



Leadership and Its Impact on Organisational Behaviour in a Nuclear Power Plant (NPP)

القيادة وتأثيرها على السلوك التنظيمي في محطات الطاقة النووية

by

BADER AL ALI

**Dissertation submitted in fulfilment
of the requirements for the degree of
MSc ENGINEERING MANAGEMENT**

at

The British University in Dubai

November 2019

DECLARATION

I warrant that the content of this research is the direct result of my own work and that any use made in it of published or unpublished copyright material falls within the limits permitted by international copyright conventions.

I understand that a copy of my research will be deposited in the University Library for permanent retention.

I hereby agree that the material mentioned above for which I am author and copyright holder may be copied and distributed by The British University in Dubai for the purposes of research, private study or education and that The British University in Dubai may recover from purchasers the costs incurred in such copying and distribution, where appropriate.

I understand that The British University in Dubai may make a digital copy available in the institutional repository.

I understand that I may apply to the University to retain the right to withhold or to restrict access to my thesis for a period which shall not normally exceed four calendar years from the congregation at which the degree is conferred, the length of the period to be specified in the application, together with the precise reasons for making that application.

Signature of the student

COPYRIGHT AND INFORMATION TO USERS

The author whose copyright is declared on the title page of the work has granted to the British University in Dubai the right to lend his/her research work to users of its library and to make partial or single copies for educational and research use.

The author has also granted permission to the University to keep or make a digital copy for similar use and for the purpose of preservation of the work digitally.

Multiple copying of this work for scholarly purposes may be granted by either the author, the Registrar or the Dean only.

Copying for financial gain shall only be allowed with the author's express permission.

Any use of this work in whole or in part shall respect the moral rights of the author to be acknowledged and to reflect in good faith and without detriment the meaning of the content, and the original authorship.

Abstract

This study seeks to critically investigate the impact that various leadership style have on organisational behaviours that are crucial in maintaining high organisational performance with respect to an NPP in the UAE. The leadership styles under consideration include transformational leadership, transactional leadership and LMX. The study identified a number of independent, dependent, and sub-variables to address the research questions and objectives. A comprehensive analysis of the existing literature was carried out and the variables like job satisfaction, job performance, professional development, and employee motivation was identified. The research is based on quantitative research approach to test the relationship between leadership style and different sub-variables. The data was gathered through a questionnaire that had closed-ended questions based on 5-point Likert Scale. The questionnaire along with the introductory letter was sent to employees under the different management categories at the NPP. Various statistical tests were carried out to establish the relationship between variables. The study found that transformational and LMX leadership styles have a significant impact on job satisfaction while the impact of transactional leadership style is significantly negative. One-way ANOVA was carried out to analyse the difference between the sub-dependent variables that revealed significant difference in job satisfaction among different management groups.

ملخص البحث

تسعى هذه الدراسة إلى التحقيق بشكل دقيق في تأثير أسلوب القيادة المتنوع على السلوكيات التنظيمية التي لها أهمية حاسمة في الحفاظ على الأداء التنظيمي العالي فيما يتعلق في مجال المحطات النووية السلمية في الإمارات العربية المتحدة. و إضافة الى ذلك تشمل أساليب القيادة بعض الدراسات عن القيادة التحويلية وقيادة المعاملات ونظرية القيادة المعرفه باسم قيادة LMX. حددت الدراسة عددًا من المتغيرات المستقلة والتابعة والفرعية لمعالجة الأسئلة والأهداف البحثية. تم إجراء تحليل شامل للأدبيات الموجودة وتم تحديد متغيرات مثل الرضا الوظيفي والأداء الوظيفي والتطوير المهني وتحفيز الموظفين. يعتمد البحث على منهج بحث كمي لاختبار العلاقة بين أسلوب القيادة والمتغيرات الفرعية المختلفة. تم جمع البيانات من خلال استبيان يتضمن أسئلة مغلقة بناءً على مقياس Likert المكون من 5 نقاط. تم إرسال الاستبيان مع الرسالة التمهيدية إلى الموظفين ضمن فئات من مختلف الإدارات في مجال المحطات النووية السلمية في الامارات العربية المتحدة. وأجريت اختبارات إحصائية مختلفة لإثبات العلاقة بين المتغيرات. وجدت الدراسة أن أساليب القيادة التحويلية والقيادة LMX لها تأثير كبير على الرضا الوظيفي ، في حين أن تأثير أسلوب قيادة المعاملات هو سلبي بشكل كبير. أجريت ANOVA أحادية الاتجاه لتحليل الفرق بين المتغيرات الفرعية التي كشفت عن وجود فرق كبير في الرضا الوظيفي بين مجموعات الإدارة المختلفة.

Dedication

To my family, my friends, my colleagues, my company and my mentors as well as to all those who have inspired me.

Acknowledgements

First, I would like to thank my family and friends who have supported me in this journey. I would also like to thank Professor Alaa Ameer who have helped me with my dissertation every step of the way and was always available to answer any questions that I might have. His continued guidance is what has allowed me to complete this dissertation.

I would also like to thank the British University in Dubai for providing me with the opportunity to study with them and develop myself professionally. I will cherish the knowledge that I have gained and the friends that I have made for a long time to come.

Bader Al Ali

Table of Contents

Chapter I: Introduction.....	1
1.1. Background.....	1
1.2. Problem statement	3
1.3. Aim and objectives	5
1.4. Research questions	5
1.5. Research significance	6
1.6. Overview of research methodology.....	7
1.7. Structure of the study.....	8
Chapter II: Literature Review	10
2.1. Introduction	10
2.2. Organisational leadership styles	10
2.2.1. Dimensions of transformational leadership.....	10
2.2.2. Dimensions of transactional leadership.....	12
2.2.3. Dimensions of leader-member exchange (LMX) leadership	13
2.3. Leadership styles in nuclear power plants (NPP's)	14
2.4. Leadership and its impact on organisational behaviour	16
2.4.1. Job satisfaction	16
2.4.2. Job performance	20
2.4.3. Professional development	22

2.4.4. Employee motivation	25
Chapter III: Research Methodology.....	28
3.1. Chapter Introduction.....	28
3.2. Research philosophy.....	28
3.3. Research design	29
3.4. Research strategy and sampling	30
3.5. Measurement instruments.....	31
3.5.1. Independent variables.....	31
3.5.2. Dependent variables	32
3.6. Data collection procedure.....	34
3.7. Data analysis techniques.....	34
3.8. Reliability and validity	35
3.9. Research ethics	36
3.10. Chapter summary.....	36
Chapter IV: Results and Discussions.....	38
4.1. General participant information.....	38
4.2. Reliability testing.....	39
4.3. Correlation analysis	39
4.4. Multiple Regression Analysis.....	43
4.4.1. Job satisfaction	43

4.4.2. Dependent sub-variable – Professional development	46
4.4.3. Sub-dependent variable – job performance.....	49
4.4.4. Dependent sub-variable – Job motivation.....	51
4.5. One-Way ANOVA	54
4.6. Discussions	61
4.6.1. Leadership style and job satisfaction	61
4.6.2. Leadership style and professional development.....	62
4.6.3. Leadership style and job performance	63
4.6.4. Leadership style and job motivation	64
Chapter V: Conclusions and Recommendations.....	69
5.1. Chapter overview.....	69
5.2. Conclusion	69
5.2.1. Leadership and its impact on job satisfaction	69
5.2.2. Leadership and professional development	70
5.2.3. Leadership style and job performance	71
5.2.4. Leadership style and job motivation	73
5.2.5. Differences in organisational behaviour across management groups	73
5.3. Recommendations and practical implications	75
5.4. Limitations and directions for further research	77
References.....	79

Appendix.....	96
Questionnaire	96

List of Tables

Table 1: Composition of the sample based on management groups 38

Table 2: Correlations 39

Table 3: Model summary & ANOVA for job satisfaction 43

Table 4: Coefficients^a 44

Table 5: Model Summary^b 46

Table 6: ANOVA^a 47

Table 7: Coefficients^a 47

Table 8: Model Summary^b 49

Table 9: ANOVA^a 49

Table 10: Coefficients^a 50

Table 11: Model Summary^b 51

Table 12: ANOVA^a 52

Table 13: Coefficients^a 52

Table 14: ANOVA 54

Table 15: Multiple Comparisons 56

List of Figures

Figure 1: Normal P-P plot for job satisfaction 45

Figure 2: Normal P-P plot for professional development 48

Figure 3: Normal P-P plot for job performance 51

Figure 4: Normal P-P plot for job motivation 53

Figure 5: Mean plot of job satisfaction 66

Figure 6: Mean plot for professional development 66

Figure 7: Mean plot for job performance 67

Figure 8: Mean plot for job motivation 68

Chapter I: Introduction

1.1. Background

Rapid economic and population growth in emerging nations such as the United Arab Emirates (UAE) have led to a significant increase in demand for energy. At the same time, use of fossil fuels has been discouraged due to the association with carbon emissions and climate change (Bilgili et al., 2015; van Vliet et al., 2016). Nuclear power has increasingly been seen as an effective way out of this dilemma since it offers energy that can be quickly scaled up and has minimal carbon emissions. However, nuclear power plants (NPPs) are hazardous environments where irregularities can lead to devastating effects (Martínez-Córcoles et al., 2011). This can for instance be seen in the 1986 Chernobyl disaster. Investigations pertaining to the catastrophic incident revealed that human and organisational factors performed a critical role in contributing to the disaster (Antonsen, 2017). Similar research in high-reliability organisations (HROs) has indicated that employee behaviour and human error perform a crucial role in occupational accidents and reduced organisational performance (Fernandez-Muniz et al., 2017).

Increased awareness of the important role of employee actions in HROs has led to renewed interest in leader influence on organisational behaviour. By definition, organisational behaviour describes the behaviour of people or employees in organisations (Pranit, 2010). It includes aspects such as employee job performance, willingness to enhance skills and knowledge, job satisfaction and motivation at work. Organisational behaviour has also been closely associated with organisational citizenship behaviours (OCBs) which are the pro-social, voluntary and discretionary behaviours undertaken by employees (Gong et al., 2010; Tsai & Wu, 2010). Such behaviour may not always be directly rewarded or explicitly recognised at the workplace.

However, there is a general consensus that both organisational behaviour and OCBs have a positive impact in terms of promoting and efficiency and effective functioning of the organisation (Kim & Gong, 2009; Kuvaas & Dysvik, 2009). In other words, organisational behaviour depicted by employees has a positive impact on organisational effectiveness and performance. In the context of NPP it is therefore beneficial to develop positive organisational behaviour among employees in order to achieve success in key organisational goals in areas such as safety performance.

Within the above context, leadership is considered in previous research as an antecedent to organisational behaviour among employees (Newman et al., 2014; Larsson & Vinberg, 2010). Drawing on the full range theory of leadership, two of the main leadership styles, as highlighted by Bass & Avolio (1994) include transformational leadership and transactional leadership. Transformational leadership as MacKenzie et al. (2001) explains involves the leader motivating the followers beyond simple rewards in exchange for their performance. It entails, the transformational leaders seeking to support the self-actualisation of followers. In addition, transformational leadership places high levels of emphasis development of the followers, as well as achievement of the organisational goals (Avolio et al., 1999). Bass and Avolio (1994) also suggested that transformational leadership can be classified under four dimensions: idealised influence, intellectual stimulation, individualised consideration and individualised motivation.

Transactional leadership, on the other hand, revolves around an economic exchange relationship (Bass & Avolio, 1994). Precisely, the transactional leader tends to be exclusively interested in results of the relationships. As a result, this leadership style involves the leader negotiating extrinsic exchanges and close control of the actions of followers in order to achieve the set goals (Fairholm & Fairholm, 2009). Although such leadership does not consider higher value-added partnerships between the leader and follower it is expected to be fairly common in

NPPs. This is the case since high safety requirements in such organisations require that employees strictly follow the laid out guidelines.

Beyond transformational and transactional leadership, leader-member exchange (LMX) has emerged as an increasingly popular leadership style in contemporary organisations. It refers to the different types of exchange relationship that exist between leaders and their subordinates (Dusterhoff et al., 2014). The conservation of resources (COR) theory suggests that high quality LMX between managers and their juniors is vital in facilitating the maintenance of resource reservoirs that can increase motivation and assist in stress resistance (Cheng et al., 2012). Furthermore, the presence of a high quality relationship with a supervisor can be instrumental in establishing an atmosphere of rapport at the workplace (Morrow et al., 2005). The benefits include an employee's positive appraisal of his or her work and increased levels of organisational commitment. LMX is also common in HROs such as NPPs since many tasks involve working under teams under the guidance of supervisors.

1.2. Problem statement

In organisational and management studies, leadership is widely considered as one of the most critical socio-psychological factors that have an influence on organisational outcomes (Muijs, 2011; Bolden, 2016). Leadership is also highlighted as an instrumental factor that influences various forms of organisational behaviour such as job satisfaction and performance among employees (Northouse, 2012). However, there are limited studies that have investigated the impact of leadership on organisational behaviour in NPPs as one of the HROs. The majority of organisational and management studies on NPP have focused on the relationship between leadership and safety climate in the organisation (Martínez-Córcoles et al., 2013; García-Herrero

et al., 2013). Such focus is justifiable given that risk-taking and unsafe behaviours in NPP can have disastrous outcomes. However, a greater understanding of safety climate can be achieved through an in-depth focus on other related organisational behaviours including job satisfaction, job performance, professional development and job motivation. This constitutes an area that the present research seeks to offer greater insights.

From yet another perspective, it can be noted that various leadership styles may exist within the organisation (Larsson & Vinberg, 2010). For example, the top management of an organisation is responsible for setting policies and goals that guide the general direction of the organisation. Accordingly, they may prefer to make use of transformational leadership which is characterised by establishing a vision and enabling of members to achieve the vision. On the other hand, some departments which are characterised by technical tasks often have in place clear objectives and paths that need to be achieved. Transactional leadership by the department heads is relevant in such situation as it is geared towards contingent rewards based on expected performance (Dumdum et al., 2013; Harms & Credé, 2010).

In yet another case, employees may be required to work in terms thus necessitating LMX leadership which seeks to ensure high levels of support between supervisor and team members (Gajendran & Joshi, 2012). Existing organisational research however mainly investigates leadership from a singular perspective in which case it is assumed that organisations operate based one type of leadership style. The path-goal theory in this case suggests that organisations need to engage in various leadership styles that reflect the diverse range of organisational circumstances and demand (Northouse, 2012). Accordingly, the present research seeks to overcome an existing shortcoming in extant research by investigating leaderships styles adopted at various organisational levels and their impact on organisational behaviour. In particular, the study

investigates the adoption of transformational, transactional and LMX leadership styles across various management levels and the impact on organisational behaviour. An investigation in this area is important for the UAE NPP since it lacks previous experience in nuclear operations. Consequently, there is a need to ensure that all relevant organisational behaviours are demonstrated by employees in order to achieve safety performance goals.

1.3. Aim and objectives

This study seeks to critically investigate the impact that various leadership style have on organisational behaviours that are crucial in maintaining high organisational performance with respect to an NPP in the UAE. The leadership styles under consideration include transformational leadership, transactional leadership and LMX. The following objectives are pursued:

- To assess the impact of leadership style on employee job satisfaction in the NPP
- To examine the impact of leadership style on employee engagement in professional development in the NPP
- To assess the impact of leadership style on employee job performance in the NPP
- To investigate the impact of leadership style on employee job motivation in the NPP
- To establish whether leadership influence on organisational behaviour differs across management groups in the NPP

1.4. Research questions

In order to achieve the study aim and objectives a set of research questions were posed. These questions essentially revolve around the varying impacts of the different leadership styles on organisational behaviour.

- What influence does leadership style have on employee job satisfaction in the NPP?
- What influence does leadership style have on employee engagement in professional development in the NPP?
- What influence does leadership style have on employee job performance in the NPP?
- What influence does leadership style have on levels of employee job motivation in the NPP?
- Are there significant differences in organisational behaviour outcomes across the various management groups in the NPP?

1.5. Research significance

The importance of the present study lies in its theoretical and practical contributions. The study examines the impact of three common leadership styles on organisational behaviour in the context of an NPP. Theoretically, the study provides insights into the co-existence of these leadership styles within a single organisation and the links with organisational behaviour. These relations are yet to be studied in an NPP environment particularly in relation to the UAE where the operation of NPP is still in its early years.

Job performance in an NPP is in part assessed based on employee safety participation and compliance. Previously, Martínez-Córcoles et al. (2011) have argued that transformational leadership is positively associated with employee safety performance behaviour. However, the role of transactional leadership and LMX in influencing such performance in an NPP is yet to be adequately investigated. This represents an interesting area of investigation as employees in an NPP are required to maintain high levels of performance (Mullen et al., 2017). As such, the present

study serves an important role by helping establish whether differences in leadership style across the organisation may lead to differences in job performance.

Employees in NPP are also required to have critical competences in various aspects of nuclear power plant operations. In the same way as other sectors such competences need to be constantly improved based on new developments. Although past literature (e.g. Runhaar et al., 2010; García-Morales et al., 2012) has suggested that transformational leadership has a positive influence on professional development it is not so far clear how other leadership styles impact on this organisational behaviour in an NPP. Therefore, by examining the various leadership styles the current study will help fill the gap in literature in relation to impact on professional development.

In terms of practice, the study also makes several contributions. To begin with, the study helps in establishing the most appropriate leadership behaviours for specific organisational behaviours among employees in the NPP. The information can be used in the NPP to ensure that relevant organisational behaviours are developed and consequently the achievement of organisational goals. Second, the findings in the study can be used to develop policies to enhance various forms of organisational behavioural that may be lacking in certain management groups. This is the case since a leadership style that is used dominantly in a given management group such as directors or sector head may not be effective enhancing certain forms of organisational behaviour.

1.6. Overview of research methodology

In terms of methodology, the current study makes use of quantitative research. The use of this research method was deemed necessary since it facilitates collection of numeric data that is quantifiable from a considerably large sample. As a result, causal relationships between variables

can be examined with greater accuracy and reliability (Saunders et al., 2012). Further, the use of quantitative data allows for findings to be generalised across the larger population of interest which in this context entails employees working in the NPP. In order to identify the various leadership styles the study uses employees from diverse management groups in the organisation as the study participants. The study participants are employees of an NPP in the UAE.

1.7. Structure of the study

This study is divided into five chapters. **Chapter I** as illustrated in this section provides a background of the study; discusses the study problem; and highlights the study aim, objectives and research question. The chapter also explains the significance of the research and offers an overview of the research methodology that was adopted.

Chapter II provides a critical and comprehensive review of literature on the three chosen leadership styles: transformational leadership, transactional leadership and LMX. It also reviews literature on the relationship between these leadership styles and four organisational behaviours: job satisfaction, job performance, professional development and job motivation. Gaps existing in current literature that the current study will seek to fill are also looked at in this chapter.

Chapter III provides an illustration of the methodology used in collecting and analysing of data in the study. Specifically, it discusses the research paradigm that guides the choice of specific methodologies. It also discusses the research design, the questionnaire and measurement scale used during the data collection. Other key components of the chapter include the data analysis techniques and measures undertaken to ensure an ethical research process.

Chapter IV presents the quantitative findings. It includes the analysis of data based on SPSS statistical software. Some of the key statistical methods used in the chapter include

correlation analysis, regression analysis and ANOVA. The chapter then discusses the findings in light of the literature reviewed in the second chapter.

Chapter V presents the conclusions of the study. It in specific offers a summary of the study findings and their practical and theoretical implications. It also provides relevant recommendations for policy makers in the NPP and ends with a discussion of the study limitations and suggestions for future research directions.

Chapter II: Literature Review

2.1. Introduction

This chapter provides a review of theories and empirical research on the study's topic. The main aim of the review is to establish key issues and research gaps in relation to the impact that various leadership styles have on organisational behaviour. From the review, a theoretical model is developed on which basis the findings from NPP will be substantiated. The chapter is divided into several sections which offer relevant information about key aspects of the study. It begins with a review of the various dimensions of the three main approaches to leadership which include transformation, transactional and leader-member exchange (LMX). It then proceeds to a brief review of the relevance of leadership to NPPs. This is followed by review of the three styles of leadership on key aspects of organisational behaviour including job satisfaction, job/task performance, professional development and work motivation.

2.2. Organisational leadership styles

2.2.1. Dimensions of transformational leadership

Transformational leadership, which is one the leadership styles under the full range model of leadership, has a wide number of definition as conceived by different authors. According to Kim (2014), it can be defined as a leadership style through which leaders motivate their followers to identify with organisational goals and interests, as well as perform beyond expectations. Buil et al. (2018) extends this definition by describing transformational leaders as leaders who seek to transform their organisations through a vision for the future, clarification of their vision and empowerment of employees to take necessary responsibility to achieve that vision. Similarly,

Tajasom et al. (2015) indicates that transformational leaders essentially seek to help their followers in the accomplishment of organisational goals and mission. As opposed to offering rewards and exchanges to their followers they motivate them by influencing their values, attitudes, beliefs and behaviour. In one of the most widely cited studies on transformational leadership, Bass (1990) suggest that the transformational leaders display four different behaviours. These include: idealised influence, inspirational motivation, intellectual stimulation and individualised consideration.

The first characteristic, idealised influence, suggests that transformational leadership is manifested when leaders behave in charismatic ways which in turn attract the respect and admiration of followers (Bass, 1999). In other words, transformational leaders behave in ways that arouse respect, strong emotions and respect from the followers. Walumbwa et al. (2008) however warns that under pseudo-transformational leadership the leader may use charismatic influence to focus on the self at the expense of others. Such self-focus is however absent in authentic transformational leadership. Through inspiration motivation transformational leaders have been suggested to be effective in communicating high expectations to their subordinates and encouraging them to focus in the achievement of established goals (Liao & Chuang, 2007). The inspirational motivation is also achieved through articulation of a vision of the future that is compelling (Chi & Pan, 2012).

Intellectual stimulation as the third element requires the leader to promote a culture that allows subordinates to develop intelligence, as well as engage in rational thinking. To do this, the leader provides the subordinates with constructive feedback, challenges their assumptions, reframes problems and also takes risks (Bass & Avolio, 1994). Lastly, individualised consideration is exhibited when the leader support followers' skills and assist them in the achievement of desired

outcomes. Such assistance may be in the form of coaching and mentoring as well as giving attention to employees and treating them as individuals (Bass, 1999).

Further review of leadership literature indicates the presence of an on-going debate regarding whether the four behavioural dimensions of transformational leadership should be investigated separately or as a singular construct (Tsai et al., 2009). Recent studies (e.g. Walumbwa & Hartnell, 2011; Chi & Pan, 2012) have suggested that the four dimensions to a large extent reflect the higher-order construct of transformational leadership. Put differently, these authors argue that transformational leadership exhibits itself as a singular construct as opposed to four distinctive sub-constructs. This view is adopted in the present study.

2.2.2. Dimensions of transactional leadership

Leithwood (1994) noted that transactional leadership also constitutes a number of key leadership theory under the full range model of leadership. It has been defined as a style of leadership that entails the use of various compensation incentives to achieve the intended outcomes. For this reason, transactional leadership is task-oriented and interactive. Specifically, its effectiveness is based on offering timely and appropriate incentives. While contrasting it to transformational leadership, Bass (1990) argues that transactional leadership seeks to help organisations in achieving goals through job rewards and clear instruction. In contrast, transformational leadership aligns the goals and objectives of the organisation with the followers. Transactional leaders thus depict the preference for extrinsic motivation through offering material incentives to followers (Bass & Avalio, 1994). Xie et al. (2018) within this context explains that it is through clear definition of roles that transactional leaders help employees to effectively undertake their jobs.

Leaders who adopt transactional leadership can seek to achieve their objectives through two dimensions. These include contingent rewards, which entail offering subordinates rewards as a way of motivating them and management by exception. The latter is further subdivided into positive and negative management by exception (Bass, 1990). Through positive management by exception the leader continually observes the team members with the aim of ensuring tasks are satisfactorily completed (Chu & Chai, 2011). On the other hand, negative management by exception is implemented by transactional leaders when team members violate the requirements or commit errors.

2.2.3. Dimensions of leader-member exchange (LMX) leadership

The LME model of leadership as developed by Graen and colleagues revolves around the relationship between organizational leaders and their followers (Graen & Uhl-Bien, 1995). The model which is based on the social exchange theory suggests that the expectations and influence of the leader on the follower are dependent on the quality of their relationship. In the absence of identical set of expectations and influence, the LMX theory posits that supervisors usually have different kinds of mutual exchange relationships with their subordinates. The differentiated relationships may be in the form of high quality or low quality LMX (Sun et al., 2013). The type of LMX creates obligations that the followers hold in respect their supervisors' special support.

In relation to high-quality LMX, it is suggested in the LMX theory that as a result of limited resources and time supervisors tend to develop closer exchange relationships with some subordinates. Examples of such subordinates could include assistants, advisors and trusted lieutenants. These subordinates are provided with higher levels of responsibility, access to work resources and decision influences (Van Dyne et al., 2008). However, for the rest of the subordinates the supervisor develops from work relationships which are considered to be low-

quality LMX. Based on this perspective, studies adopting LMX theory contend that discretionary behaviour such as organisational citizenship behaviour (OCB) can be understood in terms of reciprocity in high-quality LMX. Wayne (2002) and Zhong et al. (2011) for example argue that in high-quality LMX supervisors provide subordinates with valued resources and support but they do not get formally rewarded. The subordinates are however likely to reciprocate through greater commitment, working harder and increased loyalty to the supervisors and organisation.

2.3. Leadership styles in nuclear power plants (NPP's)

NPP's are characterized by hazardous environments where any form of irregularities by organisational members can have serious impacts. Such impacts are for instance evident in the Chernobyl nuclear disaster. Research into the accident revealed that human and organisational factor-related causes including management/leadership style, safety culture and system-induced errors performed a critical role in triggering the accident (Martínez-Córcoles et al., 2011). On this basis, a review of literature indicates that leadership has been considered to be instrumental in enhancing safety outcomes in high-reliability organisations like the NPPs (Flin & Yule, 2004). Precisely, leadership style is suggested to have an impact on development of a safety climate and enhancement of safety behaviour. Safety climate defines the employees' shared perception in relation to their work environment from a safety perspective (Wu et al., 2008). Safety behaviour, on the other hand, entails compliance with the safety procedures that entails various core activities required to achieve and preserve safety of the workplace workplace; and safety participation that implies employee behaviours that may not necessarily directly linked to personal safety but it is something which help in developing an environment that upholds the value of safety (Zohar, 2010).

Although the literature that is specific to nuclear power plants is scarce some interesting views regarding how various leadership styles influence safety outcomes have been suggested. In a meta-analysis by Clarke (2013) it was shown that transactional leadership was positively related to key aspects of safety performance including safety compliance and participation. In greater detail, the analysis revealed that active transactional leadership predicts safety compliances especially in organisations where a safety climate has been established. It was also found that transformational leadership had a greater impact in terms of predicting safety compared to transactional leadership. However, the study by Clarke (2013) did not incorporate risky behaviours in the safety performance construct and hence the impact of transactional leadership on this aspect of safety remained unexplored. Furthermore, the different dimensions of transactional leadership which include contingent reward and active management by exception were not examined separately. Notwithstanding these limitations, Martínez-Córcoles and Stephanou (2017) argue that active management by exception could promote safety through practices such as active detection and correction of mistakes. Contingent reward could, on the other hand, promote safety by providing incentives for employees to become more involved in safety issues.

On the other hand, some authors have suggested that transactional behaviours perform a minimal or no role in terms of fostering safety climate and performance. For example, Zohar (2002) found that although contingent reward had a positive influence on safety climate in high priority settings it was not the case in low priority conditions. Management by exception was, on the other hand, found to be negatively correlated with safety performance but in lower priority conditions. In yet another study, Hoffmeister et al. (2014) found that while contingent reward was related positively to safety compliance it failed in terms of predicting safety participation. The authors also found that active management by participation did not relate significantly to any safety

related variable. In light of the different findings on the effects of different types of leadership styles on safety participation it is necessary to further explore the preferred leadership style in the NPP and impact on organisational behaviour.

2.4. Leadership and its impact on organisational behaviour

2.4.1. Job satisfaction

Job satisfaction has been defined as the pleasant or positive emotional state that arises from an appraisal of one's job or experience in the organisation (Akehurst et al., 2009). From this definition, it is suggested that employees tend to form attitudes towards their job by taking into account their behaviours, beliefs and feelings. Accordingly, employees who perceive their jobs as rewarding and fulfilling are characterised by greater satisfaction with their jobs (Sayadi, 2016). Job satisfaction has also been described from the perspective of an employee's perceptions of differences between actual job outcomes and desired job outcomes (Sun & Xia, 2018).

In relation to leadership, the supervisor's actions and style of leadership has been suggested to have an impact on employees' job satisfaction. For example, job satisfaction could be influenced by adequacy of communication by the leader and display of non-verbal immediacy (Madlock, 2008). However, besides leadership job satisfaction could be influenced by work conditions, salaries, benefits, organisational culture and relationship with others (Belias & Koustelios, 2014; Sun & Xia, 2018).

Transformational leadership and its impact on job satisfaction

Some of the defining aspects of transformational leaders include the concern for followers' needs and exhibiting of behaviour that can inspire and intellectually stimulate the followers (Bass & Avolio, 1995). In line with these characteristics, several authors have sought to establish whether transformational leadership have a significant impact on the job satisfaction of the subordinates or followers. In a study of professional orchestra musicians in Germany, it was established through structural equation modelling that transformational leadership style is related to higher level of job satisfaction (Kammerhoff et al., 2018). The authors however found that the impact of transformational leadership on job satisfaction was reduced when relationship conflicts emerged between the leader and follower. Such conflicts revolve around the incompatibility of values, norms and personality. Brann et al. (2012) in a survey of 360 employees also found that transformational leadership was positively related with job satisfaction but mediated by trust in the supervisor. For instance, employees were likely to indicate higher satisfaction if they were confident that problems shared with the supervisor would be responded to in a constructive and caring manner. In agreement, Yulk (2013) argues that employees are committed and satisfied with their jobs when they have faith in the leader's fairness and integrity. Based on these studies, job satisfaction is suggested to be present when employees hold affective responses to specific work-related facets such as relationship conflicts and trust.

Studies focusing on public sector organisations also indicate the presence of a positive relationship. In a study of transformational leadership in Taiwan it was hypothesised that supervisor transformational leadership would lead to increased job satisfaction due to internalisation (Yang et al., 2011). Internalisation is deemed to occur when individuals adopt attitudes and behaviours that are congruent with their value systems (Brock & Kim, 2002). Based

on the findings, supervisor's charisma and individualised consideration were found to be the most influential determinants of job satisfaction (Yang et al., 2011). Inspirational motivation and intellectual stimulation were not found to have a significant impact since they do not correlate to supervisor-related internalisation.

Transactional leadership and its impact on job satisfaction

Findings from existing research report different impacts of transactional leadership on employees' level of job satisfaction. Spitzbart (2013) in a study of employees and leaders in the hotel industry found that both transactional and transformational leadership are positively correlated with job satisfaction. However, the study found that the impact of transactional leadership on job satisfaction was slightly lower than transformational leadership. Further, the study found that employees considered their leaders to be less transactional and transformational than the leaders' self-ratings. In contrast, Saleem (2015) in a comparative study of transactional and transformational leadership reported that the two styles of leadership have different impacts on job satisfaction. In the study, transformational leadership was found to have a positive influence on job satisfaction while a negative relationship was found in case of transactional leadership. In addition, organisational politics were found to partially mediate the impact that the two leadership styles have on job satisfaction. The study by Saleem (2015) used a non-probability based sampling technique which could have potentially impacted on the reliability of the findings. Nonetheless, the divergent results suggest the need for greater exploration of the impact of transactional leadership on job performance of the organizational members.

LMX and job satisfaction

The growing body of literature on LMX has suggested that type of LMX that exist between the leader and subordinate may have an influence on job satisfaction. The study by Pan and Lin (2018) for example investigated supervisors' negative affective and abusive supervision which are known to negatively affect job satisfaction among subordinates. From the study it was found that in lower-LMX dyads the supervisors and subordinates have fewer valuable resources to exchange. The minimal threat of resource loss caused supervisors to be less concerned when abusing subordinates. This in turn caused low job satisfaction. In contrast, higher-LMX dyads were characterised by supervisors and subordinates sharing abundant valuable resources. For example, supervisors were in a position to influence aspects such as promotion opportunities and payroll. Subordinates, on the other hand, had resources such as loyalty and higher performance which are valued by supervisors. Consequently, supervisors were found to be less likely to engage in abusive behaviour which would otherwise affect the subordinates' job satisfaction and performance. Tepper et al. (2012) while corroborating these findings found that supervisors tend to anticipate and evaluate potential consequences before engaging in abusive behaviours.

From yet another perspective, LMX has been investigated in relation to the extent to which it acts as a reliable predictor of followers' job satisfaction. In the survey of 126 employees results indicated that LMX quality had an impact on emotional regulation of employees and consequently the level of job satisfaction (Fisk & Friesen, 2012). Precisely, it was found that in high-quality LMX leaders were able to evoke desired emotions and related behaviours from followers. Subsequently, the followers' attitudes and behavioural reactions towards their jobs were positively influenced.

2.4.2. Job performance

Transformational leadership and job performance

Past studies have documented the presence of a positive relationship between transformational leadership and employee's task performance. According to Chi and San (2012) transformational leaders at the individual level offer their followers with mentoring and coaching. As a result, the followers' capability to undertake work more efficiently is enhanced and consequently a superior work performance. These authors further suggest that the positive impact of transformational leadership on task performance could occur at the unit/departmental level. Specifically, transformation leaders are at the unit level able to link the self-concept of the employees to the shared values of the organisations. Employees who are well aligned with organisational values on performance are expected to perform better in executing their roles. In agreement, Cable and Edwards (2004) found that fit/misfit of the employee is a key factor that influences employee job performance.

From another perspective, research conducted among Taiwanese employees found that employees who perceived transformational leaderships from their supervisors and unit leaders had significantly high task performance (Liang & Chi, 2013). The study however found that the relationship between transformational leadership and follower task performance was moderated by the follower's susceptibility to positive emotions. Similarly, Lumley et al. (2011) found that organisation related factors such as the nature and type of work and relationship with co-workers have an impact on employee job performance. Therefore, although a positive relationship is expected between transformational leadership and job performance some individual and contextual factors could moderate the relationship.

Transactional leadership and job performance

Existing research has suggested various impacts of transactional leadership on job performance. In one of the studies, the researchers sought to investigate how transactional leadership impacted on job performance of accountants in a Taiwanese county and city governments. The relationship was found to be significant and positive but relatively lower compared to transformational leadership (Chu & Lai, 2011). In addition, transactional leadership was found to impact positively on task performance when characterised by contingent reward and positive management by exception as opposed negative type of management by exception. Similarly, Sayadi (2016) investigated the impact that adoption of transactional leadership by school head teacher had on teacher performance and found the presence of a positive relationship. However, the positive relationship was limited to contingent reward while no significant relationship was found for active management by exception.

Previously, research has also investigated the impact of transactional leadership of female managers on sales subordinate effectiveness and performance (Dionne et al., 1996). Results from the study indicated that contingent reward dimension of transactional leadership was positively related to the dimensions of employee effectiveness and performance. Negative management by exception and passive leadership were, on the other hand, negatively related to the criteria. Collectively, the studies thus provide strong evidence suggesting that contingent reward as a form of extrinsic motivation influence task performance of subordinate.

LMX and job performance

Existing studies suggest various ways in which the quality of LMX may influence employees' job performance. In a study by Liden et al. (2006) it was found that subordinates in

high-quality LMX differentiation tend to receive ample leader support and feedback. The new and useful information that these subordinates receive was further found to have a significantly higher impact on work performance compared to subordinates in low-quality LMX differentiation. Similar findings have been made in which research has established that employees in high-quality LMX usually acquire otherwise unavailable job-related knowledge and information which allow them to master their jobs more effectively (Lam et al., 2017). Therefore, the quality of LMX may influence the level of access to information that is influential in enhancing employee performance.

Besides access to insider information, it has been shown that subordinates who are party to high-quality LMX usually receive higher salaries and bonuses and also promoted more frequently. Although adequate empirical research is yet to be conducted it is suggested that such incentives promote the subordinates to reciprocate through OCB such as higher performance (Tanskanen et al., 2018). In addition, high-quality LMX is associated with innovative and creative behaviours which can be linked higher individual performance (Dulebohn et al., 2012). Therefore it is likely that subordinates in high-quality LMX are likely to be characterised by significantly higher performance relative to subordinates in low-quality LMX. However, Joo (2012) in a study of a Korean conglomerate found that LMX quality positively influences job performance the relationship is indirect and moderated by the presence of a learning culture in the organisation.

2.4.3. Professional development

Professionals make use of specialised forms of knowledge in their work. These are often based on formal and academic credentials and work-based experience (Bosch-Sijtsema et al., 2018). In essence, it is argued that employees develop continuously by just doing their jobs. They for instance interact with other actors at the workplace and also go through a range of different work and learning experiences which could directly or indirectly contribute to their professional

development (van der Krogt, 2007). However, as a result of the continually changing nature of the workplace additional professional development is deemed useful in helping employees remain competent and efficient in their jobs (Moon, 2013). Professional development has also been attributed with a host of other benefits. These include an opportunity to meet individual learning goals; increased efficiency through gaining of new ideas and perspectives; increased confidence in handling work duties; and enhanced chances of retention through development of competencies that are indispensable to the employer (Harrison, 2010).

In nuclear power plants professional development could be achieved through various activities. Among the main ones as cited in existing research include participation in task forces meant to solve problems in the various departments; participation in operations committees and groups that undertake design and procedural reviews; enrolment in company-funded educational or vocational programs; active participation in professional associations; and visiting of other nuclear facilities as way of broadening perspective and learning of good practices from peers. In addition, day-to-day mentorship and coaching provided by managers or supervisors is considered to be an effective way of achieving professional development (Jones, 2008; Akiba, 2012). According to Desimone et al. (2014), mentoring should not necessarily be formally structured or documented. However, it should place emphasis on achieving of individual needs and help in reinforcing management expectations. Overall, the professional development opportunities are expected to impact positively on performance of the nuclear power plant and also contribute towards individual development.

Leadership styles and professional development

Several authors have made suggestions regarding how leadership styles could potentially influence professional development among subordinates. One of the areas where this relationship has been widely investigated pertains to the education sector. According to Kaplan and Owings (2015), transformational school leaders through individualised consideration seek to help followers in building their capacity as a way of enhancing ethical and technical behaviours. Accordingly, these leaders provide their followers with relevant and job-embedded professional development. They also give the subordinates opportunities to become instructors or leaders as part of the continuous learning and development process. Similarly, Saleh and Khine (2014) find that transformational leaders create conditions for employee growth in professional knowledge and skills. They also help employees in creating a professional development plan that takes into consideration individual learning needs.

In contrast, several authors have suggested that transactional leadership is less likely to promote professional development among employees. For example, Consenza and Buchanan (2017) argue that transactional leadership is characterised by parties seeking to achieve their individual purposes. In most cases such achievement requirements little in terms of openness to the other party. As a result, the leader is less aware of the follower's need for professional development. In agreement, Kaplan and Owings (2015) argue that the ability to engage in professional development requires leaders and followers to go beyond the simple exchanges that characterise transactional leadership.

With regard to LMX, a few studies have suggested how this leadership style could potentially impact on an employee's intentions to engage in professional development. Bezuijen

et al. (2010) for instance conducted a study which sought to establish how LMX influenced subordinates' engagement in learning activities. From the study results, the authors found that activities associated with LMX such as goal setting have a positive influence on engagement in various learning activities. Along the same lines, the study found in high-LMX dyads employees are likely to engage in learning activities in order to demonstrate their loyalty and also earn trust. In yet another study, Jansen et al. (2009) argue that in high LMX leaders stimulate their employees to engage in development in order to enhance the chances of achieving the strategic team goals. Similarly, Volleberg (2012) found that in high LMX the leader is often in a position to see an employee's need for additional learning as a way of developing new knowledge, skills and ability to improve performance. Accordingly, the leader encourages and facilitates the employee's engagement in learning activities.

2.4.4. Employee motivation

Existing literature highlights employee motivation as an important aspect of organisational behaviour that is associated with a range of positive outcomes such as positive affect, employee productivity, high levels of work engagement and task identification (Pink, 2010). The concept of employee motivation has also been classified as either intrinsic motivation or extrinsic motivation. According to Pinder (2011) intrinsic motivation entails an employee's desire to perform an activity for its own sake. The employee's inherent aim is to experience pleasure and derive satisfaction from the activity. In contrast, Kuvas et al. (2017) defined extrinsic motivation as the desire of an employee to perform with the aim of achieving positive outcomes. These may include gaining incentive or avoiding any negative results such as work-related demotion. Further, research suggests that employers usually seek to enhance extrinsic motivation among workers through aspects such as constructive feedback and job autonomy (Gagne & Deci, 2005). Extrinsic

motivation is on the other hand achieved through incentives that are based on work results or performance (Weibel et al., 2010).

Leadership styles and employee motivation

Transformational leadership could positively influence employee motivation in several ways. To start with, Zhang and Bartol (2010) find that the majority of employees are characterised by the need to overcome challenges as part of the pursuit of personal achievement. A transformation leader recognises such a need and subsequently values the employees' strengths and contributions. Further, the leader makes use of individualised consideration to inspire the employees to see and achieve new goals. From another perspective, it has been argued that employees are more likely to be motivated when they have faith in a certain cause (Barbuto, 2005). Transformational leaders help in enhancing the belief towards such cause by communicating the vision and goals of the organisation. They also create inspirational appeals and rational persuasion which collectively enhance employee motivation. Graves et al. (2013) similarly argue that transformational leadership increase employee motivation by helping the employees internalise the organisational values. The transformational leaders also increase employees' feelings of self-expression in their various work roles.

In relation to transactional leadership the exchange theory has been used to suggest how this style of leadership could enhance employee motivation. For example, Barbuto (2005) finds that instrumental rewards have the potential to motivate if an individual hold the perception that his or her behaviour will lead to achievement of certain extrinsic tangible outcomes such as promotions and bonuses. According to Barbuto et al. (2002) leaders who are instrumentally motivated tend to see value in a reward system for employees. Along the same lines, transactional

leaders have been shown to work based on a reward/punishment system for employees (Judge & Piccolo, 2004). As such, it is expected that transactional behaviours of leaders could lead to extrinsic motivation among employees.

Some studies albeit few in number have suggested that high LMX has a positive influence on employee motivation. Bauer and Erdogan (2010) within this context find that high LMX tends to trigger strong levels of work motivation among employees in the dyad. Similarly, Gagne and Deci (2005) posit that in high-quality LMX employees are afforded the opportunity to be creative and consequently derive a greater sense of work enjoyment which is crucial in increasing intrinsic motivation. In agreement, Grant and Berry (2011) argue that due to the strong relational orientation in high-quality LMX employees often feel obligated to engage in an aspect such as creativity which is an indicator of high employee motivation. Erim (2018) have however suggested that LMX may not have a significant impact on the level of employee motivation. According to this author some employees who are intrinsically motivated are less likely to respond strongly to positive LMX. This is suggested to be the case since the employees already work hard as a result of the enjoyment they derive from the task itself. In light of such contrasting views, it is thus necessary to explore how LMX as a leadership style impacts on employee motivation at NPP.

Chapter III: Research Methodology

3.1. Chapter Introduction

This present chapter provides a description of the methodological choices used to guide the collection and analysis of data on the impact that various leadership styles have on organisational behaviour of employees at a nuclear power station (NPP) in the UAE. The chapter starts with a discussion of the philosophical paradigm. It then explains the research design adopted in the study. Other key sections of the chapter include research strategy, measurement instrument, data collection and analysis procedures, research ethics and limitations. A justification is made for each of the methodological choices based on research methodology literature.

3.2. Research philosophy

Research philosophy describes the fundamental beliefs of the researcher in respect to how knowledge in a specific field of interest is developed (Saunders et al., 2012). These beliefs influence how the study is conducted. The philosophical paradigm adopted in a study also performs a major role in terms of determining the most optimal research design and consequently the avoidance of confusion and ambiguity (Collis & Hussey, 2013). Two of the primary research paradigms include positivism and interpretivism. The present study seeks to establish the nature of relationship between leadership and organisational behaviours. Accordingly, it makes use of positivism philosophy, which entails the objective collection of quantifiable data for use in establishing the relationship between specific study variables (Easterby-Smith et al., 2012).

The positivism paradigm was also selected since it emphasises the careful measurement of study variables through data aggregation (Creswell & Creswell, 2017). Such measurement in the

present study was necessary in order to establish the type of leadership that is most effective in terms of achieving desirable organisational behaviours such as job satisfaction, high task performance and professional development. Interpretivism philosophy, on the other hand, refers to the adoption of a subjective approach to understanding the social phenomena (Tashakkori & Teddlie, 2010). It was considered less applicable to the current study as it is characterised by high levels of subjectivism which in turn affect reliability and generalisation of study findings.

3.3. Research design

The NPP under consideration is relatively young with the construction process having begun in 2012. At present, there are no formal studies that have been conducted in the organisation to establish the dominant leadership styles and the impact on organisational behaviour which performs a critical role in influencing safety outcomes. On this basis, an exploratory research design can be considered to be instrumental determining the relationship of three main leadership styles with organisational behaviour among employees in various management groups.

The three independent variables include (a) transformational leadership, (b) transactional leadership and (c) leader-member exchange leadership. There are four dependent variables which include (a) job satisfaction, (b) task/job performance, (c) professional development and (d) work motivation. The main benefit of using an exploratory design is that it allows for enhanced understanding of the research phenomena (Saunders et al., 2012). For example, it allowed the researcher to establish the dominant leadership style in the organisation and consequently the impact important work-related variables that impact on safety outcomes. However, one of the limitations of exploratory research is that it may not be conclusive (Cooper et al., 2016). It nonetheless acts as a basis for directing future research.

3.4. Research strategy and sampling

The extent to which the study achieves definitive findings is dependent on the choice of a suitable research strategy. Research strategy, according to Saunders et al., (2012) is the blueprint or plan that provides the overall direction of the research process. Depending on the types of questions the research seeks to answer and expected responses the researcher may choose from several strategies such as case study, survey, ethnography and grounded theory (Easterby-Smith et al., 2012). In consistence the choice of the positivism philosophy and quantitative data, the present study is based on the survey strategy. As such, survey is used as basis of establishing the nature and direction of relationship between the independent and dependent variables of the study.

In terms of rationale, the use of survey was necessary in providing reliable empirical findings that could be generalised across the entire organisation. As Bryman & Bell (2015) indicate, a key advantage of surveys is that they facilitate the collection of data from a relatively large sample in a time and cost efficient manner. In addition, the use of survey allows for reduction in researcher bias. Such bias has been found to negatively impact on the credibility of the findings due to the presence of researcher's opinion during the data interpretation process (Chenail, 2011). It can however be noted that surveys are not without limitations. For example, Yin (2014) associates the use of pre-formulated responses in surveys with potentially lower validity.

The survey was conducted using a sample of employees under various management groups at the NPP. These include engineers, management executives, line managers and middle managers. Currently, the organisation has approximately 700 employees. However, not all employees were able to participate in the study due to a variety of reasons such as accessibility and work commitments. Consequently, sampling was used to identify a representative sample of

participants. Simple random sampling was preferred since it gives all respondents an equal chance of taking part in the research process (Levy, 2005). In total a sample size of n=59 subordinates under the different management groups was targeted.

3.5. Measurement instruments

Well established scales were used to measure the study constructs (see questionnaire in Appendix A). All main items were assessed on 5-point Likert scales that captures responses of the participants on a scale ranging from strongly agree to strongly disagree. This was considered necessary in order to enhance the functionality and clarity of the survey questionnaire.

3.5.1. Independent variables

Transformational leadership

Transformational and transactional leadership constitute part of the full range model of leadership. In the present study, the two leadership styles were measured based on the multifactor leadership questionnaire (MLQ-5X). The questionnaire was adapted from Bass and Avolio (1995) and is widely considered as a standard and reliable scale for measuring the two leadership constructs. Notably, the MLQ exists in two conversions consisting of long-form or short-form. The long-form of the questionnaire comprises of 45 items. The lengthy nature of the questionnaire was anticipated to cause problems such as low completion rate as most respondents are busy. Consequently, the short-form MLQ-5X scale was used.

With regard to transformational leadership, 4 items that represent each of the sub-constructs were used. They include one question each for inspirational motivation, idealised influence, intellectual stimulation and individualised consideration. For example, the participants

were asked to indicate the level of agreement with the statement '*The leader I am rating communicates a clear and positive vision of the future*'. Scores for the four items were

Transactional leadership

Transactional leadership was, on the other hand, measured based on two sub-constructs. These include contingent reward, which is a leadership behaviour by which the leaders focuses on clearly defining tasks and providing followers with rewards; and active management-by-exception, which involves the leader actively monitoring for any deviations from rules and standards and undertaking necessary corrective actions (Avolio & Bass, 2004). In total 4 items were used for transactional leadership comprising of 2 items for contingent reward and 2 items for active management-by-exception.

Leader-member exchange (LMX) leadership

The construct of LMX was measured based on a scale developed by Graen and Uhl-Blen (1995). The scale developed by the two authors has been widely used in measuring the quality of working relationship that exists between leaders and followers. It assesses the follower's self-reported amount of mutual trust, respect, job/need understanding and obligations exchanged in the leader-subordinate relationship. In the present study 4 items of the scale were used. An example of one of the items is '*the working relationship with my leader is effective*'.

3.5.2. Dependent variables

Job satisfaction

A scale developed by Mohrman et al. (1977) was used to measure employee job satisfaction. The scale has been widely used in recent studies (e.g. Yang & Lim, 2016) as a reliable

measure of job satisfaction levels. One of the strengths of this scale, which is also known as MCMJSS, is that it is designed based on the motivation-Hygiene Theory of Herzberg which focuses on intrinsic and extrinsic factors of motivation and satisfaction. The total scores for both intrinsic and extrinsic satisfaction are used to compute the average score for total job satisfaction.

Professional development

Given the young nature of the NPP organisation under consideration professional development was deemed to have a potentially significant impact in the future success of the organisation. This construct was measured based on a scale by Bezuijen et al. (2010) which measures employees' commitment towards activities that contribute to professional development. A total of four items was used such as '*I spend time following a course or educational program*' and '*I go to my supervisor to discuss how I can make progress*'. Scores from the four items were averaged to give a summary score on level of professional performance.

Job performance

Meanwhile, the job satisfaction construct was measured based on a self-appraisal approach using a scale developed by Williams and Anderson (1991). The scale measures task performance of the in-role job performance. Four items were used in measuring two dimensions of performance namely quality and productivity. In the questionnaire, the first two items sought to assess quality of performance (e.g. fulfils responsibilities as specified in the job description) while the other two items assessed productivity (e.g. engage in activities that will directly improve my performance evaluation).

Work motivation

The work extrinsic and intrinsic motivation scale (WEIMS) was used to measure work motivation among the study participants. The original scale developed by Tremblay et al. (2009) is an 18-item measure scale. However, for the purposes of the present study only 4 items of the scale were used. The first two items measure intrinsic motivation based on a statement such as '*I am currently engaged in this job because I derive much pleasure from learning new things*'. The remaining two items measured extrinsic motivation based on statements such as '*I am currently engaged in this type of work because it provides me with security*'.

3.6. Data collection procedure

The questionnaire along with the introductory letter was sent to employees under the different management categories at the NPP. The survey questionnaires were administered with the help of section/department heads to the respective subordinates. A collection box was set-up in each of the departments. Participants were instructed to self-complete the survey forms and return the questionnaire within five working days. The relatively longer return period was instrumental in enhancing a high response rate and consequently the ability to obtain an adequate number of complete and valid questionnaires.

3.7. Data analysis techniques

The analysis of data collected through the survey involved a mix of descriptive and inferential statistics. All statistical analyses were conducted using IBM's statistical package for social sciences (SPSS) version 22. The study used descriptive statistics and calculated mean and standard deviations in order to identify features of the collected data. These include the differences in age, gender and education of participants. In addition, the descriptive statistics were used to

establish the dominant leadership styles in the organisation and the average scores for each of the dependent variables that represent organisational behaviour. An analysis was also carried out to establish if the variables were distributed in a normal fashion. This was achieved through the use of multivariate kurtosis indices to determine the assumption of normality. Data is considered to be normally distributed if the value of the multivariate kurtosis is less than 1.96 (Johnson & Wichern, 1998)

Inferential statistics were to measure the relationship between the study variables. Accordingly, the correlation and regression analyses were performed to identify whether the leadership styles had significant influence on the organisational behaviour variables such as job satisfaction and performance. In addition, ANOVA was used to establish whether the correlation between leadership style and organisational behaviour differed across the management groups. The specific differences in management groups were subsequently tested using the Tukey Test.

3.8. Reliability and validity

Reliability describes the internal consistency of index of variables (Colquitt, 2001). In this study, Cronbach's alpha value was applied in measuring the reliability of both independent and dependent variables. As explained by Xie et al. (2018), Cronbach's alpha value > 0.7 indicates that the scale has an acceptable reliability. All the Cronbach's alpha values measured had values > 0.7 . As such, it can be concluded that the variables have good internal consistency. Validity describes the extent to which the measurement items are related to the construct to which they are theoretically predicted to be related (Shao et al., 2017). In the present study, the level of validity was established by conducting correlations and multiple regressions to find out if the scales were related to the specific factors.

3.9. Research ethics

The research was undertaken in full recognition of the relevant requirements for an ethical research. As a start, an ethical approval was sought from the ethics committee of the university. The approval was granted on the basis that no harm to the respondents was anticipated. Second, each of the questionnaires that were distributed to the participants had a cover page/letter of introduction that provided sufficient information about the study. Although participants were encouraged to complete the questionnaire they were informed that they had the freedom to decide whether to answer the questions or not without any external influences.

Concerns about anonymity and privacy were also addressed. Specifically, all respondents were informed that the information provided would be treated confidentially. Accordingly, personal details such as names and contacts were not requested during the survey. In addition, only cumulative values were included in the study in order to avoid linking specific participants to certain responses. Lastly, secured storage of raw data was ensured in a folder which was encrypted or password protected in order to prevent access to any unauthorised persons. Access to data was limited to the supervisor and examiners.

3.10. Chapter summary

This chapter sought to provide information regarding the research methodology adopted in the present study. It indicates that the study is anchored in the positivism paradigm and thus seeks to objectively and scientifically establish the nature of relationship between perceived leadership style and organisational behaviour among subordinates. In light of limited research that is specific to the organisation under consideration an exploratory research design was adopted. The chapter further indicates that data was collected using the survey method. Scales used in the measurement

instrument are discussed and justified. The chapter also elaborates on the data collection procedures, data analysis techniques and measures undertaken to ensure reliability, validity and an ethical research process.

Chapter IV: Results and Discussions

4.1. General participant information

The respondents in the study comprised of 59 purposively selected employees in the NPP. These participants were grouped based on their management level. As shown in Table 4.1, Engineers were the highest represented in the sample at N=20. This is consistent with the technical nature of operations in the NPP.

Table 1: Composition of the sample based on management groups

Group	Sample Size (N)
Director	10
Section Managers	10
Section Heads	10
Engineers	20
Officers	9
Total	59

The study comprised of three-sub independent variables that constituted the study's primary independent variable. These include three types of leadership styles: transactional, transformational and leader-member exchange. Four sub-dependent variables for organisational

citizenship behaviours were also included namely: job satisfaction, professional development, job performance and work motivation.

Results for each of the above variables were collected from the study's sample using self-administered surveys and analysed statistically using IBM's SPSS software. The inferential statistics are outlined in the following sections and interpreted.

4.2. Reliability testing

The scale related sub-variables were assessed for reliability using Cronbach's Alpha test. All Cronbach alpha levels for all variables were above the recommended value of 0.70. As such, the instrument used in assessing the impact of various leadership styles on organisational citizenship behaviours was considered to be valid. In the next sections, the correlation, regression and Anova results are presented.

4.3. Correlation analysis

The magnitude and direction of the relationship between the independent and dependent variables was measured through Pearson's 2-tailed correlation. Results from this test are shown in Table 4.2 below.

Table 2: Correlations

Correlations		1	2	3	4	5	6	7
		. TFL	. TSL	. LMX	. JS	. PD	. JP	. JM
1.	Pearson Correlation	1	.778**	.463**	.785**	.864**	.185	.728**

	sig. (2-tailed)	.000	.000	.000	.000	.160	.000
		.000	.000	.000	.000	.000	.000
2. Transactional	Pearson Correlation	.778**	.521**	.709**	.781**	0.196	.645**
	sig. (2-tailed)	.000	.000	.000	.000	.138	.000
		.000	.000	.000	.000	.000	.000
3. LMX	Pearson Correlation	.463**	.521**	.532**	.562**	.027	.400**
	sig. (2-tailed)	.000	.000	.000	.000	.839	.002
		.000	.000	.000	.000	.000	.000
4. Job Satisfaction	Pearson Correlation	.785**	.709**	.532**	.812**	.173	.619**
	sig. (2-tailed)	.000	.000	.000	.000	.191	.000
		.000	.000	.000	.000	.000	.000
5. Professional Development	Pearson Correlation	.864**	.781**	.562**	.812**	.123	.657**

		sig. (2-tailed)	.000	.000	.000	.000		.354	.000
			.195	.195	.195	.195	.195	.195	.195
6. Job Performance	Pearson Correlation		.185	-.0196	.027	.173	.123	.1	.184
	sig. (2-tailed)		.160	.138	.839	.191	.354		.163
			.195	.195	.195	.195	.195	.195	.195
7. Job Motivation	Pearson Correlation		.728**	-.645**	.400**	.619**	.657**	.184	.1
	sig. (2-tailed)		.000	.000	.002	.000	.000	.163	
			.195	.195	.195	.195	.195	.195	.195
<p>**</p> <p>Correlation is significant at the 0.01 level (2-tailed).</p>									

As can be seen from Table 2, sub-independent variable transformational leadership is significantly and positively associated with three of the sub-dependent variables. Specifically, transformational leadership is positively correlated with job satisfaction at the value of $\alpha=0.000$.

Similarly, transformational leadership and professional development are positively and strongly correlated at the value of $\alpha = 0.000$. A strong positive correlation also exists between transformational leadership and motivation at a value of $\alpha = 0.000$. However, no significant correlation was found between transformational leadership and job performance in the NPP.

With regard to the sub-independent variable of transactional leadership a negative and significant relationship was found between it and three sub-dependent variables. Precisely, the results in Table 2 indicate that transactional leadership is highly and strongly negatively correlated with job satisfaction and professional development at a value of $\alpha = 0.000$ for both sub-dependent variables. In addition, transactional leadership is negatively correlated with job motivation at a moderately high level at a value of $\alpha = 0.000$. However, in the case of job performance no significant relationship was found between transactional leadership and the sub-dependent variable.

Leader-member exchange was also analysed to establish its influence on the sub-dependent variables. As can be seen from Table 2 leader-member exchange is significantly correlated with three of the sub-dependent variables. These include moderately high and positive correlation with job satisfaction, professional development and job motivation at the value of $\alpha = 0.000$ for each of the three sub-dependent variables. A non-significant relationship can be observed between leader-member exchange and job performance. In consistence with these results, Multiple Regression Analysis was further conducted to establish the changes that each of the independent variables produce on the dependent variables.

4.4. Multiple Regression Analysis

During the regression analysis, each of the sub-dependent variable was kept constant as per the test. This was necessary in order to test the impact of each of the independent sub-variables on the sub-dependent variable under consideration.

4.4.1. Job satisfaction

A multiple regression analysis was conducted to establish whether the three categories of leadership styles produced a significant effect on job satisfaction. The specific fixed independent variables included LMX transformational leadership and transactional leadership. The results of the analysis are presented below:

Table 3: Model summary & ANOVA for job satisfaction

Model Summary ^b										
Model	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics						
				R Square Change	F Change	df1	df2	df3	Sig. F Change	
1	.638 ^a	.645	1.49809	.663	3.6088	3	35	5	.000	

a. Predictors: (Constant), LMX, Transformational, Transactional

b. Dependent Variable: Job_Satisfaction

From Table 4.3a, an R value of 0.814 (81.4%) was obtained which suggest a strong relationship between the variables. An adjusted R Square value of $R^2 = 0.645$ was also obtained which means that 64.5% of variances in job satisfaction at the NPP can be interpreted or explained by predictors included in the model. Therefore, it can be assumed that the model is a good predictor of the outcome. ANOVA was further conducted to establish the significance of the model.

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	242.972	3	80.991	36.088	.000
	Residual	123.435	55	2.244		
	Total	366.407	58			

a. Dependent Variable: Job_Satisfaction

b. Predictors: (Constant), LMX, Transformational, Transactional

From the ANOVA results in Table 4.3b, it can be seen that the model is significant with a value of $\alpha=0.00$ which is lower than the desired p-value of $p=0.05$. The regression model is therefore a significant predictor of job satisfaction at the NPP, $F(3, 55)=36.088$, $P=0.000$.

Table 4: Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		
		B	Std. Error	Beta			Lower Bound	Upper Bound	
1	(Constant)	7.663	3.001		2.553	.013	1.648	13.678	

Transformational	.380	.084	.565	.507	4.000	.211	.548
Transactional	-.101	.074	-.177	1.357	-.180	-.250	.048
LMX	.234	.121	.178	.931	1.059	-.009	.477

a. Dependent Variable: Job_Satisfaction

Table 4.3c depicts the coefficients for the overall model. It indicates that the main predictors of job satisfaction in the organisation are transformational leadership (B= 0.380, P=0.00) and LMX (B= 0.234, P=0.05). Transactional leadership does not predict job satisfaction. Accordingly, the static regression model for prediction of job satisfaction in the organisation is:

$$\text{Job satisfaction} = 7.663 + (0.380) * (\text{Transformational leadership}) + (-0.101) * (\text{Transactional leadership}) + (0.234) * (\text{LMX})$$

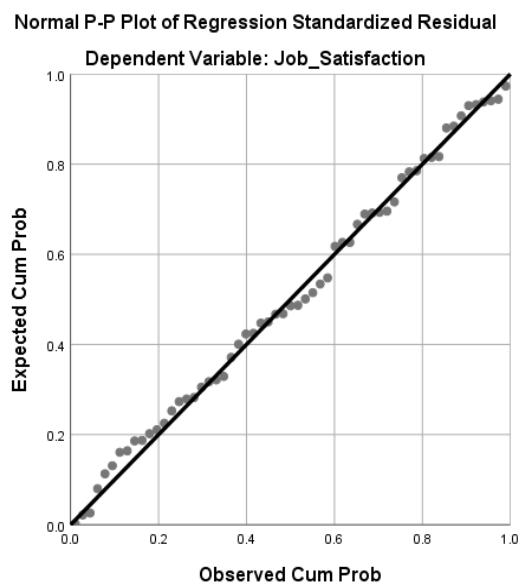


Figure 1: Normal P-P plot for job satisfaction

Figure 1 shows the normal probability plot for the regression model associated with job satisfaction. A general linear pattern can be observed which means that linearity and normality assumptions were not violated and hence the regression model is valid.

4.4.2. Dependent sub-variable – Professional development

Table 5: Model Summary^b

Model	R	Square	Adjusted Square	Std. Error of the Estimate	Change Statistics					
					R Square Change	F	df1	df2	df	Sig.
1	.892 ^a	.95	.784	1.83668	.795	7.1090	3	5		.000

a. Predictors: (Constant), LMX, Transformational, Transactional

b. Dependent Variable: Professional_Development

From the results shown in Table 5 an R value of 0.892 (89.2%) was obtained and hence the relationship between the variables in the model is strong. Further, the $R^2 = 0.784$ which means that 78.4% of changes in professional development among employees in the organisation can be attributed to the predictor variables. This suggests that the predictive power of the model is very high.

Table 6: ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
Regression	1	719.446	3	239.815	71.090	.000 ^b
Residual	55	185.537	55	3.373		
Total	58	904.983	58			

a. Dependent Variable: Professional_Development

b. Predictors: (Constant), LMX, Transformational, Transactional

ANOVA was conducted to establish the significance of the regression model. From Table 4.4b it can be seen that the model is significant at a value of $\alpha=0.000$ which is lower than the desired value of $p=0.05$. Therefore, it can be concluded that the model significantly predicts professional development, $F(3, 55)= 71.090$, $P=0.000$.

Table 7: Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error				Lower Bound	Upper Bound
(Constant)	1	1.785	3.680		.485	.630	-5.589	9.159
Transformational	2	.661	.103	.626	.402	.000	.454	.868
Transactional	3	-.187	.091	-.209	2.054	.045	-.370	-.005
LMX	4	.337	.148	.163	.267	.027	.039	.634

a. Dependent Variable: Professional_Development

Table 7 shows the coefficients of the model. It indicates that the main predictors of professional development in the organisation are transformational leadership (B= 0.661, P=0.000) and transactional leadership (B= 0.337, P=0.027). However, transactional leadership is not a significant predictor of professional development. The following equation can therefore be used to predict professional development:

$$\text{Professional development} = 1.785 + (0.661) * (\text{Transformational leadership}) + (-0.187) * (\text{Transactional leadership}) + (0.337) * (\text{LMX})$$

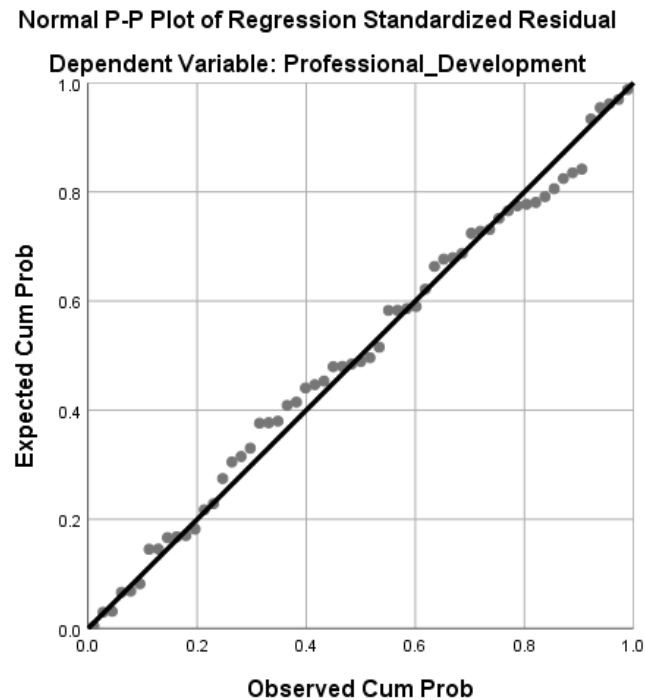


Figure 2: Normal P-P plot for professional development

Figure 2 shows the normal probability plot for the regression model associated with professional development. A general linear pattern can be observed which means that linearity and normality assumption were not violated and hence the regression model is valid.

4.4.3. Sub-dependent variable – job performance

Table 8: Model Summary^b

Model	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Sig.
				R Square Change	F Change	df1	df2	df F Change	
1	.223 ^a	-.002	88.926	.050	.962	3	5	5	.417

a. Predictors: (Constant), LMX, Transformational, Transactional

b. Dependent Variable: Job_Performance

The model summary in Table 4.5a indicates a R value of 0.223(22.3%) which suggests the presence of a weak relationship between the sub variable and the predictor variables. In addition, adjusted $R^2 = -0.002$ which indicates that only a negligible amount of change in job performance can be attributed to the predictors in the model.

Table 9: ANOVA^a

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	2.478	3	.826	.962	.417 ^b
Residual	47.251	55	.859		
Total	49.729	58			

a. Dependent Variable: Job_Performance

b. Predictors: (Constant), LMX, Transformational, Transactional

With regard to significance of the model, the ANOVA results indicate the presence that the significance value $\alpha = 0.417$ which is greater than the desired value of $p = 0.05$. Therefore, it can be concluded that the predictors in the model do not significantly predict job performance in the organisation.

Table 10: Coefficients^a

Model	Unstandardized Coefficients			Standardized Coefficients		t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error		Beta				Lower Bound	Upper Bound
(Constant)	19.120	1.857				10.297	.000	15.342	22.8
Transformational	.025	.052		.100		.473	.638	-.080	.129
Transactional	-.037	.046		-.176		-.805	.424	-.129	.055
LMX	-.054	.075		-.111		-.715	.478	-.204	.097

a. Dependent Variable: Job_Performance

Since the regression model is non-significant the co-efficient values shown in Table 4.5c cannot be used to derive a suitable equation to predict job performance.

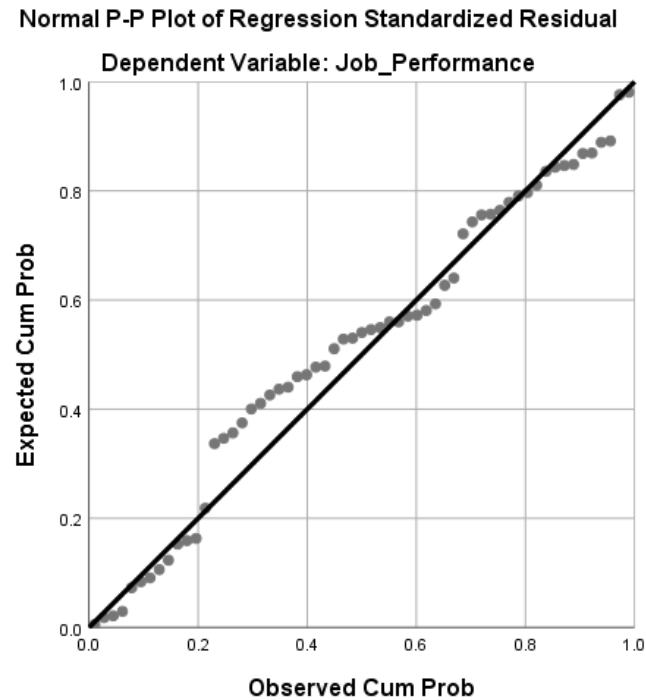


Figure 3: Normal P-P plot for job performance

Figure 3 shows the normal probability plot for the regression model associated with job performance. A general linear pattern can be observed which means that linearity and normality assumptions were not violated and hence the regression model is valid.

4.4.4. Dependent sub-variable – Job motivation

Table 11: Model Summary^b

Model	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				df1	df2	Sig. F Change
				R Square Change	F	t	p			
1	.574 ^a	.547	1.443	.547	2.130	3.5	.000	3	5	

a. Predictors: (Constant), LMX, Transformational, Transactional

b. Dependent Variable: Job_Motivation

Table 11 indicates an R value of 0.740 (i.e. 74%) for the regression model between job motivation and the predictor variables. Further, adjusted $R^2 = 0.522$ which means that 52.2% of changes in job motivation among the study participants can be attributed to the predictor variables. A moderately strong relationship therefore exists between the variables.

Table 12: ANOVA^a

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	138.490	3	46.163	22.130	.000 ^b
Residual	114.731	55	2.086		
Total	253.220	58			

a. Dependent Variable: Job_Motivation

b. Predictors: (Constant), LMX, Transformational, Transactional

ANOVA as shown in Table 4.6b was used to establish the significance of the model. The results confirm that the model is indeed significant with a value of $\alpha=0.000$ which is lower than the desired value of $p=0.05$. Therefore, the model is a significant predictor of job motivation in the NPP.

Table 13: Coefficients^a

Model	Unstandardized Coefficients			Standardized Coefficients (Beta)	t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error					Lower Bound	Upper Bound
(Constant)	8.325	2.894		.877	2.906	.006	2.524	14.12
Transformational	.316	.081		.565	.891	.000	.153	.479
Transactional	-.087	.072		-.183	1.212	.231	-.231	.057
LMX	.047	.117		.043	.405	.687	-.187	.281

a. Dependent Variable: Job_Motivation

The overall coefficients for the model were obtained in order to establish the contribution of each predictor variable to changes in job motivation. The results shown in Table 4.6c indicate that the only significant predictor of job motivation in the organisation is transformational leadership ($B=0.316$, $p=0.000$). Transactional leadership and LMX do not significantly predict job motivation among the participants from the NPP. The following equation can be used to predict job motivation:

$$\text{Job motivation} = 8.325 + (0.316) * (\text{Transformational leadership}) + (-0.087)(\text{Transactional Leadership}) + (0.047)(\text{LMX})$$

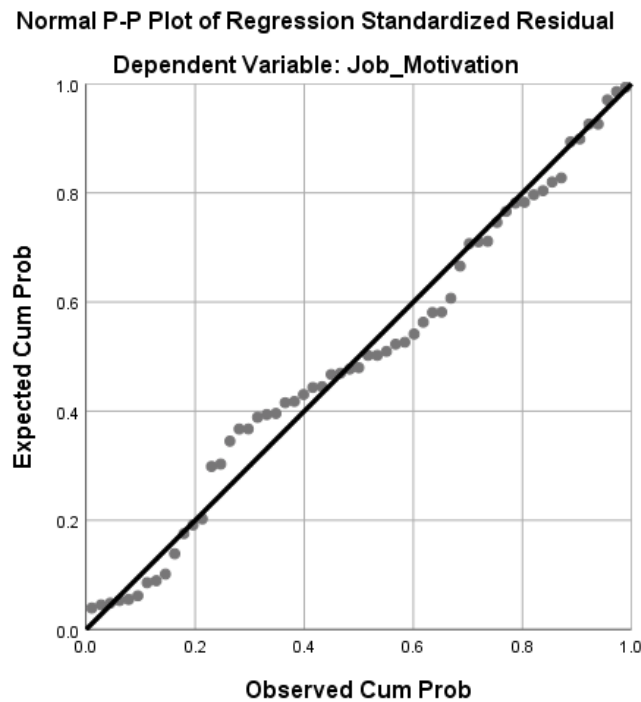


Figure 4: Normal P-P plot for job motivation

Figure 4.4 shows the normal probability plot for the regression model associated with job motivation. A general linear pattern can be observed which means that linearity and normality assumptions were not violated and hence the regression model is valid.

4.5. One-Way ANOVA

One-way ANOVA was used to test whether differences in the sub-dependent variables varied significantly between the various management groups. Table 4.7 below shows the results of the analysis.

		Table 14: ANOVA						
		Sum of		Mean				Si
		Squares	df	Square	F	g.		
Job_Satisfaction	Between Groups	292.60	4	73.15	53	.0		
		7	2		.526	00		
	Within Groups	73.800	54	1.367				
Professional_Development	Total	366.40	58					
		7						
	Between Groups	775.72	4	193.9	81	.0		
Job_Performance		7	32		.020	00		
	Within Groups	129.25	54	2.394				
		6						
Job_Performance	Total	904.98	58					
		3						
	Between Groups	5.329	4	1.332	1.	.1		
Job_Performance					620	82		
	Within Groups	44.400	54	.822				
Job_Motivation	Total	49.729	58					
	Between Groups	138.17	4	34.54	16	.0		
Job_Motivation		0	3		.213	00		
	Within Groups	115.05	54	2.131				
		0						
Job_Motivation	Total	253.22	58					
		0						

The results from Table 4.7 reveal the presence of significant differences across the management groups except job performance. In the case of job performance, a value of $\alpha = 0.182$

was obtained which is above the desired value of $p=0.000$. Therefore, job performance does not vary significantly between the management groups. In light of the above results, Tukey's post hoc test was conducted to establish the exact differences in the sub-dependent variables across the various management groups.

Table 15: Multiple Comparisons

Tukey HSD								
		(I)	(J)	Mean			95% Confidence Interval	
Variable	Dependent	Management	Management	Difference	Standard	Signif.	Lower	Upper
		Group	Group	(I-J)	Error		Bound	Bound
Job_Satisfaction	Satisfaction	Director	Section Managers	.10000	.52281	.000	-1.3754	1.5754
			Section Heads	4.2000*	.52281	.000	-2.7246	5.6246
			Engineers	5.1000*	.45277	.000	-3.8222	6.3222
			Officers	1.43333	.53714	.072	-.0825	2.9492
		Section Managers	Director	-.10000	.52281	.000	-1.5754	1.3754
			Section Heads	4.1000*	.52281	.000	-2.6246	5.5246
			Engineers	5.0000*	.45277	.000	-3.7222	6.2222
			Officers	1.33333	.53714	.110	-.1825	2.8492
		Section Heads	Director	-.42000*	.52281	.000	-5.6754	2.7246
			Section Managers	4.1000*	.52281	.000	-5.5754	2.6246
			Engineers	5.9000*	.45277	.000	-3.7778	2.1778
			Officers	2.76667*	.53714	.000	-4.2825	1.2508
		Engineers	Director	5.1000*	.45277	.000	-6.3778	3.8222
			Section Managers	5.0000*	.45277	.000	-6.2778	3.7222
			Section Heads	5.9000*	.45277	.000	-6.1778	3.7778
			Officers	3.66667*	.46924	.000	-4.9909	2.3424
		Officers	Director	1.43333	.53714	.072	-.0825	2.9492
			Section Managers	1.33333	.53714	.110	-.1825	2.8492
			Section Heads	2.76667*	.53714	.000	-1.2508	4.2508

Professional Development	Directors	Engineers	3.6	.	.	2.3	4.9
		6667*	46924	000	424	909	
		Section Managers	.50	.	-	2.4	
		000	69190	950	1.4526	526	
		Section Heads	5.6	.	3.6	7.5	
		0000*	69190	000	474	526	
		Engineers	8.8	.	7.1	10.	
		0000*	59920	000	090	4910	
		Officers	2.6	.	.61	4.6	
		2222*	71086	005	61	283	
		Section Managers	-	.	-	1.4	
		.50000	69190	950	2.4526	526	
	Heads	Section Heads	5.1	.	3.1	7.0	
		0000*	69190	000	474	526	
		Engineers	8.3	.	6.6	9.9	
		0000*	59920	000	090	910	
		Officers	2.1	.	.11	4.1	
		2222*	71086	033	61	283	
		Section Heads	-	.	-	-	
		5.60000*	69190	000	7.5526	3.6474	
		Section Managers	-	.	-	-	
		5.10000*	69190	000	7.0526	3.1474	
		Engineers	3.2	.	1.5	4.8	
		0000*	59920	000	090	910	
s	Engineers	Officers	-	.	-	-	
		2.97778*	71086	001	4.9839	.9717	
		Director	-	.	-	-	
		8.80000*	59920	000	10.4910	7.1090	
		Section Managers	-	.	-	-	
		8.30000*	59920	000	9.9910	6.6090	
		Section Heads	-	.	-	-	
		3.20000*	59920	000	4.8910	1.5090	
		Officers	-	.	-	-	
		6.17778*	62100	000	7.9303	4.4253	
	Officers	Director	-	.	-	-	
		2.62222*	71086	005	4.6283	.6161	
		Section Managers	-	.	-	-	
		2.12222*	71086	033	4.1283	.1161	
		Section Heads	2.9	.	.97	4.9	
		7778*	71086	001	17	839	
		Engineers	6.1	.	4.4	7.9	
		7778*	62100	000	253	303	
Job_Performance	Director	Section Managers	.10	.	-	1.2	
		000	40552	999	1.0444	444	

s	Managers	Section Heads	Section	-	40552	988	1.3444	44	.94
			Heads	.20000					
			Engineers	.60	35119	437	.3911	911	1.5
		Officers	Section	-	41663	951	.8758	758	1.4
			Heads	.30					
			Engineers	.60	35119	437	.3911	911	1.5
	Heads	Section Managers	Section	-	40552	999	1.2444	444	1.0
			Heads	.10000					
			Engineers	.60	35119	437	.3911	911	1.5
		Officers	Section	-	40552	946	1.4444	44	.84
			Heads	.30					
			Engineers	.50	35119	615	.4911	911	1.4
	Engineers	Section Heads	Section	-	40552	988	.9444	444	1.3
			Heads	.20					
			Engineers	.80	35119	168	.1911	911	1.7
		Managers	Section	.30	40552	946	.8444	444	1.4
			Heads	.80					
			Engineers	.80	35119	168	.1911	911	1.7
	Officers	Section Heads	Section	-	41663	751	.6758	758	1.6
			Heads	.50					
			Engineers	.50	41663	751	.6758	758	1.6
		Managers	Section	-	35119	437	1.5911	11	.39
			Heads	.60000					
			Engineers	.60	35119	437	1.5911	11	.39
	Job_Motivation	Section Heads	Section	-	35119	615	1.4911	11	.49
			Heads	.50000					
			Engineers	.50	35119	615	1.4911	11	.49
		Officers	Section	-	35119	168	1.7911	11	.19
			Heads	.80000					
			Engineers	.80	35119	168	1.7911	11	.19
	Director	Section Heads	Section	-	36396	922	1.3271	71	.72
			Heads	.30000					
			Engineers	.30	36396	922	1.3271	71	.72
		Managers	Section	-	41663	951	1.4758	58	.87
			Heads	.30000					
			Engineers	.30	41663	951	1.4758	58	.87
	Job_Motivation	Section Heads	Section	-	41663	989	1.3758	58	.97
			Heads	.20000					
			Engineers	.20	41663	989	1.3758	58	.97
		Officers	Section	-	41663	751	1.6758	58	.67
			Heads	.50000					
			Engineers	.50	41663	751	1.6758	58	.67
	Job_Motivation	Section Heads	Section	-	36396	922	.7271	271	1.3
			Heads	.30					
			Engineers	.30	36396	922	.7271	271	1.3
		Managers	Section	-	65277	.000	1.9422	422	1.7
			Heads	.10000					
			Engineers	.10	65277	.000	1.9422	422	1.7
	Job_Motivation	Section Heads	Section	-	65277	040	.78	422	3.7
			Heads	.0000*					
			Engineers	.00	65277	040	.78	422	3.7
		Officers	Section	-	56532	000	546	454	5.2
			Heads	.5000*					
			Engineers	.50	56532	000	546	454	5.2

s	Managers	Officers	1.4	3333	67066	220	.4593	260	3.3
		Director	.10	000	65277	.000	1.7422	422	1.9
		Section	2.0	0000*	65277	.027	.78	.15	3.8
		Heads	3.7	5000*	56532	000	546	2.1	5.3
		Engineers	1.5	3333	67066	165	.3593	260	3.4
	Heads	Director	-	1.90000*	65277	.040	3.7422	.0578	-
		Section	-	2.00000*	65277	.027	3.8422	.1578	-
		Managers	1.7	5000*	56532	.025	46	.15	3.3
		Engineers	-	.46667	67066	.957	2.3593	260	1.4
		Officers	-	3.65000*	56532	000	5.2454	2.0546	-
	Engineer	Director	-	3.75000*	56532	000	5.3454	2.1546	-
		Section	-	1.75000*	56532	.025	3.3454	.1546	-
		Managers	-	2.21667*	58588	.003	3.8701	.5633	-
		Heads	-	1.43333	67066	220	3.3260	93	.45
		Officers	-	1.53333	67066	165	3.4260	93	.35
	Officers	Section	.46	667	67066	.957	1.4260	593	2.3
		Heads	2.2	1667*	58588	.003	33	.56	3.8
		Engineers							

*. The mean difference is significant at the 0.05 level.

With respect to job performance, the results in Table 4.8 indicate that there is a statistically significant difference ($p < 0.05$) between directors versus section heads and engineers. Other significant differences are observed for section managers versus section heads and engineers; section head versus directors, section managers and officers; engineers versus directors, section

managers and officers; and officers versus section heads and engineers. No statistically significant results were found in relation to other combinations in the job satisfaction category.

In the case of professional development, there are statistically significant ($p < 0.05$) differences between directors versus section heads and engineers. Other statistically significant ($p < 0.05$) differences include section managers versus section heads, section managers and engineers; section heads and all other management groups; engineers and all other management groups; and officers versus other management groups except section manager.

For job performance as the third sub-dependent variable the comparisons in Table 4.7 indicate that all combinations were non-significant. In this case, the significance value was less than the desired value of $p = 0.05$.

Lastly on job motivation as the fourth sub-dependent variable statistically significant differences were obtained between directors and two other groups including section head and engineers. In relation to section managers the differences were significant in relation to only section heads and engineers ($p < 0.05$). Further, differences in section managers are significant with respect to section heads and engineers ($p < 0.05$). It can also be seen that engineers group was statistically significant relative to all other management groups ($p < 0.05$). In the case of job officers the only significant difference was with respect to engineers ($p < 0.05$).

4.6. Discussions

4.6.1. Leadership style and job satisfaction

From the study results, the influence of leadership on job satisfaction in the NPP varies based on the leadership style adopted. Specifically, the study finds that transformational and LMX leadership styles have a significant impact on job satisfaction while the impact of transactional leadership style is significantly negative. In the case of transformational leadership its positive relationship with job satisfaction is consistent with previous research as reviewed in this study. Kammerhoff et al. (2018) for example found positive correlation between the two constructs and attributed it to transformational leadership practices that enhance trust and fairness at the workplace. In other words, the use of transformational leadership is less likely to lead to workplace conflicts which impact negatively on job satisfaction. In consistence with the studies by Bock and Kim (2002) and Yang et al. (2011) one could also attribute the positive impact of transformational leadership on job satisfaction in the NPP to building of positive attitudes towards the job. Put differently, transformational leaders in the organisation are able to adopt practices that are congruent with the employee's value systems and hence greater job satisfaction.

In the case of LMX the positive impact on job satisfaction among employees in the NPP can be attributed to several leadership practices that are inherent in this leadership style. For instance, high-quality LMX between supervisors and subordinates has previously being found to result into employees gaining greater access to valuable resources that enhance performance of work (Pan & Lin, 2018). In the case of the NPP under consideration it could therefore be such that high-quality LMX between employees and their immediate supervisors offers necessary resources such as support, guidance and motivation while engaging in work activities. In consistence with

the study by Tepper et al. (2012) it is likely that abusive behaviours which lead to reduced job satisfaction are less common in the NPP.

The study findings indicate the presence of a negative relationship between transactional leadership and the level of job satisfaction among employees in the NPP. This confirms the view by Saleem (2015) that transactional relationship has a negative influence on employee job satisfaction. It however contradicts the research by Spitzbart (2013) which suggested that both transactional and transformational leadership have a positive impact on job satisfaction albeit at varying levels. In essence the negative impact of transactional leadership on job satisfaction among the employees from the NPP could be attributed to related leadership behaviours such as high pressures to complete tasks based on roles, low relationship building with leaders and failure to consider the emotions of the leaders. These aspects of transactional leadership have the potential to increase dissatisfaction and unhappiness among employees.

4.6.2. Leadership style and professional development

Long-term professional development is crucial among employees in an NPP since they need to handle safety sensitive tasks based on recent knowledge and advances in the field. From the study findings, transformational and LMX leadership styles are significant predictors of employee engagement in professional development in the NPP. This suggests that leaders in the NPP who make use of transformational or LMX leadership styles are able to engage in practices such as coaching and mentoring which contribute positively to employee professional development. It also suggests that these leaders are able to motivate their employees by linking of the daily work tasks to personal long-term objectives. It is expected that such practices will allow employees to build their confidence in terms of functioning more autonomously through enhancement of skills and knowledge.

The study results also echo previous findings on impact of transformational leadership on professional development. Kaplan and Owings (2015) as reviewed earlier for instance found that transformational leadership through individual consideration provides employees with a platform to engage in continuous learning and development. They also challenge employees to achieve higher skills by taking on new roles (Saleh & Khine, 2014). In the case of LMX, only limited studies had previously sought to establish the impact of this leadership style on professional development. Accordingly, the present study affirms the views by Jansen et al. (2009) that LMX could possibly stimulate employees to engage in professional development through achievement of strategic team goals. The study findings also offer support for the assertion by Volleberg (2012) indicating that high-quality LMX dyads could motivate employees to engage in additional learning with the aim of improving performance. In relation to the NPP it is also expected that closer relationships between supervisors and subordinates offers opportunities for coaching, mentoring and identifying of areas where employees could benefit from professional development.

4.6.3. Leadership style and job performance

Contrary to expectations the study findings indicate the absence of a significant influence of leadership on job performance in the NPP. In other words, transformational, transactional and LMX leadership styles do not appear to have a major influence on employee performance in the organisation. This contradicts previous studies which have for example indicated that transformational leaders usually inspire their followers to work more efficiently leading to higher performance (Chi & San, 2012; Liang & Chi, 2013). Transactional leadership has also been predicted in some studies (e.g. Chu & Lai, 2011; Sayadi, 2016) to have a positive impact on job performance through contingent rewards. In other words, use of extrinsic motivators in transactional leadership is considered to encourage employees to engage in higher performance.

Similarly, high-quality LMX as reviewed in the current study was expected to have a positive influence on job performance by initiating reciprocity (Tanskanen et al., 2018; Dulebohn et al., 2012). In this case, employees who have positive relationships with their supervisors are likely to engage in higher performance as a form of positive reciprocity.

Several factors related to an NPP environment may explain the absence of a positive relationship between leadership styles and job performance. First, all employees are required to maintain high levels of performance given the safety sensitivity of operations in the NPP. As such, high performance is expected across board thus reducing the influence that leadership may have on individual job performance. Second, all employees in the NPP undergo rigorous training and are hired based on consistency in performance. Accordingly, it is likely that the majority of employees are keen on ensuring high performance that is consistent with the training received as well as organisational expectations.

A few studies have similarly suggested that leadership may not always have a significant influence on performance. As an example, Joo (2012) for example found that organisational learning culture may have a greater influence on job performance while the role of leadership may be indirect. Furthermore, previous studies related to NPPs and HROS (e.g. Hoffmeister et al., 2014; Flin & Yule, 2004; Wu et al., 2008) have suggested that due to the focus on safety compliance and participation leaders may adopt a different leadership approach commonly known as safety leadership.

4.6.4. Leadership style and job motivation

Job motivation constitutes a key driver of employee's behaviour in the work place and could influence organisational performance through productivity. In particular, highly motivated

employees have greater levels of productivity and work commitment and hence instrumental to organisational performance. In the context of the current study, the results indicate that only transformational leadership is a significant predictor of job motivation. This positive impact of transformational leadership is consistent with research indicating that transformational leaders increased motivation by challenging employees to overcome obstacles in the pursuit of personal achievements (Zhang & Bartol, 2010). The transformational leader also engages in developing a certain vision or cause towards which employees are inspired to achieve (Barbuto, 2005).

The study findings however contradict findings in other studies (e.g. Judge & Piccolo, 2004; Barbuto et al., 2002) which linked transactional leadership with increased job motivation through reward or punishment systems. In the case of the NPP it could nonetheless be argued that employees are mainly driven by intrinsic motivation compared to extrinsic motivation in aspects such as pay. Since transactional leadership has minimal influence on intrinsic motivation it is less likely to have an overall significant impact on job motivation among employees in the NPP.

In the case of LMX, the study findings contradict some previous research indicating that high-quality LMX contributes to enhanced levels of motivation through supervisors facilitating a greater sense of work enjoyment among employees (Gagne & Deci 2005). The study findings are however consistent with the view by Erim (2018) which indicate that LMX may not always have a significant impact of employee motivation. This is the case since some employees are highly intrinsically motivated and thus less susceptible to variations in quality of LMX. This appears to be the case in the NPP under consideration in which case the majority of employees derive work enjoyment by undertaking their tasks as opposed to the relationships with their immediate leaders.

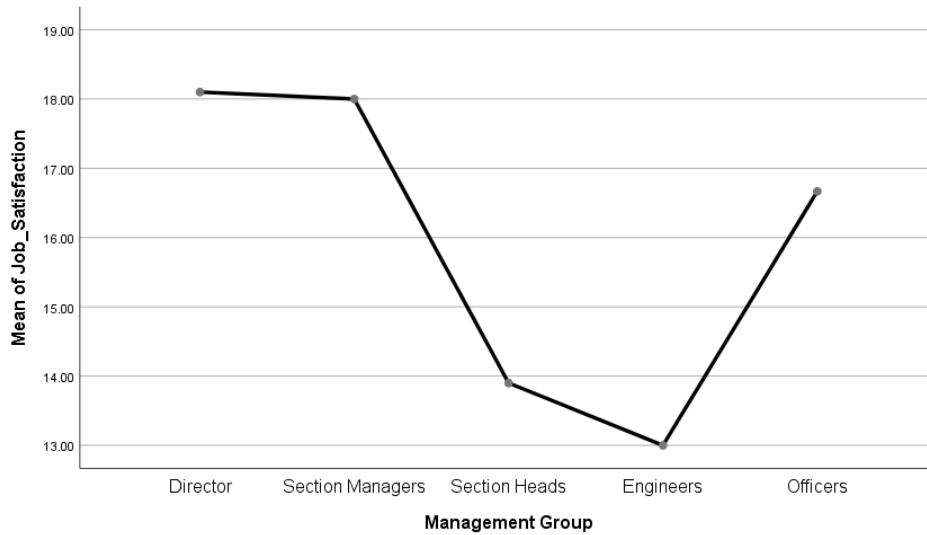


Figure 5: Mean plot of job satisfaction

The mean plot shown in Figure 4.5 indicates that job satisfaction among employees in the NPP was highest in the director and section manager groups. The engineers' management group had the lowest level of job satisfaction.

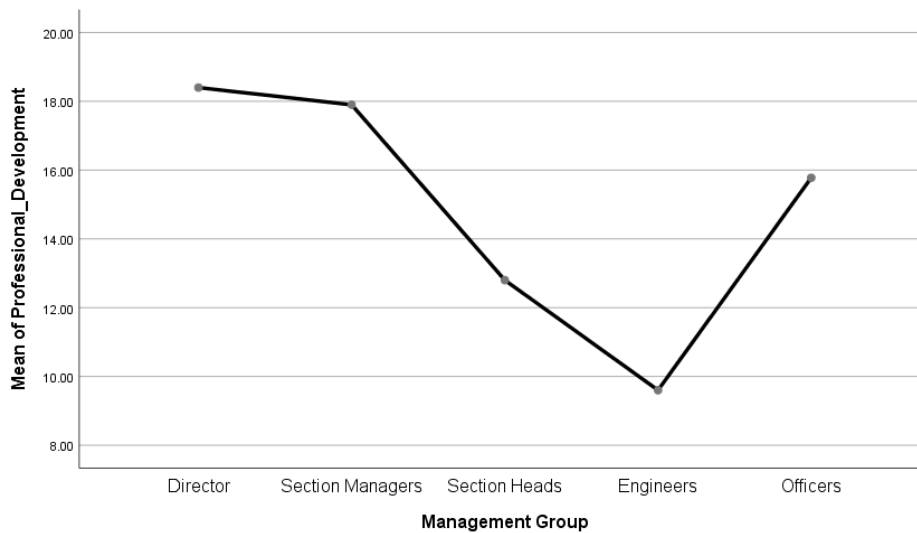


Figure 6: Mean plot for professional development

From Figure 4.6 it can be seen that professional development is also highest in the director and senior management groups. The lowest levels of professional development are in the engineers' group.

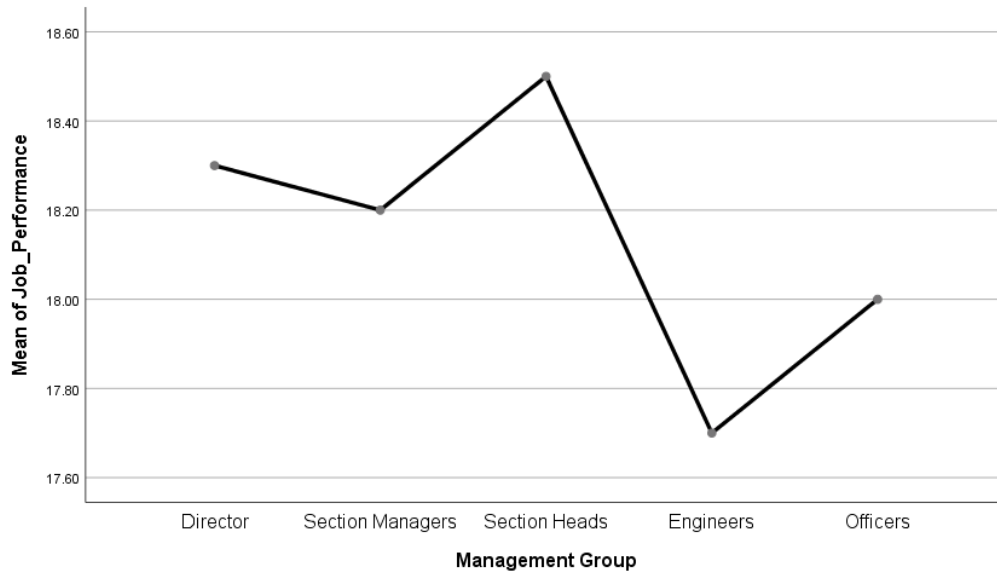


Figure 7: Mean plot for job performance

While taking into consideration job performance, the mean plot depicted in Figure 4.7 reveals that job performance was the highest in the Section Heads' group. It was lowest in the Engineers' management group.

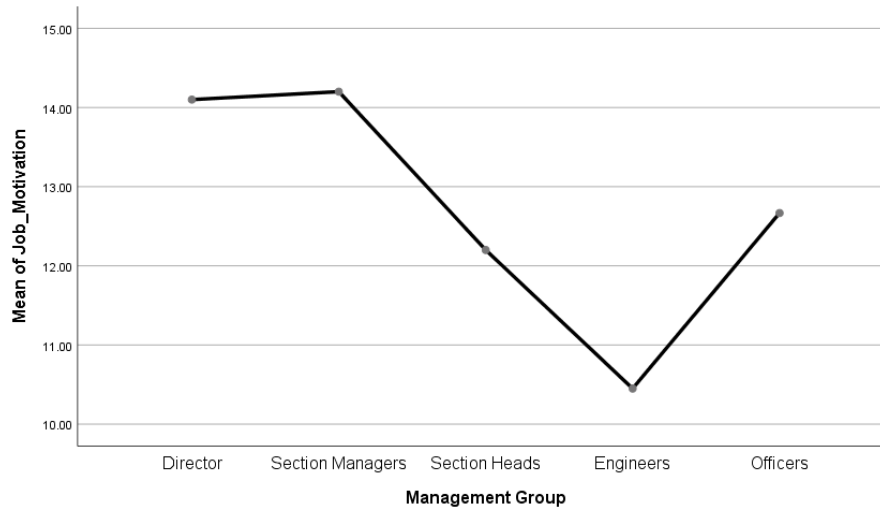


Figure 8: Mean plot for job motivation

Lastly in the case of job motivation, Figure 4.8 reveals that Section Managers were the most effective in facilitating employee job motivation followed by Directors' management group. In consistence with other sub-dependent variables, the Engineers' management group was characterised by the lowest satisfaction levels.

Chapter V: Conclusions and Recommendations

5.1. Chapter overview

This study began with the aim to critically investigate the impact that leadership has on organisational behaviour in the context of an NPP. The specific leadership styles that were taken into consideration include transformational leadership, transactional leadership and LMX. The organisational behaviours on the other hand include job satisfaction, professional development, job performance and job motivation. Following the analysis and discussion of findings in the preceding section, this final chapter draws relevant conclusions. It also offers recommendations on how organisational behaviour among employees in the NPP can be enhanced. Lastly, the limitations of the study are highlighted and directions for further research provided.

5.2. Conclusion

5.2.1. Leadership and its impact on job satisfaction

The first study objective pertained to an investigation of the impact that the various leadership styles adopted in the NPP has on employee job satisfaction. Based on the study findings, transformational and LMX behaviours among the organisational leaders at various management levels have a positive impact on employee job satisfaction while transactional leadership has a negative impact. As reviewed in this study, satisfied employees perceive their jobs to be rewarding and fulfilling (Sayadi, 2016; Sun & Xia, 2018). This has a positive impact on other aspects such as productivity which are beneficial to the organisation. Accordingly, it can be concluded that there is need for greater adoption of transformative and LMX leadership behaviours as a way of increasing satisfaction of employees in the NPP. In this case there is a need for leaders to be

charismatic, provide inspirational motivation and depict trust towards subordinates as a way of enhancing job satisfaction (Brann et al., 2012; Yang et al., 2011).

In the case of LMX, high-quality LMX dyads that are characterised by provision of necessary resources required by employees to undertake their roles are required. Furthermore, leaders need to restrain from engaging in abusive relationship especially in a supervisor-subordinate context as a way of increasing job satisfaction (Tepper et al., 2012). The positive relationship found between transformational leadership, LMX and job satisfaction is largely consistent with the reviewed literature (Fisk & Friesen, 2012; Kammerhoff et al., 2018; Yulk, 2013). However, the negative relationship that is found between transactional leadership and employees' job satisfaction contradicts some studies (e.g. Spitzbart, 2013) which found that extrinsic rewards offered to employees through transactional leadership had a positive impact on job satisfaction. The difference could be attributed to the different study context in which context employees in an NPP appear to be more motivated by intrinsic factors as opposed to extrinsic ones. The current study findings are nonetheless consistent with the study by Saleem (2015) which found that a positive impact of transformational leadership on job satisfaction while the impact of transactional leadership is negative.

5.2.2. Leadership and professional development

Given the continually changing nature of today's organisations it is instrumental for employees to engage in professional development as a way of remaining competent and efficient in their jobs. On this basis the study finds that transformational and LMX leadership have a positive impact on professional development among employees in the NPP while the impact of transactional leadership is negative. In the case of transformational leadership it is expected that transformational leadership practices such individualised consideration allow leaders to help

employees develop relevant professional development plans (Saleh & Khine, 2014). Similarly, LMX leadership through supervisor-subordinate goal setting influence employees to engage in learning activities (Beuijen et al., 2010). Coaching and mentoring are also considered important forms of achieving professional development (Akiba, 2012; Desimone et al., 2014). These practices are more likely to occur in transformational and high-quality LMX since the leaders are involved in close relationships.

The lack of a positive relationship between transactional leadership and professional development among employees in the NPP can be attributed to the excessive focus on extrinsic exchanges by leaders who adopt this style. Consenza and Buchanan (2017) as reviewed in this study have similarly found that transactional leaders are characterised by superficial relationships with followers. Consequently, transactional leaders tend to be less aware of the professional development needs of their employees. Overall, it can therefore be suggested from the study findings that the ability to enhance employee engagement in the NPP needs to go beyond simple exchanges between the leader and followers. Put differently, employees need to be aware of the employees' current capabilities and consequently suggest ways in which relevant skills and knowledge can be enhanced through professional development.

5.2.3. Leadership style and job performance

Due to the sensitivity of operations in NPP superior job performance by employees across all levels is required. This is particularly required for roles that are related to safety in the NPP (Clarke, 2013; Zohar, 2010). In greater detail, all employees in the NPP need to enhance that they perform their jobs diligently in order to contribute to the overall organisational goal of safety compliance. On this basis, the findings interestingly indicate that none of the three leadership styles under consideration has a positive influence on job performance in the organisation.

With regard to transformational leadership, the reviewed literature had for instance indicated that transformational leaders are able to closely align employee personal goals with the goals of the organisation and hence higher task performance (Cable & Edwards, 2004). Furthermore, individualised consideration by transformational leaders allows for guidance and hence increased capability to work more efficiently (Chi & San, 2012). Similarly, the contingent reward aspect of transactional leadership had in previous research been suggested to have a positive impact on job performance by linking high performance to extrinsic rewards. It however appears that employees in the NPP are not significantly motivated to improve performance through extrinsic rewards. Further, LMX leadership style was expected to positively influence job performance. For instance, previous literature as reviewed in the study indicated that employees in high-quality LMX dyads tend to feel obligated to perform better as a way of reciprocating the support offered by supervisors.

It can be concluded that lack of significant impact of leadership on employee job performance points out towards increased awareness of the need for high performance in the NPP without the need for excessive guidance or follow-up. This is likely to be the case since NPP are environments where superior performance is expected and employees have personal responsibility over their work performance. Based on the study by Joo (2012) it could also be argued that the absence of a significant influence of leadership could be attributed to the presence of a strong culture that encourages learning and superior performance across the entire organisation. It also suggests that there is need to further understand the current organisational culture adopted in the NPP and its impact on organisational behaviour among employees in the NPP.

5.2.4. Leadership style and job motivation

From the reviewed research it emerged that high job motivation is important among employees. It can potentially benefit the organisation through employee positive affect, employee productivity and enhanced levels of work engagement (Pink, 2010). From the regression analysis, it emerges that only transformational leadership is a significant predictor of job motivation among the employees in the NPP. This positive influence of transformational leadership is largely consistent with other studies reviewed in the current research. Several studies (e.g. Zhang & Bartol, 2010; Barbuto, 2005) have for instance found that transformational leaders usually encourage employees to pursue personal achievement. They also reinforce the need to pursue a certain cause that is beneficial to both the employee and the organisation. Therefore, the inspirational appeals and rational persuasion strategies used by transformational leaders are instrumental towards initiating intrinsic motivation among employees in the NPP.

Transactional leadership does not have a significant influence on job motivation among employees in the NPP. Previously, studies (e.g. Judge & Piccolo, 2004; Barbuto et al., 2002) have suggested that extrinsic rewards such as promotions and bonuses can enhance extrinsic motivation among employees. This does not appear to be the case in the NPP thus suggesting that leaders do not rely on external rewards to enhance the motivation of employees. Furthermore, the minimal influence of LMX leadership on overall job motivation suggests that employees across the organisation are characterised by high levels of intrinsic motivation.

5.2.5. Differences in organisational behaviour across management groups

Another key objective of the current study pertained to investigating the possibility of differences in organisational behaviour across five of the main management levels in the

organisation. These include section managers, section heads, directors, engineers and officers. The One-way ANOVA revealed that there are indeed significant differences in job satisfaction, professional development, job performance and job motivation. This constitutes a reliable indicator that the leaders in the different management groups make use of distinct leadership styles. For example, senior management such as directors and section managers make use of transformational leadership style. Section heads and engineers make use of transactional leadership while officers are mainly characterised by LMX leaderships.

These differences can in essence be attributed to the varying roles and requires at each of these levels. Directors are for instance required to set the overall direction of the organisation and thus likely to make use of transformational leadership. A common feature of transformational leadership is that it involves the creation of a common vision (Bass, 1990). On the other hand, engineers work in an environment that necessitates the following of specific procedures thus making transactional leadership more appropriate compared to other leadership styles. This is the case since one of the unique aspects of transactional leadership is that it is task oriented and makes use of clearly defined roles (Bass & Avolio, 1994; Xie et al., 2018).

The differences in leadership styles are reflected in the different impacts on specific organisational behaviours. Directors and section managers have the highest impact on three of the four variables: job satisfaction, professional development and job motivation. Section heads have the highest impact on job performance while engineers are rated lowest in all four variables. This can be attributed to their adoption of transactional leadership style.

5.3. Recommendations and practical implications

In light of the study findings and conclusions, several recommendations can be put forward to help enhance organisational behaviour among employees in the NPP. To start with, there is a need to leaders to adopt behaviours associated with transformational and LMX leadership that have a positive influence on employee job satisfaction. For example, leaders in the NPP can include participative decision making in their interaction with employees at the workplace. This is expected to increase job satisfaction through an increased sense of involvement. Individual consideration and inspiration motivation are also recommended as important leadership attributes that can significantly increase job satisfaction. This should be the case since the two dimensions of transformational leadership can give employees the impression that they are valued by the organisation. In the long-term, the benefit to the organisation will be increased employee commitment towards producing better job outcomes.

In management groups such as engineers where transactional leadership is dominant it can be recommended that some level of transformational leadership practices should also be adopted. This is the case since transactional and transformational leadership practices can be undertaken practiced together at varying levels. The engineers or supervisors could for example make use of transformational behaviours to help employees in establishing a sense of self-control and competence. This can over the course of time lead to improved job satisfaction among employees in the engineer group.

While taking into account professional development leaders in the various management groups in the NPP can undertake several desirable actions to enhance this organisational behaviour. For example it would be recommended that the leaders should actively identify areas

where employees required professional development and provide the necessary support. In other words, the leaders need to have closer relationships with employees in order to better understand their professional development needs. During times when employees are transitioning from one role to another the leaders need to be keen on ensuring a smooth transition process. This can for instance be achieved through effective mentoring and coaching interactions. Furthermore, it is recommendable that the leaders at each management group should continuously evaluate the fit between employee development needs and the available development opportunities. This can help in ensuring that development actions undertaken by employees in the NPP are directly relevant to their careers and the organisational goals.

The NPP in the UAE is also relatively new. As such, employees may have limited opportunities to engage in professional development by learning from their peers. Leaders in the NPP can therefore contribute to professional development of employees through work exchange programs with other NPPs that are well established. For example, some employees can be seen to temporarily work and learn in European countries which have well-established NPPs. Alternatively; employees could be linked with mentors from other countries. The overall goal should be to ensure that employees can learn from other peers as part of the professional development process.

The study findings indicate that none of the leadership styles perform a significant role in enhancing job performance among employees. Notwithstanding, there are some leadership behaviours that can be adopted to ensure that employees retain and improve the current high job performance. Managers particularly in supervisory roles need to role model their own work performance practices. Role modelling in this context falls under transformational leadership and can be instrumental in encouraging employees to remain highly commitment to their roles.

Furthermore, leaders should be keen on reducing work-related conflicts which can potentially impact negatively on job performance through reduced job satisfaction and commitment.

With regard to job motivation, it is important for the NPP to identify employees who score low on this dimension of organisational behaviour. In consistence with the study findings, transformational behaviours should then be used to enhance motivation. As an example, it is necessary for leaders to ensure that they make work meaningful to employees, challenge them to accomplish greater achievements and demonstrate confidence in the employees' abilities. This can be effective in reducing cynical attitudes towards the job and consequently increase levels of job motivation. From the study findings it also appears that employees in the organisation are mainly motivated through intrinsic job motivators as opposed to extrinsic motivations such as pay. Accordingly, transformational leadership practices that help in motivating employees to achieve their greatest potential should be used. This should be case since self-actualisation is a key intrinsic factor of motivation among employees.

5.4. Limitations and directions for further research

Although the study provides deep insight into the leadership style and their impact on job satisfaction and organizational behaviour, a number of limitations were encountered that researchers could in future seek to overcome. First, the study findings were based on only one source which includes employees. There is a chance that different employees may interpret the leadership styles adopted by their immediate leaders differently. Accordingly, future research may seek to include leaders in the study and ask them to self-rate their preferred leadership style. This can help identify possible differences in perceptions between leaders and employees. Furthermore,

inclusion of leaders in the study could help offer information with regard to how specific leadership behaviours are effective in achieving various behavioural outcomes.

Second, the study makes use of a relatively small sample. Small samples may have an influence on the significance of relationship between variables in the study. Accordingly, future studies may in future seek to use large samples for employees under each of the management groups. In addition, researchers could in future seek to engage in comparative studies that compare leadership impact on organisational behaviour between the UAE NPP and another NPP from a country such as UK, France or South Korea. This can be instrumental in establishing whether some of the key findings such as absence of a relationship between leadership and job performance are present in other organisations operating in the same context.

Third, the results of the study shed light on the co-existence of different leadership styles within the same organisation. However, the research was limited to transformational, transactional and LMX leadership. Other forms of leaderships such as safety leadership and servant leadership may manifest themselves in the NPP. Accordingly, future research may seek to establish the presence of these leadership styles on organisational behaviour. In addition, the study does not also take into consideration the potential impact of moderating variables such as culture and organisational commitment among employees. These variables may perform an instrumental role in explaining differences in the study findings and hence the need for consideration in future research.

References

- Avolio, B. J., & Bass, B. M. (2004). Multifactor leadership questionnaire (MLQ). *Mind Garden*, 29.)
- Bezuijen, X. M., van Dam, K., van den Berg, P. T., & Thierry, H. (2010). How leaders stimulate employee learning: A leader–member exchange approach. *Journal of Occupational and Organizational Psychology*, 83(3), 673-693.
- Bryman, A., & Bell, E. (2015). *Business research methods*. Oxford University Press, USA.
- Chenail, R. J. (2011). Interviewing the investigator: Strategies for addressing instrumentation and researcher bias concerns in qualitative research. *The qualitative report*, 16(1), 255-262.
- Colquitt, J. A. (2001). On the dimensionality of organizational justice: A construct validation of a measure. *Journal of applied psychology*, 86(3), 386.
- Collis, J., & Hussey, R. (2013). *Business research: A practical guide for undergraduate and postgraduate students*. London: Macmillan International Higher Education.
- Cooper, D. R., Schindler, P. S., & Sun, J. (2006). *Business research methods* (Vol. 9). New York: McGraw-Hill Irwin.
- Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches*. London: Sage publications.
- Easterby-Smith, M., Thorpe, R., & Jackson, P. R. (2012). *Management research*. London: Sage.

Graen G B, Uhl-Blen M (1995) Development of leader-member exchange (LMX) theory of leadership over 25 years: Applying a multi-level multi-domain perspective. *Leadership Quarterly*, 6: 219–247

Johnson, R. A., & Wichern, D. W. (1998). Applied Multivariate Statistical Analysis, Printice-Hall. Inc., Upper Saddle River, NJ.

Levy, P. S. (2005). Simple random sampling. *Encyclopedia of Biostatistics*, 7.

Mohrman, A. M., Cooke, R. S., Mohrman, S. A., Duncan, R. B., & Zaltman, G. (1977). *An assessment of a structural task approach to organizational development of a school system*. Washington, DC: National Institute of Education.

Saunders, M., Lewis, P., & Thornhill, A. (2012). *Research methods for business students*. Harlow: Pearson education.

Shao, Z., Feng, Y., & Hu, Q. (2017). Impact of top management leadership styles on ERP assimilation and the role of organizational learning. *Information & Management*, 54(7), 902-919.

Tashakkori, A., & Teddlie, C. (2010). Sage handbook of mixed methods in social & behavioral research. London: Sage.

Tremblay, M. A., Blanchard, C. M., Taylor, S., Pelletier, L. G., & Villeneuve, M. (2009). Work Extrinsic and Intrinsic Motivation Scale: Its value for organizational psychology research. *Canadian Journal of Behavioural Science/Revue canadienne des sciences du comportement*, 41(4), 213.

Williams, L. J. & Anderson, S. E. (1991). Job Satisfaction and organisational commitment as predictors of organisational citizenship and in-role behaviours. *Journal of Management*, 17, 601-617.

Xie, Y., Xue, W., Li, L., Wang, A., Chen, Y., Zheng, Q., ... & Li, X. (2018). Leadership style and innovation atmosphere in enterprises: An empirical study. *Technological Forecasting and Social Change*.

Yang, L. C., & Lim, V. (2016). Empirical Investigation into the Path-Goal Leadership Theory in the Central Bank Fraternity: Leadership Styles and Job Satisfaction (No. wp14).

Yin, R. K. (2014). Case study research: Design and methods. London: SAGE Publications.

Antonsen, S. (2017). Safety culture: theory, method and improvement. Boca Raton: CRC Press.

Avolio, B. J., Bass, B. M., & Jung, D. I. (1999). Re-examining the components of transformational and transactional leadership using the Multifactor Leadership. *Journal of occupational and organizational psychology*, 72(4), 441-462.

Bass, B. M. and B. J. Avolio (1994). Improving Organizational Effectiveness through Transformational Leadership. Thousand Oaks, CA: SAGE.

Bilgili, M., Ozbek, A., Sahin, B., & Kahraman, A. (2015). An overview of renewable electric power capacity and progress in new technologies in the world. *Renewable and Sustainable Energy Reviews*, 49, 323-334.

Bolden, R. (2016). Leadership, management and organisational development. In *Gower handbook of leadership and management development* (pp. 143-158). Routledge.

Cheng, T., Huang, G. H., Lee, C., & Ren, X. (2012). Longitudinal effects of job insecurity on employee outcomes: The moderating role of emotional intelligence and the leader-member exchange. *Asia Pacific Journal of Management*, 29(3), 709-728.

Dumdum, U. R., Lowe, K. B., & Avolio, B. J. (2013). A meta-analysis of transformational and transactional leadership correlates of effectiveness and satisfaction: An update and extension. In *Transformational and Charismatic Leadership: The Road Ahead 10th Anniversary Edition* (pp. 39-70). Emerald Group Publishing Limited.

Dusterhoff, C., Cunningham, J. B., & MacGregor, J. N. (2014). The effects of performance rating, leader–member exchange, perceived utility, and organizational justice on performance appraisal satisfaction: Applying a moral judgment perspective. *Journal of business ethics*, 119(2), 265-273.

Fairholm, R. Fairholm, W. (2009). *Understanding Leadership Perspectives: Theoretical and Practical Approaches*. Berlin: Springer Science & Business Media.

Fernández-Muñiz, B., Montes-Peón, J. M., & Vázquez-Ordás, C. J. (2017). The role of safety leadership and working conditions in safety performance in process industries. *Journal of Loss Prevention in the Process Industries*, 50, 403-415.

Gajendran, R. S., & Joshi, A. (2012). Innovation in globally distributed teams: The role of LMX, communication frequency, and member influence on team decisions. *Journal of Applied Psychology*, 97(6), 1252.

García-Herrero, S., Mariscal, M. A., Gutiérrez, J. M., & Toca-Otero, A. (2013). Bayesian network analysis of safety culture and organizational culture in a nuclear power plant. *Safety science*, 53, 82-95.

García-Morales, V. J., Jiménez-Barrionuevo, M. M., & Gutiérrez-Gutiérrez, L. (2012). Transformational leadership influence on organizational performance through organizational learning and innovation. *Journal of business research*, 65(7), 1040-1050.

Gong, Y., Chang, S., & Cheung, S. Y. (2010). High performance work system and collective OCB: A collective social exchange perspective. *Human Resource Management Journal*, 20(2), 119-137.

Harms, P. D., & Credé, M. (2010). Emotional intelligence and transformational and transactional leadership: A meta-analysis. *Journal of Leadership & Organizational Studies*, 17(1), 5-17.

Kim, H., & Gong, Y. (2009). The roles of tacit knowledge and OCB in the relationship between group-based pay and firm performance. *Human Resource Management Journal*, 19(2), 120-139.

Kuvaas, B., & Dysvik, A. (2009). Perceived investment in employee development, intrinsic motivation and work performance. *Human resource management journal*, 19(3), 217-236.

Larsson, J., & Vinberg, S. (2010). Leadership behaviour in successful organisations: Universal or situation-dependent?. *Total quality management*, 21(3), 317-334.

MacKenzie, S. B., Podsakoff, P. M., & Rich, G. A. (2001). Transformational and transactional leadership and salesperson performance. *Journal of the Academy of Marketing Science*, 29, 115–134.

Martínez-Córcoles, M., Gracia, F. J., Tomás, I., Peiró, J. M., & Schöbel, M. (2013). Empowering team leadership and safety performance in nuclear power plants: A multilevel approach. *Safety science*, 51(1), 293-301.

Martínez-Córcoles, M., Gracia, F. J., Tomás, I., Peiró, J. M., & Schöbel, M. (2013). Empowering team leadership and safety performance in nuclear power plants: A multilevel approach. *Safety science*, 51(1), 293-301.

Martínez-Córcoles, M., Gracia, F., Tomás, I., & Peiró, J. M. (2011). Leadership and employees' perceived safety behaviours in a nuclear power plant: A structural equation model. *Safety science*, 49(8-9), 1118-1129.

Morrow, P. C., Suzuki, Y., Crum, M. R., Ruben, R., & Pautsch, G. (2005). The role of leader-member exchange in high turnover work environments. *Journal of managerial Psychology*, 20(8), 681-694.

Muijs, D. (2011). Leadership and organisational performance: from research to prescription?. *International Journal of Educational Management*, 25(1), 45-60.

Mullen, J., Kelloway, E. K., & Teed, M. (2017). Employer safety obligations, transformational leadership and their interactive effects on employee safety performance. *Safety science*, 91, 405-412.

Newman, A., Kiazad, K., Miao, Q., & Cooper, B. (2014). Examining the cognitive and affective trust-based mechanisms underlying the relationship between ethical leadership and organisational citizenship: A case of the head leading the heart?. *Journal of Business Ethics*, 123(1), 113-123.

Northouse, G. (2012). *Leadership: Theory and Practice*. London: SAGE Publications.

Pranit, K. (2010). *Organisational Behaviour*. Delhi: Gyan Publishing House.

Runhaar, P., Sanders, K., & Yang, H. (2010). Stimulating teachers' reflection and feedback asking: An interplay of self-efficacy, learning goal orientation, and transformational leadership. *Teaching and teacher education*, 26(5), 1154-1161.

Tsai, Y., & Wu, S. W. (2010). The relationships between organisational citizenship behaviour, job satisfaction and turnover intention. *Journal of clinical nursing*, 19(23-24), 3564-3574.

Van Vliet, M. T., Wiberg, D., Leduc, S., & Riahi, K. (2016). Power-generation system vulnerability and adaptation to changes in climate and water resources. *Nature Climate Change*, 6(4), 375.

Akehurst, G., Comeche, J. M., & Galindo, M. A. (2009). Job satisfaction and commitment in the entrepreneurial SME. *Small business economics*, 32(3), 277-289.

Akiba, S. (2012). Epidemiological studies of Fukushima residents exposed to ionising radiation from the Fukushima Daiichi Nuclear Power Plant prefecture—a preliminary review of current plans. *Journal of Radiological Protection*, 32(1), 1.

Barbuto Jr, J. E. (2005). Motivation and transactional, charismatic, and transformational leadership: A test of antecedents. *Journal of Leadership & Organizational Studies*, 11(4), 26-40.

Bass, B. (1990). From transactional to transformational Leadership: Learning to share the. *Organizational Dynamics*., 18(3), 19-31.

Bass, B. M., & Avolio, B. J. (1994). Transformational leadership and organizational culture. *The International Journal of Public Administration*, 17(3-4), 541-554.

Bauer, N. & Erdogan, B. (2015). *The Oxford Handbook of Leader-Member Exchange*. Oxford: Oxford University Press.

Belias, D., & Koustelios, A. (2014). Organizational culture and job satisfaction: A review. *International Review of Management and Marketing*, 4(2), 132-149.

Bock, G. W., & Kim, Y. G. (2002). Breaking the myths of rewards: An exploratory study of attitudes about knowledge sharing. *Information Resources Management Journal (IRMJ)*, 15(2), 14-21.

Bosch-Sijtsema, M., Gluch, P. & Sezer, A. (2018). Professional development of the BIM actor role. *Automation in Construction*, 97(4), 44-51.

Braun, S., Peus, C., Weisweiler, S., & Frey, D. (2013). Transformational leadership, job satisfaction, and team performance: A multilevel mediation model of trust. *The Leadership Quarterly*, 24(1), 270-283.

Buil, I., Martínez, E., & Matute, J. (2018). Transformational leadership and employee performance: The role of identification, engagement and proactive personality. *International Journal of Hospitality Management*.

Cable, D. M., & Edwards, J. R. (2004). Complementary and supplementary fit: a theoretical and empirical integration. *Journal of applied psychology*, 89(5), 822.

Chi, N. W., & Pan, S. Y. (2012). A multilevel investigation of missing links between transformational leadership and task performance: The mediating roles of perceived person-job fit and person-organization fit. *Journal of Business and Psychology*, 27(1), 43-56.

Chi, N. W., & Pan, S. Y. (2012). A multilevel investigation of missing links between transformational leadership and task performance: The mediating roles of perceived person-job fit and person-organization fit. *Journal of Business and Psychology*, 27(1), 43-56.

Chu, L. C., & Lai, C. C. (2011). A research on the influence of leadership style and job characteristics on job performance among accountants of county and city government in Taiwan. *Public Personnel Management*, 40(2), 101-118.

Cosenza, M. & Buchanan, M. (2017). Visions from Professional Development School Partners: Connecting Professional Development and Clinical Practice. London: IAP.

Desimone, L. M., Hochberg, E. D., Porter, A. C., Polikoff, M. S., Schwartz, R., & Johnson, L. J. (2014). Formal and informal mentoring: Complementary, compensatory, or consistent?. *Journal of Teacher Education*, 65(2), 88-110.

Dionne, S. D., Yammarino, F. J., Comer, L. B., Dubinsky, A., & Jolson, M. A. (1996). Transformational and transactional leadership of female managers: Predicting subordinate effectiveness and performance. *Journal of Leadership Studies*, 3(2), 134-147.

Dulebohn, J. H., Bommer, W. H., Liden, R. C., Brouer, R. L., & Ferris, G. R. (2012). A meta-analysis of antecedents and consequences of leader-member exchange: Integrating the past with an eye toward the future. *Journal of management*, 38(6), 1715-1759.

Erim, T. (2018). Expanding the Conceptual Boundaries of Work Effort: Critical Insights into What Makes People Work Hard. Berlin: Springer.

Fisk, G. M., & Friesen, J. P. (2012). Perceptions of leader emotion regulation and LMX as predictors of followers' job satisfaction and organizational citizenship behaviors. *The Leadership Quarterly*, 23(1), 1-12.

Flin, R., & Yule, S. (2004). Leadership for safety: industrial experience. *BMJ Quality & Safety*, 13(suppl 2), 45-51.

Gagné, M., Forest, J., Gilbert, M. H., Aubé, C., Morin, E., & Malorni, A. (2010). The Motivation at Work Scale: Validation evidence in two languages. *Educational and psychological measurement*, 70(4), 628-646.

Graen, G. B., & Uhl-Bien, M. (1995). Relationship-based approach to leadership: Development of leader-member exchange (LMX) theory of leadership over 25 years: Applying a multi-level multi-domain perspective. *The leadership quarterly*, 6(2), 219-247.

Grant, A. M., & Berry, J. W. (2011). The necessity of others is the mother of invention: Intrinsic and prosocial motivations, perspective taking, and creativity. *Academy of management journal*, 54(1), 73-96.

Graves, L. M., Sarkis, J., & Zhu, Q. (2013). How transformational leadership and employee motivation combine to predict employee proenvironmental behaviors in China. *Journal of Environmental Psychology*, 35, 81-91.

Harrison, R. (2010). Unique benefits of conference attendance as a method of professional development for LIS professionals. *The Serials Librarian*, 59(3-4), 263-270.

Hoffmeister, K., Gibbons, A. M., Johnson, S. K., Cigularov, K. P., Chen, P. Y., & Rosecrance, J. C. (2014). The differential effects of transformational leadership facets on employee safety. *Safety science*, 62, 68-78.

Jansen, J. J., Vera, D., & Crossan, M. (2009). Strategic leadership for exploration and exploitation: The moderating role of environmental dynamism. *The Leadership Quarterly*, 20(1), 5-18.

Jones, F. J. (2008). *Over 200 U.S. Department of Energy Manuals Combined*. Washington: US Department of Energy.

Joo, B. K. (2012). Leader-member exchange quality and in-role job performance: The moderating role of learning organization culture. *Journal of Leadership & Organizational Studies*, 19(1), 25-34.

Judge, T. A., & Piccolo, R. F. (2004). Transformational and transactional leadership: a meta-analytic test of their relative validity. *Journal of applied psychology*, 89(5), 755.

Kammerhoff, J., Lauenstein, O., & Schütz, A. (2018). Leading toward harmony—Different types of conflict mediate how followers' perceptions of transformational leadership are related to job satisfaction and performance. *European Management Journal*.

Kim, H. (2014). Transformational leadership, organizational clan culture, organizational affective commitment, and organizational citizenship behavior: A case of South Korea's public sector. *Public Organization Review*, 14(3), 397-417.

Kuvaas, B., Buch, R., Weibel, A., Dysvik, A., & Nerstad, C. G. (2017). Do intrinsic and extrinsic motivation relate differently to employee outcomes?. *Journal of Economic Psychology*, 61, 244-258.

Lam, L. W., Peng, K. Z., Wong, C. S., & Lau, D. C. (2017). Is more feedback seeking always better? Leader-member exchange moderates the relationship between feedback-seeking behavior and performance. *Journal of Management*, 43(7), 2195-2217.

Leithwood, K. (1994). Leadership for school restructuring. *Educational Administration*, 30(4), 498-518.

Liao, H., & Chuang, A. (2007). Transforming service employees and climate: a multilevel, multisource examination of transformational leadership in building long-term service relationships. *Journal of applied psychology*, 92(4), 1006.

Liden, R. C., Erdogan, B., Wayne, S. J., & Sparrowe, R. T. (2006). Leader-member exchange, differentiation, and task interdependence: implications for individual and group performance. *Journal of Organizational Behavior: The International Journal of Industrial, Occupational and Organizational Psychology and Behavior*, 27(6), 723-746.

Lumley, E. J., Coetzee, M., Tladinyane, R., & Ferreira, N. (2011). Exploring the job satisfaction and organisational commitment of employees in the information technology environment. *Southern African Business Review*, 15(1).

Madlock, P. E. (2008). The link between leadership style, communicator competence, and employee satisfaction. *The Journal of Business Communication* (1973), 45(1), 61-78.

Martínez-Córcoles, M., & Stephanou, K. (2017). Linking active transactional leadership and safety performance in military operations. *Safety science*, 96, 93-101.

Martínez-Córcoles, M., Gracia, F., Tomás, I., & Peiró, J. M. (2011). Leadership and employees' perceived safety behaviours in a nuclear power plant: A structural equation model. *Safety science*, 49(8-9), 1118-1129.

Moon, J. A. (2013). Reflection in learning and professional development: Theory and practice. London: Routledge.

Pan, S. Y., & Lin, K. J. (2018). Who suffers when supervisors are unhappy? The roles of leader–member exchange and abusive supervision. *Journal of Business Ethics*, 151(3), 799-811.

Pinder, W. C. C. (2011). *Work motivation in organizational behavior* (2nd ed.). New York: Psychology Press, Taylor & Francis.

Pink, D. H. (2011). *Drive: The surprising truth about what motivates us*. Penguin.

Saleem, H. (2015). The impact of leadership styles on job satisfaction and mediating role of perceived organizational politics. *Procedia-Social and Behavioral Sciences*, 172, 563-569.

Saleh, M. & Khine, M. (2014). *Reframing Transformational Leadership: New School Culture and Effectiveness*. Berlin: Springer.

Sayadi, Y. (2016). The effect of dimensions of transformational, transactional, and non-leadership on the job satisfaction and organizational commitment of teachers in Iran. *Management in Education*, 30(2), 57-65.

Sayadi, Y. (2016). The effect of dimensions of transformational, transactional, and non-leadership on the job satisfaction and organizational commitment of teachers in Iran. *Management in Education*, 30(2), 57-65.

Spitzbart, I. (2013). The impact of transactional versus transformational leadership on job satisfaction in the hotel industry. *Research in Hospitality Management*, 3(1), 69-76.

Sun, A., & Xia, J. (2018). Teacher-distributed leadership, teacher self-efficacy and job satisfaction: A multilevel SEM approach using the 2013 TALIS data. *International Journal of Educational Research*.

Sun, L. Y., Chow, I. H. S., Chiu, R. K., & Pan, W. (2013). Outcome favorability in the link between leader-member exchange and organizational citizenship behavior: Procedural fairness climate matters. *The Leadership Quarterly*, 24(1), 215-226.

Tajasom, A., Hung, D. K. M., Nikbin, D., & Hyun, S. S. (2015). The role of transformational leadership in innovation performance of Malaysian SMEs. *Asian Journal of Technology Innovation*, 23(2), 172-188.

Tanskanen, J., Mäkelä, L., & Viitala, R. (2018). Linking Managerial Coaching and Leader-Member Exchange on Work Engagement and Performance. *Journal of Happiness Studies*, 1-24.

Tepper, B. J., Moss, S. E., & Duffy, M. K. (2011). Predictors of abusive supervision: Supervisor perceptions of deep-level dissimilarity, relationship conflict, and subordinate performance. *Academy of Management Journal*, 54(2), 279-294.

Tsai, W. C., Chen, H. W., & Cheng, J. W. (2009). Employee positive moods as a mediator linking transformational leadership and employee work outcomes. *The International Journal of Human Resource Management*, 20(1), 206-219.

Van der Krogt, F. J. (2007). Organizing learning paths. Strategies of employees, managers, and advisors in service organizations. Rotterdam: Performa.

Van Dyne, L., Kamdar, D., & Joireman, J. (2008). In-role perceptions buffer the negative impact of low LMX on helping and enhance the positive impact of high LMX on voice. *Journal of Applied Psychology*, 93(6), 1195.

Varma, A., & Stroh, L. K. (2001). The impact of same-sex LMX dyads on performance evaluations. Human Resource Management: Published in Cooperation with the School of Business Administration, The University of Michigan and in alliance with the Society of Human Resources Management, 40(4), 309-320.

Volleberg, R. (2012). The relation between LMX, learning motives and learning activities. Tilburg: Tilburg University.

Walumbwa, F. O., & Hartnell, C. A. (2011). Understanding transformational leadership—employee performance links: The role of relational identification and self-efficacy. *Journal of occupational and organizational psychology*, 84(1), 153-172.

Walumbwa, F. O., Avolio, B. J., Gardner, W. L., Wernsing, T. S., & Peterson, S. J. (2008). Authentic leadership: Development and validation of a theory-based measure. *Journal of management*, 34(1), 89-126.

Wayne, S. J., Shore, L. M., Bommer, W. H., & Tetrick, L. E. (2002). The role of fair treatment and rewards in perceptions of organizational support and leader-member exchange. *Journal of applied psychology*, 87(3), 590.

Wu, T. C., Chen, C. H., & Li, C. C. (2008). A correlation among safety leadership, safety climate and safety performance. *Journal of loss prevention in the process industries*, 21(3), 307-318.

Xie, Y., Xue, W., Li, L., Wang, A., Chen, Y., Zheng, Q., ... & Li, X. (2018). Leadership style and innovation atmosphere in enterprises: An empirical study. *Technological Forecasting and Social Change*.

Yang, F. H., Wu, M., Chang, C. C., & Chien, Y. (2011). Elucidating the relationships among transformational leadership, job satisfaction, commitment foci and commitment bases in the public sector. *Public Personnel Management*, 40(3), 265-278.

Yukl, G. (2013). *Leadership in organizations*. Englewood Cliffs, NJ: Prentice Hall.

Zhang, X., & Bartol, K. M. (2010). Linking empowering leadership and employee creativity: The influence of psychological empowerment, intrinsic motivation, and creative process engagement. *Academy of management journal*, 53(1), 107-128.

Zhong, J. A., Lam, W., & Chen, Z. (2011). Relationship between leader–member exchange and organizational citizenship behaviors: Examining the moderating role of empowerment. *Asia Pacific Journal of Management*, 28(3), 609-626.

Zohar, D. (2002). The effects of leadership dimensions, safety climate, and assigned priorities on minor injuries in work groups. *Journal of Organizational Behavior*, 23(1), 75-92.

Zohar, D. (2010). Thirty years of safety climate research: Reflections and future directions. *Accident Analysis & Prevention*, 42(5), 1517-1522.

Appendix

Questionnaire

The study is investigating the impact of Leadership on the Organisational behaviour in an NPP. For this, we have developed a list of independent and dependent variables. In any study, the independent variables influence the dependent variables. This means that if there are any changes in the independent variables, it can change the dependent variables.

The independent variables are: Transformational Leadership, Transactional Leadership and Leader-Member Exchange Leadership.

The dependent variables are: Job Satisfaction, Professional Development, Job Performance and Motivation.

Questionnaire

Please tick/mark the relevant option

Part A: General Participant characteristics

1. Please indicate your gender

☐ Male

☐ Female

2. Please indicate your age

☐ 18-29

☐ 40-49

☐ 30-39

3. Please indicate your educational level

- ☐ College diploma or below
- ☐ Undergraduate degree
- ☐ Masters' degree
- ☐ PhD

4. Please indicate your management level

- ☐ Directors
- ☐ Section heads
- ☐ Senior engineer
- ☐ Engineer
- ☐ Officer

Part B: Leadership styles

5. Transformational Leadership

A **transformational leader** is one who is inspirational, charismatic, challenging, stimulating and seeks to maximise employee effectiveness based on the organisation's vision.

Please further rate your leader based on the following aspects

(1 = Strongly disagree; 2 = Disagree; 3 = Neutral; 4 = Agree; 5= strongly agree)

The leader I am rating.....

Communicates a clear and positive vision of the future	1	2	3	4	5
Treats staff as individuals, supports and encourages their development	1	2	3	4	5
Encourages thinking about problems in new ways and questions assumptions	1	2	3	4	5
Instils pride and respect in others and inspires me by being highly competent	1	2	3	4	5

(Adapted from: Avolio, B. J., & Bass, B. M. (2004). Multifactor leadership questionnaire

(MLQ). *Mind Garden*, 29.)

(ii) Transactional leadership style

A transactional leader, on the other hand, motivates employees based on incentives (e.g. recognition, bonuses, increased pay and promotion) or fear (e.g. reduce pay, demotion, firing).

Please rate your leader based on the following two aspects of leadership (use the key below):

(1 = Strongly disagree; 2 = Disagree; 3 = Neutral; 4 = Agree; 5= strongly agree)

My leader makes it clear what one can expect to receive when performance goals are achieved	1	2	3	4	5
Provides staff with assistance in exchange of their efforts	1	2	3	4	5
Focuses attention on irregularities, mistakes, exceptions and deviations from standards	1	2	3	4	5
My leader keeps track of all mistakes	1	2	3	4	5

(Avolio, B. J., & Bass, B. M. (2004). Multifactor leadership questionnaire (MLQ). *Mind Garden*, 29.)

(iii) Leader-member exchange leadership

This style is a relationship-based style to leadership that emphasises on two-way relationship between leaders and followers. Relationships are based on trust and respect and are often emotional relationships that extend beyond the scope of employment.

For each of the items please indicate the degree to which you think the item is true for you.

(1 = Strongly disagree; 2 = Disagree; 3 = Neutral; 4 = Agree; 5= strongly agree)

I know where I stand with my leader and usually know how satisfied he/she is with what I do	1	2	3	4	5
My leader understands my job problems and needs	1	2	3	4	5
My leader recognizes my potential	1	2	3	4	5
The working relationship with my leader is effective	1	2	3	4	5

(LMX questionnaire adapted from: Graen G B, Uhl-Blen M (1995) Development of leader-member

exchange (LMX) theory of leadership over 25 years: Applying a multi-level multi-domain perspective. Leadership Quarterly, 6: 219–247)

Part C: Impact of Leadership style

(i) Job satisfaction

Job Satisfaction is the degree to which you are satisfied with your job on a daily basis.

Please indicate your level of job satisfaction in NPP based on the following aspects

(1 = Strongly disagree; 2 = Disagree; 3 = Neutral; 4 = Agree; 5= strongly agree)

There are adequate opportunities for personal growth and development in my job	1	2	3	4	5
--	---	---	---	---	---

I have made worthwhile accomplishments in my job	1	2	3	4	5
I am well informed about my job roles in the organisation	1	2	3	4	5
I am satisfied in the amount of supervision I receive	1	2	3	4	5

(Mohrman, A. M., Cooke, R. S., Mohrman, S. A., Duncan, R. B., & Zaltman, G. (1977).

An

assessment of a structural task approach to organizational development of a school system. Washington, DC: National Institute of Education.)

(ii) Professional development

Professional development is the amount of knowledge and skills that you enhance in the time of your employment with the organisation.

Please indicate your level of agreement with the following statements on your professional development activities while working for NPP

(1= Strong disagree; 2= Disagree; 3= Neutral; 4= Agree; 5= Strongly agree)

I spend time following a course or educational program	1	2	3	4	5
--	---	---	---	---	---

I perform learning tasks that are not part of my job	1	2	3	4	5
I spend time planning and realizing my career	1	2	3	4	5
I go to my supervisor to discuss how I can make progress	1	2	3	4	5

(Adapted from: Bezuijen, X. M., van Dam, K., van den Berg, P. T., & Thierry, H. (2010).

How leaders stimulate employee learning: A leader–member exchange approach. *Journal of Occupational and Organizational Psychology*, 83(3), 673-693.)

(iii) Job performance

Job Performance is how well you are able to manage your current tasks appropriately.

Please rate your task performance based on the following job performance aspects

(1= Strong disagree; 2= Disagree; 3= Neutral; 4= Agree; 5= Strongly agree)

Adequately completes assigned duties	1	2	3	4	5
Fulfills responsibilities as specified in job description	1	2	3	4	5
Performs tasks that are expected of me	1	2	3	4	5

Engage in activities that will directly improve my performance evaluation	1	2	3	4	5
---	---	---	---	---	---

(Adapted from: Williams, L. J. & Anderson, S. E. (1991). Job Satisfaction and organisational commitment as predictors of organisational citizenship and in-role behaviours. *Journal of Management*, 17, 601-617.)

(iv) Job motivation

Job Motivation is how much you are motivated to do a current task or perform in a specific role.

Please indicate your level of agreement with the following statements regarding why you are presently involved with your work at NPP

(1= Strong disagree; 2= Disagree; 3= Neutral; 4= Agree; 5= Strongly agree)

Why are you currently engaged in this activity?

Because I derive much pleasure from learning new things	1	2	3	4	5
For the satisfaction I experience when I am successful at doing difficult tasks	1	2	3	4	5
Because it earns my a living	1	2	3	4	5

Because this type of work provides me with security	1	2	3	4	5
--	---	---	---	---	---

(Tremblay, M. A., Blanchard, C. M., Taylor, S., Pelletier, L. G., & Villeneuve, M. (2009).

Work Extrinsic and Intrinsic Motivation Scale: Its value for organizational psychology research.
Canadian Journal of Behavioural Science/Revue canadienne des sciences du comportement,
41(4), 213.

Finally, having gone through the questionnaire, please directly indicate which leadership
style your leader follows:

1. Transformational
2. Transactional
3. Leader-Member Exchange