16	.012
		Likelihood Ratio	16.086	16	.447
		Linear-by-Linear Association	.424	1	.515
	Total	N of Valid Cases	23		
		Pearson Chi-Square	57.403 <sup>j</sup>	25	.000
		Likelihood Ratio	21.857	25	.644

		Linear-by-Linear Association	.786	1	.375
		N of Valid Cases	47		
1.5-1 Low Achievers	Male	Pearson Chi-Square	. <sup>n</sup>		
		N of Valid Cases	1		
	Female	Pearson Chi-Square	8.000 <sup>o</sup>	4	.092
		Likelihood Ratio	8.318	4	.081
		Linear-by-Linear Association	.080	1	.778
		N of Valid Cases	4		
	Total	Pearson Chi-Square	10.000 <sup>m</sup>	6	.125
		Likelihood Ratio	10.549	6	.103
		Linear-by-Linear Association	1.432	1	.231
		N of Valid Cases	5		
Less than One Very Low Achievers	Male	Pearson Chi-Square	6.000 <sup>q</sup>	4	.199
		Likelihood Ratio	6.592	4	.159
		Linear-by-Linear Association	.500	1	.480
		N of Valid Cases	3		
	Female	Pearson Chi-Square	. <sup>n</sup>		
		N of Valid Cases	1		
	Total	Pearson Chi-Square	8.000 <sup>p</sup>	6	.238
		Likelihood Ratio	8.318	6	.216

		Linear-by-Linear Association	.055	1	.815
		N of Valid Cases	4		
Total	Male	Pearson Chi-Square	170.761 <sup>b</sup>	50	.000
		Likelihood Ratio	83.599	50	.002
		Linear-by-Linear Association	.020	1	.887
		N of Valid Cases	125		
	Female	Pearson Chi-Square	366.747 <sup>c</sup>	102	.000
		Likelihood Ratio	114.933	102	.180
		Linear-by-Linear Association	.079	1	.779
		N of Valid Cases	209		
	Total	Pearson Chi-Square	588.335 <sup>a</sup>	132	.000
		Likelihood Ratio	188.252	132	.001
		Linear-by-Linear Association	.102	1	.749
		N of Valid Cases	334		

a. 150 cells (93.2%) have expected count less than 5. The minimum expected count is .00.

b. 58 cells (87.9%) have expected count less than 5. The minimum expected count is .04.

c. 117 cells (92.9%) have expected count less than 5. The minimum expected count is .00.

d. 65 cells (90.3%) have expected count less than 5. The minimum expected count is .02.

e. 28 cells (93.3%) have expected count less than 5. The minimum expected count is .03.

f. 56 cells (93.3%) have expected count less than 5. The minimum expected count is .01.

g. 103 cells (92.0%) have expected count less than 5. The minimum expected count is .01.

- h. 46 cells (95.8%) have expected count less than 5. The minimum expected count is .06.
- i. 90 cells (91.8%) have expected count less than 5. The minimum expected count is .01.
- j. 34 cells (94.4%) have expected count less than 5. The minimum expected count is .02.
- k. 25 cells (100.0%) have expected count less than 5. The minimum expected count is .04.
- l. 25 cells (100.0%) have expected count less than 5. The minimum expected count is .04.
- m. 12 cells (100.0%) have expected count less than 5. The minimum expected count is .20.
- n. No statistics are computed because InterestedinNewPersuitseveryfewMonths and IHaveOvercomeSetbackstoConqueranImportantChallange are constants.
- o. 9 cells (100.0%) have expected count less than 5. The minimum expected count is .25.
- p. 12 cells (100.0%) have expected count less than 5. The minimum expected count is .25.
- q. 9 cells (100.0%) have expected count less than 5. The minimum expected count is .33.

**Chi-Square Tests**

CurrentGPA			Value	df	Asymp. Sig. (2-sided)
4-3.6 Very High Achievers	Male	Pearson Chi-Square	63.520 <sup>e</sup>	28	.000
		Likelihood Ratio	35.823	28	.147
		Linear-by-Linear Association	.156	1	.692
	N of Valid Cases		32		
	Female	Pearson Chi-Square	112.053 <sup>f</sup>	50	.000
		Likelihood Ratio	43.992	50	.712
		Linear-by-Linear Association	.345	1	.557
N of Valid Cases		73			
Total	Pearson Chi-Square	147.314 <sup>d</sup>	60	.000	

		Likelihood Ratio	53.812	60	.700
		Linear-by-Linear Association	.312	1	.576
		N of Valid Cases	105		
3.5-2.6 High Achievers	Male	Pearson Chi-Square	88.525 <sup>h</sup>	35	.000
		Likelihood Ratio	61.414	35	.004
		Linear-by-Linear Association	1.690	1	.194
		N of Valid Cases	65		
	Female	Pearson Chi-Square	254.013 <sup>i</sup>	78	.000
		Likelihood Ratio	68.762	78	.763
		Linear-by-Linear Association	.099	1	.753
		N of Valid Cases	108		
	Total	Pearson Chi-Square	399.371 <sup>g</sup>	90	.000
		Likelihood Ratio	117.991	90	.026
		Linear-by-Linear Association	.216	1	.642
		N of Valid Cases	173		
2.5-1.6 Moderate	Male	Pearson Chi-Square	28.258 <sup>k</sup>	20	.103
		Likelihood Ratio	25.253	20	.192
		Linear-by-Linear Association	.869	1	.351
		N of Valid Cases	24		

	Female	Pearson Chi-Square	32.258 <sup>l</sup>	16	.009
		Likelihood Ratio	18.800	16	.279
		Linear-by-Linear Association	.020	1	.887
		N of Valid Cases	23		
	Total	Pearson Chi-Square	94.623 <sup>j</sup>	30	.000
		Likelihood Ratio	44.057	30	.047
		Linear-by-Linear Association	.680	1	.410
		N of Valid Cases	47		
1.5-1 Low Achievers	Male	Pearson Chi-Square	. <sup>n</sup>		
		N of Valid Cases	1		
	Female	Pearson Chi-Square	8.000 <sup>o</sup>	4	.092
		Likelihood Ratio	8.318	4	.081
		Linear-by-Linear Association	1.573	1	.210
		N of Valid Cases	4		
	Total	Pearson Chi-Square	10.000 <sup>m</sup>	6	.125
		Likelihood Ratio	10.549	6	.103
		Linear-by-Linear Association	.001	1	.971
		N of Valid Cases	5		
Less than One Very Low Achievers	Male	Pearson Chi-Square	3.000 <sup>p</sup>	2	.223
		Likelihood Ratio	3.819	2	.148

		Linear-by-Linear Association	1.500	1	.221
		N of Valid Cases	3		
	Female	Pearson Chi-Square	. <sup>n</sup>		
		N of Valid Cases	1		
	Total	Pearson Chi-Square	5.000 <sup>o</sup>	4	.287
		Likelihood Ratio	5.545	4	.236
		Linear-by-Linear Association	.182	1	.670
		N of Valid Cases	4		
Total	Male	Pearson Chi-Square	160.707 <sup>b</sup>	50	.000
		Likelihood Ratio	81.617	50	.003
		Linear-by-Linear Association	1.504	1	.220
		N of Valid Cases	125		
	Female	Pearson Chi-Square	368.252 <sup>c</sup>	102	.000
		Likelihood Ratio	116.290	102	.158
		Linear-by-Linear Association	.010	1	.919
		N of Valid Cases	209		
	Total	Pearson Chi-Square	582.289 <sup>a</sup>	132	.000
		Likelihood Ratio	186.499	132	.001

Linear-by-Linear Association	.783	1	.376
N of Valid Cases	334		

- a. 143 cells (88.8%) have expected count less than 5. The minimum expected count is .00.
- b. 57 cells (86.4%) have expected count less than 5. The minimum expected count is .04.
- c. 111 cells (88.1%) have expected count less than 5. The minimum expected count is .00.
- d. 70 cells (89.7%) have expected count less than 5. The minimum expected count is .02.
- e. 40 cells (100.0%) have expected count less than 5. The minimum expected count is .03.
- f. 62 cells (93.9%) have expected count less than 5. The minimum expected count is .01.
- g. 99 cells (88.4%) have expected count less than 5. The minimum expected count is .01.
- h. 46 cells (95.8%) have expected count less than 5. The minimum expected count is .06.
- i. 91 cells (92.9%) have expected count less than 5. The minimum expected count is .01.
- j. 39 cells (92.9%) have expected count less than 5. The minimum expected count is .02.
- k. 30 cells (100.0%) have expected count less than 5. The minimum expected count is .04.
- l. 25 cells (100.0%) have expected count less than 5. The minimum expected count is .04.
- m. 12 cells (100.0%) have expected count less than 5. The minimum expected count is .20.
- n. No statistics are computed because InterestedinNewPersuitseveryfewMonths and Ihavedifficultymaintainingmyfocusonprojectsthattakemorethan one month are constants.
- o. 9 cells (100.0%) have expected count less than 5. The minimum expected count is .25.
- p. 6 cells (100.0%) have expected count less than 5. The minimum expected count is .33.

### Chi-Square Tests

CurrentGPA			Value	df	Asymp. Sig. (2-sided)
4-3.6 Very High Achievers	Male	Pearson Chi-Square	60.416 <sup>e</sup>	20	.000
		Likelihood Ratio	27.080	20	.133
		Linear-by-Linear Association	.000	1	.984

		N of Valid Cases	32		
	Female	Pearson Chi-Square	93.499 <sup>f</sup>	40	.000
		Likelihood Ratio	30.130	40	.872
		Linear-by-Linear Association	.673	1	.412
	Total	N of Valid Cases	73		
		Pearson Chi-Square	139.766 <sup>d</sup>	50	.000
		Likelihood Ratio	49.002	50	.513
		Linear-by-Linear Association	.212	1	.645
3.5-2.6 High Achievers	Male	N of Valid Cases	105		
		Pearson Chi-Square	82.716 <sup>h</sup>	30	.000
		Likelihood Ratio	53.510	30	.005
		Linear-by-Linear Association	.434	1	.510
	Female	N of Valid Cases	65		
		Pearson Chi-Square	298.562 <sup>i</sup>	72	.000
		Likelihood Ratio	68.607	72	.592
		Linear-by-Linear Association	1.006	1	.316
	Total	N of Valid Cases	108		
		Pearson Chi-Square	421.011 <sup>g</sup>	90	.000
		Likelihood Ratio	122.942	90	.012

		Linear-by-Linear Association	.127	1	.721
		N of Valid Cases	173		
2.5-1.6 Moderate	Male	Pearson Chi-Square	12.333 <sup>k</sup>	12	.419
		Likelihood Ratio	12.910	12	.376
		Linear-by-Linear Association	.607	1	.436
		N of Valid Cases	24		
	Female	Pearson Chi-Square	27.730 <sup>l</sup>	12	.006
		Likelihood Ratio	14.213	12	.287
		Linear-by-Linear Association	1.393	1	.238
		N of Valid Cases	23		
	Total	Pearson Chi-Square	56.221 <sup>i</sup>	20	.000
		Likelihood Ratio	19.907	20	.464
		Linear-by-Linear Association	1.814	1	.178
		N of Valid Cases	47		
1.5-1 Low Achievers	Male	Pearson Chi-Square	. <sup>n</sup>		
		N of Valid Cases	1		
	Female	Pearson Chi-Square	8.000 <sup>o</sup>	4	.092
		Likelihood Ratio	8.318	4	.081
		Linear-by-Linear Association	.316	1	.574

		N of Valid Cases	4		
	Total	Pearson Chi-Square	6.250 <sup>m</sup>	4	.181
		Likelihood Ratio	7.777	4	.100
		Linear-by-Linear Association	.076	1	.783
		N of Valid Cases	5		
Less than One Very Low Achievers	Male	Pearson Chi-Square	3.000 <sup>p</sup>	2	.223
		Likelihood Ratio	3.819	2	.148
		Linear-by-Linear Association	0.000	1	1.000
		N of Valid Cases	3		
	Female	Pearson Chi-Square	. <sup>n</sup>		
		N of Valid Cases	1		
	Total	Pearson Chi-Square	5.000 <sup>o</sup>	4	.287
		Likelihood Ratio	5.545	4	.236
		Linear-by-Linear Association	.727	1	.394
		N of Valid Cases	4		
Total	Male	Pearson Chi-Square	160.431 <sup>b</sup>	45	.000
		Likelihood Ratio	81.101	45	.001
		Linear-by-Linear Association	.020	1	.887
		N of Valid Cases	125		

Female	Pearson Chi-Square	387.855 <sup>c</sup>	102	.000
	Likelihood Ratio	119.615	102	.112
	Linear-by-Linear Association	.872	1	.351
	N of Valid Cases	209		
Total	Pearson Chi-Square	595.974 <sup>a</sup>	132	.000
	Likelihood Ratio	191.794	132	.001
	Linear-by-Linear Association	.543	1	.461
	N of Valid Cases	334		

a. 151 cells (93.8%) have expected count less than 5. The minimum expected count is .00.

b. 52 cells (86.7%) have expected count less than 5. The minimum expected count is .04.

c. 118 cells (93.7%) have expected count less than 5. The minimum expected count is .00.

d. 59 cells (89.4%) have expected count less than 5. The minimum expected count is .02.

e. 29 cells (96.7%) have expected count less than 5. The minimum expected count is .03.

f. 49 cells (90.7%) have expected count less than 5. The minimum expected count is .01.

g. 103 cells (92.0%) have expected count less than 5. The minimum expected count is .01.

h. 40 cells (95.2%) have expected count less than 5. The minimum expected count is .06.

i. 83 cells (91.2%) have expected count less than 5. The minimum expected count is .01.

j. 27 cells (90.0%) have expected count less than 5. The minimum expected count is .02.

k. 19 cells (95.0%) have expected count less than 5. The minimum expected count is .04.

l. 19 cells (95.0%) have expected count less than 5. The minimum expected count is .04.

m. 9 cells (100.0%) have expected count less than 5. The minimum expected count is .20.

n. No statistics are computed because InterestedinNewPersuitseveryfewMonths and lamahardworker are constants.

o. 9 cells (100.0%) have expected count less than 5. The minimum expected count is .25.

p. 6 cells (100.0%) have expected count less than 5. The minimum expected count is .33.

**Chi-Square Tests**

CurrentGPA			Value	df	Asymp. Sig. (2-sided)
4-3.6 Very High Achievers	Male	Pearson Chi-Square	71.706 <sup>e</sup>	20	.000
		Likelihood Ratio	36.569	20	.013
		Linear-by-Linear Association	1.341	1	.247
		N of Valid Cases	32		
	Female	Pearson Chi-Square	98.854 <sup>f</sup>	50	.000
		Likelihood Ratio	35.774	50	.935
		Linear-by-Linear Association	.013	1	.910
		N of Valid Cases	73		
	Total	Pearson Chi-Square	145.355 <sup>d</sup>	60	.000
		Likelihood Ratio	54.569	60	.674
		Linear-by-Linear Association	.083	1	.774
		N of Valid Cases	105		
3.5-2.6 High Achievers	Male	Pearson Chi-Square	85.447 <sup>h</sup>	35	.000
		Likelihood Ratio	52.404	35	.030
		Linear-by-Linear Association	.148	1	.700
		N of Valid Cases	65		
	Female	Pearson Chi-Square	299.246 <sup>i</sup>	78	.000

		Likelihood Ratio	69.173	78	.752
		Linear-by-Linear Association	1.733	1	.188
		N of Valid Cases	108		
	Total	Pearson Chi-Square	404.942 <sup>g</sup>	90	.000
		Likelihood Ratio	116.839	90	.030
		Linear-by-Linear Association	.635	1	.426
		N of Valid Cases	173		
2.5-1.6 Moderate	Male	Pearson Chi-Square	9.989 <sup>k</sup>	16	.867
		Likelihood Ratio	10.514	16	.838
		Linear-by-Linear Association	.735	1	.391
		N of Valid Cases	24		
	Female	Pearson Chi-Square	42.523 <sup>l</sup>	12	.000
		Likelihood Ratio	27.396	12	.007
		Linear-by-Linear Association	3.674	1	.055
		N of Valid Cases	23		
	Total	Pearson Chi-Square	62.843 <sup>j</sup>	25	.000
		Likelihood Ratio	24.416	25	.495
		Linear-by-Linear Association	3.122	1	.077
		N of Valid Cases	47		

1.5-1 Low Achievers	Male	Pearson Chi-Square	. <sup>n</sup>		
		N of Valid Cases	1		
	Female	Pearson Chi-Square	8.000 <sup>o</sup>	4	.092
		Likelihood Ratio	8.318	4	.081
		Linear-by-Linear Association	2.845	1	.092
	Total	N of Valid Cases	4		
		Pearson Chi-Square	6.250 <sup>m</sup>	4	.181
		Likelihood Ratio	7.777	4	.100
		Linear-by-Linear Association	1.801	1	.180
	Less than One Very Low Achievers	Male	N of Valid Cases	5	
Pearson Chi-Square			3.000 <sup>p</sup>	2	.223
Likelihood Ratio			3.819	2	.148
Female		Linear-by-Linear Association	1.500	1	.221
		N of Valid Cases	3		
		Pearson Chi-Square	. <sup>n</sup>		
		N of Valid Cases	1		
Total		Pearson Chi-Square	4.000 <sup>o</sup>	4	.406
		Likelihood Ratio	5.545	4	.236
		Linear-by-Linear Association	.129	1	.719
	N of Valid Cases	4			

Total	Male	Pearson Chi-Square	161.015 <sup>b</sup>	50	.000
		Likelihood Ratio	78.488	50	.006
		Linear-by-Linear Association	.666	1	.414
		N of Valid Cases	125		
	Female	Pearson Chi-Square	377.190 <sup>c</sup>	102	.000
		Likelihood Ratio	115.323	102	.173
		Linear-by-Linear Association	2.878	1	.090
		N of Valid Cases	209		
Total	Total	Pearson Chi-Square	577.623 <sup>a</sup>	132	.000
		Likelihood Ratio	178.803	132	.004
		Linear-by-Linear Association	.961	1	.327
		N of Valid Cases	334		

a. 148 cells (91.9%) have expected count less than 5. The minimum expected count is .00.

b. 55 cells (83.3%) have expected count less than 5. The minimum expected count is .04.

c. 117 cells (92.9%) have expected count less than 5. The minimum expected count is .00.

d. 71 cells (91.0%) have expected count less than 5. The minimum expected count is .02.

e. 29 cells (96.7%) have expected count less than 5. The minimum expected count is .03.

f. 61 cells (92.4%) have expected count less than 5. The minimum expected count is .01.

g. 103 cells (92.0%) have expected count less than 5. The minimum expected count is .01.

h. 44 cells (91.7%) have expected count less than 5. The minimum expected count is .06.

i. 92 cells (93.9%) have expected count less than 5. The minimum expected count is .01.

j. 34 cells (94.4%) have expected count less than 5. The minimum expected count is .02.

k. 25 cells (100.0%) have expected count less than 5. The minimum expected count is .04.

- l. 19 cells (95.0%) have expected count less than 5. The minimum expected count is .04.
- m. 9 cells (100.0%) have expected count less than 5. The minimum expected count is .20.
- n. No statistics are computed because InterestedinNewPersuitseveryfewMonths and lamdiligent are constants.
- o. 9 cells (100.0%) have expected count less than 5. The minimum expected count is .25.
- p. 6 cells (100.0%) have expected count less than 5. The minimum expected count is .33.

### Chi-Square Tests

CurrentGPA			Value	df	Asymp. Sig. (2-sided)
4-3.6 Very High Achievers	Male	Pearson Chi-Square	59.028 <sup>e</sup>	28	.001
		Likelihood Ratio	29.853	28	.370
		Linear-by-Linear Association	.016	1	.899
		N of Valid Cases	32		
	Female	Pearson Chi-Square	106.521 <sup>f</sup>	50	.000
		Likelihood Ratio	39.062	50	.868
		Linear-by-Linear Association	.015	1	.903
		N of Valid Cases	73		
	Total	Pearson Chi-Square	155.423 <sup>d</sup>	60	.000
		Likelihood Ratio	60.621	60	.453
Linear-by-Linear Association		.007	1	.933	
	N of Valid Cases	105			
3.5-2.6 High Achievers	Male	Pearson Chi-Square	88.969 <sup>h</sup>	35	.000

		Likelihood Ratio	58.120	35	.008
		Linear-by-Linear Association	2.981	1	.084
		N of Valid Cases	65		
	Female	Pearson Chi-Square	246.274 <sup>i</sup>	78	.000
		Likelihood Ratio	59.832	78	.937
		Linear-by-Linear Association	.265	1	.607
		N of Valid Cases	108		
	Total	Pearson Chi-Square	386.527 <sup>g</sup>	90	.000
		Likelihood Ratio	105.190	90	.131
		Linear-by-Linear Association	.724	1	.395
		N of Valid Cases	173		
2.5-1.6 Moderate	Male	Pearson Chi-Square	27.753 <sup>k</sup>	20	.115
		Likelihood Ratio	30.624	20	.060
		Linear-by-Linear Association	.552	1	.457
		N of Valid Cases	24		
	Female	Pearson Chi-Square	37.588 <sup>l</sup>	20	.010
		Likelihood Ratio	23.495	20	.265
		Linear-by-Linear Association	.036	1	.849
		N of Valid Cases	23		

	Total	Pearson Chi-Square	71.621 <sup>i</sup>	30	.000
		Likelihood Ratio	39.979	30	.105
		Linear-by-Linear Association	.488	1	.485
		N of Valid Cases	47		
1.5-1 Low Achievers	Male	Pearson Chi-Square	. <sup>n</sup>		
		N of Valid Cases	1		
	Female	Pearson Chi-Square	8.000 <sup>o</sup>	4	.092
		Likelihood Ratio	8.318	4	.081
		Linear-by-Linear Association	1.960	1	.161
		N of Valid Cases	4		
	Total	Pearson Chi-Square	10.000 <sup>m</sup>	6	.125
		Likelihood Ratio	10.549	6	.103
		Linear-by-Linear Association	.050	1	.823
		N of Valid Cases	5		
Less than One Very Low Achievers	Male	Pearson Chi-Square	3.000 <sup>p</sup>	2	.223
		Likelihood Ratio	3.819	2	.148
		Linear-by-Linear Association	0.000	1	1.000
		N of Valid Cases	3		
	Female	Pearson Chi-Square	. <sup>n</sup>		
		N of Valid Cases	1		

	Total	Pearson Chi-Square	5.000 <sup>o</sup>	4	.287
		Likelihood Ratio	5.545	4	.236
		Linear-by-Linear Association	.025	1	.875
		N of Valid Cases	4		
Total	Male	Pearson Chi-Square	153.511 <sup>b</sup>	50	.000
		Likelihood Ratio	73.029	50	.018
		Linear-by-Linear Association	.892	1	.345
		N of Valid Cases	125		
	Female	Pearson Chi-Square	359.273 <sup>c</sup>	102	.000
		Likelihood Ratio	106.527	102	.360
		Linear-by-Linear Association	.088	1	.766
		N of Valid Cases	209		
	Total	Pearson Chi-Square	571.791 <sup>a</sup>	132	.000
		Likelihood Ratio	173.700	132	.009
		Linear-by-Linear Association	.167	1	.683
		N of Valid Cases	334		

a. 143 cells (88.8%) have expected count less than 5. The minimum expected count is .00.

b. 58 cells (87.9%) have expected count less than 5. The minimum expected count is .04.

c. 111 cells (88.1%) have expected count less than 5. The minimum expected count is .00.

d. 71 cells (91.0%) have expected count less than 5. The minimum expected count is .02.

- e. 40 cells (100.0%) have expected count less than 5. The minimum expected count is .03.
- f. 62 cells (93.9%) have expected count less than 5. The minimum expected count is .01.
- g. 98 cells (87.5%) have expected count less than 5. The minimum expected count is .01.
- h. 47 cells (97.9%) have expected count less than 5. The minimum expected count is .06.
- i. 92 cells (93.9%) have expected count less than 5. The minimum expected count is .01.
- j. 41 cells (97.6%) have expected count less than 5. The minimum expected count is .02.
- k. 30 cells (100.0%) have expected count less than 5. The minimum expected count is .04.
- l. 30 cells (100.0%) have expected count less than 5. The minimum expected count is .04.
- m. 12 cells (100.0%) have expected count less than 5. The minimum expected count is .20.
- n. No statistics are computed because InterestedinNewPersuitseveryfewMonths and Mysociallifenegativelyhindersmyfocusoncompletingtasks are constants.
- o. 9 cells (100.0%) have expected count less than 5. The minimum expected count is .25.
- p. 6 cells (100.0%) have expected count less than 5. The minimum expected count is .33.

#### Chi-Square Tests

CurrentGPA			Value	df	Asymp. Sig. (2-sided)
4-3.6 Very High Achievers	Male	Pearson Chi-Square	56.872 <sup>e</sup>	28	.001
		Likelihood Ratio	26.073	28	.569
		Linear-by-Linear Association	.361	1	.548
		N of Valid Cases	32		
	Female	Pearson Chi-Square	103.274 <sup>f</sup>	50	.000
		Likelihood Ratio	40.791	50	.820
		Linear-by-Linear Association	.110	1	.741
N of Valid Cases		73			

3.5-2.6 High Achievers	Total	Pearson Chi-Square	150.335 <sup>d</sup>	60	.000
		Likelihood Ratio	56.612	60	.600
		Linear-by- Linear Association	.429	1	.512
		N of Valid Cases	105		
	Male	Pearson Chi-Square	100.772 <sup>h</sup>	35	.000
		Likelihood Ratio	70.234	35	.000
		Linear-by- Linear Association	1.103	1	.294
		N of Valid Cases	65		
	Female	Pearson Chi-Square	251.937 <sup>i</sup>	78	.000
		Likelihood Ratio	63.293	78	.886
	Linear-by- Linear Association	.235	1	.628	
	N of Valid Cases	108			
	Total	Pearson Chi-Square	391.794 <sup>g</sup>	90	.000
		Likelihood Ratio	112.071	90	.058
		Linear-by- Linear Association	1.136	1	.286
		N of Valid Cases	173		
2.5-1.6 Moderate	Male	Pearson Chi-Square	24.700 <sup>k</sup>	20	.213
		Likelihood Ratio	21.765	20	.353
		Linear-by- Linear Association	.204	1	.652
		N of Valid Cases			

		N of Valid Cases	24		
	Female	Pearson Chi-Square	35.430 <sup>l</sup>	20	.018
		Likelihood Ratio	18.997	20	.522
		Linear-by-Linear Association	4.184	1	.041
	Total	N of Valid Cases	23		
		Pearson Chi-Square	71.455 <sup>i</sup>	30	.000
		Likelihood Ratio	26.836	30	.632
		Linear-by-Linear Association	.763	1	.382
1.5-1 Low Achievers	Male	N of Valid Cases	47		
		Pearson Chi-Square	. <sup>n</sup>		
	Female	N of Valid Cases	1		
		Pearson Chi-Square	8.000 <sup>o</sup>	4	.092
		Likelihood Ratio	8.318	4	.081
		Linear-by-Linear Association	1.884	1	.170
	Total	N of Valid Cases	4		
		Pearson Chi-Square	10.000 <sup>m</sup>	6	.125
		Likelihood Ratio	10.549	6	.103
		Linear-by-Linear Association	.034	1	.854
Less than One Very	Male	N of Valid Cases	5		
		Pearson Chi-Square	. <sup>q</sup>		

Low Achievers		N of Valid Cases	3			
	Female	Pearson Chi-Square	. <sup>n</sup>			
		N of Valid Cases	1			
	Total	Pearson Chi-Square	1.333 <sup>p</sup>	2	.513	
		Likelihood Ratio	1.726	2	.422	
		Linear-by-Linear Association	.818	1	.366	
Total	Male	N of Valid Cases	4			
		Pearson Chi-Square	156.364 <sup>b</sup>	50	.000	
		Likelihood Ratio	76.446	50	.009	
			Linear-by-Linear Association	.573	1	.449
	Female	N of Valid Cases	125			
		Pearson Chi-Square	364.049 <sup>c</sup>	102	.000	
		Likelihood Ratio	110.446	102	.267	
			Linear-by-Linear Association	1.447	1	.229
	Total	N of Valid Cases	209			
Pearson Chi-Square		574.270 <sup>a</sup>	132	.000		
Likelihood Ratio		179.498	132	.004		
		Linear-by-Linear Association	2.064	1	.151	
		N of Valid Cases	334			

- a. 143 cells (88.8%) have expected count less than 5. The minimum expected count is .00.
- b. 57 cells (86.4%) have expected count less than 5. The minimum expected count is .04.
- c. 113 cells (89.7%) have expected count less than 5. The minimum expected count is .00.
- d. 72 cells (92.3%) have expected count less than 5. The minimum expected count is .02.
- e. 40 cells (100.0%) have expected count less than 5. The minimum expected count is .03.
- f. 62 cells (93.9%) have expected count less than 5. The minimum expected count is .01.
- g. 99 cells (88.4%) have expected count less than 5. The minimum expected count is .01.
- h. 48 cells (100.0%) have expected count less than 5. The minimum expected count is .06.
- i. 92 cells (93.9%) have expected count less than 5. The minimum expected count is .01.
- j. 40 cells (95.2%) have expected count less than 5. The minimum expected count is .02.
- k. 30 cells (100.0%) have expected count less than 5. The minimum expected count is .04.
- l. 30 cells (100.0%) have expected count less than 5. The minimum expected count is .04.
- m. 12 cells (100.0%) have expected count less than 5. The minimum expected count is .20.
- n. No statistics are computed because InterestedinNewPersuitseveryfewMonths and Myfamilyresponsibilitieshindersmyfocusoncompletingtasks are constants.
- o. 9 cells (100.0%) have expected count less than 5. The minimum expected count is .25.
- p. 6 cells (100.0%) have expected count less than 5. The minimum expected count is .25.
- q. No statistics are computed because Myfamilyresponsibilitieshindersmyfocusoncompletingtasks is a constant.

### Chi-Square Tests

CurrentGPA			Value	df	Asymp. Sig. (2-sided)
4-3.6 Very High Achievers	Male	Pearson Chi-Square	62.931 <sup>e</sup>	28	.000
		Likelihood Ratio	34.730	28	.178
		Linear-by-Linear Association	.070	1	.792
		N of Valid Cases	32		
	Female	Pearson Chi-Square	108.546 <sup>f</sup>	50	.000

		Likelihood Ratio	45.349	50	.660
		Linear-by-Linear Association	.393	1	.531
	Total	N of Valid Cases	73		
		Pearson Chi-Square	165.057 <sup>d</sup>	60	.000
		Likelihood Ratio	75.637	60	.084
		Linear-by-Linear Association	.700	1	.403
		N of Valid Cases	105		
3.5-2.6 High Achievers	Male	Pearson Chi-Square	93.098 <sup>h</sup>	35	.000
		Likelihood Ratio	63.111	35	.002
		Linear-by-Linear Association	.003	1	.959
		N of Valid Cases	65		
	Female	Pearson Chi-Square	251.653 <sup>i</sup>	78	.000
		Likelihood Ratio	64.427	78	.865
		Linear-by-Linear Association	2.136	1	.144
		N of Valid Cases	108		
	Total	Pearson Chi-Square	394.854 <sup>g</sup>	90	.000
		Likelihood Ratio	114.335	90	.043
		Linear-by-Linear Association	1.104	1	.293
		N of Valid Cases	173		

2.5-1.6 Moderate	Male	Pearson Chi-Square	19.590 <sup>k</sup>	20	.484	
		Likelihood Ratio	19.109	20	.515	
		Linear-by- Linear Association	8.518	1	.004	
	Female	N of Valid Cases	24			
		Pearson Chi-Square	35.814 <sup>l</sup>	20	.016	
		Likelihood Ratio	21.206	20	.385	
	Total	Linear-by- Linear Association	.017	1	.898	
		N of Valid Cases	23			
		Pearson Chi-Square	65.551 <sup>i</sup>	30	.000	
	1.5-1 Low Achievers	Male	Likelihood Ratio	29.411	30	.496
			Linear-by- Linear Association	5.300	1	.021
			N of Valid Cases	47		
		Female	Pearson Chi-Square	. <sup>n</sup>		
			N of Valid Cases	1		
Pearson Chi-Square			8.000 <sup>o</sup>	4	.092	
Total		Likelihood Ratio	8.318	4	.081	
		Linear-by- Linear Association	.477	1	.490	
		N of Valid Cases	4			
Total		Pearson Chi-Square	10.000 <sup>m</sup>	6	.125	
		Likelihood Ratio	10.549	6	.103	

		Linear-by-Linear Association	.078	1	.780	
		N of Valid Cases	5			
Less than One Very Low Achievers	Male	Pearson Chi-Square	3.000 <sup>p</sup>	2	.223	
		Likelihood Ratio	3.819	2	.148	
		Linear-by-Linear Association	1.500	1	.221	
			N of Valid Cases	3		
	Female	Pearson Chi-Square	. <sup>n</sup>			
	Total	Total	N of Valid Cases	1		
Pearson Chi-Square			5.000 <sup>o</sup>	4	.287	
Likelihood Ratio		5.545	4	.236		
Linear-by-Linear Association		1.215	1	.270		
Total	Male	N of Valid Cases	4			
		Pearson Chi-Square	162.811 <sup>b</sup>	50	.000	
		Likelihood Ratio	83.021	50	.002	
			Linear-by-Linear Association	.822	1	.364
	Female		N of Valid Cases	125		
		Pearson Chi-Square	368.150 <sup>c</sup>	102	.000	
		Likelihood Ratio	115.320	102	.173	
		Linear-by-Linear Association	.912	1	.340	

	N of Valid Cases	209		
Total	Pearson Chi-Square	582.877 <sup>a</sup>	132	.000
	Likelihood Ratio	187.954	132	.001
	Linear-by-Linear Association	1.737	1	.188
	N of Valid Cases	334		

- a. 141 cells (87.6%) have expected count less than 5. The minimum expected count is .00.
- b. 58 cells (87.9%) have expected count less than 5. The minimum expected count is .04.
- c. 111 cells (88.1%) have expected count less than 5. The minimum expected count is .00.
- d. 72 cells (92.3%) have expected count less than 5. The minimum expected count is .02.
- e. 40 cells (100.0%) have expected count less than 5. The minimum expected count is .03.
- f. 62 cells (93.9%) have expected count less than 5. The minimum expected count is .01.
- g. 98 cells (87.5%) have expected count less than 5. The minimum expected count is .01.
- h. 48 cells (100.0%) have expected count less than 5. The minimum expected count is .06.
- i. 92 cells (93.9%) have expected count less than 5. The minimum expected count is .01.
- j. 40 cells (95.2%) have expected count less than 5. The minimum expected count is .02.
- k. 30 cells (100.0%) have expected count less than 5. The minimum expected count is .04.
- l. 30 cells (100.0%) have expected count less than 5. The minimum expected count is .04.
- m. 12 cells (100.0%) have expected count less than 5. The minimum expected count is .20.
- n. No statistics are computed because InterestedinNewPersuitseveryfewMonths and TheuseofsocialMedianegativelyaffectsmyfocusontasks are constants.
- o. 9 cells (100.0%) have expected count less than 5. The minimum expected count is .25.
- p. 6 cells (100.0%) have expected count less than 5. The minimum expected count is .33.

### Chi-Square Tests

			Value	df	Asymp. Sig. (2-sided)
4-3.6 Very High Achievers	Male	Pearson Chi-Square	66.882 <sup>e</sup>	28	.000

		Likelihood Ratio	36.170	28	.138
		Linear-by-Linear Association	.034	1	.854
		N of Valid Cases	32		
	Female	Pearson Chi-Square	109.403 <sup>f</sup>	50	.000
		Likelihood Ratio	48.935	50	.516
		Linear-by-Linear Association	1.832	1	.176
		N of Valid Cases	73		
	Total	Pearson Chi-Square	160.404 <sup>d</sup>	60	.000
		Likelihood Ratio	69.972	60	.178
		Linear-by-Linear Association	1.571	1	.210
		N of Valid Cases	105		
3.5-2.6 High Achievers	Male	Pearson Chi-Square	93.050 <sup>h</sup>	35	.000
		Likelihood Ratio	62.159	35	.003
		Linear-by-Linear Association	2.896	1	.089
		N of Valid Cases	65		
	Female	Pearson Chi-Square	244.887 <sup>i</sup>	78	.000
		Likelihood Ratio	58.671	78	.950
		Linear-by-Linear Association	.141	1	.707
		N of Valid Cases	108		

	Total	Pearson Chi-Square	390.626 <sup>g</sup>	90	.000
		Likelihood Ratio	110.521	90	.070
		Linear-by-Linear Association	1.816	1	.178
		N of Valid Cases	173		
2.5-1.6 Moderate	Male	Pearson Chi-Square	10.760 <sup>k</sup>	20	.952
		Likelihood Ratio	12.437	20	.900
		Linear-by-Linear Association	.163	1	.686
		N of Valid Cases	24		
	Female	Pearson Chi-Square	35.899 <sup>l</sup>	20	.016
		Likelihood Ratio	21.264	20	.382
		Linear-by-Linear Association	.012	1	.914
		N of Valid Cases	23		
	Total	Pearson Chi-Square	59.448 <sup>j</sup>	30	.001
		Likelihood Ratio	22.742	30	.826
		Linear-by-Linear Association	.162	1	.687
		N of Valid Cases	47		
1.5-1 Low Achievers	Male	Pearson Chi-Square	. <sup>n</sup>		
		N of Valid Cases	1		
	Female	Pearson Chi-Square	8.000 <sup>o</sup>	4	.092

		Likelihood Ratio	8.318	4	.081
		Linear-by-Linear Association	.804	1	.370
		N of Valid Cases	4		
	Total	Pearson Chi-Square	10.000 <sup>m</sup>	6	.125
		Likelihood Ratio	10.549	6	.103
		Linear-by-Linear Association	.635	1	.425
		N of Valid Cases	5		
Less than One Very Low Achievers	Male	Pearson Chi-Square	3.000 <sup>q</sup>	2	.223
		Likelihood Ratio	3.819	2	.148
		Linear-by-Linear Association	1.500	1	.221
		N of Valid Cases	3		
	Female	Pearson Chi-Square	. <sup>n</sup>		
		N of Valid Cases	1		
	Total	Pearson Chi-Square	4.000 <sup>p</sup>	2	.135
		Likelihood Ratio	4.499	2	.105
		Linear-by-Linear Association	2.273	1	.132
		N of Valid Cases	4		
Total	Male	Pearson Chi-Square	157.214 <sup>b</sup>	50	.000
		Likelihood Ratio	77.057	50	.008

	Linear-by-Linear Association	.641	1	.423
	N of Valid Cases	125		
Female	Pearson Chi-Square	358.783 <sup>c</sup>	102	.000
	Likelihood Ratio	107.185	102	.343
	Linear-by-Linear Association	.560	1	.454
	N of Valid Cases	209		
Total	Pearson Chi-Square	572.604 <sup>a</sup>	132	.000
	Likelihood Ratio	176.199	132	.006
	Linear-by-Linear Association	1.107	1	.293
	N of Valid Cases	334		

a. 141 cells (87.6%) have expected count less than 5. The minimum expected count is .00.

b. 57 cells (86.4%) have expected count less than 5. The minimum expected count is .04.

c. 111 cells (88.1%) have expected count less than 5. The minimum expected count is .00.

d. 71 cells (91.0%) have expected count less than 5. The minimum expected count is .02.

e. 40 cells (100.0%) have expected count less than 5. The minimum expected count is .03.

f. 62 cells (93.9%) have expected count less than 5. The minimum expected count is .01.

g. 97 cells (86.6%) have expected count less than 5. The minimum expected count is .01.

h. 48 cells (100.0%) have expected count less than 5. The minimum expected count is .06.

i. 91 cells (92.9%) have expected count less than 5. The minimum expected count is .01.

j. 41 cells (97.6%) have expected count less than 5. The minimum expected count is .02.

k. 30 cells (100.0%) have expected count less than 5. The minimum expected count is .04.

l. 30 cells (100.0%) have expected count less than 5. The minimum expected count is .04.

m. 12 cells (100.0%) have expected count less than 5. The minimum expected count is .20.

- n. No statistics are computed because InterestedinNewPursuitseveryfewMonths and Theuseofvideogamesnegativelyaffectsmyfocusontasks are constants.
- o. 9 cells (100.0%) have expected count less than 5. The minimum expected count is .25.
- p. 6 cells (100.0%) have expected count less than 5. The minimum expected count is .25.
- q. 6 cells (100.0%) have expected count less than 5. The minimum expected count is .33.

### Chi-Square Tests

CurrentGPA			Value	df	Asymp. Sig. (2-sided)
4-3.6 Very High Achievers	Male	Pearson Chi-Square	42.459 <sup>e</sup>	20	.002
		Likelihood Ratio	20.465	20	.429
		Linear-by-Linear Association	.001	1	.981
		N of Valid Cases	32		
	Female	Pearson Chi-Square	84.961 <sup>f</sup>	20	.000
		Likelihood Ratio	23.057	20	.286
		Linear-by-Linear Association	.894	1	.344
		N of Valid Cases	73		
	Total	Pearson Chi-Square	123.660 <sup>d</sup>	25	.000
		Likelihood Ratio	39.452	25	.033
Linear-by-Linear Association		.555	1	.456	
	N of Valid Cases	105			
3.5-2.6 High Achievers	Male	Pearson Chi-Square	89.767 <sup>h</sup>	25	.000

		Likelihood Ratio	61.870	25	.000
		Linear-by-Linear Association	.979	1	.322
		N of Valid Cases	65		
	Female	Pearson Chi-Square	234.500 <sup>i</sup>	36	.000
		Likelihood Ratio	49.999	36	.060
		Linear-by-Linear Association	1.553	1	.213
		N of Valid Cases	108		
	Total	Pearson Chi-Square	380.707 <sup>g</sup>	36	.000
		Likelihood Ratio	104.586	36	.000
		Linear-by-Linear Association	.183	1	.669
		N of Valid Cases	173		
2.5-1.6 Moderate	Male	Pearson Chi-Square	8.433 <sup>k</sup>	8	.392
		Likelihood Ratio	11.126	8	.195
		Linear-by-Linear Association	.159	1	.690
		N of Valid Cases	24		
	Female	Pearson Chi-Square	33.377 <sup>l</sup>	15	.004
		Likelihood Ratio	20.298	15	.161
		Linear-by-Linear Association	2.354	1	.125
		N of Valid Cases	23		

	Total	Pearson Chi-Square	51.689 <sup>j</sup>	15	.000
		Likelihood Ratio	15.674	15	.404
		Linear-by-Linear Association	2.222	1	.136
		N of Valid Cases	47		
1.5-1 Low Achievers	Male	Pearson Chi-Square	. <sup>n</sup>		
		N of Valid Cases	1		
	Female	Pearson Chi-Square	4.000 <sup>o</sup>	2	.135
		Likelihood Ratio	5.545	2	.063
		Linear-by-Linear Association	1.170	1	.279
		N of Valid Cases	4		
	Total	Pearson Chi-Square	10.000 <sup>m</sup>	6	.125
		Likelihood Ratio	10.549	6	.103
		Linear-by-Linear Association	2.988	1	.084
		N of Valid Cases	5		
Less than One Very Low Achievers	Male	Pearson Chi-Square	3.000 <sup>q</sup>	2	.223
		Likelihood Ratio	3.819	2	.148
		Linear-by-Linear Association	0.000	1	1.000
		N of Valid Cases	3		
	Female	Pearson Chi-Square	. <sup>n</sup>		
		N of Valid Cases	1		

	Total	Pearson Chi-Square	8.000 <sup>p</sup>	6	.238
		Likelihood Ratio	8.318	6	.216
		Linear-by-Linear Association	1.200	1	.273
		N of Valid Cases	4		
Total	Male	Pearson Chi-Square	146.114 <sup>b</sup>	25	.000
		Likelihood Ratio	71.342	25	.000
		Linear-by-Linear Association	.854	1	.355
		N of Valid Cases	125		
	Female	Pearson Chi-Square	442.711 <sup>c</sup>	36	.000
		Likelihood Ratio	92.364	36	.000
		Linear-by-Linear Association	4.443	1	.035
		N of Valid Cases	209		
	Total	Pearson Chi-Square	700.733 <sup>a</sup>	36	.000
		Likelihood Ratio	150.145	36	.000
		Linear-by-Linear Association	.480	1	.488
		N of Valid Cases	334		

a. 34 cells (69.4%) have expected count less than 5. The minimum expected count is .00.

b. 26 cells (72.2%) have expected count less than 5. The minimum expected count is .14.

c. 38 cells (77.6%) have expected count less than 5. The minimum expected count is .00.

d. 26 cells (72.2%) have expected count less than 5. The minimum expected count is .02.

- e. 30 cells (100.0%) have expected count less than 5. The minimum expected count is .03.
- f. 23 cells (76.7%) have expected count less than 5. The minimum expected count is .01.
- g. 39 cells (79.6%) have expected count less than 5. The minimum expected count is .01.
- h. 32 cells (88.9%) have expected count less than 5. The minimum expected count is .12.
- i. 43 cells (87.8%) have expected count less than 5. The minimum expected count is .01.
- j. 22 cells (91.7%) have expected count less than 5. The minimum expected count is .02.
- k. 14 cells (93.3%) have expected count less than 5. The minimum expected count is .13.
- l. 24 cells (100.0%) have expected count less than 5. The minimum expected count is .04.
- m. 12 cells (100.0%) have expected count less than 5. The minimum expected count is .20.
- n. No statistics are computed because InterestChangeFrequently and IFinishWhateverIbegin are constants.
- o. 6 cells (100.0%) have expected count less than 5. The minimum expected count is .50.
- p. 12 cells (100.0%) have expected count less than 5. The minimum expected count is .25.
- q. 6 cells (100.0%) have expected count less than 5. The minimum expected count is .33.

#### Chi-Square Tests

CurrentGPA			Value	df	Asymp. Sig. (2-sided)
4-3.6 Very High Achievers	Male	Pearson Chi-Square	41.825 <sup>e</sup>	20	.003
		Likelihood Ratio	19.634	20	.481
		Linear-by-Linear Association	2.294	1	.130
N of Valid Cases			32		
	Female	Pearson Chi-Square	94.604 <sup>f</sup>	35	.000
		Likelihood Ratio	33.904	35	.521
		Linear-by-Linear Association	.711	1	.399
N of Valid Cases			73		

3.5-2.6 High Achievers	Total	Pearson Chi-Square	126.047 <sup>d</sup>	35	.000
		Likelihood Ratio	42.104	35	.190
		Linear-by- Linear Association	.008	1	.930
		N of Valid Cases	105		
	Male	Pearson Chi-Square	95.351 <sup>h</sup>	25	.000
		Likelihood Ratio	57.309	25	.000
		Linear-by- Linear Association	.905	1	.341
		N of Valid Cases	65		
	Female	Pearson Chi-Square	235.334 <sup>i</sup>	42	.000
		Likelihood Ratio	52.501	42	.128
2.5-1.6 Moderate		Linear-by- Linear Association	.072	1	.789
		N of Valid Cases	108		
	Total	Pearson Chi-Square	369.542 <sup>g</sup>	42	.000
		Likelihood Ratio	96.075	42	.000
		Linear-by- Linear Association	.745	1	.388
		N of Valid Cases	173		
	Male	Pearson Chi-Square	18.486 <sup>k</sup>	20	.555
		Likelihood Ratio	19.476	20	.491
		Linear-by- Linear Association	2.270	1	.132

		N of Valid Cases	24		
	Female	Pearson Chi-Square	38.410 <sup>l</sup>	20	.008
		Likelihood Ratio	23.760	20	.253
		Linear-by-Linear Association	4.816	1	.028
	Total	N of Valid Cases	23		
		Pearson Chi-Square	67.440 <sup>j</sup>	30	.000
		Likelihood Ratio	32.057	30	.365
		Linear-by-Linear Association	6.686	1	.010
1.5-1 Low Achievers	Male	N of Valid Cases	47		
		Pearson Chi-Square	. <sup>n</sup>		
	Female	N of Valid Cases	1		
		Pearson Chi-Square	4.000 <sup>o</sup>	2	.135
		Likelihood Ratio	5.545	2	.063
		Linear-by-Linear Association	.009	1	.926
	Total	N of Valid Cases	4		
		Pearson Chi-Square	6.250 <sup>m</sup>	4	.181
		Likelihood Ratio	7.777	4	.100
		Linear-by-Linear Association	.791	1	.374
Less than One Very	Male	N of Valid Cases	5		
		Pearson Chi-Square	3.000 <sup>q</sup>	2	.223

Low Achievers		Likelihood Ratio	3.819	2	.148
		Linear-by-Linear Association	.071	1	.789
		N of Valid Cases	3		
	Female	Pearson Chi-Square	. <sup>n</sup>		
		N of Valid Cases	1		
	Total	Pearson Chi-Square	8.000 <sup>p</sup>	6	.238
		Likelihood Ratio	8.318	6	.216
		Linear-by-Linear Association	.686	1	.408
		N of Valid Cases	4		
Total	Male	Pearson Chi-Square	138.636 <sup>b</sup>	30	.000
		Likelihood Ratio	61.551	30	.001
		Linear-by-Linear Association	.184	1	.668
		N of Valid Cases	125		
	Female	Pearson Chi-Square	451.524 <sup>c</sup>	54	.000
		Likelihood Ratio	101.391	54	.000
		Linear-by-Linear Association	2.185	1	.139
		N of Valid Cases	209		
	Total	Pearson Chi-Square	704.828 <sup>a</sup>	60	.000
		Likelihood Ratio	152.416	60	.000

Linear-by-Linear Association	2.667	1	.102
N of Valid Cases	334		

- a. 60 cells (77.9%) have expected count less than 5. The minimum expected count is .00.
- b. 35 cells (83.3%) have expected count less than 5. The minimum expected count is .05.
- c. 58 cells (82.9%) have expected count less than 5. The minimum expected count is .00.
- d. 40 cells (83.3%) have expected count less than 5. The minimum expected count is .02.
- e. 30 cells (100.0%) have expected count less than 5. The minimum expected count is .03.
- f. 44 cells (91.7%) have expected count less than 5. The minimum expected count is .01.
- g. 45 cells (80.4%) have expected count less than 5. The minimum expected count is .01.
- h. 33 cells (91.7%) have expected count less than 5. The minimum expected count is .06.
- i. 48 cells (85.7%) have expected count less than 5. The minimum expected count is .01.
- j. 40 cells (95.2%) have expected count less than 5. The minimum expected count is .02.
- k. 29 cells (96.7%) have expected count less than 5. The minimum expected count is .04.
- l. 30 cells (100.0%) have expected count less than 5. The minimum expected count is .04.
- m. 9 cells (100.0%) have expected count less than 5. The minimum expected count is .20.
- n. No statistics are computed because InterestChangeFrequently and SetbacksdoNotDiscourageME are constants.
- o. 6 cells (100.0%) have expected count less than 5. The minimum expected count is .50.
- p. 12 cells (100.0%) have expected count less than 5. The minimum expected count is .25.
- q. 6 cells (100.0%) have expected count less than 5. The minimum expected count is .33.

### Chi-Square Tests

CurrentGPA			Value	df	Asymp. Sig. (2-sided)
4-3.6 Very High Achievers	Male	Pearson Chi-Square	48.250 <sup>e</sup>	25	.003
		Likelihood Ratio	24.815	25	.473
		Linear-by-Linear Association	1.169	1	.280

		N of Valid Cases	32		
	Female	Pearson Chi-Square	99.595 <sup>f</sup>	45	.000
		Likelihood Ratio	36.178	45	.823
		Linear-by-Linear Association	5.043	1	.025
	Total	N of Valid Cases	73		
		Pearson Chi-Square	138.847 <sup>d</sup>	55	.000
		Likelihood Ratio	51.365	55	.614
		Linear-by-Linear Association	2.609	1	.106
3.5-2.6 High Achievers	Male	N of Valid Cases	105		
		Pearson Chi-Square	103.342 <sup>h</sup>	35	.000
		Likelihood Ratio	66.182	35	.001
		Linear-by-Linear Association	.000	1	.987
	Female	N of Valid Cases	65		
		Pearson Chi-Square	246.005 <sup>i</sup>	78	.000
		Likelihood Ratio	60.611	78	.927
		Linear-by-Linear Association	1.302	1	.254
	Total	N of Valid Cases	108		
		Pearson Chi-Square	404.298 <sup>g</sup>	90	.000
		Likelihood Ratio	120.468	90	.018

		Linear-by-Linear Association	.642	1	.423
		N of Valid Cases	173		
2.5-1.6 Moderate	Male	Pearson Chi-Square	14.978 <sup>k</sup>	16	.526
		Likelihood Ratio	16.236	16	.437
		Linear-by-Linear Association	2.183	1	.140
		N of Valid Cases	24		
	Female	Pearson Chi-Square	33.417 <sup>l</sup>	20	.030
		Likelihood Ratio	19.399	20	.496
		Linear-by-Linear Association	3.306	1	.069
		N of Valid Cases	23		
	Total	Pearson Chi-Square	65.919 <sup>j</sup>	25	.000
		Likelihood Ratio	28.571	25	.282
		Linear-by-Linear Association	5.697	1	.017
		N of Valid Cases	47		
1.5-1 Low Achievers	Male	Pearson Chi-Square	. <sup>n</sup>		
		N of Valid Cases	1		
	Female	Pearson Chi-Square	4.000 <sup>o</sup>	2	.135
		Likelihood Ratio	5.545	2	.063
		Linear-by-Linear Association	.575	1	.448

		N of Valid Cases	4		
	Total	Pearson Chi-Square	10.000 <sup>m</sup>	6	.125
		Likelihood Ratio	10.549	6	.103
		Linear-by-Linear Association	3.092	1	.079
		N of Valid Cases	5		
Less than One Very Low Achievers	Male	Pearson Chi-Square	3.000 <sup>q</sup>	2	.223
		Likelihood Ratio	3.819	2	.148
		Linear-by-Linear Association	0.000	1	1.000
		N of Valid Cases	3		
	Female	Pearson Chi-Square	. <sup>n</sup>		
		N of Valid Cases	1		
	Total	Pearson Chi-Square	8.000 <sup>p</sup>	6	.238
		Likelihood Ratio	8.318	6	.216
		Linear-by-Linear Association	1.200	1	.273
		N of Valid Cases	4		
Total	Male	Pearson Chi-Square	170.657 <sup>b</sup>	50	.000
		Likelihood Ratio	89.052	50	.001
		Linear-by-Linear Association	.014	1	.905
		N of Valid Cases	125		

Female	Pearson Chi-Square	364.512 <sup>c</sup>	102	.000
	Likelihood Ratio	111.836	102	.238
	Linear-by-Linear Association	8.467	1	.004
	N of Valid Cases	209		
Total	Pearson Chi-Square	588.771 <sup>a</sup>	132	.000
	Likelihood Ratio	191.648	132	.001
	Linear-by-Linear Association	4.965	1	.026
	N of Valid Cases	334		

a. 148 cells (91.9%) have expected count less than 5. The minimum expected count is .00.

b. 57 cells (86.4%) have expected count less than 5. The minimum expected count is .05.

c. 117 cells (92.9%) have expected count less than 5. The minimum expected count is .00.

d. 64 cells (88.9%) have expected count less than 5. The minimum expected count is .02.

e. 36 cells (100.0%) have expected count less than 5. The minimum expected count is .03.

f. 54 cells (90.0%) have expected count less than 5. The minimum expected count is .01.

g. 102 cells (91.1%) have expected count less than 5. The minimum expected count is .01.

h. 44 cells (91.7%) have expected count less than 5. The minimum expected count is .06.

i. 92 cells (93.9%) have expected count less than 5. The minimum expected count is .01.

j. 34 cells (94.4%) have expected count less than 5. The minimum expected count is .02.

k. 25 cells (100.0%) have expected count less than 5. The minimum expected count is .04.

l. 30 cells (100.0%) have expected count less than 5. The minimum expected count is .04.

m. 12 cells (100.0%) have expected count less than 5. The minimum expected count is .20.

n. No statistics are computed because InterestChangeFrequently and IHaveOvercomeSetbackstoConqueranImportant Challenge are constants.

o. 6 cells (100.0%) have expected count less than 5. The minimum expected count is .50.

p. 12 cells (100.0%) have expected count less than 5. The minimum expected count is .25.

q. 6 cells (100.0%) have expected count less than 5. The minimum expected count is .33.

**Chi-Square Tests**

CurrentGPA			Value	df	Asymp. Sig. (2- sided)	Exact Sig. (2- sided)	Exact Sig. (1- sided)
4-3.6 Very High Achievers	Male	Pearson Chi-Square	53.582 <sup>e</sup>	35	.023		
		Likelihood Ratio	29.396	35	.735		
		Linear-by- Linear Association	.062	1	.804		
		N of Valid Cases	32				
	Female	Pearson Chi-Square	111.185 <sup>f</sup>	50	.000		
		Likelihood Ratio	45.187	50	.667		
		Linear-by- Linear Association	5.419	1	.020		
		N of Valid Cases	73				
	Total	Pearson Chi-Square	151.657 <sup>d</sup>	60	.000		
		Likelihood Ratio	60.478	60	.458		
Linear-by- Linear Association		4.816	1	.028			
N of Valid Cases		105					
3.5-2.6 High Achievers	Male	Pearson Chi-Square	141.584 <sup>h</sup>	35	.000		
		Likelihood Ratio	77.557	35	.000		
		Linear-by- Linear Association	6.209	1	.013		
		N of Valid Cases	65				

2.5-1.6 Moderate	Female	Pearson Chi-Square	247.172 <sup>i</sup>	78	.000
		Likelihood Ratio	64.456	78	.864
		Linear-by- Linear Association	2.072	1	.150
		N of Valid Cases	108		
	Total	Pearson Chi-Square	389.318 <sup>g</sup>	90	.000
		Likelihood Ratio	107.925	90	.096
		Linear-by- Linear Association	.281	1	.596
		N of Valid Cases	173		
	Male	Pearson Chi-Square	31.507 <sup>k</sup>	20	.049
		Likelihood Ratio	27.346	20	.126
		Linear-by- Linear Association	6.177	1	.013
		N of Valid Cases	24		
	Female	Pearson Chi-Square	35.843 <sup>l</sup>	20	.016
		Likelihood Ratio	20.893	20	.403
		Linear-by- Linear Association	.282	1	.595
		N of Valid Cases	23		
	Total	Pearson Chi-Square	68.602 <sup>j</sup>	30	.000
		Likelihood Ratio	26.955	30	.626
Linear-by- Linear Association		2.557	1	.110	
N of Valid Cases					

		N of Valid Cases	47				
1.5-1 Low Achievers	Male	Pearson Chi-Square	. <sup>n</sup>				
		N of Valid Cases	1				
	Female	Pearson Chi-Square	4.000 <sup>o</sup>	2	.135		
		Likelihood Ratio	5.545	2	.063		
	Total	Linear-by-Linear Association	.110	1	.740		
		N of Valid Cases	4				
	Pearson Chi-Square	10.000 <sup>m</sup>	6	.125			
Likelihood Ratio	10.549	6	.103				
Linear-by-Linear Association	1.742	1	.187				
Less than One Very Low Achievers	Male	N of Valid Cases	5				
		Pearson Chi-Square	3.000 <sup>q</sup>	1	.083		
	Female	Continuity Correction <sup>r</sup>	.188	1	.665		
		Likelihood Ratio	3.819	1	.051		
	Total	Fisher's Exact Test				.333	.333
		Linear-by-Linear Association	2.000	1	.157		
	N of Valid Cases	3					
Pearson Chi-Square	. <sup>n</sup>						
Total	N of Valid Cases	1					
	Pearson Chi-Square	8.000 <sup>p</sup>	4	.092			

		Likelihood Ratio	8.318	4	.081	
		Linear-by-Linear Association	1.000	1	.317	
		N of Valid Cases	4			
Total	Male	Pearson Chi-Square	174.162 <sup>b</sup>	50	.000	
		Likelihood Ratio	88.419	50	.001	
		Linear-by-Linear Association	.896	1	.344	
		N of Valid Cases	125			
	Female	Pearson Chi-Square	372.057 <sup>c</sup>	102	.000	
		Likelihood Ratio	119.892	102	.109	
		Linear-by-Linear Association	6.424	1	.011	
		N of Valid Cases	209			
	Total	Pearson Chi-Square	574.704 <sup>a</sup>	132	.000	
		Likelihood Ratio	176.328	132	.006	
		Linear-by-Linear Association	2.287	1	.130	
		N of Valid Cases	334			

a. 143 cells (88.8%) have expected count less than 5. The minimum expected count is .00.

b. 58 cells (87.9%) have expected count less than 5. The minimum expected count is .05.

c. 111 cells (88.1%) have expected count less than 5. The minimum expected count is .00.

d. 70 cells (89.7%) have expected count less than 5. The minimum expected count is .02.

e. 48 cells (100.0%) have expected count less than 5. The minimum expected count is .03.

f. 62 cells (93.9%) have expected count less than 5. The minimum expected count is .01.

g. 100 cells (89.3%) have expected count less than 5. The minimum expected count is .01.

h. 46 cells (95.8%) have expected count less than 5. The minimum expected count is .06.

i. 91 cells (92.9%) have expected count less than 5. The minimum expected count is .01.

- j. 39 cells (92.9%) have expected count less than 5. The minimum expected count is .02.
- k. 30 cells (100.0%) have expected count less than 5. The minimum expected count is .04.
- l. 30 cells (100.0%) have expected count less than 5. The minimum expected count is .04.
- m. 12 cells (100.0%) have expected count less than 5. The minimum expected count is .20.
- n. No statistics are computed because InterestChangeFrequently and Ihavedifficultymaintainingmyfocusonprojectsthattakemorethan one month are constants.
- o. 6 cells (100.0%) have expected count less than 5. The minimum expected count is .50.
- p. 9 cells (100.0%) have expected count less than 5. The minimum expected count is .25.
- q. 4 cells (100.0%) have expected count less than 5. The minimum expected count is .33.
- r. Computed only for a 2x2 table

### Chi-Square Tests

CurrentGPA			Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
4-3.6 Very High Achievers	Male	Pearson Chi-Square	47.096 <sup>e</sup>	25	.005		
		Likelihood Ratio	22.044	25	.633		
		Linear-by-Linear Association	.129	1	.719		
		N of Valid Cases	32				
	Female	Pearson Chi-Square	96.775 <sup>f</sup>	40	.000		
		Likelihood Ratio	32.874	40	.780		
		Linear-by-Linear Association	2.367	1	.124		
		N of Valid Cases	73				
Total		Pearson Chi-Square	134.955 <sup>d</sup>	50	.000		
		Likelihood Ratio	46.600	50	.611		
		Linear-by-Linear Association	.889	1	.346		
		N of Valid Cases	105				

3.5-2.6 High Achievers	Male	Pearson Chi-Square	107.089 <sup>h</sup>	30	.000
		Likelihood Ratio	71.138	30	.000
		Linear-by- Linear Association	2.260	1	.133
		N of Valid Cases	65		
	Female	Pearson Chi-Square	237.960 <sup>i</sup>	72	.000
		Likelihood Ratio	53.673	72	.948
		Linear-by- Linear Association	1.010	1	.315
		N of Valid Cases	108		
	Total	Pearson Chi-Square	397.562 <sup>g</sup>	90	.000
		Likelihood Ratio	116.088	90	.033
Linear-by- Linear Association		1.827	1	.176	
	N of Valid Cases	173			
2.5-1.6 Moderate	Male	Pearson Chi-Square	9.333 <sup>k</sup>	12	.674
		Likelihood Ratio	10.447	12	.577
		Linear-by- Linear Association	1.750	1	.186
		N of Valid Cases	24		
	Female	Pearson Chi-Square	28.635 <sup>l</sup>	15	.018
		Likelihood Ratio	13.730	15	.546
		Linear-by- Linear Association	.058	1	.809

		N of Valid Cases	23				
	Total	Pearson Chi-Square	57.275 <sup>i</sup>	20	.000		
		Likelihood Ratio	21.056	20	.394		
		Linear-by-Linear Association	1.545	1	.214		
1.5-1 Low Achievers	Male	N of Valid Cases	47				
		Pearson Chi-Square	. <sup>n</sup>				
	Female	N of Valid Cases	1				
		Pearson Chi-Square	4.000 <sup>o</sup>	2	.135		
		Likelihood Ratio	5.545	2	.063		
		Linear-by-Linear Association	.240	1	.624		
	Total	N of Valid Cases	4				
		Pearson Chi-Square	6.250 <sup>m</sup>	4	.181		
		Likelihood Ratio	7.777	4	.100		
		Linear-by-Linear Association	.596	1	.440		
Less than One Very Low Achievers	Male	N of Valid Cases	5				
		Pearson Chi-Square	.750 <sup>q</sup>	1	.386		
		Continuity Correction <sup>r</sup>	0.000	1	1.000		
		Likelihood Ratio	1.046	1	.306		
		Fisher's Exact Test				1.000	.667

		Linear-by-Linear Association	.500	1	.480	
		N of Valid Cases	3			
	Female	Pearson Chi-Square	. <sup>n</sup>			
		N of Valid Cases	1			
	Total	Pearson Chi-Square	5.000 <sup>p</sup>	4	.287	
		Likelihood Ratio	5.545	4	.236	
		Linear-by-Linear Association	2.250	1	.134	
		N of Valid Cases	4			
Total	Male	Pearson Chi-Square	166.493 <sup>b</sup>	45	.000	
		Likelihood Ratio	84.812	45	.000	
		Linear-by-Linear Association	1.830	1	.176	
		N of Valid Cases	125			
	Female	Pearson Chi-Square	358.492 <sup>c</sup>	102	.000	
		Likelihood Ratio	106.871	102	.351	
		Linear-by-Linear Association	4.434	1	.035	
		N of Valid Cases	209			
	Total	Pearson Chi-Square	576.395 <sup>a</sup>	132	.000	
		Likelihood Ratio	179.431	132	.004	

Linear-by-Linear Association	4.817	1	.028		
N of Valid Cases	334				

- a. 149 cells (92.5%) have expected count less than 5. The minimum expected count is .00.
- b. 51 cells (85.0%) have expected count less than 5. The minimum expected count is .05.
- c. 118 cells (93.7%) have expected count less than 5. The minimum expected count is .00.
- d. 58 cells (87.9%) have expected count less than 5. The minimum expected count is .02.
- e. 36 cells (100.0%) have expected count less than 5. The minimum expected count is .03.
- f. 48 cells (88.9%) have expected count less than 5. The minimum expected count is .01.
- g. 101 cells (90.2%) have expected count less than 5. The minimum expected count is .01.
- h. 38 cells (90.5%) have expected count less than 5. The minimum expected count is .06.
- i. 85 cells (93.4%) have expected count less than 5. The minimum expected count is .01.
- j. 28 cells (93.3%) have expected count less than 5. The minimum expected count is .02.
- k. 19 cells (95.0%) have expected count less than 5. The minimum expected count is .04.
- l. 23 cells (95.8%) have expected count less than 5. The minimum expected count is .04.
- m. 9 cells (100.0%) have expected count less than 5. The minimum expected count is .20.
- n. No statistics are computed because InterestChangeFrequently and lamahardworker are constants.
- o. 6 cells (100.0%) have expected count less than 5. The minimum expected count is .50.
- p. 9 cells (100.0%) have expected count less than 5. The minimum expected count is .25.
- q. 4 cells (100.0%) have expected count less than 5. The minimum expected count is .33.
- r. Computed only for a 2x2 table

### Chi-Square Tests

CurrentGPA			Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
4-3.6 Very High Achievers	Male	Pearson Chi-Square	48.551 <sup>e</sup>	25	.003		
		Likelihood Ratio	25.276	25	.447		
		Linear-by-Linear Association	.728	1	.393		
			N of Valid Cases	32			
	Female	Pearson Chi-Square	102.261 <sup>f</sup>	50	.000		
		Likelihood Ratio	37.726	50	.899		

		Linear-by-Linear Association	3.431	1	.064		
		N of Valid Cases	73				
	Total	Pearson Chi-Square	141.653 <sup>d</sup>	60	.000		
		Likelihood Ratio	52.908	60	.730		
		Linear-by-Linear Association	3.799	1	.051		
		N of Valid Cases	105				
3.5-2.6 High Achievers	Male	Pearson Chi-Square	106.364 <sup>h</sup>	35	.000		
		Likelihood Ratio	62.068	35	.003		
		Linear-by-Linear Association	.418	1	.518		
		N of Valid Cases	65				
	Female	Pearson Chi-Square	245.871 <sup>i</sup>	78	.000		
		Likelihood Ratio	61.173	78	.920		
		Linear-by-Linear Association	.201	1	.654		
		N of Valid Cases	108				
	Total	Pearson Chi-Square	390.503 <sup>g</sup>	90	.000		
		Likelihood Ratio	110.202	90	.073		
		Linear-by-Linear Association	.178	1	.673		
		N of Valid Cases	173				
2.5-1.6 Moderate	Male	Pearson Chi-Square	12.566 <sup>k</sup>	16	.704		

		Likelihood Ratio	14.195	16	.584
		Linear-by-Linear Association	.119	1	.730
		N of Valid Cases	24		
	Female	Pearson Chi-Square	30.024 <sup>l</sup>	15	.012
		Likelihood Ratio	16.306	15	.362
		Linear-by-Linear Association	1.070	1	.301
		N of Valid Cases	23		
	Total	Pearson Chi-Square	59.490 <sup>j</sup>	25	.000
		Likelihood Ratio	23.583	25	.544
		Linear-by-Linear Association	1.032	1	.310
		N of Valid Cases	47		
1.5-1 Low Achievers	Male	Pearson Chi-Square	. <sup>n</sup>		
		N of Valid Cases	1		
	Female	Pearson Chi-Square	4.000 <sup>o</sup>	2	.135
		Likelihood Ratio	5.545	2	.063
		Linear-by-Linear Association	1.317	1	.251
		N of Valid Cases	4		
	Total	Pearson Chi-Square	6.250 <sup>m</sup>	4	.181
		Likelihood Ratio	7.777	4	.100

		Linear-by-Linear Association	.956	1	.328		
		N of Valid Cases	5				
Less than One Very Low Achievers	Male	Pearson Chi-Square	.750 <sup>q</sup>	1	.386		
		Continuity Correction <sup>r</sup>	0.000	1	1.000		
		Likelihood Ratio	1.046	1	.306		
		Fisher's Exact Test				1.000	.667
		Linear-by-Linear Association	.500	1	.480		
		N of Valid Cases	3				
	Female	Pearson Chi-Square	. <sup>n</sup>				
		N of Valid Cases	1				
	Total	Pearson Chi-Square	5.000 <sup>p</sup>	4	.287		
		Likelihood Ratio	5.545	4	.236		
		Linear-by-Linear Association	1.263	1	.261		
		N of Valid Cases	4				
Total	Male	Pearson Chi-Square	157.919 <sup>b</sup>	50	.000		
		Likelihood Ratio	73.322	50	.017		
		Linear-by-Linear Association	.611	1	.434		
		N of Valid Cases	125				
		Female	Pearson Chi-Square	357.289 <sup>c</sup>	102	.000	

	Likelihood Ratio	105.654	102	.382	
	Linear-by-Linear Association	2.840	1	.092	
	N of Valid Cases	209			
Total	Pearson Chi-Square	575.637 <sup>a</sup>	132	.000	
	Likelihood Ratio	179.126	132	.004	
	Linear-by-Linear Association	1.869	1	.172	
	N of Valid Cases	334			

- a. 146 cells (90.7%) have expected count less than 5. The minimum expected count is .00.
- b. 57 cells (86.4%) have expected count less than 5. The minimum expected count is .05.
- c. 117 cells (92.9%) have expected count less than 5. The minimum expected count is .00.
- d. 70 cells (89.7%) have expected count less than 5. The minimum expected count is .02.
- e. 36 cells (100.0%) have expected count less than 5. The minimum expected count is .03.
- f. 60 cells (90.9%) have expected count less than 5. The minimum expected count is .01.
- g. 103 cells (92.0%) have expected count less than 5. The minimum expected count is .01.
- h. 45 cells (93.8%) have expected count less than 5. The minimum expected count is .06.
- i. 91 cells (92.9%) have expected count less than 5. The minimum expected count is .01.
- j. 34 cells (94.4%) have expected count less than 5. The minimum expected count is .02.
- k. 25 cells (100.0%) have expected count less than 5. The minimum expected count is .04.
- l. 23 cells (95.8%) have expected count less than 5. The minimum expected count is .04.
- m. 9 cells (100.0%) have expected count less than 5. The minimum expected count is .20.
- n. No statistics are computed because InterestChangeFrequently and lamdiligent are constants.
- o. 6 cells (100.0%) have expected count less than 5. The minimum expected count is .50.
- p. 9 cells (100.0%) have expected count less than 5. The minimum expected count is .25.
- q. 4 cells (100.0%) have expected count less than 5. The minimum expected count is .33.
- r. Computed only for a 2x2 table

### Chi-Square Tests

			Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
CurrentGPA							
4-3.6	Male	Pearson Chi-Square	59.803 <sup>e</sup>	35	.006		
Very High Achievers							

		Likelihood Ratio	33.193	35	.556
		Linear-by-Linear Association	.367	1	.545
		N of Valid Cases	32		
	Female	Pearson Chi-Square	105.123 <sup>f</sup>	50	.000
		Likelihood Ratio	38.677	50	.878
		Linear-by-Linear Association	.091	1	.763
		N of Valid Cases	73		
	Total	Pearson Chi-Square	154.703 <sup>d</sup>	60	.000
		Likelihood Ratio	62.492	60	.388
		Linear-by-Linear Association	.001	1	.972
		N of Valid Cases	105		
3.5-2.6 High Achievers	Male	Pearson Chi-Square	93.130 <sup>h</sup>	35	.000
		Likelihood Ratio	57.310	35	.010
		Linear-by-Linear Association	1.119	1	.290
		N of Valid Cases	65		
	Female	Pearson Chi-Square	252.049 <sup>i</sup>	78	.000
		Likelihood Ratio	66.986	78	.809
		Linear-by-Linear Association	2.025	1	.155
		N of Valid Cases	108		

	Total	Pearson Chi-Square	389.770 <sup>g</sup>	90	.000		
		Likelihood Ratio	106.256	90	.116		
		Linear-by-Linear Association	.401	1	.527		
		N of Valid Cases	173				
2.5-1.6 Moderate	Male	Pearson Chi-Square	22.620 <sup>k</sup>	20	.308		
		Likelihood Ratio	22.307	20	.324		
		Linear-by-Linear Association	.488	1	.485		
		N of Valid Cases	24				
	Female	Pearson Chi-Square	42.981 <sup>l</sup>	25	.014		
		Likelihood Ratio	22.587	25	.602		
		Linear-by-Linear Association	.851	1	.356		
		N of Valid Cases	23				
	Total	Pearson Chi-Square	72.812 <sup>j</sup>	30	.000		
		Likelihood Ratio	35.639	30	.220		
		Linear-by-Linear Association	1.056	1	.304		
		N of Valid Cases	47				
1.5-1 Low Achievers	Male	Pearson Chi-Square	. <sup>n</sup>				
		N of Valid Cases	1				
	Female	Pearson Chi-Square	4.000 <sup>o</sup>	2	.135		

		Likelihood Ratio	5.545	2	.063		
		Linear-by-Linear Association	.305	1	.581		
		N of Valid Cases	4				
	Total	Pearson Chi-Square	10.000 <sup>m</sup>	6	.125		
		Likelihood Ratio	10.549	6	.103		
		Linear-by-Linear Association	1.857	1	.173		
		N of Valid Cases	5				
Less than One Very Low Achievers	Male	Pearson Chi-Square	.750 <sup>q</sup>	1	.386		
		Continuity Correction <sup>r</sup>	0.000	1	1.000		
		Likelihood Ratio	1.046	1	.306		
		Fisher's Exact Test				1.000	.667
		Linear-by-Linear Association	.500	1	.480		
		N of Valid Cases	3				
	Female	Pearson Chi-Square	. <sup>n</sup>				
		N of Valid Cases	1				
	Total	Pearson Chi-Square	5.000 <sup>p</sup>	4	.287		
		Likelihood Ratio	5.545	4	.236		
		Linear-by-Linear Association	.545	1	.460		
		N of Valid Cases	4				

Total	Male	Pearson Chi-Square	163.629 <sup>b</sup>	50	.000		
		Likelihood Ratio	82.682	50	.002		
		Linear-by-Linear Association	.142	1	.707		
		N of Valid Cases	125				
	Female	Pearson Chi-Square	366.572 <sup>c</sup>	102	.000		
		Likelihood Ratio	113.035	102	.214		
		Linear-by-Linear Association	2.493	1	.114		
		N of Valid Cases	209				
Total	Total	Pearson Chi-Square	582.468 <sup>a</sup>	132	.000		
		Likelihood Ratio	182.968	132	.002		
		Linear-by-Linear Association	1.011	1	.315		
		N of Valid Cases	334				

a. 141 cells (87.6%) have expected count less than 5. The minimum expected count is .00.

b. 60 cells (90.9%) have expected count less than 5. The minimum expected count is .05.

c. 111 cells (88.1%) have expected count less than 5. The minimum expected count is .00.

d. 70 cells (89.7%) have expected count less than 5. The minimum expected count is .02.

e. 48 cells (100.0%) have expected count less than 5. The minimum expected count is .03.

f. 64 cells (97.0%) have expected count less than 5. The minimum expected count is .01.

g. 100 cells (89.3%) have expected count less than 5. The minimum expected count is .01.

h. 45 cells (93.8%) have expected count less than 5. The minimum expected count is .06.

i. 92 cells (93.9%) have expected count less than 5. The minimum expected count is .01.

j. 41 cells (97.6%) have expected count less than 5. The minimum expected count is .02.

k. 30 cells (100.0%) have expected count less than 5. The minimum expected count is .04.

l. 36 cells (100.0%) have expected count less than 5. The minimum expected count is .04.

m. 12 cells (100.0%) have expected count less than 5. The minimum expected count is .20.

n. No statistics are computed because InterestChangeFrequently and Mysociallifenegativelyhindersmyfocusocompletingtasks are constants.

o. 6 cells (100.0%) have expected count less than 5. The minimum expected count is .50.

p. 9 cells (100.0%) have expected count less than 5. The minimum expected count is .25.

q. 4 cells (100.0%) have expected count less than 5. The minimum expected count is .33.

r. Computed only for a 2x2 table

### Chi-Square Tests

CurrentGPA			Value	df	Asymp. Sig. (2-sided)
4-3.6 Very High Achievers	Male	Pearson Chi-Square	60.078 <sup>e</sup>	35	.005
		Likelihood Ratio	37.052	35	.374
		Linear-by-Linear Association	.000	1	.995
		N of Valid Cases	32		
	Female	Pearson Chi-Square	107.366 <sup>f</sup>	50	.000
		Likelihood Ratio	43.589	50	.727
		Linear-by-Linear Association	1.328	1	.249
		N of Valid Cases	73		
	Total	Pearson Chi-Square	148.124 <sup>d</sup>	60	.000
		Likelihood Ratio	64.040	60	.337
Linear-by-Linear Association		1.048	1	.306	
	N of Valid Cases	105			
3.5-2.6 High Achievers	Male	Pearson Chi-Square	99.694 <sup>h</sup>	35	.000
		Likelihood Ratio	61.509	35	.004
		Linear-by-Linear Association	.060	1	.807

		N of Valid Cases	65		
	Female	Pearson Chi-Square	262.144 <sup>i</sup>	78	.000
		Likelihood Ratio	74.115	78	.604
		Linear-by-Linear Association	9.141	1	.002
	Total	N of Valid Cases	108		
		Pearson Chi-Square	406.343 <sup>g</sup>	90	.000
		Likelihood Ratio	120.177	90	.018
		Linear-by-Linear Association	5.190	1	.023
2.5-1.6 Moderate	Male	N of Valid Cases	173		
		Pearson Chi-Square	18.900 <sup>k</sup>	20	.528
		Likelihood Ratio	16.220	20	.703
		Linear-by-Linear Association	.642	1	.423
	Female	N of Valid Cases	24		
		Pearson Chi-Square	56.752 <sup>l</sup>	25	.000
		Likelihood Ratio	28.361	25	.292
		Linear-by-Linear Association	2.459	1	.117
	Total	N of Valid Cases	23		
		Pearson Chi-Square	86.327 <sup>j</sup>	30	.000
		Likelihood Ratio	32.987	30	.323

		Linear-by-Linear Association	2.831	1	.092
		N of Valid Cases	47		
1.5-1 Low Achievers	Male	Pearson Chi-Square	. <sup>n</sup>		
		N of Valid Cases	1		
	Female	Pearson Chi-Square	4.000 <sup>o</sup>	2	.135
		Likelihood Ratio	5.545	2	.063
		Linear-by-Linear Association	.258	1	.611
		N of Valid Cases	4		
	Total	Pearson Chi-Square	10.000 <sup>m</sup>	6	.125
		Likelihood Ratio	10.549	6	.103
		Linear-by-Linear Association	1.837	1	.175
		N of Valid Cases	5		
Less than One Very Low Achievers	Male	Pearson Chi-Square	. <sup>q</sup>		
		N of Valid Cases	3		
	Female	Pearson Chi-Square	. <sup>n</sup>		
		N of Valid Cases	1		
	Total	Pearson Chi-Square	4.000 <sup>p</sup>	2	.135
		Likelihood Ratio	4.499	2	.105
		Linear-by-Linear Association	2.000	1	.157
		N of Valid Cases	4		

Total	Male	Pearson Chi-Square	170.138 <sup>b</sup>	50	.000
		Likelihood Ratio	88.248	50	.001
		Linear-by-Linear Association	.346	1	.556
	Female	N of Valid Cases	125		
		Pearson Chi-Square	377.864 <sup>c</sup>	102	.000
		Likelihood Ratio	122.021	102	.086
	Total	Linear-by-Linear Association	11.618	1	.001
		N of Valid Cases	209		
		Pearson Chi-Square	600.574 <sup>a</sup>	132	.000
		Likelihood Ratio	196.195	132	.000
		Linear-by-Linear Association	9.127	1	.003
		N of Valid Cases	334		

a. 142 cells (88.2%) have expected count less than 5. The minimum expected count is .00.

b. 59 cells (89.4%) have expected count less than 5. The minimum expected count is .05.

c. 112 cells (88.9%) have expected count less than 5. The minimum expected count is .00.

d. 71 cells (91.0%) have expected count less than 5. The minimum expected count is .02.

e. 48 cells (100.0%) have expected count less than 5. The minimum expected count is .03.

f. 63 cells (95.5%) have expected count less than 5. The minimum expected count is .01.

g. 101 cells (90.2%) have expected count less than 5. The minimum expected count is .01.

h. 47 cells (97.9%) have expected count less than 5. The minimum expected count is .06.

i. 91 cells (92.9%) have expected count less than 5. The minimum expected count is .01.

j. 40 cells (95.2%) have expected count less than 5. The minimum expected count is .02.

k. 30 cells (100.0%) have expected count less than 5. The minimum expected count is .04.

- l. 36 cells (100.0%) have expected count less than 5. The minimum expected count is .04.
- m. 12 cells (100.0%) have expected count less than 5. The minimum expected count is .20.
- n. No statistics are computed because InterestChangeFrequently and Myfamilyresponsibilitieshindersmyfocusoncompletingtasks are constants.
- o. 6 cells (100.0%) have expected count less than 5. The minimum expected count is .50.
- p. 6 cells (100.0%) have expected count less than 5. The minimum expected count is .25.
- q. No statistics are computed because Myfamilyresponsibilitieshindersmyfocusoncompletingtasks is a constant.

**Chi-Square Tests**

CurrentGPA			Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
4-3.6 Very High Achievers	Male	Pearson Chi-Square	56.043 <sup>e</sup>	35	.013		
		Likelihood Ratio	33.710	35	.530		
		Linear-by-Linear Association	1.057	1	.304		
		N of Valid Cases	32				
	Female	Pearson Chi-Square	115.287 <sup>f</sup>	50	.000		
		Likelihood Ratio	50.026	50	.472		
		Linear-by-Linear Association	2.621	1	.105		
		N of Valid Cases	73				
Total		Pearson Chi-Square	145.950 <sup>d</sup>	60	.000		
		Likelihood Ratio	60.378	60	.462		
		Linear-by-Linear Association	.440	1	.507		
		N of Valid Cases	105				

3.5-2.6 High Achievers	Male	Pearson Chi-Square	104.576 <sup>h</sup>	35	.000
		Likelihood Ratio	69.662	35	.000
		Linear-by- Linear Association	.007	1	.935
		N of Valid Cases	65		
	Female	Pearson Chi-Square	244.165 <sup>i</sup>	78	.000
		Likelihood Ratio	60.065	78	.934
		Linear-by- Linear Association	1.570	1	.210
		N of Valid Cases	108		
	Total	Pearson Chi-Square	396.560 <sup>g</sup>	90	.000
		Likelihood Ratio	116.645	90	.031
Linear-by- Linear Association		.904	1	.342	
	N of Valid Cases	173			
2.5-1.6 Moderate	Male	Pearson Chi-Square	12.005 <sup>k</sup>	20	.916
		Likelihood Ratio	14.610	20	.798
		Linear-by- Linear Association	.102	1	.749
		N of Valid Cases	24		
	Female	Pearson Chi-Square	47.602 <sup>l</sup>	25	.004
		Likelihood Ratio	30.570	25	.204
		Linear-by- Linear Association	2.353	1	.125

		N of Valid Cases	23				
	Total	Pearson Chi-Square	70.124 <sup>i</sup>	30	.000		
		Likelihood Ratio	37.449	30	.164		
		Linear-by-Linear Association	.627	1	.428		
		N of Valid Cases	47				
1.5-1 Low Achievers	Male	Pearson Chi-Square	. <sup>n</sup>				
		N of Valid Cases	1				
	Female	Pearson Chi-Square	4.000 <sup>o</sup>	2	.135		
		Likelihood Ratio	5.545	2	.063		
		Linear-by-Linear Association	.126	1	.722		
		N of Valid Cases	4				
	Total	Pearson Chi-Square	10.000 <sup>m</sup>	6	.125		
		Likelihood Ratio	10.549	6	.103		
		Linear-by-Linear Association	.080	1	.777		
		N of Valid Cases	5				
Less than One Very Low Achievers	Male	Pearson Chi-Square	3.000 <sup>q</sup>	1	.083		
		Continuity Correction <sup>r</sup>	.188	1	.665		
		Likelihood Ratio	3.819	1	.051		
		Fisher's Exact Test				.333	.333

		Linear-by-Linear Association	2.000	1	.157	
		N of Valid Cases	3			
	Female	Pearson Chi-Square	. <sup>n</sup>			
		N of Valid Cases	1			
	Total	Pearson Chi-Square	8.000 <sup>p</sup>	4	.092	
		Likelihood Ratio	8.318	4	.081	
		Linear-by-Linear Association	.545	1	.460	
		N of Valid Cases	4			
Total	Male	Pearson Chi-Square	157.832 <sup>b</sup>	50	.000	
		Likelihood Ratio	75.510	50	.011	
		Linear-by-Linear Association	.241	1	.623	
		N of Valid Cases	125			
	Female	Pearson Chi-Square	365.187 <sup>c</sup>	102	.000	
		Likelihood Ratio	112.031	102	.234	
		Linear-by-Linear Association	6.213	1	.013	
		N of Valid Cases	209			
	Total	Pearson Chi-Square	573.977 <sup>a</sup>	132	.000	
		Likelihood Ratio	176.280	132	.006	

Linear-by-Linear Association	2.123	1	.145		
N of Valid Cases	334				

- a. 141 cells (87.6%) have expected count less than 5. The minimum expected count is .00.
- b. 57 cells (86.4%) have expected count less than 5. The minimum expected count is .05.
- c. 112 cells (88.9%) have expected count less than 5. The minimum expected count is .00.
- d. 71 cells (91.0%) have expected count less than 5. The minimum expected count is .02.
- e. 48 cells (100.0%) have expected count less than 5. The minimum expected count is .03.
- f. 62 cells (93.9%) have expected count less than 5. The minimum expected count is .01.
- g. 98 cells (87.5%) have expected count less than 5. The minimum expected count is .01.
- h. 48 cells (100.0%) have expected count less than 5. The minimum expected count is .06.
- i. 92 cells (93.9%) have expected count less than 5. The minimum expected count is .01.
- j. 40 cells (95.2%) have expected count less than 5. The minimum expected count is .02.
- k. 30 cells (100.0%) have expected count less than 5. The minimum expected count is .04.
- l. 36 cells (100.0%) have expected count less than 5. The minimum expected count is .04.
- m. 12 cells (100.0%) have expected count less than 5. The minimum expected count is .20.
- n. No statistics are computed because InterestChangeFrequently and TheuseofsocialMedianegativelyaffectsmyfocusontasks are constants.
- o. 6 cells (100.0%) have expected count less than 5. The minimum expected count is .50.
- p. 9 cells (100.0%) have expected count less than 5. The minimum expected count is .25.
- q. 4 cells (100.0%) have expected count less than 5. The minimum expected count is .33.
- r. Computed only for a 2x2 table

### Chi-Square Tests

CurrentGPA			Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
4-3.6 Very High Achievers	Male	Pearson Chi-Square	58.005 <sup>e</sup>	35	.009		
		Likelihood Ratio	35.149	35	.461		
		Linear-by-Linear Association	.240	1	.624		
			N of Valid Cases	32			
	Female	Pearson Chi-Square	106.982 <sup>f</sup>	50	.000		
		Likelihood Ratio	42.844	50	.753		

		Linear-by-Linear Association	1.108	1	.293	
		N of Valid Cases	73			
	Total	Pearson Chi-Square	149.231 <sup>d</sup>	60	.000	
		Likelihood Ratio	63.944	60	.340	
		Linear-by-Linear Association	.520	1	.471	
		N of Valid Cases	105			
3.5-2.6 High Achievers	Male	Pearson Chi-Square	113.037 <sup>h</sup>	35	.000	
		Likelihood Ratio	72.252	35	.000	
		Linear-by-Linear Association	.982	1	.322	
		N of Valid Cases	65			
	Female	Pearson Chi-Square	252.981 <sup>i</sup>	78	.000	
		Likelihood Ratio	70.746	78	.707	
		Linear-by-Linear Association	4.995	1	.025	
		N of Valid Cases	108			
	Total	Pearson Chi-Square	394.664 <sup>g</sup>	90	.000	
		Likelihood Ratio	111.784	90	.060	
		Linear-by-Linear Association	.312	1	.577	
		N of Valid Cases	173			
2.5-1.6 Moderate	Male	Pearson Chi-Square	12.680 <sup>k</sup>	20	.891	

		Likelihood Ratio	15.576	20	.743	
		Linear-by-Linear Association	5.183	1	.023	
		N of Valid Cases	24			
	Female	Pearson Chi-Square	46.153 <sup>l</sup>	25	.006	
		Likelihood Ratio	32.354	25	.148	
		Linear-by-Linear Association	2.614	1	.106	
		N of Valid Cases	23			
	Total	Pearson Chi-Square	71.067 <sup>i</sup>	30	.000	
		Likelihood Ratio	37.269	30	.169	
		Linear-by-Linear Association	8.177	1	.004	
		N of Valid Cases	47			
1.5-1 Low Achievers	Male	Pearson Chi-Square	. <sup>n</sup>			
		N of Valid Cases	1			
	Female	Pearson Chi-Square	4.000 <sup>o</sup>	2	.135	
		Likelihood Ratio	5.545	2	.063	
		Linear-by-Linear Association	.016	1	.900	
		N of Valid Cases	4			
	Total	Pearson Chi-Square	10.000 <sup>m</sup>	6	.125	
		Likelihood Ratio	10.549	6	.103	

		Linear-by-Linear Association	.000	1	.984			
		N of Valid Cases	5					
Less than One Very Low Achievers	Male	Pearson Chi-Square	3.000 <sup>q</sup>	1	.083			
		Continuity Correction <sup>r</sup>	.188	1	.665			
		Likelihood Ratio	3.819	1	.051			
		Fisher's Exact Test				.333	.333	
		Linear-by-Linear Association	2.000	1	.157			
		N of Valid Cases	3					
	Female	Pearson Chi-Square	. <sup>n</sup>					
		N of Valid Cases	1					
	Total	Pearson Chi-Square	4.000 <sup>p</sup>	2	.135			
		Likelihood Ratio	4.499	2	.105			
		Linear-by-Linear Association	2.000	1	.157			
		N of Valid Cases	4					
Total	Male	Pearson Chi-Square	166.515 <sup>b</sup>	50	.000			
		Likelihood Ratio	84.082	50	.002			
		Linear-by-Linear Association	.008	1	.928			
		N of Valid Cases	125					
		Female	Pearson Chi-Square	366.435 <sup>c</sup>	102	.000		

	Likelihood Ratio	114.406	102	.189	
	Linear-by-Linear Association	7.913	1	.005	
	N of Valid Cases	209			
Total	Pearson Chi-Square	572.327 <sup>a</sup>	132	.000	
	Likelihood Ratio	175.675	132	.007	
	Linear-by-Linear Association	4.169	1	.041	
	N of Valid Cases	334			

- a. 142 cells (88.2%) have expected count less than 5. The minimum expected count is .00.
- b. 57 cells (86.4%) have expected count less than 5. The minimum expected count is .05.
- c. 111 cells (88.1%) have expected count less than 5. The minimum expected count is .00.
- d. 71 cells (91.0%) have expected count less than 5. The minimum expected count is .02.
- e. 48 cells (100.0%) have expected count less than 5. The minimum expected count is .03.
- f. 63 cells (95.5%) have expected count less than 5. The minimum expected count is .01.
- g. 100 cells (89.3%) have expected count less than 5. The minimum expected count is .01.
- h. 47 cells (97.9%) have expected count less than 5. The minimum expected count is .06.
- i. 90 cells (91.8%) have expected count less than 5. The minimum expected count is .01.
- j. 41 cells (97.6%) have expected count less than 5. The minimum expected count is .02.
- k. 30 cells (100.0%) have expected count less than 5. The minimum expected count is .04.
- l. 36 cells (100.0%) have expected count less than 5. The minimum expected count is .04.
- m. 12 cells (100.0%) have expected count less than 5. The minimum expected count is .20.
- n. No statistics are computed because InterestChangeFrequently and Theuseofvideogamesnegativelyaffectsmyfocusontasks are constants.
- o. 6 cells (100.0%) have expected count less than 5. The minimum expected count is .50.
- p. 6 cells (100.0%) have expected count less than 5. The minimum expected count is .25.
- q. 4 cells (100.0%) have expected count less than 5. The minimum expected count is .33.
- r. Computed only for a 2x2 table

### Chi-Square Tests

			Value	df	Asymp. Sig. (2-sided)
CurrentGPA					
4-3.6	Male	Pearson Chi-Square	64.850 <sup>e</sup>	20	.000
Very High Achievers					

		Likelihood Ratio	40.723	20	.004
		Linear-by-Linear Association	12.113	1	.001
		N of Valid Cases	32		
	Female	Pearson Chi-Square	90.124 <sup>f</sup>	20	.000
		Likelihood Ratio	27.443	20	.123
		Linear-by-Linear Association	.342	1	.559
		N of Valid Cases	73		
	Total	Pearson Chi-Square	139.537 <sup>d</sup>	25	.000
		Likelihood Ratio	50.365	25	.002
		Linear-by-Linear Association	8.092	1	.004
		N of Valid Cases	105		
3.5-2.6 High Achievers	Male	Pearson Chi-Square	83.676 <sup>h</sup>	25	.000
		Likelihood Ratio	58.349	25	.000
		Linear-by-Linear Association	7.695	1	.006
		N of Valid Cases	65		
	Female	Pearson Chi-Square	245.245 <sup>i</sup>	36	.000
		Likelihood Ratio	58.093	36	.011
		Linear-by-Linear Association	17.750	1	.000
		N of Valid Cases	108		

	Total	Pearson Chi-Square	378.122 <sup>g</sup>	36	.000
		Likelihood Ratio	105.462	36	.000
		Linear-by-Linear Association	25.887	1	.000
		N of Valid Cases	173		
2.5-1.6 Moderate	Male	Pearson Chi-Square	10.111 <sup>k</sup>	8	.257
		Likelihood Ratio	12.375	8	.135
		Linear-by-Linear Association	.184	1	.668
		N of Valid Cases	24		
	Female	Pearson Chi-Square	29.320 <sup>l</sup>	9	.001
		Likelihood Ratio	15.397	9	.081
		Linear-by-Linear Association	4.158	1	.041
		N of Valid Cases	23		
	Total	Pearson Chi-Square	57.098 <sup>j</sup>	15	.000
		Likelihood Ratio	22.597	15	.093
		Linear-by-Linear Association	1.607	1	.205
		N of Valid Cases	47		
1.5-1 Low Achievers	Male	Pearson Chi-Square	. <sup>n</sup>		
		N of Valid Cases	1		
	Female	Pearson Chi-Square	4.000 <sup>o</sup>	2	.135
		Likelihood Ratio	5.545	2	.063

		Linear-by-Linear Association	1.170	1	.279
		N of Valid Cases	4		
	Total	Pearson Chi-Square	10.000 <sup>m</sup>	6	.125
		Likelihood Ratio	10.549	6	.103
		Linear-by-Linear Association	2.986	1	.084
		N of Valid Cases	5		
Less than One Very Low Achievers	Male	Pearson Chi-Square	6.000 <sup>q</sup>	4	.199
		Likelihood Ratio	6.592	4	.159
		Linear-by-Linear Association	2.000	1	.157
		N of Valid Cases	3		
	Female	Pearson Chi-Square	. <sup>n</sup>		
		N of Valid Cases	1		
	Total	Pearson Chi-Square	12.000 <sup>p</sup>	9	.213
		Likelihood Ratio	11.090	9	.270
		Linear-by-Linear Association	3.000	1	.083
		N of Valid Cases	4		
Total	Male	Pearson Chi-Square	160.779 <sup>b</sup>	25	.000
		Likelihood Ratio	89.366	25	.000
		Linear-by-Linear Association	18.367	1	.000

	N of Valid Cases	125		
Female	Pearson Chi-Square	458.195 <sup>c</sup>	36	.000
	Likelihood Ratio	103.223	36	.000
	Linear-by-Linear Association	20.166	1	.000
	N of Valid Cases	209		
Total	Pearson Chi-Square	729.831 <sup>a</sup>	36	.000
	Likelihood Ratio	178.358	36	.000
	Linear-by-Linear Association	39.401	1	.000
	N of Valid Cases	334		

- a. 34 cells (69.4%) have expected count less than 5. The minimum expected count is .00.
- b. 25 cells (69.4%) have expected count less than 5. The minimum expected count is .14.
- c. 36 cells (73.5%) have expected count less than 5. The minimum expected count is .00.
- d. 27 cells (75.0%) have expected count less than 5. The minimum expected count is .02.
- e. 30 cells (100.0%) have expected count less than 5. The minimum expected count is .03.
- f. 24 cells (80.0%) have expected count less than 5. The minimum expected count is .01.
- g. 37 cells (75.5%) have expected count less than 5. The minimum expected count is .01.
- h. 35 cells (97.2%) have expected count less than 5. The minimum expected count is .15.
- i. 43 cells (87.8%) have expected count less than 5. The minimum expected count is .01.
- j. 21 cells (87.5%) have expected count less than 5. The minimum expected count is .02.
- k. 14 cells (93.3%) have expected count less than 5. The minimum expected count is .25.
- l. 16 cells (100.0%) have expected count less than 5. The minimum expected count is .04.
- m. 12 cells (100.0%) have expected count less than 5. The minimum expected count is .20.
- n. No statistics are computed because ObsessedwithaCertainIdeabutLostIntersectLater and IFinishWhateverIbegin are constants.
- o. 6 cells (100.0%) have expected count less than 5. The minimum expected count is .50.
- p. 16 cells (100.0%) have expected count less than 5. The minimum expected count is .25.

q. 9 cells (100.0%) have expected count less than 5. The minimum expected count is .33.

### Chi-Square Tests

CurrentGPA			Value	df	Asymp. Sig. (2-sided)
4-3.6 Very High Achievers	Male	Pearson Chi-Square	48.272 <sup>e</sup>	20	.000
		Likelihood Ratio	24.647	20	.215
		Linear-by-Linear Association	1.348	1	.246
		N of Valid Cases	32		
	Female	Pearson Chi-Square	99.689 <sup>f</sup>	35	.000
		Likelihood Ratio	35.108	35	.463
		Linear-by-Linear Association	.523	1	.469
		N of Valid Cases	73		
	Total	Pearson Chi-Square	133.658 <sup>d</sup>	35	.000
		Likelihood Ratio	45.562	35	.109
		Linear-by-Linear Association	1.731	1	.188
		N of Valid Cases	105		
3.5-2.6 High Achievers	Male	Pearson Chi-Square	89.171 <sup>h</sup>	25	.000
		Likelihood Ratio	59.965	25	.000
		Linear-by-Linear Association	3.407	1	.065
		N of Valid Cases	65		

	Female	Pearson Chi-Square	244.260 <sup>i</sup>	42	.000
		Likelihood Ratio	52.032	42	.138
		Linear-by-Linear Association	7.507	1	.006
		N of Valid Cases	108		
	Total	Pearson Chi-Square	384.067 <sup>g</sup>	42	.000
		Likelihood Ratio	102.894	42	.000
		Linear-by-Linear Association	10.647	1	.001
		N of Valid Cases	173		
2.5-1.6 Moderate	Male	Pearson Chi-Square	22.961 <sup>k</sup>	20	.291
		Likelihood Ratio	19.781	20	.472
		Linear-by-Linear Association	2.934	1	.087
		N of Valid Cases	24		
	Female	Pearson Chi-Square	32.232 <sup>l</sup>	12	.001
		Likelihood Ratio	16.501	12	.169
		Linear-by-Linear Association	.862	1	.353
		N of Valid Cases	23		
	Total	Pearson Chi-Square	76.261 <sup>j</sup>	30	.000
		Likelihood Ratio	36.197	30	.202
		Linear-by-Linear Association	4.675	1	.031

1.5-1 Low Achievers	Male	N of Valid Cases	47		
		Pearson Chi-Square	. <sup>n</sup>		
		N of Valid Cases	1		
	Female	Pearson Chi-Square	4.000 <sup>o</sup>	2	.135
		Likelihood Ratio	5.545	2	.063
		Linear-by-Linear Association	.009	1	.926
	Total	N of Valid Cases	4		
		Pearson Chi-Square	6.250 <sup>m</sup>	4	.181
		Likelihood Ratio	7.777	4	.100
	Less than One Very Low Achievers	Male	Linear-by-Linear Association	.784	1
N of Valid Cases			5		
Pearson Chi-Square			6.000 <sup>q</sup>	4	.199
Female		Likelihood Ratio	6.592	4	.159
		Linear-by-Linear Association	1.929	1	.165
		N of Valid Cases	3		
Total		Pearson Chi-Square	. <sup>n</sup>		
		N of Valid Cases	1		
		Pearson Chi-Square	12.000 <sup>p</sup>	9	.213
		Likelihood Ratio	11.090	9	.270
	Linear-by-Linear Association	2.897	1	.089	

		N of Valid Cases	4		
Total	Male	Pearson Chi-Square	155.443 <sup>b</sup>	30	.000
		Likelihood Ratio	79.892	30	.000
		Linear-by-Linear Association	9.374	1	.002
	Female	N of Valid Cases	125		
		Pearson Chi-Square	467.471 <sup>c</sup>	54	.000
		Likelihood Ratio	99.649	54	.000
		Linear-by-Linear Association	9.424	1	.002
	Total	N of Valid Cases	209		
		Pearson Chi-Square	732.471 <sup>a</sup>	60	.000
		Likelihood Ratio	167.827	60	.000
		Linear-by-Linear Association	18.618	1	.000
		N of Valid Cases	334		

a. 60 cells (77.9%) have expected count less than 5. The minimum expected count is .00.

b. 33 cells (78.6%) have expected count less than 5. The minimum expected count is .05.

c. 58 cells (82.9%) have expected count less than 5. The minimum expected count is .00.

d. 42 cells (87.5%) have expected count less than 5. The minimum expected count is .02.

e. 29 cells (96.7%) have expected count less than 5. The minimum expected count is .03.

f. 43 cells (89.6%) have expected count less than 5. The minimum expected count is .01.

g. 44 cells (78.6%) have expected count less than 5. The minimum expected count is .01.

h. 35 cells (97.2%) have expected count less than 5. The minimum expected count is .08.

i. 48 cells (85.7%) have expected count less than 5. The minimum expected count is .01.

j. 38 cells (90.5%) have expected count less than 5. The minimum expected count is .02.

- k. 29 cells (96.7%) have expected count less than 5. The minimum expected count is .08.
- l. 19 cells (95.0%) have expected count less than 5. The minimum expected count is .04.
- m. 9 cells (100.0%) have expected count less than 5. The minimum expected count is .20.
- n. No statistics are computed because ObsessedwithaCertainIdeabutLostInterasetLater and SetbacksdonotDiscourageME are constants.
- o. 6 cells (100.0%) have expected count less than 5. The minimum expected count is .50.
- p. 16 cells (100.0%) have expected count less than 5. The minimum expected count is .25.
- q. 9 cells (100.0%) have expected count less than 5. The minimum expected count is .33.

### Chi-Square Tests

CurrentGPA			Value	df	Asymp. Sig. (2-sided)
4-3.6 Very High Achievers	Male	Pearson Chi-Square	55.700 <sup>e</sup>	25	.000
		Likelihood Ratio	24.963	25	.464
		Linear-by-Linear Association	3.249	1	.071
		N of Valid Cases	32		
	Female	Pearson Chi-Square	115.081 <sup>f</sup>	45	.000
		Likelihood Ratio	46.594	45	.407
		Linear-by-Linear Association	.112	1	.738
		N of Valid Cases	73		
Total		Pearson Chi-Square	157.579 <sup>d</sup>	55	.000
		Likelihood Ratio	64.069	55	.188
		Linear-by-Linear Association	1.133	1	.287
		N of Valid Cases	105		

3.5-2.6 High Achievers	Male	Pearson Chi-Square	108.933 <sup>h</sup>	35	.000	
		Likelihood Ratio	76.737	35	.000	
		Linear-by- Linear Association	3.829	1	.050	
			N of Valid Cases	65		
	Female	Pearson Chi-Square	265.102 <sup>i</sup>	78	.000	
		Likelihood Ratio	75.155	78	.570	
		Linear-by- Linear Association	8.720	1	.003	
			N of Valid Cases	108		
	Total	Pearson Chi-Square	425.105 <sup>g</sup>	90	.000	
		Likelihood Ratio	141.759	90	.000	
		Linear-by- Linear Association	12.566	1	.000	
			N of Valid Cases	173		
	2.5-1.6 Moderate	Male	Pearson Chi-Square	20.955 <sup>k</sup>	16	.180
Likelihood Ratio			17.761	16	.338	
Linear-by- Linear Association			.123	1	.725	
			N of Valid Cases	24		
Female		Pearson Chi-Square	28.622 <sup>l</sup>	12	.004	
		Likelihood Ratio	14.636	12	.262	
		Linear-by- Linear Association	3.136	1	.077	

		N of Valid Cases	23			
	Total	Pearson Chi-Square	69.176 <sup>i</sup>	25	.000	
		Likelihood Ratio	28.120	25	.302	
		Linear-by-Linear Association	.198	1	.657	
1.5-1 Low Achievers	Male	N of Valid Cases	47			
		Pearson Chi-Square	. <sup>n</sup>			
	Female	N of Valid Cases	1			
		Pearson Chi-Square	4.000 <sup>o</sup>	2	.135	
		Likelihood Ratio	5.545	2	.063	
		Linear-by-Linear Association	.575	1	.448	
Total	Total	N of Valid Cases	4			
		Pearson Chi-Square	10.000 <sup>m</sup>	6	.125	
		Likelihood Ratio	10.549	6	.103	
		Linear-by-Linear Association	3.077	1	.079	
	Less than One Very Low Achievers	Male	N of Valid Cases	5		
			Pearson Chi-Square	6.000 <sup>q</sup>	4	.199
		Likelihood Ratio	6.592	4	.159	
	Linear-by-Linear Association	2.000	1	.157		
	Female	N of Valid Cases	3			
		Pearson Chi-Square	. <sup>n</sup>			

		N of Valid Cases	1		
	Total	Pearson Chi-Square	12.000 <sup>p</sup>	9	.213
		Likelihood Ratio	11.090	9	.270
		Linear-by-Linear Association	3.000	1	.083
		N of Valid Cases	4		
Total	Male	Pearson Chi-Square	178.075 <sup>b</sup>	50	.000
		Likelihood Ratio	97.591	50	.000
		Linear-by-Linear Association	4.226	1	.040
		N of Valid Cases	125		
	Female	Pearson Chi-Square	389.833 <sup>c</sup>	102	.000
		Likelihood Ratio	126.451	102	.051
		Linear-by-Linear Association	9.439	1	.002
		N of Valid Cases	209		
	Total	Pearson Chi-Square	616.866 <sup>a</sup>	132	.000
		Likelihood Ratio	215.250	132	.000
		Linear-by-Linear Association	13.395	1	.000
		N of Valid Cases	334		

a. 148 cells (91.9%) have expected count less than 5. The minimum expected count is .00.

b. 56 cells (84.8%) have expected count less than 5. The minimum expected count is .05.

c. 114 cells (90.5%) have expected count less than 5. The minimum expected count is .00.

- d. 65 cells (90.3%) have expected count less than 5. The minimum expected count is .02.
- e. 35 cells (97.2%) have expected count less than 5. The minimum expected count is .03.
- f. 54 cells (90.0%) have expected count less than 5. The minimum expected count is .01.
- g. 102 cells (91.1%) have expected count less than 5. The minimum expected count is .01.
- h. 46 cells (95.8%) have expected count less than 5. The minimum expected count is .08.
- i. 92 cells (93.9%) have expected count less than 5. The minimum expected count is .01.
- j. 32 cells (88.9%) have expected count less than 5. The minimum expected count is .02.
- k. 24 cells (96.0%) have expected count less than 5. The minimum expected count is .08.
- l. 19 cells (95.0%) have expected count less than 5. The minimum expected count is .04.
- m. 12 cells (100.0%) have expected count less than 5. The minimum expected count is .20.
- n. No statistics are computed because ObsessedwithaCertainIdeabutLostInterasetLater and IHaveOvercomeSetbackstoConqueranImportantChallange are constants.
- o. 6 cells (100.0%) have expected count less than 5. The minimum expected count is .50.
- p. 16 cells (100.0%) have expected count less than 5. The minimum expected count is .25.
- q. 9 cells (100.0%) have expected count less than 5. The minimum expected count is .33.

### Chi-Square Tests

CurrentGPA			Value	df	Asymp. Sig. (2-sided)
4-3.6 Very High Achievers	Male	Pearson Chi-Square	79.133 <sup>e</sup>	35	.000
		Likelihood Ratio	48.272	35	.067
		Linear-by-Linear Association	1.639	1	.200
	N of Valid Cases		32		
	Female	Pearson Chi-Square	116.292 <sup>f</sup>	50	.000
		Likelihood Ratio	46.771	50	.604
		Linear-by-Linear Association	3.822	1	.051

		N of Valid Cases	73		
	Total	Pearson Chi-Square	164.406 <sup>d</sup>	60	.000
		Likelihood Ratio	70.492	60	.167
		Linear-by-Linear Association	5.596	1	.018
3.5-2.6 High Achievers	Male	N of Valid Cases	105		
		Pearson Chi-Square	108.184 <sup>h</sup>	35	.000
		Likelihood Ratio	73.838	35	.000
		Linear-by-Linear Association	7.671	1	.006
	Female	N of Valid Cases	65		
		Pearson Chi-Square	262.198 <sup>i</sup>	78	.000
Likelihood Ratio		70.555	78	.713	
	Linear-by-Linear Association	7.097	1	.008	
2.5-1.6 Moderate	Total	N of Valid Cases	108		
		Pearson Chi-Square	417.074 <sup>g</sup>	90	.000
		Likelihood Ratio	129.873	90	.004
		Linear-by-Linear Association	14.604	1	.000
	Male	N of Valid Cases	173		
		Pearson Chi-Square	32.877 <sup>k</sup>	20	.035
	Likelihood Ratio	28.193	20	.105	

		Linear-by-Linear Association	6.594	1	.010
		N of Valid Cases	24		
	Female	Pearson Chi-Square	30.804 <sup>l</sup>	12	.002
		Likelihood Ratio	15.625	12	.209
		Linear-by-Linear Association	.217	1	.641
		N of Valid Cases	23		
	Total	Pearson Chi-Square	85.695 <sup>j</sup>	30	.000
		Likelihood Ratio	41.913	30	.073
		Linear-by-Linear Association	5.410	1	.020
		N of Valid Cases	47		
1.5-1 Low Achievers	Male	Pearson Chi-Square	. <sup>n</sup>		
		N of Valid Cases	1		
	Female	Pearson Chi-Square	4.000 <sup>o</sup>	2	.135
		Likelihood Ratio	5.545	2	.063
		Linear-by-Linear Association	.110	1	.740
		N of Valid Cases	4		
	Total	Pearson Chi-Square	10.000 <sup>m</sup>	6	.125
		Likelihood Ratio	10.549	6	.103
		Linear-by-Linear Association	1.735	1	.188

		N of Valid Cases	5		
Less than One Very Low Achievers	Male	Pearson Chi-Square	3.000 <sup>a</sup>	2	.223
		Likelihood Ratio	3.819	2	.148
		Linear-by-Linear Association	0.000	1	1.000
		N of Valid Cases	3		
	Female	Pearson Chi-Square	. <sup>n</sup>		
		N of Valid Cases	1		
Total	Total	Pearson Chi-Square	8.000 <sup>p</sup>	6	.238
		Likelihood Ratio	8.318	6	.216
		Linear-by-Linear Association	1.600	1	.206
		N of Valid Cases	4		
Total	Male	Pearson Chi-Square	203.153 <sup>b</sup>	50	.000
		Likelihood Ratio	114.864	50	.000
		Linear-by-Linear Association	17.232	1	.000
		N of Valid Cases	125		
	Female	Pearson Chi-Square	403.801 <sup>c</sup>	102	.000
		Likelihood Ratio	138.353	102	.010
		Linear-by-Linear Association	11.756	1	.001
		N of Valid Cases	209		

Total	Pearson Chi-Square	639.891 <sup>a</sup>	132	.000
	Likelihood Ratio	226.767	132	.000
	Linear-by-Linear Association	27.408	1	.000
	N of Valid Cases	334		

- a. 139 cells (86.3%) have expected count less than 5. The minimum expected count is .00.
- b. 58 cells (87.9%) have expected count less than 5. The minimum expected count is .05.
- c. 113 cells (89.7%) have expected count less than 5. The minimum expected count is .00.
- d. 72 cells (92.3%) have expected count less than 5. The minimum expected count is .02.
- e. 48 cells (100.0%) have expected count less than 5. The minimum expected count is .03.
- f. 64 cells (97.0%) have expected count less than 5. The minimum expected count is .01.
- g. 99 cells (88.4%) have expected count less than 5. The minimum expected count is .01.
- h. 46 cells (95.8%) have expected count less than 5. The minimum expected count is .08.
- i. 91 cells (92.9%) have expected count less than 5. The minimum expected count is .01.
- j. 40 cells (95.2%) have expected count less than 5. The minimum expected count is .02.
- k. 30 cells (100.0%) have expected count less than 5. The minimum expected count is .08.
- l. 20 cells (100.0%) have expected count less than 5. The minimum expected count is .04.
- m. 12 cells (100.0%) have expected count less than 5. The minimum expected count is .20.
- n. No statistics are computed because ObsessedwithaCertainIdeabutLostInterasetLater and Ihavedifficultymaintaningmyfocusonprojectsthattakemorethan are constants.
- o. 6 cells (100.0%) have expected count less than 5. The minimum expected count is .50.
- p. 12 cells (100.0%) have expected count less than 5. The minimum expected count is .25.
- q. 6 cells (100.0%) have expected count less than 5. The minimum expected count is .33.

### Chi-Square Tests

			Value	df	Asymp. Sig. (2-sided)
4-3.6	Male	Pearson Chi-Square	60.393 <sup>e</sup>	25	.000
Very High Achievers					

		Likelihood Ratio	32.200	25	.152
		Linear-by-Linear Association	3.986	1	.046
		N of Valid Cases	32		
	Female	Pearson Chi-Square	108.374 <sup>f</sup>	40	.000
		Likelihood Ratio	39.493	40	.493
		Linear-by-Linear Association	.088	1	.767
		N of Valid Cases	73		
	Total	Pearson Chi-Square	150.421 <sup>d</sup>	50	.000
		Likelihood Ratio	57.447	50	.219
		Linear-by-Linear Association	1.732	1	.188
		N of Valid Cases	105		
3.5-2.6 High Achievers	Male	Pearson Chi-Square	86.941 <sup>h</sup>	30	.000
		Likelihood Ratio	54.515	30	.004
		Linear-by-Linear Association	8.003	1	.005
		N of Valid Cases	65		
	Female	Pearson Chi-Square	263.526 <sup>i</sup>	72	.000
		Likelihood Ratio	73.985	72	.413
		Linear-by-Linear Association	8.508	1	.004
		N of Valid Cases	108		

	Total	Pearson Chi-Square	412.280 <sup>g</sup>	90	.000
		Likelihood Ratio	125.084	90	.009
		Linear-by-Linear Association	17.178	1	.000
		N of Valid Cases	173		
2.5-1.6 Moderate	Male	Pearson Chi-Square	29.091 <sup>k</sup>	12	.004
		Likelihood Ratio	28.157	12	.005
		Linear-by-Linear Association	4.534	1	.033
		N of Valid Cases	24		
	Female	Pearson Chi-Square	24.784 <sup>l</sup>	9	.003
		Likelihood Ratio	10.130	9	.340
		Linear-by-Linear Association	.496	1	.481
		N of Valid Cases	23		
	Total	Pearson Chi-Square	72.568 <sup>j</sup>	20	.000
		Likelihood Ratio	29.935	20	.071
		Linear-by-Linear Association	5.168	1	.023
		N of Valid Cases	47		
1.5-1 Low Achievers	Male	Pearson Chi-Square	. <sup>n</sup>		
		N of Valid Cases	1		
	Female	Pearson Chi-Square	4.000 <sup>o</sup>	2	.135

		Likelihood Ratio	5.545	2	.063
		Linear-by-Linear Association	.240	1	.624
		N of Valid Cases	4		
	Total	Pearson Chi-Square	6.250 <sup>m</sup>	4	.181
		Likelihood Ratio	7.777	4	.100
		Linear-by-Linear Association	.587	1	.444
		N of Valid Cases	5		
Less than One Very Low Achievers	Male	Pearson Chi-Square	3.000 <sup>q</sup>	2	.223
		Likelihood Ratio	3.819	2	.148
		Linear-by-Linear Association	1.500	1	.221
		N of Valid Cases	3		
	Female	Pearson Chi-Square	. <sup>n</sup>		
		N of Valid Cases	1		
	Total	Pearson Chi-Square	8.000 <sup>p</sup>	6	.238
		Likelihood Ratio	8.318	6	.216
		Linear-by-Linear Association	2.500	1	.114
		N of Valid Cases	4		
Total	Male	Pearson Chi-Square	172.450 <sup>b</sup>	45	.000
		Likelihood Ratio	89.473	45	.000

	Linear-by-Linear Association	17.469	1	.000
	N of Valid Cases	125		
Female	Pearson Chi-Square	386.183 <sup>c</sup>	102	.000
	Likelihood Ratio	123.172	102	.075
	Linear-by-Linear Association	8.562	1	.003
	N of Valid Cases	209		
Total	Pearson Chi-Square	612.714 <sup>a</sup>	132	.000
	Likelihood Ratio	210.209	132	.000
	Linear-by-Linear Association	24.399	1	.000
	N of Valid Cases	334		

a. 149 cells (92.5%) have expected count less than 5. The minimum expected count is .00.

b. 50 cells (83.3%) have expected count less than 5. The minimum expected count is .05.

c. 116 cells (92.1%) have expected count less than 5. The minimum expected count is .00.

d. 58 cells (87.9%) have expected count less than 5. The minimum expected count is .02.

e. 36 cells (100.0%) have expected count less than 5. The minimum expected count is .03.

f. 49 cells (90.7%) have expected count less than 5. The minimum expected count is .01.

g. 102 cells (91.1%) have expected count less than 5. The minimum expected count is .01.

h. 40 cells (95.2%) have expected count less than 5. The minimum expected count is .08.

i. 85 cells (93.4%) have expected count less than 5. The minimum expected count is .01.

j. 27 cells (90.0%) have expected count less than 5. The minimum expected count is .02.

k. 19 cells (95.0%) have expected count less than 5. The minimum expected count is .08.

l. 15 cells (93.8%) have expected count less than 5. The minimum expected count is .04.

m. 9 cells (100.0%) have expected count less than 5. The minimum expected count is .20.

n. No statistics are computed because ObsessedwithaCertainIdeabutLostIntersectLater and lamahardworker are constants.

o. 6 cells (100.0%) have expected count less than 5. The minimum expected count is .50.

p. 12 cells (100.0%) have expected count less than 5. The minimum expected count is .25.

q. 6 cells (100.0%) have expected count less than 5. The minimum expected count is .33.

### Chi-Square Tests

CurrentGPA			Value	df	Asymp. Sig. (2-sided)
4-3.6 Very High Achievers	Male	Pearson Chi-Square	65.099 <sup>e</sup>	25	.000
		Likelihood Ratio	37.525	25	.051
		Linear-by-Linear Association	8.928	1	.003
		N of Valid Cases	32		
	Female	Pearson Chi-Square	110.338 <sup>f</sup>	50	.000
		Likelihood Ratio	40.400	50	.832
		Linear-by-Linear Association	.134	1	.714
		N of Valid Cases	73		
	Total	Pearson Chi-Square	156.965 <sup>d</sup>	60	.000
		Likelihood Ratio	63.007	60	.370
Linear-by-Linear Association		.956	1	.328	
	N of Valid Cases	105			
3.5-2.6 High Achievers	Male	Pearson Chi-Square	90.701 <sup>h</sup>	35	.000
		Likelihood Ratio	60.644	35	.005

		Linear-by-Linear Association	8.818	1	.003
		N of Valid Cases	65		
	Female	Pearson Chi-Square	262.865 <sup>i</sup>	78	.000
		Likelihood Ratio	66.904	78	.811
		Linear-by-Linear Association	5.252	1	.022
		N of Valid Cases	108		
	Total	Pearson Chi-Square	403.760 <sup>g</sup>	90	.000
		Likelihood Ratio	118.387	90	.024
		Linear-by-Linear Association	13.999	1	.000
		N of Valid Cases	173		
2.5-1.6 Moderate	Male	Pearson Chi-Square	22.130 <sup>k</sup>	16	.139
		Likelihood Ratio	17.872	16	.331
		Linear-by-Linear Association	.776	1	.378
		N of Valid Cases	24		
	Female	Pearson Chi-Square	24.843 <sup>l</sup>	9	.003
		Likelihood Ratio	10.693	9	.297
		Linear-by-Linear Association	.024	1	.878
		N of Valid Cases	23		
	Total	Pearson Chi-Square	66.927 <sup>j</sup>	25	.000

		Likelihood Ratio	24.906	25	.468
		Linear-by-Linear Association	.740	1	.390
1.5-1 Low Achievers	Male	N of Valid Cases	47		
		Pearson Chi-Square	. <sup>n</sup>		
	Female	N of Valid Cases	1		
		Pearson Chi-Square	4.000 <sup>o</sup>	2	.135
	Total	Likelihood Ratio	5.545	2	.063
		Linear-by-Linear Association	1.317	1	.251
N of Valid Cases		4			
		Pearson Chi-Square	6.250 <sup>m</sup>	4	.181
		Likelihood Ratio	7.777	4	.100
		Linear-by-Linear Association	.967	1	.325
Less than One Very Low Achievers	Male	N of Valid Cases	5		
		Pearson Chi-Square	3.000 <sup>q</sup>	2	.223
		Likelihood Ratio	3.819	2	.148
	Female	Linear-by-Linear Association	1.500	1	.221
		N of Valid Cases	3		
		Pearson Chi-Square	. <sup>n</sup>		
Total	N of Valid Cases	1			
		Pearson Chi-Square	8.000 <sup>p</sup>	6	.238

		Likelihood Ratio	8.318	6	.216
		Linear-by-Linear Association	2.558	1	.110
		N of Valid Cases	4		
Total	Male	Pearson Chi-Square	177.686 <sup>b</sup>	50	.000
		Likelihood Ratio	93.420	50	.000
		Linear-by-Linear Association	15.456	1	.000
		N of Valid Cases	125		
	Female	Pearson Chi-Square	382.986 <sup>c</sup>	102	.000
		Likelihood Ratio	118.898	102	.121
		Linear-by-Linear Association	3.900	1	.048
		N of Valid Cases	209		
	Total	Pearson Chi-Square	605.616 <sup>a</sup>	132	.000
		Likelihood Ratio	200.676	132	.000
		Linear-by-Linear Association	16.155	1	.000
		N of Valid Cases	334		

a. 146 cells (90.7%) have expected count less than 5. The minimum expected count is .00.

b. 55 cells (83.3%) have expected count less than 5. The minimum expected count is .05.

c. 116 cells (92.1%) have expected count less than 5. The minimum expected count is .00.

d. 71 cells (91.0%) have expected count less than 5. The minimum expected count is .02.

e. 36 cells (100.0%) have expected count less than 5. The minimum expected count is .03.

f. 61 cells (92.4%) have expected count less than 5. The minimum expected count is .01.

- g. 102 cells (91.1%) have expected count less than 5. The minimum expected count is .01.
- h. 44 cells (91.7%) have expected count less than 5. The minimum expected count is .08.
- i. 91 cells (92.9%) have expected count less than 5. The minimum expected count is .01.
- j. 33 cells (91.7%) have expected count less than 5. The minimum expected count is .02.
- k. 25 cells (100.0%) have expected count less than 5. The minimum expected count is .08.
- l. 15 cells (93.8%) have expected count less than 5. The minimum expected count is .04.
- m. 9 cells (100.0%) have expected count less than 5. The minimum expected count is .20.
- n. No statistics are computed because ObsessedwithaCertainIdeabutLostInterasetLater and lamdiligent are constants.
- o. 6 cells (100.0%) have expected count less than 5. The minimum expected count is .50.
- p. 12 cells (100.0%) have expected count less than 5. The minimum expected count is .25.
- q. 6 cells (100.0%) have expected count less than 5. The minimum expected count is .33.

### Chi-Square Tests

CurrentGPA			Value	df	Asymp. Sig. (2-sided)
4-3.6 Very High Achievers	Male	Pearson Chi-Square	69.323 <sup>e</sup>	35	.000
		Likelihood Ratio	38.403	35	.318
		Linear-by-Linear Association	2.037	1	.154
		N of Valid Cases	32		
	Female	Pearson Chi-Square	108.530 <sup>f</sup>	50	.000
		Likelihood Ratio	41.358	50	.803
		Linear-by-Linear Association	.718	1	.397
		N of Valid Cases	73		
Total		Pearson Chi-Square	152.918 <sup>d</sup>	60	.000

		Likelihood Ratio	60.998	60	.440
		Linear-by-Linear Association	2.112	1	.146
		N of Valid Cases	105		
3.5-2.6 High Achievers	Male	Pearson Chi-Square	95.742 <sup>h</sup>	35	.000
		Likelihood Ratio	65.559	35	.001
		Linear-by-Linear Association	3.524	1	.060
		N of Valid Cases	65		
	Female	Pearson Chi-Square	263.700 <sup>i</sup>	78	.000
		Likelihood Ratio	77.048	78	.509
		Linear-by-Linear Association	11.090	1	.001
		N of Valid Cases	108		
	Total	Pearson Chi-Square	403.993 <sup>g</sup>	90	.000
		Likelihood Ratio	123.414	90	.011
		Linear-by-Linear Association	13.646	1	.000
		N of Valid Cases	173		
2.5-1.6 Moderate	Male	Pearson Chi-Square	24.424 <sup>k</sup>	20	.224
		Likelihood Ratio	21.288	20	.380
		Linear-by-Linear Association	2.752	1	.097
		N of Valid Cases	24		

	Female	Pearson Chi-Square	32.863 <sup>l</sup>	15	.005
		Likelihood Ratio	18.330	15	.246
		Linear-by-Linear Association	.307	1	.580
		N of Valid Cases	23		
	Total	Pearson Chi-Square	78.990 <sup>j</sup>	30	.000
		Likelihood Ratio	36.224	30	.201
		Linear-by-Linear Association	2.890	1	.089
		N of Valid Cases	47		
1.5-1 Low Achievers	Male	Pearson Chi-Square	. <sup>n</sup>		
		N of Valid Cases	1		
	Female	Pearson Chi-Square	4.000 <sup>o</sup>	2	.135
		Likelihood Ratio	5.545	2	.063
		Linear-by-Linear Association	.305	1	.581
		N of Valid Cases	4		
	Total	Pearson Chi-Square	10.000 <sup>m</sup>	6	.125
		Likelihood Ratio	10.549	6	.103
		Linear-by-Linear Association	1.853	1	.173
		N of Valid Cases	5		
Less than One Very Low Achievers	Male	Pearson Chi-Square	3.000 <sup>q</sup>	2	.223
		Likelihood Ratio	3.819	2	.148

		Linear-by-Linear Association	1.500	1	.221
		N of Valid Cases	3		
	Female	Pearson Chi-Square	. <sup>n</sup>		
		N of Valid Cases	1		
	Total	Pearson Chi-Square	8.000 <sup>p</sup>	6	.238
		Likelihood Ratio	8.318	6	.216
		Linear-by-Linear Association	1.364	1	.243
		N of Valid Cases	4		
Total	Male	Pearson Chi-Square	177.424 <sup>b</sup>	50	.000
		Likelihood Ratio	95.012	50	.000
		Linear-by-Linear Association	8.560	1	.003
		N of Valid Cases	125		
	Female	Pearson Chi-Square	388.596 <sup>c</sup>	102	.000
		Likelihood Ratio	125.537	102	.057
		Linear-by-Linear Association	11.351	1	.001
		N of Valid Cases	209		
	Total	Pearson Chi-Square	606.028 <sup>a</sup>	132	.000
		Likelihood Ratio	202.654	132	.000

Linear-by-Linear Association	19.860	1	.000
N of Valid Cases	334		

- a. 139 cells (86.3%) have expected count less than 5. The minimum expected count is .00.
- b. 58 cells (87.9%) have expected count less than 5. The minimum expected count is .05.
- c. 113 cells (89.7%) have expected count less than 5. The minimum expected count is .00.
- d. 71 cells (91.0%) have expected count less than 5. The minimum expected count is .02.
- e. 48 cells (100.0%) have expected count less than 5. The minimum expected count is .03.
- f. 64 cells (97.0%) have expected count less than 5. The minimum expected count is .01.
- g. 99 cells (88.4%) have expected count less than 5. The minimum expected count is .01.
- h. 48 cells (100.0%) have expected count less than 5. The minimum expected count is .08.
- i. 89 cells (90.8%) have expected count less than 5. The minimum expected count is .01.
- j. 41 cells (97.6%) have expected count less than 5. The minimum expected count is .02.
- k. 30 cells (100.0%) have expected count less than 5. The minimum expected count is .08.
- l. 24 cells (100.0%) have expected count less than 5. The minimum expected count is .04.
- m. 12 cells (100.0%) have expected count less than 5. The minimum expected count is .20.
- n. No statistics are computed because ObsessedwithaCertainIdeabutLostIntersetLater and Mysociallifenegativelyhindersmyfocusocompletingtasks are constants.
- o. 6 cells (100.0%) have expected count less than 5. The minimum expected count is .50.
- p. 12 cells (100.0%) have expected count less than 5. The minimum expected count is .25.
- q. 6 cells (100.0%) have expected count less than 5. The minimum expected count is .33.

Chi-Square Tests					
CurrentGPA			Value	df	Asymp. Sig. (2-sided)
4-3.6	Male	Pearson	67.689e	35	.001
Very		Chi-Square			

High Achievers		Likelihood Ratio	35.612	35	.439	
		Linear-by-Linear Association	.149	1	.700	
		N of Valid Cases	32			
	Female	Pearson Chi-Square	119.595f	50	.000	
		Likelihood Ratio	49.125	50	.508	
		Linear-by-Linear Association	.001	1	.979	
		N of Valid Cases	73			
		Total	Pearson Chi-Square	156.440d	60	.000
	Likelihood Ratio		59.050	60	.510	
	Linear-by-Linear Association		.053	1	.818	
	N of Valid Cases		105			
	3.5-2.6 High Achievers	Male	Pearson Chi-Square	92.946h	35	.000
			Likelihood Ratio	61.704	35	.004

		Linear-by-Linear Association	.002	1	.968
		N of Valid Cases	65		
	Female	Pearson Chi-Square	271.284i	78	.000
		Likelihood Ratio	80.467	78	.402
		Linear-by-Linear Association	10.032	1	.002
		N of Valid Cases	108		
		Total	Pearson Chi-Square	412.513g	90
	Likelihood Ratio		125.638	90	.008
	Linear-by-Linear Association		5.884	1	.015
	N of Valid Cases		173		
2.5-1.6 Moderate	Male		Pearson Chi-Square	28.652k	20
		Likelihood Ratio	26.431	20	.152
		Linear-by-Linear Association	1.278	1	.258

		N of Valid Cases	24		
	Female	Pearson Chi-Square	41.288l	15	.000
		Likelihood Ratio	22.010	15	.108
		Linear-by-Linear Association	1.200	1	.273
		N of Valid Cases	23		
		Total	Pearson Chi-Square	80.175j	30
	Likelihood Ratio		38.863	30	.129
	Linear-by-Linear Association		2.409	1	.121
	N of Valid Cases		47		
1.5-1 Low Achievers	Male	Pearson Chi-Square	. <sup>n</sup>		
		N of Valid Cases	1		
	Female	Pearson Chi-Square	4.000o	2	.135
		Likelihood Ratio	5.545	2	.063

		Linear-by-Linear Association	.258	1	.611
		N of Valid Cases	4		
	Total	Pearson Chi-Square	10.000m	6	.125
		Likelihood Ratio	10.549	6	.103
		Linear-by-Linear Association	1.832	1	.176
		N of Valid Cases	5		
Less than One Very Low Achievers	Male	Pearson Chi-Square	. <sup>q</sup>		
		N of Valid Cases	3		
	Female	Pearson Chi-Square	. <sup>n</sup>		
		N of Valid Cases	1		
	Total	Pearson Chi-Square	4.000p	3	.261
		Likelihood Ratio	4.499	3	.212
		Linear-by-Linear Association	1.800	1	.180

		N of Valid Cases	4		
Total	Male	Pearson Chi-Square	174.623b	50	.000
		Likelihood Ratio	92.548	50	.000
		Linear-by-Linear Association	.759	1	.384
		N of Valid Cases	125		
	Female	Pearson Chi-Square	401.444c	102	.000
		Likelihood Ratio	135.403	102	.015
		Linear-by-Linear Association	8.426	1	.004
		N of Valid Cases	209		
	Total	Pearson Chi-Square	613.096a	132	.000
		Likelihood Ratio	205.206	132	.000
		Linear-by-Linear Association	7.581	1	.006
		N of Valid Cases	334		

a. 140 cells (87.0%) have expected count less than 5. The minimum expected count is .00.
b. 59 cells (89.4%) have expected count less than 5. The minimum expected count is .05.
c. 112 cells (88.9%) have expected count less than 5. The minimum expected count is .00.
d. 70 cells (89.7%) have expected count less than 5. The minimum expected count is .02.
e. 48 cells (100.0%) have expected count less than 5. The minimum expected count is .03.
f. 63 cells (95.5%) have expected count less than 5. The minimum expected count is .01.
g. 101 cells (90.2%) have expected count less than 5. The minimum expected count is .01.
h. 48 cells (100.0%) have expected count less than 5. The minimum expected count is .08.
i. 93 cells (94.9%) have expected count less than 5. The minimum expected count is .01.
j. 40 cells (95.2%) have expected count less than 5. The minimum expected count is .02.
k. 30 cells (100.0%) have expected count less than 5. The minimum expected count is .08.
l. 24 cells (100.0%) have expected count less than 5. The minimum expected count is .04.
m. 12 cells (100.0%) have expected count less than 5. The minimum expected count is .20.
n. No statistics are computed because ObsessedwithaCertainIdeabutLostInterasetLater and Myfamilyresponsibilitieshindersmyfocusoncompletingtasks are constants.

o. 6 cells (100.0%) have expected count less than 5. The minimum expected count is .50.

p. 8 cells (100.0%) have expected count less than 5. The minimum expected count is .25.

q. No statistics are computed because Myfamilyresponsibilitieshindersmyfocusoncompletingtasks is a constant.

**Chi-Square Tests**

CurrentGPA			Value	df	Asymp. Sig. (2-sided)
4-3.6 Very High Achievers	Male	Pearson Chi-Square	67.689 <sup>e</sup>	35	.001
		Likelihood Ratio	35.612	35	.439
		Linear-by-Linear Association	.149	1	.700
		N of Valid Cases	32		
	Female	Pearson Chi-Square	119.595 <sup>f</sup>	50	.000
		Likelihood Ratio	49.125	50	.508
		Linear-by-Linear Association	.001	1	.979
		N of Valid Cases	73		
	Total	Pearson Chi-Square	156.440 <sup>d</sup>	60	.000
Likelihood Ratio		59.050	60	.510	
Linear-by-Linear Association		.053	1	.818	

		N of Valid Cases	105			
3.5-2.6 High Achievers	Male	Pearson Chi-Square	92.946 <sup>h</sup>	35	.000	
		Likelihood Ratio	61.704	35	.004	
		Linear-by-Linear Association	.002	1	.968	
		Female	N of Valid Cases	65		
	Pearson Chi-Square		271.284 <sup>i</sup>	78	.000	
	Likelihood Ratio		80.467	78	.402	
		Total	Linear-by-Linear Association	10.032	1	.002
	N of Valid Cases		108			
	Pearson Chi-Square		412.513 <sup>g</sup>	90	.000	
		Likelihood Ratio	125.638	90	.008	
Linear-by-Linear Association		5.884	1	.015		
2.5-1.6 Moderate	Male	N of Valid Cases	173			
		Pearson Chi-Square	28.652 <sup>k</sup>	20	.095	
		Likelihood Ratio	26.431	20	.152	
		Female	Linear-by-Linear Association	1.278	1	.258
	N of Valid Cases		24			
	Pearson Chi-Square		41.288 <sup>l</sup>	15	.000	
		Likelihood Ratio	22.010	15	.108	

		Linear-by-Linear Association	1.200	1	.273
		N of Valid Cases	23		
	Total	Pearson Chi-Square	80.175 <sup>i</sup>	30	.000
		Likelihood Ratio	38.863	30	.129
		Linear-by-Linear Association	2.409	1	.121
		N of Valid Cases	47		
1.5-1 Low Achievers	Male	Pearson Chi-Square	. <sup>n</sup>		
		N of Valid Cases	1		
	Female	Pearson Chi-Square	4.000 <sup>o</sup>	2	.135
		Likelihood Ratio	5.545	2	.063
		Linear-by-Linear Association	.258	1	.611
		N of Valid Cases	4		
	Total	Pearson Chi-Square	10.000 <sup>m</sup>	6	.125
		Likelihood Ratio	10.549	6	.103
		Linear-by-Linear Association	1.832	1	.176
		N of Valid Cases	5		
Less than One Very Low Achievers	Male	Pearson Chi-Square	. <sup>q</sup>		
		N of Valid Cases	3		
	Female	Pearson Chi-Square	. <sup>n</sup>		
		N of Valid Cases	1		

	Total	Pearson Chi-Square	4.000 <sup>p</sup>	3	.261
		Likelihood Ratio	4.499	3	.212
		Linear-by-Linear Association	1.800	1	.180
		N of Valid Cases	4		
Total	Male	Pearson Chi-Square	174.623 <sup>b</sup>	50	.000
		Likelihood Ratio	92.548	50	.000
		Linear-by-Linear Association	.759	1	.384
		N of Valid Cases	125		
	Female	Pearson Chi-Square	401.444 <sup>c</sup>	102	.000
		Likelihood Ratio	135.403	102	.015
		Linear-by-Linear Association	8.426	1	.004
		N of Valid Cases	209		
	Total	Pearson Chi-Square	613.096 <sup>a</sup>	132	.000
		Likelihood Ratio	205.206	132	.000
		Linear-by-Linear Association	7.581	1	.006
		N of Valid Cases	334		

a. 140 cells (87.0%) have expected count less than 5. The minimum expected count is .00.

b. 59 cells (89.4%) have expected count less than 5. The minimum expected count is .05.

c. 112 cells (88.9%) have expected count less than 5. The minimum expected count is .00.

d. 70 cells (89.7%) have expected count less than 5. The minimum expected count is .02.

- e. 48 cells (100.0%) have expected count less than 5. The minimum expected count is .03.
- f. 63 cells (95.5%) have expected count less than 5. The minimum expected count is .01.
- g. 101 cells (90.2%) have expected count less than 5. The minimum expected count is .01.
- h. 48 cells (100.0%) have expected count less than 5. The minimum expected count is .08.
- i. 93 cells (94.9%) have expected count less than 5. The minimum expected count is .01.
- j. 40 cells (95.2%) have expected count less than 5. The minimum expected count is .02.
- k. 30 cells (100.0%) have expected count less than 5. The minimum expected count is .08.
- l. 24 cells (100.0%) have expected count less than 5. The minimum expected count is .04.
- m. 12 cells (100.0%) have expected count less than 5. The minimum expected count is .20.
- n. No statistics are computed because ObsessedwithaCertainIdeabutLostInterasetLater and Myfamilyresponsibilitieshindersmyfocusoncompletingtasks are constants.
- o. 6 cells (100.0%) have expected count less than 5. The minimum expected count is .50.
- p. 8 cells (100.0%) have expected count less than 5. The minimum expected count is .25.
- q. No statistics are computed because Myfamilyresponsibilitieshindersmyfocusoncompletingtasks is a constant.

#### Chi-Square Tests

CurrentGPA			Value	df	Asymp. Sig. (2-sided)
4-3.6 Very High Achievers	Male	Pearson Chi-Square	60.410 <sup>e</sup>	35	.005
		Likelihood Ratio	31.957	35	.616
		Linear-by-Linear Association	.614	1	.433
	N of Valid Cases		32		
	Female	Pearson Chi-Square	115.839 <sup>f</sup>	50	.000
Likelihood Ratio		46.737	50	.605	

		Linear-by-Linear Association	3.183	1	.074
		N of Valid Cases	73		
	Total	Pearson Chi-Square	155.869 <sup>d</sup>	60	.000
		Likelihood Ratio	63.463	60	.355
		Linear-by-Linear Association	3.714	1	.054
		N of Valid Cases	105		
3.5-2.6 High Achievers	Male	Pearson Chi-Square	96.171 <sup>h</sup>	35	.000
		Likelihood Ratio	66.061	35	.001
		Linear-by-Linear Association	2.026	1	.155
		N of Valid Cases	65		
	Female	Pearson Chi-Square	284.110 <sup>i</sup>	78	.000
		Likelihood Ratio	84.881	78	.278
		Linear-by-Linear Association	7.536	1	.006
		N of Valid Cases	108		
	Total	Pearson Chi-Square	430.988 <sup>g</sup>	90	.000
		Likelihood Ratio	143.469	90	.000
		Linear-by-Linear Association	8.869	1	.003
		N of Valid Cases	173		
2.5-1.6 Moderate	Male	Pearson Chi-Square	25.113 <sup>k</sup>	20	.197

		Likelihood Ratio	19.817	20	.469
		Linear-by-Linear Association	4.386	1	.036
		N of Valid Cases	24		
	Female	Pearson Chi-Square	34.055 <sup>l</sup>	15	.003
		Likelihood Ratio	18.674	15	.229
		Linear-by-Linear Association	.237	1	.626
		N of Valid Cases	23		
	Total	Pearson Chi-Square	73.964 <sup>i</sup>	30	.000
		Likelihood Ratio	31.049	30	.413
		Linear-by-Linear Association	4.419	1	.036
		N of Valid Cases	47		
1.5-1 Low Achievers	Male	Pearson Chi-Square	. <sup>n</sup>		
		N of Valid Cases	1		
	Female	Pearson Chi-Square	4.000 <sup>o</sup>	2	.135
		Likelihood Ratio	5.545	2	.063
		Linear-by-Linear Association	.126	1	.722
		N of Valid Cases	4		
	Total	Pearson Chi-Square	10.000 <sup>m</sup>	6	.125
		Likelihood Ratio	10.549	6	.103

		Linear-by-Linear Association	.078	1	.780	
		N of Valid Cases	5			
Less than One Very Low Achievers	Male	Pearson Chi-Square	3.000 <sup>a</sup>	2	.223	
		Likelihood Ratio	3.819	2	.148	
		Linear-by-Linear Association	0.000	1	1.000	
	Female	N of Valid Cases	3			
		Pearson Chi-Square	. <sup>n</sup>			
		N of Valid Cases	1			
Total	Total	Pearson Chi-Square	8.000 <sup>p</sup>	6	.238	
		Likelihood Ratio	8.318	6	.216	
		Linear-by-Linear Association	.055	1	.815	
	Total	Male	N of Valid Cases	4		
			Pearson Chi-Square	179.927 <sup>b</sup>	50	.000
			Likelihood Ratio	97.678	50	.000
Female		N of Valid Cases	125			
		Pearson Chi-Square	397.342 <sup>c</sup>	102	.000	
		Likelihood Ratio	127.121	102	.047	
		Linear-by-Linear Association	11.607	1	.001	

	N of Valid Cases	209		
Total	Pearson Chi-Square	625.422 <sup>a</sup>	132	.000
	Likelihood Ratio	213.939	132	.000
	Linear-by-Linear Association	16.738	1	.000
	N of Valid Cases	334		

- a. 138 cells (85.7%) have expected count less than 5. The minimum expected count is .00.
- b. 60 cells (90.9%) have expected count less than 5. The minimum expected count is .05.
- c. 112 cells (88.9%) have expected count less than 5. The minimum expected count is .00.
- d. 71 cells (91.0%) have expected count less than 5. The minimum expected count is .02.
- e. 48 cells (100.0%) have expected count less than 5. The minimum expected count is .03.
- f. 63 cells (95.5%) have expected count less than 5. The minimum expected count is .01.
- g. 97 cells (86.6%) have expected count less than 5. The minimum expected count is .01.
- h. 48 cells (100.0%) have expected count less than 5. The minimum expected count is .08.
- i. 90 cells (91.8%) have expected count less than 5. The minimum expected count is .01.
- j. 41 cells (97.6%) have expected count less than 5. The minimum expected count is .02.
- k. 30 cells (100.0%) have expected count less than 5. The minimum expected count is .08.
- l. 24 cells (100.0%) have expected count less than 5. The minimum expected count is .04.
- m. 12 cells (100.0%) have expected count less than 5. The minimum expected count is .20.
- n. No statistics are computed because ObsessedwithaCertainIdeabutLostIntersectLater and TheuseofsocialMedianegativelyaffectsmyfocusontasks are constants.
- o. 6 cells (100.0%) have expected count less than 5. The minimum expected count is .50.
- p. 12 cells (100.0%) have expected count less than 5. The minimum expected count is .25.
- q. 6 cells (100.0%) have expected count less than 5. The minimum expected count is .33.

### Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
CurrentGPA			

4-3.6 Very High Achievers	Male	Pearson Chi-Square	59.910 <sup>e</sup>	35	.005	
		Likelihood Ratio	31.304	35	.647	
		Linear-by- Linear Association	.042	1	.838	
			N of Valid Cases	32		
	Female	Pearson Chi-Square	116.199 <sup>f</sup>	50	.000	
		Likelihood Ratio	46.961	50	.596	
		Linear-by- Linear Association	2.669	1	.102	
			N of Valid Cases	73		
	Total	Pearson Chi-Square	150.705 <sup>d</sup>	60	.000	
		Likelihood Ratio	57.420	60	.571	
		Linear-by- Linear Association	2.346	1	.126	
			N of Valid Cases	105		
3.5-2.6 High Achievers	Male	Pearson Chi-Square	107.439 <sup>h</sup>	35	.000	
		Likelihood Ratio	73.346	35	.000	
		Linear-by- Linear Association	15.355	1	.000	
			N of Valid Cases	65		
	Female	Pearson Chi-Square	274.450 <sup>i</sup>	78	.000	
		Likelihood Ratio	82.520	78	.342	
		Linear-by- Linear Association	8.593	1	.003	

		N of Valid Cases	108		
	Total	Pearson Chi-Square	432.666 <sup>g</sup>	90	.000
		Likelihood Ratio	142.694	90	.000
		Linear-by-Linear Association	23.963	1	.000
		N of Valid Cases	173		
2.5-1.6 Moderate	Male	Pearson Chi-Square	31.212 <sup>k</sup>	20	.052
		Likelihood Ratio	28.018	20	.109
		Linear-by-Linear Association	4.127	1	.042
		N of Valid Cases	24		
	Female	Pearson Chi-Square	28.127 <sup>l</sup>	15	.021
		Likelihood Ratio	14.095	15	.518
		Linear-by-Linear Association	.370	1	.543
		N of Valid Cases	23		
	Total	Pearson Chi-Square	77.176 <sup>j</sup>	30	.000
		Likelihood Ratio	36.728	30	.185
		Linear-by-Linear Association	5.403	1	.020
		N of Valid Cases	47		
1.5-1 Low Achievers	Male	Pearson Chi-Square	. <sup>n</sup>		
		N of Valid Cases	1		

	Female	Pearson Chi-Square	4.000 <sup>o</sup>	2	.135
		Likelihood Ratio	5.545	2	.063
		Linear-by-Linear Association	.016	1	.900
		N of Valid Cases	4		
	Total	Pearson Chi-Square	10.000 <sup>m</sup>	6	.125
		Likelihood Ratio	10.549	6	.103
		Linear-by-Linear Association	.000	1	.983
		N of Valid Cases	5		
Less than One Very Low Achievers	Male	Pearson Chi-Square	3.000 <sup>q</sup>	2	.223
		Likelihood Ratio	3.819	2	.148
		Linear-by-Linear Association	0.000	1	1.000
		N of Valid Cases	3		
	Female	Pearson Chi-Square	. <sup>n</sup>		
		N of Valid Cases	1		
	Total	Pearson Chi-Square	4.000 <sup>p</sup>	3	.261
		Likelihood Ratio	4.499	3	.212
		Linear-by-Linear Association	.200	1	.655
		N of Valid Cases	4		
Total	Male	Pearson Chi-Square	184.064 <sup>b</sup>	50	.000

	Likelihood Ratio	100.125	50	.000
	Linear-by-Linear Association	16.521	1	.000
	N of Valid Cases	125		
Female	Pearson Chi-Square	401.183 <sup>c</sup>	102	.000
	Likelihood Ratio	134.667	102	.017
	Linear-by-Linear Association	12.527	1	.000
	N of Valid Cases	209		
Total	Pearson Chi-Square	629.146 <sup>a</sup>	132	.000
	Likelihood Ratio	222.060	132	.000
	Linear-by-Linear Association	29.182	1	.000
	N of Valid Cases	334		

a. 138 cells (85.7%) have expected count less than 5. The minimum expected count is .00.

b. 59 cells (89.4%) have expected count less than 5. The minimum expected count is .05.

c. 112 cells (88.9%) have expected count less than 5. The minimum expected count is .00.

d. 69 cells (88.5%) have expected count less than 5. The minimum expected count is .02.

e. 48 cells (100.0%) have expected count less than 5. The minimum expected count is .03.

f. 64 cells (97.0%) have expected count less than 5. The minimum expected count is .01.

g. 99 cells (88.4%) have expected count less than 5. The minimum expected count is .01.

h. 48 cells (100.0%) have expected count less than 5. The minimum expected count is .08.

i. 89 cells (90.8%) have expected count less than 5. The minimum expected count is .01.

j. 41 cells (97.6%) have expected count less than 5. The minimum expected count is .02.

k. 30 cells (100.0%) have expected count less than 5. The minimum expected count is .08.

l. 24 cells (100.0%) have expected count less than 5. The minimum expected count is .04.

m. 12 cells (100.0%) have expected count less than 5. The minimum expected count is .20.

- n. No statistics are computed because ObsessedwithaCertainIdeabutLostInterasetLater and Theuseofvideogamesnegativelyaffectsmyfocusontasks are constants.
- o. 6 cells (100.0%) have expected count less than 5. The minimum expected count is .50.
- p. 8 cells (100.0%) have expected count less than 5. The minimum expected count is .25.
- q. 6 cells (100.0%) have expected count less than 5. The minimum expected count is .33.

### Chi-Square Tests

CurrentGPA			Value	df	Asymp. Sig. (2-sided)
4-3.6 Very High Achievers	Male	Pearson Chi-Square	51.527 <sup>e</sup>	20	.000
		Likelihood Ratio	32.525	20	.038
		Linear-by-Linear Association	1.720	1	.190
		N of Valid Cases	32		
	Female	Pearson Chi-Square	97.479 <sup>f</sup>	20	.000
		Likelihood Ratio	33.306	20	.031
		Linear-by-Linear Association	2.854	1	.091
		N of Valid Cases	73		
	Total	Pearson Chi-Square	136.199 <sup>d</sup>	25	.000
		Likelihood Ratio	50.965	25	.002
Linear-by-Linear Association		4.712	1	.030	
	N of Valid Cases	105			
3.5-2.6 High Achievers	Male	Pearson Chi-Square	124.828 <sup>h</sup>	25	.000
		Likelihood Ratio	82.468	25	.000

		Linear-by-Linear Association	20.377	1	.000
		N of Valid Cases	65		
	Female	Pearson Chi-Square	237.898 <sup>i</sup>	30	.000
		Likelihood Ratio	52.205	30	.007
		Linear-by-Linear Association	17.264	1	.000
		N of Valid Cases	108		
	Total	Pearson Chi-Square	445.995 <sup>g</sup>	36	.000
		Likelihood Ratio	135.210	36	.000
		Linear-by-Linear Association	40.644	1	.000
		N of Valid Cases	173		
2.5-1.6 Moderate	Male	Pearson Chi-Square	13.976 <sup>k</sup>	8	.082
		Likelihood Ratio	13.300	8	.102
		Linear-by-Linear Association	2.120	1	.145
		N of Valid Cases	24		
	Female	Pearson Chi-Square	35.105 <sup>l</sup>	15	.002
		Likelihood Ratio	21.483	15	.122
		Linear-by-Linear Association	9.799	1	.002
		N of Valid Cases	23		
	Total	Pearson Chi-Square	64.884 <sup>j</sup>	15	.000

		Likelihood Ratio	27.044	15	.028	
		Linear-by-Linear Association	10.496	1	.001	
1.5-1 Low Achievers	Male	N of Valid Cases	47			
		Pearson Chi-Square	. <sup>n</sup>			
	Female	N of Valid Cases	1			
		Pearson Chi-Square	8.000 <sup>o</sup>	4	.092	
	Total	Likelihood Ratio	8.318	4	.081	
		Linear-by-Linear Association	1.002	1	.317	
		N of Valid Cases	4			
		Pearson Chi-Square	10.000 <sup>m</sup>	6	.125	
	Less than One Very Low Achievers	Male	Likelihood Ratio	10.549	6	.103
			Linear-by-Linear Association	2.264	1	.132
N of Valid Cases			5			
		Pearson Chi-Square	3.000 <sup>q</sup>	2	.223	
Female		Likelihood Ratio	3.819	2	.148	
		Linear-by-Linear Association	1.500	1	.221	
		N of Valid Cases	3			
		Pearson Chi-Square	. <sup>n</sup>			
Total		N of Valid Cases	1			
		Pearson Chi-Square	8.000 <sup>p</sup>	6	.238	

		Likelihood Ratio	8.318	6	.216
		Linear-by-Linear Association	2.500	1	.114
		N of Valid Cases	4		
Total	Male	Pearson Chi-Square	207.816 <sup>b</sup>	25	.000
		Likelihood Ratio	105.530	25	.000
		Linear-by-Linear Association	24.028	1	.000
		N of Valid Cases	125		
	Female	Pearson Chi-Square	462.003 <sup>c</sup>	36	.000
		Likelihood Ratio	106.279	36	.000
		Linear-by-Linear Association	30.744	1	.000
		N of Valid Cases	209		
	Total	Pearson Chi-Square	784.310 <sup>a</sup>	36	.000
		Likelihood Ratio	198.674	36	.000
		Linear-by-Linear Association	56.107	1	.000
		N of Valid Cases	334		

a. 36 cells (73.5%) have expected count less than 5. The minimum expected count is .00.

b. 27 cells (75.0%) have expected count less than 5. The minimum expected count is .14.

c. 38 cells (77.6%) have expected count less than 5. The minimum expected count is .00.

d. 28 cells (77.8%) have expected count less than 5. The minimum expected count is .02.

e. 29 cells (96.7%) have expected count less than 5. The minimum expected count is .03.

f. 24 cells (80.0%) have expected count less than 5. The minimum expected count is .01.

- g. 39 cells (79.6%) have expected count less than 5. The minimum expected count is .01.
- h. 34 cells (94.4%) have expected count less than 5. The minimum expected count is .15.
- i. 35 cells (83.3%) have expected count less than 5. The minimum expected count is .01.
- j. 22 cells (91.7%) have expected count less than 5. The minimum expected count is .02.
- k. 14 cells (93.3%) have expected count less than 5. The minimum expected count is .13.
- l. 24 cells (100.0%) have expected count less than 5. The minimum expected count is .04.
- m. 12 cells (100.0%) have expected count less than 5. The minimum expected count is .20.
- n. No statistics are computed because AchievedGoalsthatTookYearsofWork and IFinishWhateverIbegin are constants.
- o. 9 cells (100.0%) have expected count less than 5. The minimum expected count is .25.
- p. 12 cells (100.0%) have expected count less than 5. The minimum expected count is .25.
- q. 6 cells (100.0%) have expected count less than 5. The minimum expected count is .33.

#### Chi-Square Tests

CurrentGPA			Value	df	Asymp. Sig. (2-sided)
4-3.6 Very High Achievers	Male	Pearson Chi-Square	45.298 <sup>e</sup>	20	.001
		Likelihood Ratio	23.376	20	.271
		Linear-by-Linear Association	.628	1	.428
	N of Valid Cases		32		
	Female	Pearson Chi-Square	108.491 <sup>f</sup>	35	.000
Likelihood Ratio		44.145	35	.138	
Linear-by-Linear Association		2.538	1	.111	
N of Valid Cases		73			
Total	Pearson Chi-Square	132.947 <sup>d</sup>	35	.000	

		Likelihood Ratio	42.584	35	.177
		Linear-by-Linear Association	3.143	1	.076
		N of Valid Cases	105		
3.5-2.6 High Achievers	Male	Pearson Chi-Square	103.422 <sup>h</sup>	25	.000
		Likelihood Ratio	70.983	25	.000
		Linear-by-Linear Association	13.420	1	.000
		N of Valid Cases	65		
	Female	Pearson Chi-Square	233.625 <sup>i</sup>	35	.000
		Likelihood Ratio	48.324	35	.066
		Linear-by-Linear Association	8.395	1	.004
		N of Valid Cases	108		
	Total	Pearson Chi-Square	383.374 <sup>g</sup>	42	.000
		Likelihood Ratio	104.521	42	.000
		Linear-by-Linear Association	20.398	1	.000
		N of Valid Cases	173		
2.5-1.6 Moderate	Male	Pearson Chi-Square	42.502 <sup>k</sup>	20	.002
		Likelihood Ratio	21.511	20	.368
		Linear-by-Linear Association	2.520	1	.112
		N of Valid Cases	24		

	Female	Pearson Chi-Square	36.391 <sup>l</sup>	20	.014
		Likelihood Ratio	22.172	20	.331
		Linear-by-Linear Association	.727	1	.394
		N of Valid Cases	23		
	Total	Pearson Chi-Square	83.156 <sup>i</sup>	30	.000
		Likelihood Ratio	31.006	30	.415
		Linear-by-Linear Association	2.655	1	.103
		N of Valid Cases	47		
1.5-1 Low Achievers	Male	Pearson Chi-Square	. <sup>n</sup>		
		N of Valid Cases	1		
	Female	Pearson Chi-Square	8.000 <sup>o</sup>	4	.092
		Likelihood Ratio	8.318	4	.081
		Linear-by-Linear Association	2.849	1	.091
		N of Valid Cases	4		
	Total	Pearson Chi-Square	10.000 <sup>m</sup>	4	.040
		Likelihood Ratio	10.549	4	.032
		Linear-by-Linear Association	3.853	1	.050
		N of Valid Cases	5		
Less than One Very Low Achievers	Male	Pearson Chi-Square	3.000 <sup>q</sup>	2	.223
		Likelihood Ratio	3.819	2	.148

		Linear-by-Linear Association	1.143	1	.285
		N of Valid Cases	3		
	Female	Pearson Chi-Square	. <sup>n</sup>		
		N of Valid Cases	1		
	Total	Pearson Chi-Square	8.000 <sup>p</sup>	6	.238
		Likelihood Ratio	8.318	6	.216
		Linear-by-Linear Association	2.057	1	.151
		N of Valid Cases	4		
Total	Male	Pearson Chi-Square	189.799 <sup>b</sup>	30	.000
		Likelihood Ratio	97.082	30	.000
		Linear-by-Linear Association	16.501	1	.000
		N of Valid Cases	125		
	Female	Pearson Chi-Square	454.676 <sup>c</sup>	54	.000
		Likelihood Ratio	99.318	54	.000
		Linear-by-Linear Association	15.138	1	.000
		N of Valid Cases	209		
	Total	Pearson Chi-Square	736.981 <sup>a</sup>	60	.000
		Likelihood Ratio	173.465	60	.000

Linear-by-Linear Association	30.144	1	.000
N of Valid Cases	334		

- a. 62 cells (80.5%) have expected count less than 5. The minimum expected count is .00.
- b. 35 cells (83.3%) have expected count less than 5. The minimum expected count is .05.
- c. 58 cells (82.9%) have expected count less than 5. The minimum expected count is .00.
- d. 42 cells (87.5%) have expected count less than 5. The minimum expected count is .02.
- e. 28 cells (93.3%) have expected count less than 5. The minimum expected count is .03.
- f. 43 cells (89.6%) have expected count less than 5. The minimum expected count is .01.
- g. 44 cells (78.6%) have expected count less than 5. The minimum expected count is .01.
- h. 33 cells (91.7%) have expected count less than 5. The minimum expected count is .08.
- i. 40 cells (83.3%) have expected count less than 5. The minimum expected count is .01.
- j. 40 cells (95.2%) have expected count less than 5. The minimum expected count is .02.
- k. 29 cells (96.7%) have expected count less than 5. The minimum expected count is .04.
- l. 30 cells (100.0%) have expected count less than 5. The minimum expected count is .04.
- m. 9 cells (100.0%) have expected count less than 5. The minimum expected count is .20.
- n. No statistics are computed because AchievedGoalsthatTookYearsofWork and SetbacksdonotDiscourageME are constants.
- o. 9 cells (100.0%) have expected count less than 5. The minimum expected count is .25.
- p. 12 cells (100.0%) have expected count less than 5. The minimum expected count is .25.
- q. 6 cells (100.0%) have expected count less than 5. The minimum expected count is .33.

### Chi-Square Tests

CurrentGPA			Value	df	Asymp. Sig. (2-sided)
4-3.6 Very High Achievers	Male	Pearson Chi-Square	51.454 <sup>e</sup>	25	.001
		Likelihood Ratio	24.488	25	.491
		Linear-by-Linear Association	2.835	1	.092

		N of Valid Cases	32		
	Female	Pearson Chi-Square	94.228 <sup>f</sup>	45	.000
		Likelihood Ratio	33.041	45	.907
		Linear-by-Linear Association	.164	1	.686
	Total	N of Valid Cases	73		
		Pearson Chi-Square	137.783 <sup>d</sup>	55	.000
		Likelihood Ratio	52.131	55	.585
		Linear-by-Linear Association	1.123	1	.289
3.5-2.6 High Achievers	Male	N of Valid Cases	105		
		Pearson Chi-Square	124.341 <sup>h</sup>	35	.000
		Likelihood Ratio	83.761	35	.000
		Linear-by-Linear Association	10.721	1	.001
	Female	N of Valid Cases	65		
		Pearson Chi-Square	272.316 <sup>i</sup>	65	.000
		Likelihood Ratio	84.330	65	.054
		Linear-by-Linear Association	8.411	1	.004
	Total	N of Valid Cases	108		
		Pearson Chi-Square	440.319 <sup>g</sup>	90	.000
		Likelihood Ratio	152.573	90	.000

		Linear-by-Linear Association	18.692	1	.000
		N of Valid Cases	173		
2.5-1.6 Moderate	Male	Pearson Chi-Square	40.091 <sup>k</sup>	16	.001
		Likelihood Ratio	19.227	16	.257
		Linear-by-Linear Association	.013	1	.910
		N of Valid Cases	24		
	Female	Pearson Chi-Square	41.208 <sup>l</sup>	20	.004
		Likelihood Ratio	24.909	20	.205
		Linear-by-Linear Association	5.325	1	.021
		N of Valid Cases	23		
	Total	Pearson Chi-Square	84.224 <sup>i</sup>	25	.000
		Likelihood Ratio	37.494	25	.052
		Linear-by-Linear Association	3.308	1	.069
		N of Valid Cases	47		
1.5-1 Low Achievers	Male	Pearson Chi-Square	. <sup>n</sup>		
		N of Valid Cases	1		
	Female	Pearson Chi-Square	8.000 <sup>o</sup>	4	.092
		Likelihood Ratio	8.318	4	.081
		Linear-by-Linear Association	2.911	1	.088

		N of Valid Cases	4		
	Total	Pearson Chi-Square	10.000 <sup>m</sup>	6	.125
		Likelihood Ratio	10.549	6	.103
		Linear-by-Linear Association	.294	1	.587
		N of Valid Cases	5		
Less than One Very Low Achievers	Male	Pearson Chi-Square	3.000 <sup>q</sup>	2	.223
		Likelihood Ratio	3.819	2	.148
		Linear-by-Linear Association	1.500	1	.221
		N of Valid Cases	3		
	Female	Pearson Chi-Square	. <sup>n</sup>		
		N of Valid Cases	1		
	Total	Pearson Chi-Square	8.000 <sup>p</sup>	6	.238
		Likelihood Ratio	8.318	6	.216
		Linear-by-Linear Association	2.500	1	.114
		N of Valid Cases	4		
Total	Male	Pearson Chi-Square	194.898 <sup>b</sup>	50	.000
		Likelihood Ratio	108.912	50	.000
		Linear-by-Linear Association	10.386	1	.001
		N of Valid Cases	125		

Female	Pearson Chi-Square	390.759 <sup>c</sup>	102	.000
	Likelihood Ratio	135.697	102	.014
	Linear-by-Linear Association	13.142	1	.000
	N of Valid Cases	209		
Total	Pearson Chi-Square	630.853 <sup>a</sup>	132	.000
	Likelihood Ratio	231.646	132	.000
	Linear-by-Linear Association	22.998	1	.000
	N of Valid Cases	334		

a. 150 cells (93.2%) have expected count less than 5. The minimum expected count is .00.

b. 58 cells (87.9%) have expected count less than 5. The minimum expected count is .05.

c. 117 cells (92.9%) have expected count less than 5. The minimum expected count is .00.

d. 66 cells (91.7%) have expected count less than 5. The minimum expected count is .02.

e. 34 cells (94.4%) have expected count less than 5. The minimum expected count is .03.

f. 54 cells (90.0%) have expected count less than 5. The minimum expected count is .01.

g. 103 cells (92.0%) have expected count less than 5. The minimum expected count is .01.

h. 45 cells (93.8%) have expected count less than 5. The minimum expected count is .08.

i. 78 cells (92.9%) have expected count less than 5. The minimum expected count is .01.

j. 34 cells (94.4%) have expected count less than 5. The minimum expected count is .02.

k. 25 cells (100.0%) have expected count less than 5. The minimum expected count is .04.

l. 30 cells (100.0%) have expected count less than 5. The minimum expected count is .04.

m. 12 cells (100.0%) have expected count less than 5. The minimum expected count is .20.

n. No statistics are computed because AchievedGoalthatTookYearsofWork and IHaveOvercomeSetbackstoConqueranImportantChallenge are constants.

o. 9 cells (100.0%) have expected count less than 5. The minimum expected count is .25.

p. 12 cells (100.0%) have expected count less than 5. The minimum expected count is .25.

q. 6 cells (100.0%) have expected count less than 5. The minimum expected count is .33.

### Chi-Square Tests

CurrentGPA			Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
4-3.6 Very High Achievers	Male	Pearson Chi-Square	57.442 <sup>e</sup>	35	.010		
		Likelihood Ratio	31.045	35	.660		
		Linear-by-Linear Association	1.153	1	.283		
		N of Valid Cases	32				
	Female	Pearson Chi-Square	104.898 <sup>f</sup>	50	.000		
		Likelihood Ratio	46.644	50	.609		
		Linear-by-Linear Association	1.199	1	.274		
		N of Valid Cases	73				
	Total	Pearson Chi-Square	146.002 <sup>d</sup>	60	.000		
		Likelihood Ratio	62.703	60	.381		
		Linear-by-Linear Association	2.249	1	.134		
		N of Valid Cases	105				
3.5-2.6 High Achievers	Male	Pearson Chi-Square	109.456 <sup>h</sup>	35	.000		
		Likelihood Ratio	69.451	35	.000		
		Linear-by-Linear Association	6.152	1	.013		
		N of Valid Cases	65				

2.5-1.6 Moderate	Female	Pearson Chi-Square	252.246 <sup>i</sup>	65	.000
		Likelihood Ratio	61.363	65	.605
		Linear-by- Linear Association	2.074	1	.150
		N of Valid Cases	108		
	Total	Pearson Chi-Square	404.212 <sup>g</sup>	90	.000
		Likelihood Ratio	115.563	90	.036
		Linear-by- Linear Association	7.495	1	.006
		N of Valid Cases	173		
	Male	Pearson Chi-Square	21.349 <sup>k</sup>	20	.377
		Likelihood Ratio	22.928	20	.292
		Linear-by- Linear Association	.613	1	.433
		N of Valid Cases	24		
	Female	Pearson Chi-Square	49.134 <sup>l</sup>	20	.000
		Likelihood Ratio	33.710	20	.028
		Linear-by- Linear Association	1.933	1	.164
		N of Valid Cases	23		
	Total	Pearson Chi-Square	64.030 <sup>j</sup>	30	.000
		Likelihood Ratio	29.844	30	.474
Linear-by- Linear Association		.267	1	.605	
N of Valid Cases					

1.5-1 Low Achievers	Male	N of Valid Cases	47				
		Pearson Chi-Square	. <sup>n</sup>				
		N of Valid Cases	1				
	Female	Pearson Chi-Square	8.000 <sup>o</sup>	4	.092		
		Likelihood Ratio	8.318	4	.081		
		Linear-by-Linear Association	2.378	1	.123		
	Total	N of Valid Cases	4				
		Pearson Chi-Square	10.000 <sup>m</sup>	6	.125		
		Likelihood Ratio	10.549	6	.103		
	Less than One Very Low Achievers	Male	Linear-by-Linear Association	3.442	1	.064	
N of Valid Cases			5				
Pearson Chi-Square			.750 <sup>p</sup>	1	.386		
Female		Continuity Correction <sup>q</sup>	0.000	1	1.000		
		Likelihood Ratio	1.046	1	.306		
		Fisher's Exact Test				1.000	.667
Total		Linear-by-Linear Association	.500	1	.480		
		N of Valid Cases	3				
		Pearson Chi-Square	. <sup>n</sup>				
Total		N of Valid Cases	1				
	Pearson Chi-Square	5.000 <sup>o</sup>	4	.287			

		Likelihood Ratio	5.545	4	.236	
		Linear-by-Linear Association	2.083	1	.149	
		N of Valid Cases	4			
Total	Male	Pearson Chi-Square	182.793 <sup>b</sup>	50	.000	
		Likelihood Ratio	95.178	50	.000	
		Linear-by-Linear Association	9.776	1	.002	
		N of Valid Cases	125			
	Female	Pearson Chi-Square	378.189 <sup>c</sup>	102	.000	
		Likelihood Ratio	122.321	102	.083	
		Linear-by-Linear Association	2.925	1	.087	
		N of Valid Cases	209			
	Total	Pearson Chi-Square	597.320 <sup>a</sup>	132	.000	
		Likelihood Ratio	194.569	132	.000	
		Linear-by-Linear Association	10.317	1	.001	
		N of Valid Cases	334			

a. 144 cells (89.4%) have expected count less than 5. The minimum expected count is .00.

b. 58 cells (87.9%) have expected count less than 5. The minimum expected count is .05.

c. 111 cells (88.1%) have expected count less than 5. The minimum expected count is .00.

d. 70 cells (89.7%) have expected count less than 5. The minimum expected count is .02.

e. 47 cells (97.9%) have expected count less than 5. The minimum expected count is .03.

f. 62 cells (93.9%) have expected count less than 5. The minimum expected count is .01.

g. 100 cells (89.3%) have expected count less than 5. The minimum expected count is .01.

h. 45 cells (93.8%) have expected count less than 5. The minimum expected count is .08.

i. 76 cells (90.5%) have expected count less than 5. The minimum expected count is .01.

- j. 39 cells (92.9%) have expected count less than 5. The minimum expected count is .02.
- k. 30 cells (100.0%) have expected count less than 5. The minimum expected count is .04.
- l. 30 cells (100.0%) have expected count less than 5. The minimum expected count is .04.
- m. 12 cells (100.0%) have expected count less than 5. The minimum expected count is .20.
- n. No statistics are computed because AchievedGoalsthatTookYearsofWork and Ihavedifficultymaintainingmyfocusonprojectsthattakemorethan one month are constants.
- o. 9 cells (100.0%) have expected count less than 5. The minimum expected count is .25.
- p. 4 cells (100.0%) have expected count less than 5. The minimum expected count is .33.
- q. Computed only for a 2x2 table

### Chi-Square Tests

CurrentGPA			Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
4-3.6 Very High Achievers	Male	Pearson Chi-Square	60.524 <sup>e</sup>	25	.000		
		Likelihood Ratio	29.976	25	.225		
		Linear-by-Linear Association	1.945	1	.163		
		N of Valid Cases	32				
	Female	Pearson Chi-Square	97.736 <sup>f</sup>	40	.000		
		Likelihood Ratio	36.998	40	.606		
		Linear-by-Linear Association	.506	1	.477		
		N of Valid Cases	73				
	Total	Pearson Chi-Square	145.447 <sup>d</sup>	50	.000		
		Likelihood Ratio	51.417	50	.418		
Linear-by-Linear Association		1.825	1	.177			
	N of Valid Cases	105					
3.5-2.6 High Achievers	Male	Pearson Chi-Square	99.348 <sup>h</sup>	30	.000		

		Likelihood Ratio	62.037	30	.001	
		Linear-by-Linear Association	3.586	1	.058	
		N of Valid Cases	65			
	Female	Pearson Chi-Square	252.356 <sup>i</sup>	60	.000	
		Likelihood Ratio	60.435	60	.460	
		Linear-by-Linear Association	8.369	1	.004	
		N of Valid Cases	108			
	Total	Pearson Chi-Square	411.769 <sup>g</sup>	90	.000	
		Likelihood Ratio	123.517	90	.011	
		Linear-by-Linear Association	12.377	1	.000	
		N of Valid Cases	173			
2.5-1.6 Moderate	Male	Pearson Chi-Square	21.000 <sup>k</sup>	12	.050	
		Likelihood Ratio	17.660	12	.126	
		Linear-by-Linear Association	5.247	1	.022	
		N of Valid Cases	24			
	Female	Pearson Chi-Square	35.712 <sup>l</sup>	15	.002	
		Likelihood Ratio	19.897	15	.176	
		Linear-by-Linear Association	3.717	1	.054	
		N of Valid Cases	23			

	Total	Pearson Chi-Square	67.509 <sup>i</sup>	20	.000		
		Likelihood Ratio	26.874	20	.139		
		Linear-by-Linear Association	7.784	1	.005		
		N of Valid Cases	47				
1.5-1 Low Achievers	Male	Pearson Chi-Square	. <sup>n</sup>				
		N of Valid Cases	1				
	Female	Pearson Chi-Square	8.000 <sup>o</sup>	4	.092		
		Likelihood Ratio	8.318	4	.081		
		Linear-by-Linear Association	3.000	1	.083		
		N of Valid Cases	4				
	Total	Pearson Chi-Square	10.000 <sup>m</sup>	4	.040		
		Likelihood Ratio	10.549	4	.032		
		Linear-by-Linear Association	4.000	1	.046		
		N of Valid Cases	5				
Less than One Very Low Achievers	Male	Pearson Chi-Square	3.000 <sup>p</sup>	1	.083		
		Continuity Correction <sup>q</sup>	.188	1	.665		
		Likelihood Ratio	3.819	1	.051		
		Fisher's Exact Test				.333	.333
		Linear-by-Linear Association	2.000	1	.157		

		N of Valid Cases	3			
	Female	Pearson Chi-Square	. <sup>n</sup>			
		N of Valid Cases	1			
	Total	Pearson Chi-Square	8.000 <sup>o</sup>	4	.092	
		Likelihood Ratio	8.318	4	.081	
		Linear-by-Linear Association	3.000	1	.083	
		N of Valid Cases	4			
Total	Male	Pearson Chi-Square	169.052 <sup>b</sup>	45	.000	
		Likelihood Ratio	88.636	45	.000	
		Linear-by-Linear Association	10.029	1	.002	
		N of Valid Cases	125			
	Female	Pearson Chi-Square	393.973 <sup>c</sup>	102	.000	
		Likelihood Ratio	116.405	102	.156	
		Linear-by-Linear Association	14.421	1	.000	
		N of Valid Cases	209			
	Total	Pearson Chi-Square	610.828 <sup>a</sup>	132	.000	
		Likelihood Ratio	197.271	132	.000	
		Linear-by-Linear Association	25.046	1	.000	
		N of Valid Cases	334			

a. 149 cells (92.5%) have expected count less than 5. The minimum expected count is .00.

- b. 52 cells (86.7%) have expected count less than 5. The minimum expected count is .05.
- c. 118 cells (93.7%) have expected count less than 5. The minimum expected count is .00.
- d. 59 cells (89.4%) have expected count less than 5. The minimum expected count is .02.
- e. 34 cells (94.4%) have expected count less than 5. The minimum expected count is .03.
- f. 49 cells (90.7%) have expected count less than 5. The minimum expected count is .01.
- g. 104 cells (92.9%) have expected count less than 5. The minimum expected count is .01.
- h. 39 cells (92.9%) have expected count less than 5. The minimum expected count is .08.
- i. 71 cells (91.0%) have expected count less than 5. The minimum expected count is .01.
- j. 27 cells (90.0%) have expected count less than 5. The minimum expected count is .02.
- k. 19 cells (95.0%) have expected count less than 5. The minimum expected count is .04.
- l. 23 cells (95.8%) have expected count less than 5. The minimum expected count is .04.
- m. 9 cells (100.0%) have expected count less than 5. The minimum expected count is .20.
- n. No statistics are computed because AchievedGoalsthatTookYearsofWork and lamahardworker are constants.
- o. 9 cells (100.0%) have expected count less than 5. The minimum expected count is .25.
- p. 4 cells (100.0%) have expected count less than 5. The minimum expected count is .33.
- q. Computed only for a 2x2 table

**Appendix 5**  
**BUID Ethics Form**

**Research Ethics Form (Low Risk Research)**

To be completed by the researcher and submitted to the Dean's nominated faculty representative  
on the Research Ethics Sub-Committee

**i. Applicants/Researcher's information:**

Name of Researcher /student	Nayela Mohammad
Contact telephone No.	0507888133
Email address	<a href="mailto:110006@student.buid.ac.ae">110006@student.buid.ac.ae</a>
Date	06/10/2015

**i.****ii. Summary of Proposed Research:**

<p>BRIEF OUTLINE OF PROJECT (100-250 words; this may be attached separately. You may prefer to use the abstract from the original bid):</p>	<p>This project will focus on the concept of grit; a non-cognitive skill that can improve academic performance and help students achieve better results. It will investigate if there is a relationship between grit and academic performance.</p> <p>The rationale for this project is to implement the study on an Emirati context both male and female students at a tertiary level in Dubai, United Arab Emirates. This is because no study was conducted to measure grit in an Emirati context. This will add to the gap found in the current literature regarding this topic. Moreover, this study will attempt to show the equal importance of cognitive and non-cognitive skill in improving students' academic performance.</p> <p>For this project, a mixed method approach will be used to gather data. It will follow a sequential approach, by which it will have two phases. The first phase will be quantitative by using a questionnaire to gather data. While, the second phase will be qualitative by using a narrative interview to gather data. In such studies, the qualitative results and analysis will try to explain the quantitative results and analysis.</p> <p>The results that will be obtained from this study will help educational policy makers to focus on non-cognitive skills to improve students' academic performance, and at the same time to improve their cognitive skills.</p> <p>The number of participants for the quantitative part of this project will be 800, that is 400 male and 400 female tertiary level students from the Dubai Campuses, The Higher Colleges of Technology. The justification for this large number is to be able to generalise the results.</p> <p>However, the narrative interview will focus on four participants, two males and two females, because as suggested by Creswell the aim of the narrative interview is finding rich in-depth data, and allowing participants to give meaning to their experience. Therefore, a small number such as two is required for narratives. Moreover, the results from the qualitative part will not be generalised.</p>
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<p>MAIN ETHICAL CONSIDERATION(S) OF THE PROJECT (e.g. working with vulnerable adults; children with disabilities; photographs of participants; material that could give offence etc...):</p>	<p>Although students' GPA score is considered confidential information, they will be granted anonymity and confidentiality to protect their identity and confidentiality. The information that they share will not be traced back to them.</p> <p>In addition to that, approval will be taken from The Higher Colleges of Technology, Dubai Colleges in order to get access to students and students' GPA.</p>
<p>DURATION OF PROPOSED PROJECT (please provide dates as month/year):</p>	<p>Oct-Nov 2015 = Data Collection Phase 1 quantitative                  Dec 2015 –Jan 2016 = Quantitative data analysis: SPSS                  Feb-March 2016 = Data Collection Phase 2 qualitative                  May 2016 = Transcribing, coding and theming                  June-July 2016 = Literature Review                  Sept-Dec 2016 = Approached, methodology and results                  Jan 2017 = Conclusion and Draft                  Feb 201 = Final Draft</p>
<p>Date you wish to start Data Collection:</p>	<p>18/10/2015</p>
<p>Date for issue of consent forms:</p>	<p>11/10/2015</p>

i.

**iii. Declaration by the Researcher:**

I have read the University’s policies for Research and the information contained herein, to the best of my knowledge and belief, accurate.

I am satisfied that I have attempted to identify all risks related to the research that may arise in conducting this research and acknowledge my obligations as researcher and the rights of participants. I am satisfied that members of staff (including myself) working on the project have the appropriate qualifications, experience and facilities to conduct the research set out in the attached document and that I, as researcher take full responsibility for the ethical conduct of the research in accordance with subject-specific and University Research Policy (9.3 Policies and Procedures Manual), as well as any other condition laid down by the BUiD Ethics Committee. I am fully aware of the timelines and content for participant’s information and consent.

Print name: Nayela Mohammad

Signature: Nayela Mohammad

Date: 06/10/2015

*If the research is confirmed as not medium or high risk, it is endorsed HERE by the Faculty’s Research Ethics Subcommittee member (following discussion and clarification of any issues or concerns)\* .....and forwarded to the Research Office to be recorded.*

I confirm that this project fits within the University’s Research Policy (9.3 Policies and Procedures Manual) and I approve the proposal on behalf of BUiD’s Ethics Sub-Committee.

Name and signature of nominated Faculty Representative: Professor Ashley H. Pinnington

Signature: Ashley Pinnington Date: 11<sup>th</sup> October 2015

iv. If the Faculty’s Research Ethics Subcommittee member or the Vice Chancellor considers the research of medium or high risk, it is forwarded to the Research Ethics Officer to follow the higher-level procedures.

## Appendix 6 Educational Institution Ethics Form

**CHECKLIST** *If you answer YES to any of the questions below, you will be required to submit further information for ethics approval. Even if all questions are answered NO, the college may require that more details be submitted later.*

### Does your research involve -

(please circle)

1	Any novel procedure in the therapy or management of patients in a clinical setting?	YES <input type="radio"/> NO <input checked="" type="radio"/>
2	Any form of physically invasive procedure on participants or the administration of any food, drink or medicine?	YES <input type="radio"/> NO <input checked="" type="radio"/>
3	Touching, physical pain, or emotional distress of any sort?	YES <input type="radio"/> NO <input checked="" type="radio"/>
4	The participation of students, other than in the observation of normal college activity?	YES <input type="radio"/> NO <input checked="" type="radio"/>
5	Participants who are in a dependent situation, such as students, other than those who are being observed in their normal environment where such observation is considered innocuous?	YES <input type="radio"/> NO <input checked="" type="radio"/>
6	Acquisition of data about institutions or individuals through any form of database and in which those institutions or individuals are directly or indirectly identifiable?	YES <input type="radio"/> NO <input checked="" type="radio"/>
7	Use of questionnaire or interviews which may be linked either directly (eg through recording of names) or indirectly (eg through a cross-linked code) to the individual?	YES <input type="radio"/> NO <input checked="" type="radio"/>
8	Use of questionnaire, interview, or procedure which might be reasonably expected to cause discomfort, embarrassment, or psychological or spiritual harm to the participants?	YES <input type="radio"/> NO <input checked="" type="radio"/>
9	Processes that potentially exclude and/or disadvantage a person or group, such as the collection of information which may expose the person/group to discrimination, misrepresentation or reduction in quality or amount of service?	YES <input type="radio"/> NO <input checked="" type="radio"/>
10	Collection or disclosure of personal information that might breach confidentiality of student or employee records?	YES <input type="radio"/> NO <input checked="" type="radio"/>
11	Payments or inducements, other than reasonable recompense, to participants for their participation?	YES <input type="radio"/> NO <input checked="" type="radio"/>
12	Deception of any kind of the participants, including concealment of purpose or covert observation?	YES <input type="radio"/> NO <input checked="" type="radio"/>
13	Disclosure of the response outside the research which could place participants or institutions at risk of criminal prosecution or civil liability or be damaging to their financial standing, employability, professional standing or personal relationships?	YES <input type="radio"/> NO <input checked="" type="radio"/>
14	Any other sensitive issue of the study which has not been addressed in this checklist (e.g. ethical, cultural, or religious)?	YES <input type="radio"/> NO <input checked="" type="radio"/>

Investigator Signature: Nayela Mohammad \_\_\_\_\_ Date: 20.12.2015

## APPLICATION TO CONDUCT RESEARCH BY HCT DUBAI FACULTY, STAFF, STUDENTS AND OTHERS



**Name:** Nayela Mohammad

**College ID No:** xxxxxx

**Department:** General Studies

**Date of Application:** 06.02.2011

**Details of University / Organization and Credential / Qualification (for which research is required):**

The British University in Dubai

**Brief Outline of Research Topic / Area (that explains the purpose and area of research):**

To measure Tertiary level Emirati students' (both male and female) grit and its effect on academic performance

**Details of Proposed Research/ Survey Tools:**

Include here:

- This study is approved by the advisor and RDC of The British University in Dubai. The data collection will be conducted on two-three semester.
- Type of research: it will be a mixed methods, with both qualitative and quantitative approach. A questionnaire plus an interview will be used to collect data.
  - Attached copies of questions or information on the direction of questioning for interviews or surveys
  - Attached copy of consent form
- The respondents will approximately be 400 male students and 400 female students (from Dubai Colleges). At the levels 1-4.
- Students will be given a paper-based questionnaire to fill and then few students will be selected for an interview.

**Anticipated Benefit to HCT DUBAI or to the field of study:**

Include here:

- The proposed study will look at the level of grit and its effects on students' academic performance. Once the results will be analyzed, it will be shared with HCT and suggestions will be made to improve students' levels of motivation and perseverance.

**Planned Feedback / Updates to HCT DUBAI Management, Faculty and Students**

# Consent Form for participating in Research Projects

- I confirm that I have read and understood the information sheet for the above project and the researcher has answered any queries to my satisfaction.
- I understand that my participation is voluntary and that I am free to withdraw from the project at any time, without having to give a reason and without any consequences.
- I understand that I can withdraw any data from the study at any time.
- I understand that any information recorded in the investigation will remain confidential and no information will provide an identify me.
- I consent to being a participant in the project.

<p>_____</p> <p>_____</p> <p>(PRINT NAME)</p>	<p>Hereby agree to take part in the above project</p>
<p>_____</p> <p>_____</p> <p>Signature of Participant:</p>	<p>_____</p> <p>_____</p> <p>Date</p>

\_\_\_\_\_

\_\_\_\_\_

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## RESEARCH SHARING AGREEMENT BETWEEN HCT DUBAI Colleges AND RESEARCHER



**College ID No:** Nayela Mohammad **Department:** General Studies

This Agreement is made and entered into between (HCT DUBAI) on behalf of the HCT DUBAI Research Committee and *Nayela Mohammad*.

The purpose of this Agreement is to set forth the terms, conditions, and obligations concerning the sharing of research between the parties.

Therefore, *Nayela Mohammad* agrees to share research related to An Explanatory Study on the Relationship Between Grit and Academic Performance (GPA) of Emirati Tertiary Level Students research study under the following conditions:

1. Nayela Mohammad agrees to maintain research data originating from the An Explanatory Study on the Relationship Between Grit and Academic Performance (GPA) of Emirati Tertiary Level Students research study.
2. Each party agrees to maintain the research results such as a report of the findings, conclusions and recommendations in the HCT DUBAI Library Research Project Database.
3. Both parties agree to maintain confidentiality and privacy safeguards that were originally created as part of the research protocol.
4. Both parties agree not to release information about specific identifiable subjects to anyone.
5. Both parties agree to the boundary conditions of the original proposal under which data sharing was initiated. That is, neither party shall re-specify the proposed response variables, or the proposed covariates, without prior approval of the other. Moreover, each party agrees to cooperate in selective reporting of focused results so as to protect the integrity of subsequent research activities and uses of the shared data by the originating party.

This agreement to be executed effective as of the first date written below.

**Name of HCT DUBAI RC Chairperson:** \_\_\_\_\_

**Signature:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Name of Researcher:** \_\_\_\_\_

**Signature:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Name of HCT DUBAI Director:** \_\_\_\_\_

**Signature** \_\_\_\_\_

## **Appendix 7**

### **Email to Interviewee Students for Member Check**

**Date:** Monday, January 1, 2001 at 4:00 AM **Subject:** Interview: Member Check

Dearest All,

I would like to thank you for your valuable and in-depth input in the interview that was conducted yesterday. Now, we have one more step to finish this interview. I would be grateful if you could check the attached file, and add where you see suitable and fit. Also, I need you to tell me that the information in the above document is what you want to share.

Once that is done –the checking and adding- I would like you to send it back to me. The information that you are sharing is confidential, no one will trace the information back to you.

Kindly note that this is important. I would like to thank you one more time for your time, help and support.

Kindest regards,

Nayela Mohammad

# Appendix 8

## Approval Email from Educational Institution

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 Fri 08-Jan-16 8:18 AM  
[Redacted]  
Approval to do research at HCT Dubai (Nayela)

To: Nayela Mohammad  
Cc: [Redacted]

 You replied to this message on 10-Jan-16 12:12 PM.

[Action Items](#) [+ Get more actions](#)

Dear Nayela

After having reviewed your research application, the Committee has approved your request to conduct your research at HCT Dubai Colleges. Your research is valuable and we expect that your findings will contribute highly to improve our students' effectiveness in their academic life. Your proposal is in a very good order, however, the committee members have come up with the following recommendations, that they expect you will apply into an updated version of your research, so that you can obtain reliable and valid findings.

Here they are, please do the following: