The impact of work environment, individual characteristics, training design and motivation on training transfer to the work: the case of Saudi Arabian Public Security Organisation

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The Impact of Work Environment, Individual Characteristics, Training Design and Motivation on Training Transfer to the Work: The Case of Saudi Arabian Public Security Organisation

A Thesis Submitted for the Degree of Doctor of Philosophy in Human Resource Management

By

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Abstract

The aim of this empirical study was to find out the impact of work environment, individual characteristics, training design and motivation on training transfer to the work in the context of public security.

Methodology included a cross sectional questionnaire survey administered to a stratified convenience sample of 500 officers of Public Security Organisation in Saudi Arabia. The effective response rate was 70.2% (351 useable surveys returned out of 500 surveys administered). Data were analysed by running frequencies, descriptive statistics and exploratory factor analysis and structural equation modelling.

Results showed that participants' learning motivation was statistically significantly determined by peer support (β = .311, p = .000), training retention (β = .197, p = .027), goal orientation (β = .163, p = .036) and self-efficacy (β = .158, p = .047). Statistically significant predictors of transfer motivation were learning motivation (β = .401, p = .000), peer support (β = .224, p = .003), training retention (β = .176, p = .021) and self-efficacy (β = .152, p = .028), feedback (β = -.159, p = .014) and openness to change (β = -.147, p = .020). Statistically significant determinants of training transfer were training design (β = .318, p = .000), training retention (β = .313, p = .000), transfer motivation (β = .177, p = .008) and supervisor support (β = .146, p = .018).

Training transfer to the work in the context of public security is positively affected by work environment, individual characteristics, training design and motivation factors but a negative association between transfer motivation and performance feedback and openness to change suggest a review of these factors in the context of public security organisations.

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To start with, I humbly pay my gratitude to the Allah almighty for giving me the patience, peace of mind and strength to undertake this doctoral research study, which has been a very special and long journey.

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In addition, I greatly thank all members of staff at the Westminster University Business School for their kind support during my PhD studies.

Finally and foremost, I must acknowledge and give thanks to my family for their patience, kindness, unconditional love and support throughout my PhD research studies.

Declaration

I, the undersigned, hereby declare that this PhD thesis has not been submitted in support of any application for another degree, or qualification, to any other university, or institute of learning. I also declare that, I alone am responsible for the work submitted in this doctoral thesis. During the preparation of this thesis, the following papers were prepared and presented. The remaining parts of the thesis have not yet been published.

Conference / Symposium Papers:

• Alnowaiser, A. (2014). The Influence of Work Environment, Trainee Characteristics, and Training Design Factors on the Transfer of Training: The Case of Public Security Sector in Saudi Arabia. In: *Annual Doctoral Colloquium*, Westminster Business School, Westminster University, Marylebone Campus, London. 28 May 2014. Available at: https://www.westminster.ac.uk/__data/assets/pdf_file/0007/309157/Annual-Doctoral-Colloquium-programme.pdf

Signature: ----------

Date: ----------

Dedication

I dedicate this PhD thesis to my mother and family, especially my mother, who always believed in my abilities to accomplish this goal even though my family and I were living away from each other. During my studies, I have been living with my wife in London.

I am especially indebted to my elderly mother who patiently waited for several years to hear the very good news of my success in completion of my PhD. I am forever gratified for her enduring support and patience. I must say, “You had set such a solid foundation from which I have grown”.

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1 Chapter 1: Introduction

This chapter introduces the empirical research presented in this doctoral thesis. This chapter comprises nine sections as follows. The first section provides a general background of human resource development and the research issue i.e. training transfer to the work. The second section describes the research problem. The third section reports the aim and objectives of the study. The fourth section presents the research questions, which are answered in the present study. The fifth section describes the research model and hypotheses. The sixth section explains the context of the study. The seventh section reports the methodology used in this research. The eighth section highlights the contributions of the present study. Lastly, the ninth section outlines the structure of this doctoral thesis.

1.1 Background – Human Resource Development

Human resource development (HRD) refers to the process of "changing or improving knowledge, skills and attitudes of individuals" through systematic and planned training and development activities to "meet current and future job demands" (Werner and DeSimone, 2011, pp. 1-4), "improve current and future organisational learning, performance and change" (Sims, 2006, p. 2) and meet organisational strategic goals (Yorks, 2005). Thus, from the organisational perspective, HRD is a strategic investment and its real payoff is training transfer to the work (Newstrom and Broad, 1991, p. 6).

Many organisations and governments are therefore substantially investing in the training and development (T&D) activities for HRD (Association for Talent Development, 2015) to meet the global economic challenges (Werner and DeSimone, 2011, pp. 22-24). Through integrated use of training and development

(T&D), HRD improves the learning and performance at the work (Wilson, 2005, p. 9-10; Thus, HRD helps individuals and organisations to meet their objectives and goals (Werner and DeSimone, 2009, pp. 35). However, for positive change in organisational performance it is essential that the knowledge learned through training be transferred to the job, which is called as training transfer (Phillips and Phillips, p.34).

HRD has been divided in to three main areas i.e. individual development, occupational development and organisation development (Wilson, 2005, p. 15-16). The present study relates to the individual development through training and development and training transfer to the work, which is one of the main goals of HRD (Phillips and Phillips, p.34).

The term training transfer refers to the “effective application of principles learned to what is required on the job” (Sims, 2006, p. 41) and it refers to the trainee’s “ability to apply what is learned in training back on the job” (Werner and DeSimone, 2011, pp. 557). The core aim of HRD T&D activities is learning and modifying behaviours of, individuals receiving training (trainees), which are determined by internal factors (individual (trainee) characteristics such as attitudes, behaviours, knowledge, skills and abilities, and motivations) and external factors (such as work environment inside the organisation including supervisors / leadership, co-workers and performance outcomes (Werner and DeSimone, 2009, pp. 35-36). Literature shows that maximisation of learning is determined by individual characteristics, training design and training transfer (Werner and DeSimone, 2009, pp. 68-69).

In 1988, Baldwin and Ford suggested a training of training model, which suggested that training inputs (i.e. individual characteristics, training design and work

environment), which affect training outputs (i.e. learning and retention) that result in training transfer on the job (Werner and DeSimone, 2011, pp. 77-78).

Consequently, organisations are focusing on the value of broader human resource management (HRM) activities and specifically on human resource development (HRD) (Gubbins and Garavan, 2009). Organisations and governments are therefore spending huge funds on the HRD.

HRD is associated with the ability of an organisation (or a country) to create a qualified, skilled and resourceful workforce, which can help in creating a learning culture that supports the organisation (or the country) to improve the performance and be responsive to change and respond to unforeseen work situations (Kissack and Callahan, 2010).

In addition, the constant development in technology and knowledge creates skills gaps for many workers (Action and Golden, 2003) and in situations where the nature of work changes, the success of an organisation requires enhancing employees' skills and knowledge (Grossman and Salas, 2011). Therefore, organisations need to develop a competent, skilled, and adaptive workforce through training and its transfer to the workplace in order to achieve the organisational objectives (Bulut and Colha, 2010).

In the HRD literature, training is referred to as interventions that improve employees' performance and ultimately the productivity of organisations (Bookter, 1999). Nevertheless, the actual benefits of employee training could only be fully realised when the employee applies the skills learned and knowledge gained through the training in the work, which is known as training transfer. Thus, training transfer is a

most important factor in relation to the performance of not only the employee / worker but also of the organisation.

1.2 Research problem statement

A review of published literature on training transfer undertaken by the researcher and presented in chapter 2 revealed that most of the empirical studies on training transfer have been conducted in organisations within the private sector. However, a few empirical studies on training transfer have been undertaken in the public sector / government organisations while no study, to the knowledge of the researcher, has investigated this issue in the context of public security organisations. The literature review further revealed that there is a dearth of literature on the training Moreover, the review of empirical literature showed that there is a need for developing an conceptual model that integrates work environment, individual characteristics, training design and leaning and transfer motivation as significant determinants of training transfer to the work because earlier studies have not used all of the above predictors of training transfer in a single model and empirically tested it in public sector organisations in the Middle Eastern Arab countries. The present doctoral study has attempted to fill this gap by investigating the training transfer in the context of Public Security in Saudi Arabia.

1.3 Aim and Objectives of the study

1.3.1 Aim

The aim was to find out the impact of work environment, individual characteristics, training design and learning and transfer motivations on training transfer to the work in the context of public security.

1.3.2 Objectives

The objectives of the study were as follows:

Objective 1: To assess the impact of work environment, individual characteristics and training design factors on learning motivation.

Objective 2: To measure the impact of work environment, individual characteristics and learning motivation on (training) transfer motivation.

Objective 3: To determine the indirect (mediated) impact of work environment factors, individual characteristics and training design factors on transfer motivation through the learning motivation.

Objective 4: To assess the impact of learning motivation and transfer motivation on the training transfer.

Objective 5: To test the indirect (mediated) impact of work environment factors, individual characteristics and training design factors on training transfer through the learning motivation.

Objective 6: To test the indirect (mediated) impact of work environment factors, individual characteristics and learning motivation on training transfer through the transfer motivation.

1.4 Research Questions

The present empirical study was conducted to answer the following research questions.

Question 1: What is the direct impact of work environment, individual characteristics and training design on learning motivation?

Question 2: What is the direct impact of work environment, individual characteristics, and learning motivation on transfer motivation?

Question 3: What is the indirect (mediated) impact of work environment factors, individual characteristics and training design factors on transfer motivation through learning motivation?

Question 4: What is the direct impact of learning motivation and transfer motivation on training transfer?

Question 5: What is the indirect (mediated) impact of work environment factors, individual characteristics and training design factors on training transfer through learning motivation?

Question 6: What is the indirect (mediated) impact of work environment factors, individual characteristics and learning motivation on training transfer through transfer motivation?

1.5 Conceptual Model and Hypotheses

1.5.1 Hypothesised conceptual Model

Based on the literature review (chapter 2), the researcher conceptualised that work environment, individual characteristics, training design and motivation factors could significantly affect training transfer to the work (Baldwin and Ford, 1988; Quiñones, 1997; Colquitt *et al.,* 2000). . Therefore, the researcher developed a conceptual hypothesised model (Figure 1-1), which comprised a number of factors and variables as follows:

A. Training transfer: This variable was the outcome variable and its predictors (explanatory) variables were work environment, individual characteristics, training design and learning and transfer motivations, which are explained below.

B. **Work environment factor:** This factor included five variables: peer support, supervisor support, feedback, opportunity to use learning and openness to change.

C. **Individual characteristics factor:** This factor comprised four variables: locus of control, self-efficacy, goal orientation and training retention.

D. **Training design factor:** This factor consisted of two variables: training content and training design

E. **Motivation variables:** These were learning motivation and transfer motivation variables.

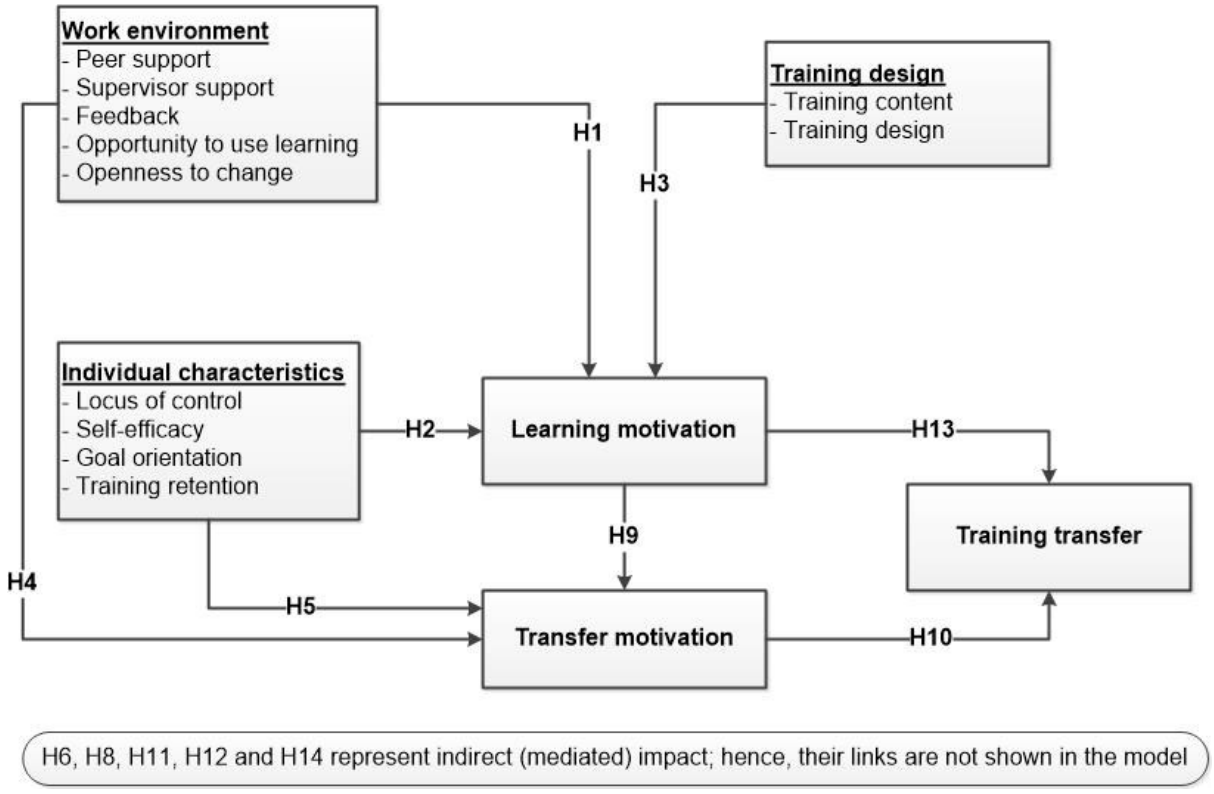


Figure 1-1 Proposed conceptual model based on the literature review

1.5.2 Hypotheses

In the proposed conceptual model (Figure 2-1), which is grounded in the extant literature (for example, Noe, 1986; Baldwin and Ford, 1988; Olsen, 1998; Lim and Johnson, 2002), the researcher developed the following hypotheses.

- All variables in work environment factor (H1), individual characteristics factor (H2) and training design factor (H3) will have a statistically significant positive and direct impact on learning motivation.
- All variables in work environment factor (H4) and individual characteristics factor (H5) will have a statistically significant positive and direct impact on transfer motivation.
- Learning motivation will mediate the impact of work environment factor (H6), individual characteristics factor (H7) and training design factor (H8) on transfer motivation.
- Learning motivation will have a statistically significant, positive and direct impact on transfer motivation (H9) and training transfer (H13).
- Transfer motivation will have a statistically significant, positive and direct impact on training transfer (H10) and transfer motivation will mediate the impact of work environment factor (H11), individual characteristics factor (H12) and learning motivation (H14) on training transfer.

The suggested hypotheses are explained fully in section 2.10 in Chapter 2 that reports the review of published literature on training transfer.

1.6 The study context

This empirical study was conducted in Saudi Arabia where several steps have been taken for developing the human resources (Varshney, 2016). They key steps include

establishment of a Human Resource Development Fund, which is aimed at developing a sustainable and productive workforce and supporting employment by public and private partnership (Human Resource Development Fund, 2016). In addition, the Saudi Industrial Development Fund also supports HRD and career development of native Saudis (Saudi Industrial Development Fund, 2016). In addition, there are several organisations, institutions and corporations such as the Ministry of Labour and Training Vocational and Technical Corporation that are engaged in HRD (Oxford Business Group, 2014, p. 46). The Institute of Public Administration provided professional training and development to civil servants both the men and the women at its branches that are located in different cities and regions in the country (Institute of Public Administration, 2016I. More importantly, in 2016 national budget, US$51.1 billion budget were allocated for the education and training, which is the next highest budget after the defence and security budget of the country (Oxford Business Group, 2016). Every government ministry and department has allocated budget for professional development of their employees and officers such as the Saudi Public Security Organisation, where this study was undertaken.

The Public Security Organisation is one of the largest departments under the Ministry of Interior in Saudi Arabia. In Saudi Public Security Organisation, training department is responsible for training and development of public security officers and soldiers. There are 12 public security training centres, known as Public Security Training Cities, which are located in different cities such as Riyadh, Makkah, Madinah, Asir and Al-Qassim. At these training centres, public security personnel are trained in more than 20 different types of specialised security courses and each year a large number of cadets complete training such as the completion of training by,

and graduation of, 12,000 cadets at all training centres in 2013 (Arab News, 2013). The study participants were Saudi public security officers who were under training at the time of the present study. According to Hussey and Hussey (2003), sampling is an important issue for an empirical study in the positivist approach because the researcher could not cover the whole population. Therefore, the researcher selected two training institutions i.e. King Fahad Security College and Public Sector Training City that are both located in Riyadh – the capital city of Saudi Arabia. The justification for selecting these two training centres was that a large number of public security employees from all over the country get training at these two institutions. In selecting participants for the study, the researcher applied a stratified convenience sampling method because it is very useful sampling methodology when the population is heterogeneous (Bryman and Bell, 2007) and especially when it is not possible due to organisational policy and confidential nature of employee data (Ng, 2015). For example, employees of specific government organisations such as the US Coast Guards (Giovengo, 2014). In the present study, the population of interest was heterogeneous in terms of their ranking e.g. commissioned and non-commissioned officers, job profiles e.g. traffic police, Hajj and Umrah security officers as well as trainees and, trainers. In addition, participants were from different regions of the country and all of them were native Saudi nationals. Literature suggests that when the research population is divided into different strata or subgroups then samples could be randomly selected from the different strata (Bryman and Bell, 2007, p. 187). In addition, while using a convenient sampling method, the sample size has to be large to increase the representativeness of the sample (Salkind, 2010).

The researcher therefore targeted 500 public security officers, who comprised trainees (both commissioned and non-commissioned officers and officers who were

providing training. The main criteria for selection of the research participants were trainees officers who were receiving training at the above-mentioned two training centres at the time of the present study; and the officers who had received training earlier and they were involved in providing professional training courses to the trainees at the selected two training centres at the time of this study.

1.7 Methodology

This study was undertaken using the deductive approach and adopting a cross sectional survey design.

In the domain of training transfer, earlier researchers used different data collection methods. For example, the use of the inductive approach and interview method by some researchers (McDonald, 2001; Dorji, 2005); however, the majority of researchers in the domain of training transfer adopted the positivist approach, used the self-completion questionnaire survey method, and undertook hypotheses testing (Lim and Morris, 2006; Velada et al., 2007; Grossman and Salas, 2011; Yusof, 2012; Grohmann *et al*., 2014; Zumrah and Boyle, 2015).

1.7.1 Justification for using questionnaire survey method

In the present study, the researcher did not use the interview method for collecting data due to potential problems in this method(Collis and Hussey, 2014, pp. 138-139) such as interviewees' response bias, acquiescence and social desirability and the interviewer's influence (Bryman and Bell, 2007, pp. 234-235), the issue of getting access to a large number of participants (whose jobs could be sensitive or their premises might be not open to public and researchers such as the defence and security forces' premises), too much time consumed in interviewing and high travel, time and costs involved in the interview method (Collis and Hussey, 2014, p. 207)... In addition, the researcher did not use the interview method due to limited time and

resources available to him and the nature of work / job of the potential research participants who were Saudi Arabian public security personnel with whom interviewing would have been very difficult if not impossible.

The researcher therefore used the survey method by administering a self-completion questionnaire for data collection. Using survey questionnaires for data collection provided a number of advantages such as cheaper and quicker method to administer questionnaires covered a large and geographically dispersed sample, the absence of interviewer's effect, and convenience for respondents (Bryman and Bell, 2007, p. 242). However, the use of questionnaires has some limitations such as lack of prompting, probing, asking additional questions and collecting additional data, greater missing values, lower response rate and uncertainty about the respondent's genuineness (Bryman and Bell, 2007, p. 242). In addition, the questionnaire survey method was the most appropriate and highly suitable for the positivist approach and hypotheses testing as well as its application by many researchers in the domain of training transfer (Lim and Morris, 2006; Grossman and Salas, 2011; Yusof, 2012; Grohmann *et al*., 2014; Zumrah and Boyle, 2015).Therefore, the researcher used the questionnaire survey method for data collection in the present study.

1.8 Contributions of the present study

The present study provides a number of significant contributions to the body of literature as follows.

1. This study addressed the gap in training transfer research through empirical investigation of simultaneous impacts of work environment, individual characteristics, training design and learning and transfer motivations on training transfer especially in the domain of public security.

2. This study has extended the research work by Hutchins (2009), Donovan and Darcy (2011) and Grossman and Salas (2011) by advancing the understanding of the level of impact of three different facets of training i.e. work environment, individual characteristics and training design through learning and transfer motivations on training transfer.
3. This study has identified new insights concerning effective practices in the domain of training transfer from the HRM perspective in the context of public security organisations.
4. The findings of this study have provided practical implications not only for the managers of public security organisation in Saudi Arabia but also for other Arabian countries especially those in the Middle East and North Africa.

1.9 Thesis Structure

The present doctoral thesis is divided in to six chapters as follows.

Chapter 1 introduces the empirical study presented in this doctoral thesis

Chapter 2 presents a review of published academic literature in the domain of training transfer.

Chapter 3 describes the research methodology and methods used in the present empirical study.

Chapter 4 reports results of the present empirical study

Chapter 5 provides discussion on the findings of the present empirical study with reference to earlier published empirical studies on training transfer.

Chapter 6 presents the conclusion, implications and limitations of the present study and suggests recommendations for the future research.

2 Chapter 2: Literature Review

This chapter reports a review of published literature on training transfer and its determinants. This chapter is divided in to nine sections. The first section introduces the research topic i.e. training transfer to the work. The second section defines various terms in relation to training transfer used in this study. The third section provides a general background to organisational needs and strategies vis-à-vis professional development and training of staff. The fourth section describes the context of training and training transfer from the HRD perspective. The fifth section provides a review of empirical literature on training transfer to the work. The sixth section identifies the research gap in the literature on training transfer. The seventh section describes the conceptual model. The eighth section presents hypotheses proposed in this study. The last (ninth) section provides a summary of the chapter.

2.1 Introduction

Organisations confront many issues in order to face technological challenges, new trends of communications, and competition to enhance the product and efficiency of organisations (Ulrich, 1998; Lengnick-Hall and Lengnick-Hall, 2002; Heerwagen, Kelly, and Kampschroer, 2016). A way forward for organisations in tackling these challenges thus could include highly skilful, knowledgeable and competent workers, who need training and development (International Labour Office, 2011). Consequently, in recent years, the focus of organisational attention has been on the value of broader HRM activities and specifically HRD (Gubbins and Garavan, 2009). HRD is associated with the ability of an organisation to create a qualified, skilled and resourceful workforce, which can help in creating a learning culture that supports the organisation to respond to unforeseen situations, improve performance, and be

responsive to change (Kissack and Callahan, 2010). Therefore, there is an increasing need for organisations to take the responsibility for developing competent, skilled and adaptive workers (International Labour Office, 2011). However, the success and effective functioning of organisations depends not only on the training but also on training transfer to the workplace in order to achieve the organisational objectives (Bulut and Culha, 2010).

The constant development in technology and knowledge creates a skills gap for workers (Action and Golden, 2003) and in situations where the nature of work changes, the success of an organisation requires enhancing employees' skills and knowledge (Grossman and Salas, 2011). A way forward for this problem could be through training, which in the literature on HRD is referred to as interventions that improve employees' performance and ultimately productivity of the organisation (Bookter, 1999). Nevertheless, the actual benefits of employee training could only be fully realised when the employee applies the skills learned and knowledge gained through training to the work, which is known as training transfer in the HRD literature (Bulut and Culha, 2010). Thus, training transfer is a most important factor in relation to the performance of not only the employee but also of the organisation (Edwards, 2013).

However, there is a dearth of literature on training transfer in public sector organisations in general and in public sector security organisations in particular especially in developing countries.

With regard to this, the chapter presents a review of literature on training transfer, which draws a theoretical model that would be tested in this empirical study.

2.2 Terminology

This section introduces and defines various terms that are relevant to the issue of training transfer and are used in the research study. These terms are reported here without any hierarchical order or the importance.

2.2.1 Trainee

An employee (or an individual) who is involved in or is receiving training is known as a trainee and other organisational members are known as co-workers or supervisors / managers (Chen and Klimoski, 2003).

2.2.2 Training

The term training is defined as a planned learning experience for the acquisition of new knowledge, attitudes or skills (Campbell et al., 1970; Goldstein, 1980; Abujazar, 2004). In the Glossary of Training Terms by the Manpower Services Commission (1981, p.43), the term training is defined as "a planned process to modify attitude, knowledge and skills through learning experience to achieve effective performance in an activity or range of activities". According to Bookter (1999), training refers to interventions to improve employees' performance and the organisation's productivity. Training is also defined as 'a planned intervention that is designed to enhance the determinants of individual job performance' (Campbell and Kuncel, 2001, p.278). For Kitson (2003), training is a learning activity, which has an immediate impact on the job or role that one does at present. Training has been defined as a systematic approach to learning and development to improve individual, team and organisational effectiveness (Kraiger and Ford, 2007, p-281).

Having considered all the above defining concepts of training, in the present thesis, the researcher has defines the term training as an activity that is effective to the extent that the skills and behaviours one wishes to learn are actually learned and

applied constructively on the work (Robinson and Robinson, 1989; Yamnill and McLean, 2001; Grossman and Salas, 2011).

2.2.3 Development

In the domain of HRD and in relation to training, the term ‘development’ is defined as “the growth of realisation of a person’s ability, through conscious or unconscious learning” (Manpower Services Commission’s Glossary of Training Terms, 1981, p.43). According to Kitson (2003), development is a learning activity that is designed for future impact, for a role or job one will do in the future. The term ‘development’ is also defined as the improvement of the intellectual or emotional abilities needed to do a job better (Cherrington, 1991).

There is increasing perception that training and developmental opportunities are provided to individuals to address key skill gaps (Nash and Korte, 1994).

2.2.4 Learning

The term learning refers to an ability to gain anything from training, which is to be transferred by experience or through formal transferring events (Kirkpatrick, 1967). In addition, learning is considered a relatively permanent change in the knowledge, skills and behaviour of trainees (Weiss, 1990).According to Morgan (1997), learning is a continuous effort to use the human brain to create a pattern of system of knowledge, ideology, values, laws, and day-to-day rituals. From this perspective, the learning is known as cognition of an individual relating to the behaviours towards the performance (Swanson, 2001; Gibson, 2004; Chiaburu and Lindsay, 2008).

2.2.5 Transfer

The ability to apply what is previously learned from one task to another task is referred to as ‘transfer’ (Sinapov et al., 2015).

2.2.6 Training motivation

Several researchers have described the term training motivation (or motivation for training) as the degree to which employees are willing to make efforts to improve themselves and their tasks and job performance by training (Robinson, 1985; Seyler *et al*., 1998; Bulut and Culha, 2010; Pham *et al*., 2010). According to Noe and Wilk (1993), motivation for training is a force that influences enthusiasm towards a training programme.

2.2.7 Transfer motivation

The term transfer motivation (or motivation for training transfer) is defined by the direction, persistence and intensity of effort towards utilising skills and knowledge learned in a work setting (Bates *et al*., 2007).

2.2.8 Learning transfer

Learning transfer (or transfer of learning) has several meanings. For example, Baldwin and Ford (1988) defined it as a process in which training is precedent to transfer and learned behaviour should be generalised to different aspects of a person's job over a span of time. For researchers like Newstrom (1992) the term transfer of learning is the continuity of applying new knowledge and skills.

The term transfer of learning is used synonymously with the term training transfer. However, the researcher has used the term 'training transfer' in the presenting doctoral study.

2.2.9 Training transfer

The term training transfer (or transfer of training) has been defined as the degree to which trainees apply the knowledge, skills and behaviours learned, to their jobs (Tannenbaum and Yukl, 1992; Burke and Baldwin, 1999). The term training transfer also refers to trainees' effective and continuous application of their learning,

knowledge, behaviours, skills and cognitive strategies to their jobs (Baldwin and Ford, 1988, p. 63; Holton, 1996; Colquitt *et al*., 2000; Noe, 2002; Bell and Ford, 2007). Training transfer of is also described as means by which recently obtained knowledge, skills and attitudes could be applied in situations different from the situation where the learning was obtained (Sofo, 2007).

In the present study, the researcher has used the term training transfer, as an effective and continuing application of the knowledge and skills by trainees to their jobs (Kirwan and Birchall, 2006).

2.3 Background

Rapid technological developments in a globalised economy, combined with rapidly changing patterns of work and consumer behaviour, all require an agile, highly trained and professional workforce in an organisation (International Labour Office, 2011; Heerwagen, Kelly, and Kampschroer, 2016). Keeping abreast of the latest knowledge, training and learning content, tools and instruments are all vital aspects of workforce development today (Rowden, and Conine, 2005). In addition, a number of significant demographic, economic and socio-cultural factors have to be addressed in order to reduce the high levels of complexity and allow rapid changes to be managed, if not controlled (Goldstein and Gilliam, 1990; Howard, 1995; Thayer, 1997; Salas *et al*., 2006; Arguinis and Kraiger, 2009; Grossman and Salas, 2011). To this extent, the importance of training is increasing and there is a continued pressure on organisations to equip their workforce with skills and knowledge (Heerwagen, Kelly, and Kampschroer, 2016).

These forces have thus provoked organisations to increase human capital investments continuously for enhancing employee knowledge and skills to maintain a

competitive edge (Marimuthu, Arokiasamy and Ismail, 2009). Many organisations have thus recognised the importance of learning and continuous improvement of employees' skills as sources of sustained competitive advantage (Hall and Mirvis, 1995; Salas and Cannon-Bowers, 2001; Salas and Stagl, 2009). From the management perspective, training programmes or any learning strategies give support in improving employees' performance in specific situations (Salas *et al*., 2006). In today's global economy, the knowledge, skills and abilities necessary to maintain a competitive advantage are growing and changing (Arguinis and Kraiger, 2009); thus, there is a need to recognise the potential of workplace learning and continuous professional development and improvement (Salas and Cannon-Bowers, 2001; Arguuinis and Kraiger, 2009). However, in a situation where the nature of work changes, the success and effective functioning of organisations depend upon improving, innovating, competing and excelling goods and services for which they need training and development for enhancing their employees' skills and knowledge (Bulut and Culha, 2010; Grossman and Salas, 2011). According to Salas *et al*. (2012), organisations need to provide continuous training to their employees in order to remain competitive because the trainees will put their skills, learning, and knowledge obtained through training into practice within their jobs. Thus, effective training of human capital is a key component in building and maintaining an effective employee workforce, which in turn drives organisational goals (Bulut and Culha, 2010; Dobre, 2013). The effectiveness of the learning is influenced by the quality of the guidance and coaching given to the trainee / employee; however, many supervisors, managers, and team leaders are unskilled in training employees and many of them may be disinclined to carry out training or to encourage it (Armstrong, 2001),. To this extent, it is important to equip managers and team leaders with skills

and knowledge because they should know how to train others and identify their training needs (Hutchinson and Purcell, 2007).

These findings from the literature suggest that HRD strategies such as training, coaching and mentoring of employees / trainees are important for business growth and development, and achieving organisational strategic objects. However, employees need to be equipped with knowledge and skills to perform their tasks, work effectively for achieving organisational goals, and develop competencies. However, substantial benefits of training of employees can be claimed through training transfer to the work.

2.4 Human resource development and training

Training is an HRD activity that contributes in gaining competitive advantage, increasing productivity and enhancing organisational performance (Niazi, 2011; Waiganjo, Mukulu, and Kahiri, 2012; Seidle, Fernandez, and Perry, 2016). Rapid and accelerating changes in the external environment of organisations develop pressure on organisations vis-à-vis employee performance (Heerwagen, Kelly, and Kampschroer, 2016).. Training is one way to increase employee performance and thereby the organisational performance (Waiganjo, Mukulu, and Kahiri, 2012; Elnaga and Imran, 2013). Therefore, training for increasing employee skills and knowledge has been described as one of the primary concerns for the success of organisations (Scott and Meyer, 1991; Cromwell and Kolb, 2004; Hutchins, 2009; Bulut and Colha, 2010).

Training is a means to supporting employees to achieve organisation goals through performing tasks according to their job specifications and roles (Boxall, and Macky, 2007, 2009; Owoyemi et al 2011, Asfaw, 2015;).

There is increasing perception that training and developmental (T&D) opportunities are provided to individuals to address key skill gaps (Nash and Korte, 1994).) However, researchers have differentiated between training, development and education as follows. *Training* is the acquisition of new or specific skills, knowledge or attitudes (Campbell, 1971; Goldstein, 1980), *development* is the improving of the intellectual or emotional abilities needed to do better a job and *education* is something more general that attempts to provide students with general knowledge that can be applied in many different settings Cherrington (1991; David ,1997).

On the other hand, training could be defined as “the organized procedure by which people learn knowledge and/or skills for a definite purpose” (Beach, 1985 cited by Deb, 2006, p. 223) with an objective “to achieve change in the behaviour of those trained” (Dabale, Jagero and Nyauchi, 2014).

There are many different kinds of training programs. According to Cherrington (1991), the major types of training are as follows:

1. Orienting and informing employees
2. Skills development
3. Refresher training
4. Professional and technical education
5. Supervisory and managerial development

Concerning the HRD of employees, the managers and employers tend to focus on employees’ satisfaction, skills and knowledge development and retentions; however, the ultimate objective of HRD is to produce a desirable organisational and behavioural change through learning (Al-Khayyat and Eigamal, 1997). Despite consuming significant resources, human capital is the most critical organisational

asset and the core element of sustainable competitive advantage (Barney, 1991, 2001; Tanova and Nadiri, 2005; Yamnill and McLean, 2005; Donovan and Darcy, 2011). Thus, in the present day competitive organisations continuously invest in developing knowledge, skills and attitudes of their employees to remain competitive (Brinkerhoff and Montesino, 1995; Dolezalek, 2005, Paradise, 2007; Salas and Stagl, 2009).

To this extent, employee training is at the heart of modern management practices within many organisations (Purcell, 2000), which is evident from increase training and development funds allocations and expenditure in the developed countries such as the USA where the total US training expenditure on the training payroll increased from US$31.3 billion to US$36.4 billion (Training Magazine, 2012) and developing countries such as Saudi Arabia where budget allocation for HRD in 2016 was US$51.1, which was the next highest budget after the defence and security budget of the country (Oxford Business Group, 2016).

Training has been conceptualised to enable employees to acquire knowledge and skills from the classroom to the work floor (Bernard, Veldhuis and van Rooij, 2001). Grossman and Salas (2011, p.104) pointed out that “this [training] encompasses what they need to know, what they need to do and what they need to feel in order to successfully perform their jobs”. The dominant focus of training is to create a resource that is more valuable than any other committed workforce is (Jex and Britt, 2008). Indeed, training in a systematic way develops and improves employees’ skills, knowledge and behaviours, which would enable employees to achieve organisational goals through performing job-related duties and accomplishing specific tasks (Donovan and Darcy, 2011).

Today, organisations are facing a large number of problems related to globalisation, changes in the global economy, and issues of organisational and individual competence (Hake, 1999). Such changes require that employers try to enhance professional development of their employees / workers through increasing their knowledge, skills and attitudes to achieve organisation goals (Jehanzeb and Bashir, 2013). In fact, training function is derived broadly from the human resources development function that is extensively relevant for the personal growth and professional development of employees (Sofo, 2007).

Training not only provides learning and motivation to take on new knowledge but also to take skills and attitudes to the workplace and apply what is learned (Wang and Wilcox, 2006; Hatala and Fleming, 2007). Thus, training is known as the primary means of preserved and increasing competence (Johnston and Packer, 1987). In addition, it is one of the well-known systematic organised activities, in which an individual worker acquires knowledge and learns new skills for increasing performance and facing future challenges within the organisation.

Skill formation and economic performance are constructed and experienced within social institutions and can be organised in different ways (Brown, 2001). Indeed training is not only important to facilitate learning but also to manage workers' perceptions and attitudes towards the application of organisational resources (Marler *et al*., 2006). Thus, the aspirations and motivations of individual workers to learn skills, gain knowledge and develop positive attitudes are essential, whereas skills diffusion and personal expertise affect mobility across occupations (International Labour Office, 2008). Therefore, from the HRM perspective, training has been

identified as a source of HRM practice that contributes to gain a competitive advantage (Schuler and MacMillan, 1984; Jassim and Jaber, 1998).

In the literature, researchers increasingly argue that effective training is the capacity of trainees to apply knowledge, skills and abilities gained in training to their work practices (Baldwin and Ford, 1988; Salas and Cannon-Bowers, 2000). Thus, organisations invest huge amounts of money each year into formal T&D programs that aim to enhance organisational performance (Dolezalek, 2005). This is because training transfer is regarded as the principal way by which organisations can increase employees' beliefs in their capabilities through increased outcomes and results of training (Kozlowski *et al*., 2001), which might influence organisations to adopting strategies to increase training transfer in their training programmes (Dermol and Cater, 2013; Alvelos et al., 2015).

2.4.1 Why Training?

The aim of training is not to only enhance current work performance and assignment quality but also support in development of competence of trainees to cope with the future work demands (Pham *et al*., 2011). Training is related to an employee's on-the-job skills acquired for a particular role while the development is associated to a learning activity that is designed for a role, for future impact or a job one will do in the future; hence, both T&D are very much important and suggest a systematic approach to HCD (Mabey and Gooderham, 2005; Nikandrou *et al*., 2009).

However, T&D both require the top management support to be effective because only development can create and sustain a positive attitude towards training throughout the organisation (Vemic, 2007; Nikandrou *et al*., 2009). Training and development can provide a wide range of benefits such as shown in Table 2.1

Table 2-1 Benefits of employee training and development

a. Employees learn their jobs quickly and effectively.
b. Employees improve their work performance and keep up-to-date in their specialist fields. Therefore, the present and future standard of work required by the organisation is highly achieved and maintained.
c. Reducing mistakes increases employees' work quality.
d. Management benefits from the reduction in work errors by spending more time on planning and development activities and eliminating the cost of correcting errors.
e. Labour turnover among new employees can be reduced since trained employees are more likely to achieve a high level of job satisfaction.
f. A reputation of an organisation for providing good training tends to attract better applicants for its vacancies.
g. Employees who are offered training and development opportunities to further their careers with their present employer are less likely to be frustrated.
h. It enhances the general morale of an organisation by effective organisational development and individual employee training interventions, which improve the ability of the organisation to implement and accept change.

Source: Kenney and Reid (1988, pp. 52-53)

Training is beneficial for developing attitudes, motivation and empowerment at both the individual and the team level thus, itis beneficial not only for the individuals but also for organisations and society (Aguinis and Kraiger, 2009). In addition, from the organisational effectiveness perspective, innovation-training programmes recognise organisational performance with reference to productivity improvement, revenues and sales, and overall profitability (Rivera and Paradise, 2006; Paradise, 2007; Thang, Quang and Buyens, 2010). Moreover, training results in improvements in the quality of labour force and human capital formation (van Leeuwen and van Praag, 2002; Wang *et al*., 2002; Farid et al., 2012; Kanayo, 2013; Goldin, 2014).

It is evident from the literature that training is a beneficial for all parties including employers, workers and society (Nelson, 2010). In addition, training can lead to an increased earning potential and improved employment prospects (Turcotte *et al*., 2003; Sauders, 2006; Hurst, 2008). .

2.4.2 Importance of Training

Training plays a vital role in the organisational development, improving performance, increasing productivity, and eventually putting organisations in the best position to face competition and stay at the top (April, 2010). Training is planned and systematic activity that results in an enhanced level of skills, knowledge and competency that are necessary to perform work effectively (Betcherman, 1992). Thus, training positively influences employee performance through the development of employee knowledge, skills, abilities, competencies and behaviour; thus, it benefits both the employee and the organisation (April, 2010).

2.4.3 Evaluation of training

Many researchers like Rolfe (1989) and Holton *et al*. (2000) argued that evaluating training policies could reduce the discrepancies between planners' expectations and the actual performance of employees. Of several frameworks and models suggested for evaluation of training, Kirkpatrick (1959, 1976) suggested the most notable model, which comprises four steps (levels) of evaluating training as follows. Level 1: Reaction (trainee's reaction about the training programme), Level 2: Learning (change in the knowledge, skills and attitudes from the training), Level 3: Behaviour (change in the trainee's performance on the job) and Level 4: Results (trainee's contribution to the organisational performance) (Kirkpatrick and Kirkpatrick, 2006). This training evaluation model has been applied as leading model for evaluating organisational training (Bates, 2004) due to its pragmatics view and simplicity

(Tamkin, Yarnall and Merrin, 2002). However, Kirkpatrick's framework (1976) has been criticised for having limitations such as being incomplete and oversimplified view of training effectiveness, assuming causality and assuming increasing importance of information from level 1 to level 4 (Bates, 2004).

Nevertheless, most commonly, the perception of training by employees can be analysed within a multi-dimensional framework that includes a number of factors like motivation, access, benefits and support (Bartlett, 2001; Ahmad and Bakar, 2003; Bartlett and Kang, 2004; Sabuncuoglu, 2007). In addition, the effectiveness of training programs can be measured by the quality and quantity of skills, training transfer, and outcome in relation to trainees' performance in the workplace (Kirkpatrick, 1967; Aguinis and Kraiger, 2009). Thus, assessing the outcomes of training programs is essential (Ostroff and Ford, 1989; Arthur et al., 2003; Ritzmann, Hagemann and Kluge, 2014) because organisations spend considerable money and resources on providing training to their employees (Cromwell and Kolb, 2004; Lancaster and Milia, 2013); however, the training pays off only when trainees apply (transfer) the new knowledge and learned skills on the job (Arvey and Cole, 1989; Burke, Bradley and Bowers, 2003; Blume et al., 2010; Saks and Bruke, 2012).

Training transfer has been classified as a strategic tool to increase employee skills, knowledge, productivity, job performance, organisational performance, attitudes and competitiveness (Donovan *et al*., 2001; Yamnill and McLean, 2001; Awoniyi *et al*., 2002; Salas *et al*., 2006). Thus, organisations invest huge amounts of money and time each year on employees' training and development programs professional development of their employees to carry out specific tasks and increase their performance (Cromwell and Kolb, 2004; Lancaster, Milia and Cameron, 2013) in

order to grow towards forthcoming challenges of organisational business and leading to the success of their organisation (Brinkerhoff and Montesino, 1995; Dolezalek, 2005, Paradise, 2007; Salas and Stagl, 2009) such as annual spending of more than $125 billion on employee T&D by the US organisations (Paradise, 2007).

However, most of the investment in organisational training is wasted because most of the knowledge and skills gained are not fully applied by the employees (Stolovitch and Keeps, 1992). Some of the causes for the wasted training expenditures and overcoming solutions are shown in Table 2.2 below.

Table 2-2 Wasted investment in training: causes and solutions

Causes	Solutions
Poor selection of person to attend training	Only provide training when a systemic front-end analysis has identified a performance gap
Lack of clear expectations from supervisor	Never provide training as a single solution
Lack of on-job support	Train only those who will be able to apply the new skills or knowledge
Lack of post-training monitoring	Prepare trainees for both training and post-training transfer
Lack of resources to implement the new skills	Ensure post-training support

Source: By researcher based on information taken from Stolovitch and Keeps (1992)

Literature shows that the transferability of training from the training to the workplace ranges between 10% (Fitzpatrick, 2001) and 40% (Wexley and Latham, 2002), which declines over the time i.e. only about 44% and 36% trainees transfer training to the work at six months and 12 month year after respectively (Saks and Belcourt,2006). The low rate of training transfer to the work thus puts a major portion of the training investment at risk and justifies practical efforts to leverage greater transfer of

learning (Brinkerhoff and Montesino, 1995; Saks and Belcourt, 2006; Grossman and Salas, 2011; Saks and Burke-Smalley, 2014).

In addition, here are many other steps that must be followed when an organisation aims to conduct training programs. For example, identification of training needs followed by development of clear objectives is must for successful training and thorough assessment of non-training issues prior to initiating training programmes (Machles, 2002). Thereafter, inclusion of training transfer strategies in the instructional design is required (Machles, 2002).

Training transfer includes application of knowledge and skills learned in the training to the job (Ford and Weissbein, 1997; Machles, 2002). Training transfer is important and the principal way through which organisations can increase positive outcomes (Kozlowski *et al*., 2001) because effective training provides strong competitive positions, improved work quality, advanced productivity and yield motivation and commitment, higher morale and team work (Salas, 2006). However, there could be many barriers to training transfer to the work; hence, strategies for effective training transfer to the work will be required, such as those presented in Table 2.3.

Training transfer has been studied in several empirical studies (Cromwell and Kolb, 2004; Burke and Hutchins, 2008; Van den Bossche *et al*., 2010, 2013; Donovan and Darcy, 2011; Saks and Burke-Smalley, 2014). However, a few studies have investigated models related to training inputs and outputs through motivational factors (Tracey *et al*., 2001; Chiaburu and Lindsay, 2008). The next section review literature on measures used studying training transfer to the work.

Table 2-3 Barriers to and strategies for training transfer to the work

Barriers to training transfer	Strategies for training transfer
Lack of reinforcement on the job	Managers / supervisors participation in a training session for developing their knowledge and understanding of training
Interference from the immediate environment	Involvement of supervisors and employees in the training needs assessment
A non-supportive organization culture or climate	Coaching an employee after training
Employees views that training in impractical or irrelevant	Supervisor support in allowing time to employee to complete pre-course assignments
Lack of management commitment, intervention and involvement	Supervisors' encouraging employees to attend training
Inconsistences in the work environment	Employees understanding that attendance of training is mandatory and reporting back to the manager
Lack of technology or equipment to support training	Managers must prevent interruption in training
Unsupportive co-workers and peer pressure	Supervisors support by shifting trainees work to other employees
Managers' / supervisors'' lack of knowledge and understanding of learned skills	Supervisor's encouragement of employees to share learning in the department
Employees' perceived difference between management permission for performing skills and management support for the skills	Supervisors facilitating use of the new skills and development of a plan by the employee to use the skills to work

Sources: By researcher based on Machles, 2002

2.5 Review of Empirical Research on Training Transfer

Training has been recognised as one of the main solutions for improving performance (Dean *et al.*, 1996; Bassi and Van Buren, 1999; Sugrue, 2003). Thus, organisations allocate and spend significant resources for training of their staff (Van Buren and Erskine, 2002; Burke and Hutchins, 2007). However, usefulness and effectiveness of training can be determined by the efficiency of a trainee to transfer training i.e. transfer of knowledge, skills and behaviours learned in the training programme to the job, sustained over time, and generalised across contexts to increase job performance (Holton and Baldwin, 2003). However, persistently low estimates of the training output are received from trainees and training, which might suggest focusing more on problems in training transfer to the remain always acute in the literature (Anthony and Norton, 1991; Garavaglia, 1993; Colquitt *et al*., 2000; Velada *et al*., 2007; Blume *et al*., 2010).

Literature shows that the training transfer process starts with the trainee's learning of new competencies of the job (Velada and Caetano, 2007) and, then the trainee should transfer the acquired knowledge, skills, and attitudes to the job environment having in mind the aim of increasing job performance over time (Noe *et al*., 2006). Thus, more and more organisations are adopting strategies to increase training transfer in their training programmes. Therefore, the key actors responsible for training transfer to the work include not only trainees but also their supervisors, training developers and instructors (Barnard *et al*., 2001). It is therefore important and continuous need to explore the determinants of successful training transfer to the work (e.g. Holton *et al.*, 2000; Holton and Baldwin, 2003a).

2.5.1 Aim of literature review

The research undertook a review of literature in the domain of training transfer to the work. The aim of the literature review was to identify the work environment, individual characteristics, motivations and design factors that determine transfer of training to the work.

2.5.2 Literature search criteria

For identifying the relevant literature, the criteria for searching literature included empirical studies on training transfer published in English language from 2005 to present. The researcher excluded literature reviews and empirical studies involving students as research participants because he was interested in professional training and its transfer to the work.

2.5.3 Process of literature review

Based on the literature search criteria mentioned above, the researcher identified 43 studies (Appendix 5), which were included in the literature review. The researcher obtained full papers of all these studies and reach them thoroughly for data abstraction on various parameters. The data were extracted about the year and country of study, the sector / type of organisation of research participants, study design, data collection method / tool, sample type and size, response rate and data analysis techniques used (Appendix Lit review 1). In addition, data on the key findings reported in the studies were also extracted from the reviewed studies (Appendix 6).

2.5.4 Findings of literature review

The findings of the literature review are as follows.

Year and country of study

Studies included in the literature review were published between 2005 and 2016; however, most of the reviewed studies were published in 2014 (n=9) and 2015 (n=6) (Appendix 5). The data abstracted on the country of study (Appendix 5) showed that most of the reviewed studies were conducted in the USA (n=10) and Malaysia (n=6), which were developed and developing countries respectively. In addition, the country data revealed that the reviewed studies were conducted mostly in the North America, Europe and Asia.

Organisation / Sector

The abstracted data showed that the most of the reviewed studies were conducted in the public sector organisations involving either civil servants or employees were in the public sector organisations (Appendix 5). The next most commonly involved sector or organisations were industrial organisations. The studies involving the public sector were undertaken in both the developed and developing countries mainly in the USA, West Europe and Far East Asian.

Study design and data collection method / tool

The data abstracted (Appendix 5) in the literature review showed that the study design in the majority of the reviewed studies was cross sectional (n=37), which was followed by longitudinal studies (n=5) and then case studies (n=1). The abstracted data about the data collection method / tool used showed that a questionnaire survey was used in the majority of studies (n=40) (Appendix 5). The other methods of data collection were semi-structured interviews (n=2) and mixed methods (questionnaire survey and interviews) (n=1) (Appendix 5).

Sample type and size and response rate

The data extracted from the reviewed studies (Appendix 5) revealed that a convenience sample was used in the majority of studies (n=22). Other sampling

types used in the reviewed studies were purposive sample (n=4) and stratified random sample (n=1). The remaining studies did not report the sampling method. The sample size ranged from 20 to 2000; however, in the sample size was mostly between 100 and 500. In the reviewed studies, the reported minimum response rate was 15.7% and the maximum response rate was 100% but in the majority of studies, the reported response rate was between 40% and 80% (Appendix 5). The response rate was not reported by seven studies included in the literature review.

Data analysis techniques

The abstracted data on techniques used for data analysis in the studies included in the reviewed showed most of the studies used more than one data analysis technique (Appendix 5). The most commonly applied data analysis technique was CFA / SEM, which was followed by hierarchical multiple regression (Appendix 5). The other data analysis techniques used in the reviewed studies included EFA, ANOVA, MANOVA, correlations and content analysis (Appendix 5).

The key findings

The data abstracted about the key findings vis-à-vis work environment, individual characteristics, motivations and design factors affecting training transfer to the work are presented in (Appendix 6).

Work environment

Regarding the work environment factors, the findings of the reviewed studies (Appendix 6) showed that the **performance feedback** statistically significantly determined learning motivation (Bell and Ford, 2007), transfer motivation (Kirwan and Birchall, 2006; Choi and Park, 2014; Dirani, 2012) and training transfer (Velada et al., 2007; Broucker, 2010).

The abstracted data (Appendix 6) revealed that **peer support** statistically significantly impacted learning motivation (Chiaburu and Marinova, 2005; Martin, 2010), transfer motivation (Chiaburu and Marinova, 2005; Kirwan and Birchall, 2006; Stephen, 2008; Lee et al., 2014; Bhatti et al., 2014; Massenberg et al., 2015, 2016; Chauhan et al., 2016) and training transfer (Chiaburu and Marinova, 2005; Bates et al., 2007; Burke and Hutchins, 2008; Massenberg et al., 2015). However, a few studies reported that the impact of peer support was statistically not significant on learning motivation (Lee et al. 2014; Massenberg et al., 2015) and training transfer (Hutchins et al., 2013; Lee et al., 2014; Almannie, 2015).

The findings of the reviewed studies (Appendix 6) showed that **supervisor support** had statistically significant impact on learning motivation (Ng, 2015; Massenberg et al., 2015), transfer motivation (Kirwan and Birchall, 2006, Stephen, 2008; Chiaburu et al., 2010; Lee et al., 2014, Bhatti et al., 2014; Kim et al., 2014; Massenberg et al., 2015, 2016; Chauhan et al., 2016) and training transfer (Burke and Hutchins, 2008; Hua et al., 2011; Simosi, 2012b; Lee et al., 2014. Massenberg et al., 2015; Zumrah, 2015). Nevertheless, the findings of the reviewed studies also showed that supervisor support had statistically no significant impact on learning motivation (Lee et al. 2014), transfer motivation (Chiaburu and Marinova 2005; Madagamage et al., 2014) and training transfer (Chiaburu and Marinova 2005; Velada et al., 2007; Hutchins et al., 2013; Homklin et al., 2014; Almannie, 2015; Ng, 2015).

The abstracted data (Appendix 6) showed that openness to Change statistically significantly determined transfer motivation (Choi and Park, 2014) and training transfer (Broucker, 2010); however, other researchers found that there was statistically no significant impact of openness to Change statistically significantly

determined transfer motivation (Massenberg et al., 2016) and training transfer (Hutchins et al., 2013). Surprisingly, none of the reviewed studies reported any impact of openness to change on learning motivation; hence, no data in that regard was abstracted from the reviewed studies (Appendix 6).

The abstracted data (Appendix 6) also revealed that opportunity to use learning was a statistically significantly predictor of transfer motivation (Kirwan and Birchall, 2006; Massenberg et al., 2016) and training transfer (Broucker, 2010). However, some studies reported that there was statistically no significant impact of opportunity to use learning transfer motivation (Massenberg et al., 2014) and training transfer (Broucker, 2010. It was also noteworthy that no study included in the literature review reported any association between opportunity to use learning and learning motivation; therefore, no data was abstracted from the reviewed studies (Appendix 6).

Individual characteristics

Regarding individual characteristics factors, the findings of reviewed studies (Appendix 6) showed that, **performance self-efficacy** statistically significantly determined learning motivation (Lee et al. 2014; Tziner et al., 2007; Wen and Lin, 2014b), transfer motivation (Chiaburu and Marinova 2005; Kirwan and Birchall, 2006; Stephen, 2008; Chiaburu and Lindsay, 2008; Massenberg et al., 2016) and training transfer (Bates et al., 2007; Velada et al., 2007; Burke and Hutchins, 2008 Broucker, 2010; Chiaburu et al., 2010; Simosi, 2012a,b). However, other researchers reported statistically no significant impact of performance self-efficacy, transfer motivation (Lee et al., 2014; Bhatti et al., 2014. Madagamage et al., 2014; Wen and Lin, 2014b) and training transfer (Tziner et al., 2007; Hutchins et al., 2013; Wen and Lin, 2014b).

The abstracted data on the findings of the reviewed studies (Appendix 6) revealed that **goal orientation** was a statistically significant determinant of learning motivation (Bell and Ford, 2007) and training transfer (Tziner et al., 2007; Simosi, 2012a). Nevertheless, other studies reported that there was statistically no significant impact of goal orientation on transfer motivation (Chiaburu and Marinova, 2005) and training transfer (Yamkovenko and Holton, 2010; Hutchins et al., 2013).

The data extracted about the findings of the reviewed studies (Appendix 6) showed that **training retention** was a statistically significant predictor of training transfer (Velada et al., 2007; Bhatti et al., 2014; Homklin et al., 2014); however, one study reported that there was statistically no significant impact of training retention on training transfer (Gegenfurtner, 2013). More surprisingly, none of the reviewed studies reported any association of training retention with learning motivation and transfer motivation; hence, no data were extracted.

Training design

The findings of reviewed studies regarding training design factors (Appendix 6) revealed that **training content** was a statistically significant determinant of transfer motivation (Grohmann et al., 2014) and training transfer (Bates et al., 2007; Gegenfurtner, 2013) but a study reported that there was statistically no significant impact of training content on training transfer (Hutchins et al., 2013). In addition, the abstracted data showed that no study included in the literature reviews reported any association between training content and learning motivation; hence, no data were extracted in this regard.

The data abstracted about the findings of reviewed studies (Appendix 6) showed that **training design** had a statistically significant impact on transfer motivation (Kirwan

and Birchall 2006; Stephen 2008; Bhatti et al.,2014; Grohmann et al., 2014) and training transfer (Velada et al., 2007; Burke and Hutchins, 2008; Broucker, 2010; Abdullah and Suring, 2011). None of the reviewed studies reported any impact of training design on learning motivation; therefore, no data were extracted on this issue.

Motivations

The data abstracted about the findings of reviewed studies (Appendix 6) revealed that **learning motivation** statistically significantly determined transfer motivation (Chiaburu and Lindsay, 2008; Wen and Lin, 2014a, b) and training transfer (Bell and Ford, 2007; Tziner et al., 2007; Lee at al., 2014; Ng, 2015; Wen and Lin, 2014a). However, other studies reported that learning motivation was statistically not a significant determinant of transfer motivation (Lee et al. 2014) and training transfer (Chiaburu and Lindsay, 2008; Wen and Lin 2014b).

The findings of reviewed studies (Appendix 6) showed that **transfer motivation** was a statistically significant determinant of training transfer (Chiaburu and Marinova 2005; Bates et al.,2007; Chiaburu and Lindsay, 2008; Broucker, 2010; Chiaburu et al., 2010; Yamkovenko and Holton, 2010; Abdullah and Suring, 2011; Gegenfurtner, 2013; Hutchins et al., 2013; Bhatti et al., 2014; Huang et al., 2014; Grohmann et al., 2014; Wen and Lin, 2014a,b; Cheng et al., 2015; Massenberg et al., 2015; Chauhan et al. 2016). Nevertheless, one of the reviewed studies reported that transfer motivation was statistically not a significant determinant of transfer motivation (Lee et al. 2014).

Synthesis of literature review findings

The data abstracted from the reviewed studies (Appendix 5 and 6) showed that work environment, individual characteristics, training design and motivations affect training

transfer to the work. The literature review showed that training transfer was directly and affected indirectly via learning and transfer motivations by work environment, individual characteristics, and training design factors. In addition, the literature review revealed that in empirical research on training transfer, the most common research design used was a cross sectional survey design, most commonly used sampling method was convenience sample and the most common tool used for data collection tool was a self-completion questionnaire. Moreover, the literature review identified that while analysing data, the most common approach was hypothetico-deductive approach and CFA and SEM were the most commonly used statistical data analysis techniques.

Nevertheless, the findings regarding the impact and statistical significance of determinants of training transfer were conflicting because for the same predictors of training transfer some researchers reported statistically significant impact while others reported statistical not significant impact on training transfer. The conflicting findings could be due to differences between the reviewed studies, which varied in terms of the context i.e. country, organisations / sectors and background of the participants as well as methodological approaches i.e. study designs, sampling types and data analysis techniques. In addition, the findings of the reviewed studies varied due to differences in conceptual models that comprised different combinations of predictor variables and motivation factors (as shown in Appendix 6). Nevertheless, none of the reviewed studies included all factors / variables that were extracted from the reviewed studies, which suggests that there is a gap in the existing research on training transfer as explained in the next section.

2.6 Research Gap

The literature review undertaken by the researcher revealed that there are significant gaps in the empirical literature on training transfer. Literature suggested that there is a need to investigate the impact of training inputs such as training design, individual variables and organisational environment factors on the training transfer process directly and through mediation of motivational factors i.e. learning motivation and transfer motivation (Velada et al., 2007). In addition, the literature review revealed that most of the earlier empirical studies on training transfer have been conducted in the private sector organisations and there is a dearth of literature on training transfer in the public sector organisations in developing countries. More importantly, the literature review identified that there are not many studies on training transfer in public security organisations in the context of developing countries especially in Arab countries in the Middle East and North Africa. Moreover, the review of empirical literature showed that there is a need for developing a conceptual model that integrates work environment, individual characteristics, training design and leaning and transfer motivation as significant determinants of training transfer because earlier studies did not use all of the above factors in a single model, which needs to be empirically tested. The present doctoral study has attempted to fill this gap by investigating the training transfer in the context of public security in Saudi Arabia, which is a high income but developing Arab country in the Middle East through empirical testing of a conceptual model, which is presented in the following section.

2.7 Conceptual Model

Based on the review of literature on training transfer presented above, the researcher developed a conceptual model for empirical testing in the present study. The proposed model is described as follows.

In view of a large number of studies that stress upon the importance of training transfer to the work as an outcome variable, the present study conceptualised work environment individual characteristics and training design factors as the most significant predictors of training transfer via learning motivation and transfer motivation as identified in the literature review (Appendix 6). The proposed conceptual model (Figure 2-1) includes a number of factors and variables as follows.

A. **Training transfer:** This variable was the outcome variable and its predictors (explanatory) variables were the work environment, individual characteristics, training design, and learning and transfer motivations, which are explained below.
B. **Work environment factor:** This factor included five variables:
    1. Peer support
    2. Supervisor support
    3. Feedback
    4. Opportunity to use learning
    5. Openness to change
C. **Individual characteristics factor:** This factor comprised four variables:
    1. Locus of control
    2. Self-efficacy
    3. Goal orientation
    4. Training retention

D. Training design factor: This factor consisted two variables:

1. Training content
2. Training design

E. Motivation variables: These includes two variables:

1. Learning motivation
2. Transfer motivation

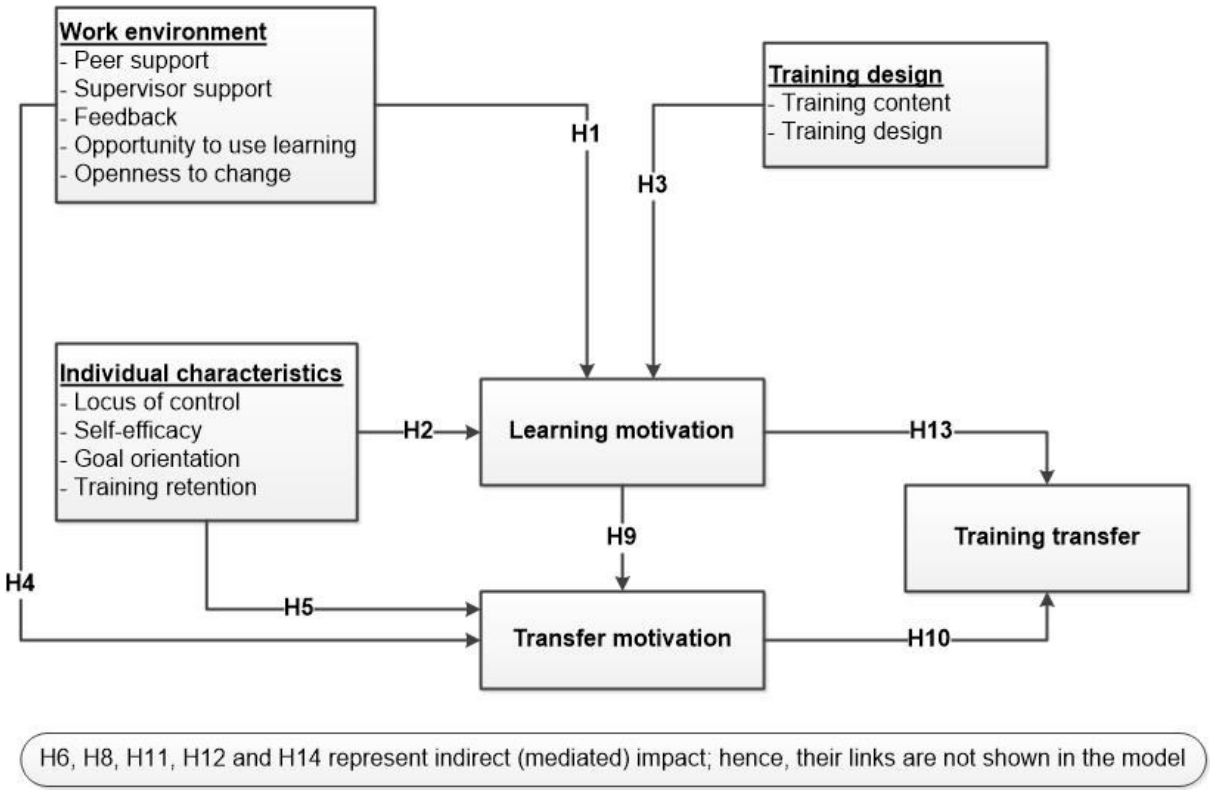


Figure 2-1 Proposed conceptual model based on the literature review

2.8 Proposed Hypotheses

Based on the proposed conceptual model (Figure 2-1), which is grounded in the extant literature (Appendix 5 and 6 Review of empirical studies on training transfer), the researcher hypothesised that work environment, individual characteristics, training design and motivation factors have a significant effect on the training

transfer. The suggested hypotheses are fully explained in Table 2-4, which is given below.

Table 2-4 Hypotheses proposed based on the conceptual model

Hypotheses
H1: Work environment (comprising peer support, supervisor support, feedback, opportunity to use learning and openness to change variables) will be positively related to learning motivation. *H1a: Peer support has a positive impact on the learning motivation* *H1b: Supervisor support has a positive impact on the learning motivation* *H1c: Feedback has a positive impact on learning motivation* *H1d: Opportunity to use learning has a positive impact on learning motivation* *H1e: Openness to change has a positive impact on learning motivation*
H2: Individual characteristics (comprising locus of control, self-efficacy, goal orientation and training retention variables) will be positively related to learning motivation. *H2a: Self-efficacy has a positive impact on the learning motivation* *H2b: Goal orientation has a positive impact on the learning motivation* *H2c: Training retention has a positive impact on the learning motivation* *H2d: Locus of control has a positive impact on the learning motivation*
H3: Training design (comprising training content and training design variables) will be positively related to learning motivation. *H3a: Training contents will be positively related to learning motivation* *H3b: Training design will be positively related to learning motivation*
H4: Work environment (comprising peer support, supervisor support, feedback, opportunity to use learning and openness to change variables) will be positively related to transfer motivation. *H4a: Peer support has a positive impact on the transfer motivation* *H4b: Supervisor support has a positive impact on the transfer motivation* *H4c: Feedback has a positive impact on the transfer motivation* *H4d: Opportunity to use learning has a positive impact on the transfer motivation* *H4e: Openness to change has a positive impact on the transfer motivation*
H5: Individual characteristics (comprising locus of control, self-efficacy, goal orientation and training retention variables) will be positively related to transfer motivation.

H5a: Self-efficacy has a positive impact on the transfer motivation *H5b: Goal orientation has a positive impact on the transfer motivation* *H5c: Training retention has a positive impact on the transfer motivation* *H5d: Locus of control has a positive impact on the transfer motivation*
H6: Learning motivation will mediate the relationship between work environment and training transfer. (See H1 above)
H7: Learning motivation will mediate the relationship between individual characteristics and training transfer. (See H2 above)
H8: Learning motivation will mediate the relationship between training design and training transfer. (See H3 above)
H9: Learning motivation will be positively related to transfer motivation
H10: Transfer motivation will be positively related to training transfer
H11: Transfer motivation will mediate the relationship between work environment and training transfer. (See H4 above)
H12: Transfer motivation will mediate the relationship between individual characteristics and training transfer. (See H5 above)
H13: Learning motivation will be positively related to training transfer
H14: Transfer motivation will mediate the relationship between learning motivation and training transfer. (See H13 above)

2.9 Summary

A review of literature on training and training transfer to the work presented in this chapter revealed that training is one of the most important activities that maintains, updates and enhances the knowledge, skills, attitudes and behaviour of employees (Bulut and Culha, 2010). Researchers and employers agree on the role of training with reference to developing very effective training programs, methods, instructional systems, and conducting evaluations on HRD programmes (Armstrong, 2001). Most commonly, the skills and behaviours learned and practiced during training could

actually be transferred to the workplace and these skills could affect employees' work, behaviour and performance.

Following the literature review, the present study attempts to extend the research on training transfer done by several researchers such as Hutchins (2009), Donovan and Darcy (2011), Grossman and Salas (2011) and Bhatti *et al*., (2014) by investigating the impact of work environment, individual characteristics and training design factors on trainees' learning motivation and transfer motivation and ultimately impact on training transfer to the work in the domain of public security..

The present study is focused on training transfer to the work by trainee personnel of public security organisation in Saudi Arabia. The details of research methods applied in this empirical study are described in the following chapter that reports the methodology of the present empirical study.

3 Chapter 3: Research Methodology

This chapter describes the methodology of the present study. This chapter is divided in to 21 sections as follows. The first section introduces this chapter and describes the research methodology in general. The second section describes research paradigms and the rational for selecting the positivist research paradigm. The third section explains research approaches and the rational for selecting the deductive approach. The fourth section describes research methods and selection of survey method. The fifth section explains research designs and provides justification for selecting the cross sectional study design. The sixth section describes data collection methods. The seventh section reports the development of a survey questionnaire, which is applied in this study. The eighth section describes the study context. The ninth section describes the sampling strategy. The tenth section reports research participants involved in the present study. The eleventh section describes the sample size. The twelfth section explains the pilot study. The thirteenth section describes the main study. The fourteenth section explicates the response rate. The fifteenth section describes research bias in data collection. The sixteenth section reports difficulties encountered in data collection. The seventeenth section describes the data analysis process. The eighteenth section reports statistical software used for data analysis. The nineteenth section discusses validity and reliability issues. The twentieth section reports ethical considerations. The last (twenty-first) section provides a summary of this chapter on methodology.

3.1 Introduction

Research is defined as an investigation of scientific and social problems to find solutions through objective and systematic analysis (Kothari and Garg, 2013, p. 1).

According to Saunders *et al*. (2009, p. 3) research methodology is the theory of how research should be carried out; the term 'method' refers to the tools and techniques used to collect data through questionnaires, observations and interviews and then to analyse data using both statistical and non-statistical techniques. The purpose of this chapter is to provide the rationale and explanation of the research methodology and methods used by the researcher to find out answers to the research questions raised and to empirically validate the research model proposed in the present study.

3.2 Selection of Research Paradigm

A research paradigm not only provides a specific line of enquiry to understand different kinds of phenomena but also establishes a framework in which those phenomena can be identified as having existed previously (Filstead, 1979). It is therefore essential to select a research paradigm in order to demonstrate the researcher's stance on the choice of methodology with respect to study purposes and goals.

However, the selection of a particular research paradigm needs to be based on some justification that answers why the researcher has taken the chosen approach.

According to Allen (2010, pp. 22-23), for conducting an empirical study, doctoral researchers need to select a research paradigm / approach based on the following four considerations.

1. Identifying and selecting the research paradigm / approach that is dominant in the selected field of study
2. Searching for the research paradigm / approach that is dominant in the organisation or the context in which study would be conducted

3. The choice and preference of the researcher to a particular research paradigm / approach
4. Selection of a research paradigm / approach based on the advice from the research supervisor

3.2.1 Rational for selecting positivist Research Paradigm

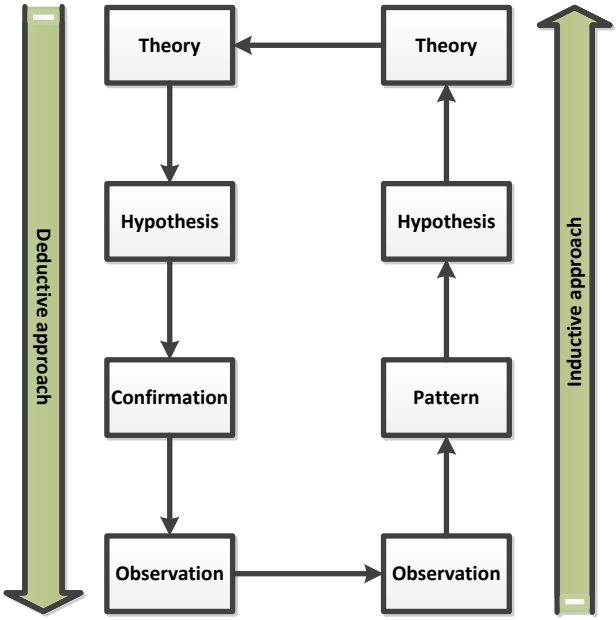
Keeping in view the above-mentioned suggestions for selecting a research paradigm by Allen (2010, pp. 22-23), the researcher selected the positivist paradigm / approach for the present doctoral empirical research. The main reasons for choosing the positivist paradigm included the ontological, epistemological and methodological assumptions, deductive research logic, survey research methodology and questionnaire method for data collection and hypotheses testing features of this paradigm (Bryman and Bell, 2007; Allen, 2010, Collis and Hussey, 2014). In addition, the researcher selected the positivist paradigm because this paradigm has been widely used in the literature on training transfer and in the domain of HRM by many researchers (Bates and Khasawneh, 2005; Noe *et al*., 2006; Velada *et al*., 2007; 2009; Chiaburu and Lindsay, 2008; Hutchins, 2009; Donovan and Darcy, 2011; Grossman and Salas, 2011; Yusof, 2012; Grohmann *et al*., 2014; Zumrah and Boyle, 2015). Thus, the researcher used the positivist approach in the present study.

3.3 Deductive and Inductive approaches

The deductive and inductive approaches are two logic / reasoning approaches to the relationship between the theory and research (Bryman and Bell, 2007; Allan, 2010; Collis and Hussey, 2014). The process of deductive approach to theory (Figure 3-1) starts with theoretical development followed by hypothesis development, which is then tested by empirical observation and finally new theoretical insights are developed (Allan, 2010). Conversely, the inductive approach (Figure 3-1) starts with

the observation of an empirical reality that identifies patterns leading to the development of hypothesis, which contribute in the development of theory (Bryman and Bell, 2007; Allan, 2010; Collis and Hussey, 2014). Therefore, the deductive approach is used in the objective study under the positivist paradigm while the inductive approach is used in the subjective study under the interpretivist approach (Allan, 2010, pp. 23-24).

Figure 3-1 Deductive and Inductive reasoning approaches



Source: Adapted from Allan (2010, p. 24)

3.3.1 Rational for selecting deductive approach

In the present study, the researcher used the deductive approach in conjunction with the positivist paradigm, which is a dominant research paradigm in the field of training transfer as reported by earlier researchers (Bates and Khasawneh, 2005; Velada *et al.,* 2007; 2009; Zumrah and Boyle, 2015),

3.4 Research Methods

Various researchers have defined the term 'methodology' as follows. According to Crotty, (1998, p.3), the methodology means "the strategy, plan of action, process or design lying behind the choice and use of particular methods and linking the choice and use of methods to the desired outcomes." Allan (2010, p. 24) has described the term methodology as "the theory of acquiring new knowledge and the process involved in identifying, reflecting upon and justifying the best research methods". According to Collis and Hussey (2014, p. 342) the term methodology refers to "an approach to the process of research encompassing a body of knowledge".

There are different types of research methodology such as surveys, experiments, action research, ethnographic research, case studies, historical research and grounded theory research; however, the selection of a particular methodology is determined by the type of research paradigm / approach selected for studying a particular phenomenon (Allan, 2010, p. 24-29). In addition, the selection of a research methodology also depends on the study and objectives of the study; thus, leading to selection of research method / methods that is/are appropriate to the research enquiry (Kothari and Garg, 2013).

As mentioned earlier in this chapter, the researcher selected the positivist approach for undertaking the present empirical research and considered various research methodologies that are appropriate under the positivist paradigm for undertaking the present study. According to Allan (2010, p. 25, 34), surveys, scientific experiments, historical research and statistical approaches are suitable research methodologies under the positivist approach. In addition, the selection of a research methodology can also be determined by the published literature in the domain of research enquiry (Allan, 2010).

Review of published literature on training transfer conducted by the researcher revealed that the survey methodology was used by many researchers (Velada *et al*., 2007, 2009; Chiaburu and Lindsay, 2008; Hutchins, 2009; Donovan and Darcy, 2011; Grossman and Salas, 2011; Yusof, 2012; Grohmann *et al*., 2014; Zumrah and Boyle, 2015)

Since the research interest of the researcher was in studying the current attitudes towards training transfer among trainee employees, the researcher believed that the methodology involving scientific experiment, historical research and statistical approach would not suit for undertaking the present study. Hence, for undertaking the present study, the researcher selected the survey methodology, which is most commonly used in a positivist study (Collis and Hussey, 2014, p. 62). The selection of the survey methodology was also supported by the use of surveys in the published literature on training transfer (Velada *et al.*, 2007, 2009; Chiaburu and Lindsay, 2008; Hutchins, 2009; Donovan and Darcy, 2011; Grossman and Salas, 2011; Yusof, 2012; Grohmann *et al*., 2014; Zumrah and Boyle, 2015).

The survey methodology is described in the following section.

3.4.1 Survey Methodology

Survey methodology has been defined as the methodology that is designed for collecting data (primary or secondary) from a sample of population of interest with a view to generalising the findings to the population (Collis and Hussey, 2014, p. 344). The surveys are therefore used extensively in research in several fields such as the HRD, HRM and study of training transfer (Chiaburu and Lindsay, 2008; Hutchins, 2009; Velada *et al*. 2009; Donovan and Darcy, 2011; Grossman and Salas, 2011; Yusof, 2012; Bhatti et al., 2014; Grohmann *et al*., 2014; Zumrah, 2015; Massenberg et al. 2016).

According to Silverman (2007, p. 79), every type of research methodology has advantages and disadvantages. The survey methodology therefore is no exception and there are a number of advantages and disadvantages of using the survey methodology (Table 3-1).

Table 3-1 Advantages and disadvantages of survey methodology

Advantages	Disadvantages
• Quantitative and qualitative data • Speedy and economical and anonymous data collection • Large sample size (usually) • Cross sectional / one point in time • Multiple variables / factors • Hypothesis testing • High response rate (usually) • Findings generalisability (from the sample to the population	• Only one time data • Sampling problems • Respondent apathy or fatigue • Incomplete surveys • Low or no response • Biased answers • Reduced effective sample size • Affected data quality • Biased researcher • Uncertainty of conclusion(s)
References: Armstrong and Ashworth, 2000; Neuman, 2000; Ghauri and Gronhaug, 2002; Scheuren, 2004; Bowling, 2009, p. 288-290)	

There are different types of surveys such as postal or mail survey, telephone survey, face-to-face survey, email survey and online or web survey, which have been classified based on the mode of administering or conducting the survey (Dillman, 2007; Sue and Ritter, 2007; Baruch and Holtom, 2008; Shaughnessy *et al*., 2009). Although the online (Internet / web-based) surveys are becoming popular (Wright, 2005), interviews and postal surveys are still most commonly used in research (Ghauri and Gronhaug, 2002; Bryman and Bell, 2007, p. 56). In addition, according to Nueman (2000), researchers using the survey methodology follow the deductive approach (Figure 3-1), which is used in the positivist approach (Allan, 2010). Having selected the positivist paradigm and the deductive approach as mentioned earlier,

the researcher selected survey methodology in the present study for which justification is explained below.

3.4.2 Rational for selecting survey methodology

In the present study, the researcher selected the survey methodology for the following reasons.

Since the research interest of the researcher was in studying the current attitudes towards training transfer in Saudi public security organisation, the researcher believed that the methodology involving scientific experiment, historical research and statistical approach would not suit for undertaking this. Hence, for undertaking the present study the researcher selected the survey methodology, which is most commonly used in a positivist study (Collis and Hussey, 2014, p. 62).

The selection of the survey methodology in the present study was also supported by the findings of review of published literature on training transfer conducted by the researcher that revealed that the survey methodology was used by many researchers in the domain of training transfer. For example, Bates and Khasawneh (2005), Noe *et al*. (2006), Velada and Caetano (2007), Velada *et al* (2007; 2009), Chiaburu and Lindsay (2008), Hutchins (2009), Donovan and Darcy (2011), Grossman and Salas (2011), Yusof (2012), Grohmann *et al*. (2014), Ng (2015), Zumrah (2015) and Massenberg et al. (2016) used surveys in their research studies.

Therefore, in the present study the researcher used the survey methodology by applying a self-completed survey questionnaire, which is described in section 3.10 below.

3.5 Research designs

Various researchers have defined the term research design as follows. For example, Bryman and Bell (2007, p. 731) defined research design as “a framework for the collection and analysis of data” while Collis and Hussey (2014, p.344), referred research design as “the detailed plan for conducting a research study”. There are five main research designs i.e. experimental design, cross sectional design, longitudinal design, case study design and comparative design (Bryman and Bell, 2007, p. 38-73).

3.5.1 Rational for selecting cross sectional research design

The researcher adopted a cross sectional research design for the present study for the following reasons.

a) Cross sectional design was most commonly used research design in the literature on training transfer (Bates and Khasawneh, 2005; Velada *et al*., 2007, 2009; Grossman and Salas, 2011; Yusof, 2012; Grohmann *et al*., 2014 and Zumrah and Boyle, 2015).
b) Cross sectional research design involves a one-time single intervention, mostly a survey questionnaire to the research participants
c) Cross sectional research design using questionnaire survey is most suitable for research participants who are either difficult to access (Barbour, 2001 or could not be accessed for longer time) and interviewed easily such as clinicians and public security officers who were the focus of the present study.
d) Cross sectional research design takes relatively less time and money (Sedgwick, 2014).and needs less resources (Mann, 2003).

e) Cross sectional research design was most suitable to the researcher because of limited time and resources available to him.

3.6 Data Collection Methods

There are different methods for data collection. In the survey methodology, researchers collect data from a sample of research population by means of either interviewing the study participants or using a questionnaire tool for self-completion by the respondents (Nueman, 2000; Scheuren, 2004). The interview and questionnaire methods of data collection are described below.

3.6.1 Interview method

The interview method of data collection has been defined by Collis and Hussey (2014, p.342) as “a method of collecting primary data in which a sample of interviewees are asked questions to find out what they think, do or feel”. An interview method of data collection could be used for collection of qualitative and quantitative data (Bryman and Bell, 2007, p. 210). Under the interpretivist research paradigm, interviews are used for collecting qualitative data (Collis and Hussey, 2014, p. 134-135) while under the positivist paradigm interviews are used for collecting quantitative data by using a questionnaire, which mostly contains closed questions (Collis and Hussey, 2014, p. 207). Interviews can be conducted in person / face to face, by phone call or on online using the Internet tools such as video conferencing (De Vaus, 2004, Bryman and Bell, 2007; Bowling, 2009; Collis and Hussey, 2014, pp. 135, 207).

Advantages and limitations of interview method

Although interviews help in getting in-depth information from the research participants, there are potential problems in using this method of data collection

(Collis and Hussey, 2014, pp. 138-139). For example, the effects of the interviewer's different attributes, response bias, acquiescence and social desirability (Bryman and Bell, 2007, pp. 234-235). Therefore, in the domain of training transfer, the interview method has been used by a minority of researchers (McDonald, 2001; Dorji, 2005) while self-completion questionnaire method has been used by a vast majority of researchers in the domain of training transfer (Lim and Morris, 2006; Velada *et al*., 2007; Yusof, 2012; Grohmann *et al*., 2014; Zumrah, 2015; Chauhan et al., 2016; Massenberg et al., 2016). In addition, the use of interviews in large survey studies is problematic due to the issues of getting access to a large number of participants whose jobs could be sensitive or due to their premises not being open to the public or to researchers such as the defence and security forces' premises. Hence, too much time is consumed in interviewing and there are high travel, lodging and boarding costs (Collis and Hussey, 2014, p. 207). The researcher therefore did not use the interview method for collecting data in the present study due to the above mentioned problems associated with the interview method. In addition, interviews method was not used by the researcher due to limited time and resources available for undertaking the present study, plus the nature of the job of the research participants, who were Saudi Arabian public security service officers with whom interviewing would have been very difficult, if not impossible. Therefore, for the present study, the interview method was less preferred and considered unsuitable compared to the self-completion questionnaire method of data collection, which is described below.

3.6.2 Questionnaire survey Method

The questionnaire method is "a method of collecting primary data in which a sample of interviewees are asked a list of structured questions chosen after considerable

testing, with a view to eliciting reliable responses (Collis and Hussey, 2014, p.343). Although questionnaires are used in structured interviews by the interviewer, the term questionnaire, which contains a number of usually closed questions, has been reserved for the method of data collection in which the research participants themselves answer the questions; hence, this method is also known as a self-completion or self-administered questionnaire (Bryman and Bell, 2007, pp. 240-241). The questionnaire could be administered by different means such as by post, telephone, Internet, and face to face / in person (Collis and Hussey, 2014, p.206).

Advantages and limitations of questionnaire survey method

Compared to interviews, using questionnaire for data collection has a number of advantages such as cheaper to administer, covering a large and geographically dispersed sample, quicker to administer, absence of interviewer effect, no interviewer variability, and convenience for respondents (Bryman and Bell, 2007, p. 242). However, the use of questionnaires has some limitations such as lack of prompting, probing, asking additional questions and collecting additional data, greater missing values, lower response rate and uncertainty about the respondent's genuineness (Bryman and Bell, 2007, p. 242). Nevertheless, survey questionnaires are widely used in research studies especially those that adopt the positivist approach for data collection that can be statistically analysed and used for testing hypotheses (Velada et al. 2007; Zumrah et al., 2013; Grohmann et al., 2014; Zumrah and Boyle, 2015). Rational for selecting questionnaire method for data collection

In the present study, the researcher used the questionnaire method for data collection keeping in view the advantages that the questionnaire method offers in comparison to the interview method. The mainly reasons for selecting the questionnaire method were the following.

- Survey questionnaire method is relatively cheaper and quicker from the researcher's perspective (Bryman and Bell, 2007, p. 242)
- Survey questionnaire method has a higher suitability for the positivist approach and hypotheses testing, which were both applied in the present study.
- Survey questionnaire provides convenience to the respondent to complete it (Bryman and Bell, 2007, p. 242
- Use of survey questionnaires for testing hypotheses in the domain of transfer of testing by several researchers such as Lim and Morris (2006), Grossman and Salas (2011), Yusof (2012), Grohmann *et al*. (2014) and Zumrah and Boyle (2015).

3.7 Development of Questionnaire

According to Fowler (2002), the questionnaire method of data collection requires in-depth understanding of the types of research questions posed and the content and number of questions included in the survey instrument. In this regard, the researcher reviewed published literature on training transfer such as Baldwin and Ford (1988), Tracey, Tannenbaum and Kavanagh (1995), Burke and Baldwin (1999), Brinkerhoff and Montesino (2001), Cromwell and Kolb (2004), Bates and Khasawneh (2005), Noe *et al*. (2006), Velada and Caetano (2007), Velada *et al* (2007; 2009), Chiaburu and Lindsay (2008), Hutchins (2009), Donovan and Darcy (2011), Grossman and Salas (2011), Yusof (2012) and Grohmann *et al*. (2014) and Zumrah and Boyle (2015) and other empirical studies (Appendix 5 and 6). Thereafter, the researcher developed a self-administered survey questionnaire (Appendix-1), which was based on training transfer research by a number of researchers, for example Rotter (1966),

Noe and Schmitt (1986), Facteau *et al*. (1995), Xiao (1996), VandeWalle (1997), Holton *et al*. (2000) and Velada *et al*. (2007). The measurement scales included in the survey questionnaire developed by the present research are described below.

3.7.1 Measurement scales

For collection of primary data in the present study, the researcher developed a survey questionnaire (Appendix 1), which comprised fourteen distinct theoretical constructs / factors (Table 3-2), which were adapted from the relevant published literature (Rotter, 1966; Noe and Schmitt, 1986; Facteau *et al*., 1995; Xiao, 1996; VandeWalle, 1997; Holton *et al*., 2000; Velada *et al*., 2007). These constructs were measured with 75 items in total. Responses to all measurement items (n=75) included in the survey questionnaire were obtained on a four point Likert-type scale, where scales were: 1 = Strongly Disagree, 2 = Disagree, 3 = Agree and 4 = Strongly Agree. The 14 constructs included 13 independent (predictor / explanatory) variables and one construct was the dependent (outcome) variable (Table 3-2), which are described as follows.

Independent Variables

As mentioned above, the survey questionnaire developed by the researcher included thirteen independent variables, which were peer support, supervisor support, feedback, opportunity to use learning, openness to change (Holton *et al*., 2000), locus of control (Rotter, 1966), performance self-efficacy, goal orientation (VandeWalle, 1997), training retention (Velada *et al*. (2007), training content, transfer design (Holton *et al*., 2000) learning motivation (Noe and Schmitt, 1986), and training transfer (Facteau *et al*.,1995; Xiao 1996). All these variables are described below**.**

i. Peer Support:

Peer support is defined as the 'extent to which peers support and reinforce use of learning on the job' (Holton *et al*., 2000, p. 344). The measure of peer support consisted of a four-item scale, which was measured on a four-point Likert scale, as described above. A sample item included in this construct was 'My colleagues encourage me to use the skills I have learned in training' (Holton *et al*., 2000, p. 344). All four items included in this construct / factor are reported in the survey questionnaire (Appendix I).

ii. Supervisor support:

Supervisor support is an important variable because it affects how, and even whether, individuals would respond to a survey. Largely, an individual's reaction to the research is dependent upon the 'extent to which supervisors / managers support and reinforce use of training on the job' (Holton *et al*., 2000, p. 345). The measure of supervisor support consisted of six items that were measured on a four point Likert scale, which are shown in the survey questionnaire (Appendix 1). A sample item included in this factor / construct was 'My supervisor meets with me to discuss ways to apply training on the job'.

iii. Feedback:

Performance feedback was defined as 'formal and informal indicators from an organisation about an individual's job performance' (Holton *et al*., 2000, p. 346). The measure of performance feedback consisted of three items, which were measured on a four-point Likert scale, as shown in the survey questionnaire (Appendix I). A sample item from this construct was 'After training, I received feedback from people on how well I am applying what I learned' (Holton *et al*., 2000, p. 346).

vi. Opportunity to use learning:

The opportunity to use learning is a variable that reflects on an individual's reaction to "the extent to which individuals (trainees) are provided with or obtain resources and tasks on the job enabling them to use training on the job (Holton *et al*., 2000, p. 345). The measure of opportunity to use learning consisted of eight items that were measured on a four-point Likert scale. A sample item in this construct was 'I will get opportunities to use this training on my job'. All items included in this construct are presented in the survey questionnaire, which is available as Appendix 1).

Table 3-2 Independent (predictor) variables and dependent (outcome) variable used in this study

Type of variable	Name of variable / construct	Number of items in the construct / variable	References (Original studies that reported these constructs and items)
Independent variables			
Work environment factors	Peer Support	4	Holton *et al*. (2000, p. 344)
	Supervisor support	6	Holton *et al*. (2000, p. 345)
	Performance feedback	3	Holton *et al*. (2000, p. 346)
	Opportunity to use learning	8	Holton *et al*. (2000, p. 345)
	Openness to change	6	Holton *et al*. (2000, p. 346)
Individual characteristic factors	Locus of control	9	Rotter (1966, p. 12)
	Performance self-efficacy	4	Holton *et al*. (2000, p. 346)
	Goal orientation	6	VandeWalle (1997)
	Training retention	3	Velada *et al*. (2007)
Training factors	Training content	4	Holton *et al*., 2000, p. 345)
	Transfer design	4	Holton *et al*., 2000, p. 345)
Motivation factors	Motivation to Learning	9	Noe and Schmitt (1986)
	Motivation to Transfer	4	Holton *et al*. (2000, p. 344)
Dependent variable			
	Training transfer	6	Facteau *et al*. (1995); Xiao (1996)

Source: Researcher

v. Openness to Change:

Openness to change variable measures the trainee's "extent to which prevailing group norms are perceived by individuals to resist or discourage the use of skills and knowledge acquired in training" (Holton *et al*., 2000, p. 346). The measure of openness to change consisted of six items, which were measured on a four point Likert scale, as given in the survey questionnaire (Appendix 1). A sample item from this construct was 'People in my group are open to changing the way they do things' (Holton *et al*., 2000, p. 346).

vi. Locus of Control:

In the Social Learning Theory, Rotter (1966) developed the construct of locus of control, which refers to "a predisposition in the perception of what causes reinforcement (i.e., reward, favourable outcome, goal accomplishment" (Kormanik and Rocco, 2009). Locus of control construct has two dimensions i.e. internal Locus of control – "the degree to which persons expect that a reinforcement or an outcome of their behaviour is contingent on their own behaviour or personal characteristics" and external locus of control - "the degree to which persons expect that the reinforcement or outcome is a function of chance, luck, or fate, is under the control of powerful others, or is simply unpredictable" (Rotter, 1990). In the present study, the locus of control construct comprised nine items, which were adapted from Rotter (1966) and these items were measured on a four-point Likert scale (Appendix 1). A

sample item of this construct stated: ‘Most trainees don't realise the extent to which their performance is influenced’, which was adapted from Rotter (1966, p.12).

vii. Performance self-efficacy:

Performance self-efficacy was defined as ‘individuals’ general belief that they are able to change their performance when they want to’ (Holton *et al*., 2000, p. 346). Performance self-efficacy was measured with four items, which were rated by the respondents on a four-point Likert scale. Details of the measured items included in this construct are as shown in the survey questionnaire (Appendix 1). A sample item included in this construct stated ‘I am confident in my ability to use new skills at work’ (Holton *et al*., 2000, p. 346).

viii. Goal Orientation:

According to VandeWalle (1997), goal orientation has three dimensions i.e. learning, prove (performance) and avoid (performance). In the present study, the researcher applied the learning dimension of goal orientation, which has been defined as ‘a desire to develop the self by acquiring new skills, mastering new situations, and improving one’s competence’ (VandeWalle, 1997). This construct was measured using six items applied by VandeWalle (1997) to reflect the learning dimensions of goal orientation. These items were measured by using a four point Likert scale as shown in the survey instrument (Appendix 1). A sample item taken from this construct included ‘I often look for opportunities to develop new skills and knowledge’ (VandeWalle, 1997).

ix. Training Retention:

Training retention has been defined as 'the degree to which trainees retain the content after training' (Velada *et al*., 2007). Baldwin and Ford (1988) argued that learning and retaining learned skills are necessary before these skills are transferred to the workplace. Training retention variable was measured using three items from the scale developed by Velada *et al*. (2007). A sample item included in this construct was 'I still remember the main topics that I have learned in the training course' (Velada *et al*., 2007). All measured items (n=3) included in this construct are shown in the survey instrument as shown in Appendix 1.

x. Training Content:

Training content is defined as 'the extent to which trainees judge training content to reflect job requirements accurately' (Holton *et al*., 2000, p. 345). The construct of measure of training content consisted of four items that were measured on a four point Likert scale as reported in the survey questionnaire (Appendix 1). A sample item included in this construct was, 'The situations used in training are very similar to those I encounter on my job.'

xi. Transfer design:

Transfer design is defined by Holton *et al*. (2000, p. 345) as the 'degree to which (1) training has been designed and delivered to give trainees the ability to transfer learning to the job, and (2) how training instructions match job requirements'. The construct of transfer design was measured with four items that were rated on a four point Likert scale. A sample item included in this construct was 'The way the trainer(s) taught the material made me feel more comfortable so I could apply it'. All four items included in this construct are shown in the survey questionnaire, which is given as Appendix 1 in this doctoral thesis.

xii. Leaning Motivation:

Noe and Schmitt (1986) defined motivation to learn as ‘a specific desire on the part of the trainee to learn the content of the training program’. The construct of ‘learning motivation’ was measured with nine items (Appendix 1), which were taken from the study by Noe and Schmitt (1986). A sample item from this construct stated, ‘I am willing to exert effort to improve skills and competencies in order to prepare myself for a promotion,’ which was adapted from the study by Noe and Schmitt (1986).

xiii. Transfer Motivation:

Motivation to transfer has been defined by Holton *et al*. (2000) as “the direction, intensity, and persistence of effort toward utilising, in a work setting, skills and knowledge learned”. The measure of transfer motivation consisted of four items that were measured on a four-point Likert scale as reported by Holton *et al*. (2000, p. 344). A sample item in this construct was, ‘When I leave training, I can’t wait to get back to work to try what I learned’. All four items comprising the ‘transfer motivation’ are given in the survey questionnaire, which is available at Appendix 1.

Dependent Variables

In the present study, there was only one dependent variable i.e. training transfer, which is explained below.

i. Training Transfer:

Training transfer has been defined as ‘the degree to which trainees apply the knowledge, skills, and attitudes gained in a training context to the job’ (Wexley and Latham, 1981; Newstrom, 1984; cited by Baldwin and Ford, 1988). Training transfer construct was measured using six items that were taken from several different scales reported by Xiao (1996). An example item in this construct was: ‘I can accomplish

job tasks better by using new knowledge skills and attitudes', which was adapted from a study by Xiao (1996).

3.7.2 Translation of Questionnaire

For conducting the present study, a survey questionnaire was developed by the researcher initially in the English language. While developing the survey questions, efforts were made to keep all questions simple with a specific common vocabulary. The researcher tried to avoid use of complex and complicated proverbs, technicalities or jargons etc. in the questionnaire. Nevertheless, to ensure the understanding of the language a pre-test of the survey was conducted before the main data collection.

The present study was conducted in the Public Security Service Organisation in Saudi Arabia where Arabic is the native language and English is the second most common language used for communication in the country. However, the feedback received during the pre-testing of the survey questionnaire suggested translation of the questionnaire from English language to the native Arabic language for the full-scale data collection in the main study. In addition, the researcher followed the literature, e.g. Lewin (1990) who proposed that the survey questionnaire should be translated into native languages and then back translated into the original language.

Thus, the questionnaire was translated from English to the native Arabic language to ensure that the questions are well understood by the research participants. However, grammatical structure, words, phrases, etc. could be a problem in the process of translation. To overcome these shortfalls, the researcher applied the back translation technique as suggested by Campbell *et al*. (1970). In back translation techniques, the researcher translated the questionnaire from Arabic language back to English language. In order to provide an ease of understanding and clear response, two

persons professionally translated the questionnaire into Arabic language. One of them was an expert, experienced and qualified translator and the second was a university professor who's native language was Arabic and he hold a doctoral degree with 21 years' experience of teaching English language in a university in the KSA. Before going to test the questionnaire for the main study data, the researcher tested the Arabic language questionnaire (Appendix 2) in a pilot study and ensured that the target sample understood the questions included in the Arabic version of the questionnaire (Appendix 2).

3.8 The Study Context

This study concerns with the HRD and training in the context of Saudi public security organisation; hence, HRD and training in the wider context of Saudi Arabia and in the specific context of Saudi public security organisation are described below.

3.8.1 HRD and training in Saudi Arabia

In the KSA, HRD is on the top priority agenda and several steps have been taken for sustainable development of human resources in the country. Saudi Arabia has taken several initiatives for HRD in the country (Varshney, 2016). For example, the establishment of a Human Resource Development Fund in 2000 with the aim to develop a sustainable and productive workforce and support employment through a public and private partnership and the fund is open to both the organisations and the individuals (male and female) to apply for and benefit from it (Human Resource Development Fund, 2016). In addition, the Saudi Industrial Development Fund, which was established in 1974, also supports HRD and career development of Saudi nationals (Saudi Industrial Development Fund, 2016). In addition, the Ministry of Labour and the Training Vocational and Technical Corporation are also the key organisations involved in HRD in the country (Oxford Business Group, 2014, p. 46).

In 2016, KSA government earmarked US$51.1 billion as a budget for education and training, which was the second highest budget allocation after the defence and security budget of the country (Oxford Business Group, 2016). Every government ministry and department has allocated funds for the professional training and development of public servants, who are mostly trained at the Institute of Public Administration, which has several branches in the country and it provides different types of training programmes for both the men and the women (Institute of Public Administration, 2016). Like any other government organisation, Saudi public security organisation has a training department that is responsible for training and development of public security officers and soldiers as explained in the next section.

3.8.2 Saudi Public Security Organisation

This study was conducted in the Directorate General of Public Security (hereinafter, public security organisation) in the KSA. The public security organisation (PSO) is one of the largest organisations in the Ministry of Interior in Saudi Arabia (Figure 3-1).

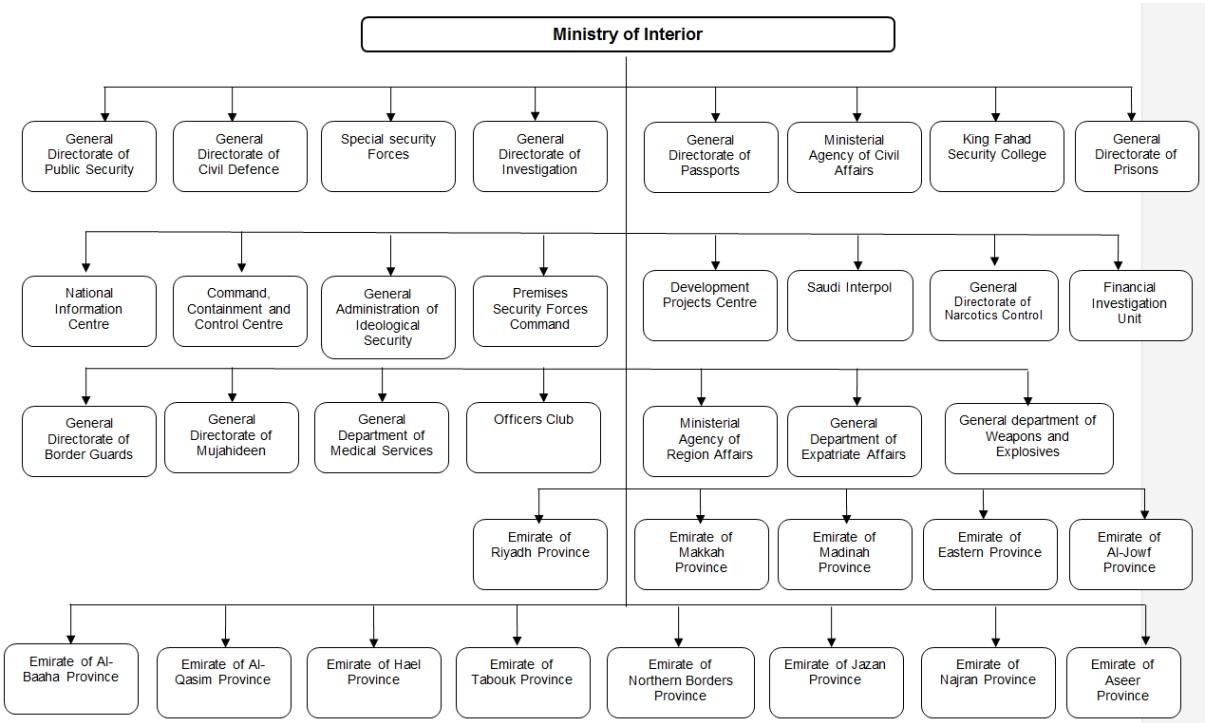


Figure 3-2 Administrative structure of Ministry of Interior in Saudi Arabia

The PSO is responsible for maintaining the law and order situation within the country. It provides security services for all members of the public in the country. The organisation protects peoples' lives, prevents crime and helps various official bodies in the implementation of regulations within the country. The Saudi PSO employs about 400,000 personnel who include soldiers and officers of different ranks. It is pertinent to point out that the armed forces i.e. army, air force and navy as well as the border force and paramilitary force do not come under the PSO. There are several departments in the PSO such as training, procurement and supplies, security affairs, planning and development, administrative affairs, and budget administration (Figure 3-2).

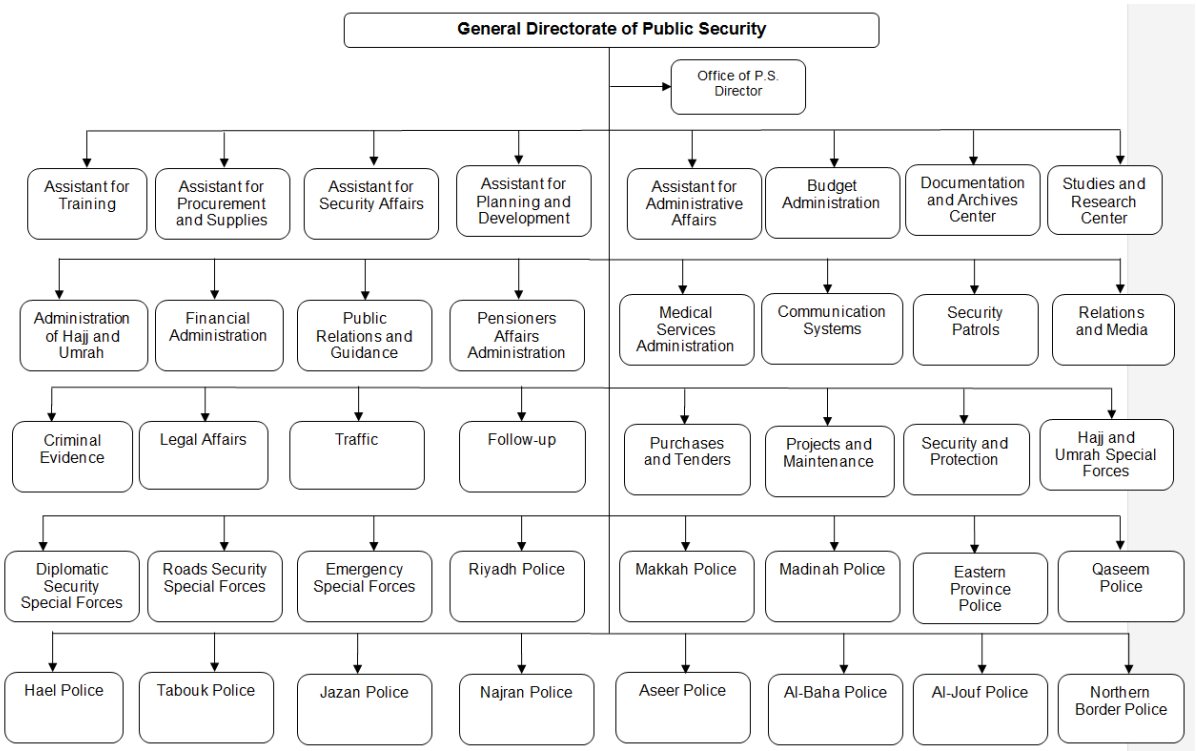


Figure 3-3 Administrative Structure of General Directorate of Public Security in Saudi Arabia

The Saudi PSO provides training in the field of security to its employees so that they can acquire knowledge and skills to achieve the goals and objectives of the

organisation. The public security training is relevant to the reality of the police administration and it is directed to the effective development of human resources in the security services. Within this training, different training characteristic are involved, such as a high level of fitness, mental skills, full awareness of trends of social and political situation, and tact in dealing with the public and a cooperative relationship between a police officer and the communities. There are 12 training centres of public security service in Saudi Arabia. These training centres include Public Security Training City in Riyadh, King Fahd Security College Riyadh, Public Security Training City in Makkah, Public Security Training Centre Madinah, Public Security Training City in Asir, Public Security Training City in Al-Qassim, and Public Security Training City in the Eastern Province. At these training centres several thousands of public security personnel of different ranks both soldiers and officers get training in about 20 different types of specialised security courses (Arab News, 2013). It is imperative to report that the researcher is an officer of the colonel rank in Saudi PSO and currently he is on study leave for doctoral studies in the United Kingdom (UK).

According to the researcher's knowledge no previous study has investigated training transfer in Saudi PSO; therefore, the present study fills this gap in the body of knowledge.

3.9 Sampling Strategy

In the positivist approach, sampling is an important issue for an empirical study because the researcher could not cover the whole population (Hussey and Hussey, 1997). In addition, a sampling frame from the population of research interest is selected keeping in view the access, time and cost available to the researcher (Ghauri and Gronhaug, 2010, p. 138-140). There are two sampling methods i.e. probability sampling and non-probably sampling (Saunders et al., 2009, p. 213;

Ghauri and Gronhaug, 2010, p.139). Probability sampling is representative sampling and it can involve simple random, stratified random, systematic or cluster sampling while the non-probability sampling is non representative but judgemental and it can be convenience, purposive, quota or snowball sampling (Saunders et al., 2009, p. 213).

It is imperative to note that the probability or chance of each participant being selected from the whole research population is known (and is mostly equal) in the probability sampling while it is not known in the non-probably sampling; hence, making inferential statistical inferences and generalisability is possible in the former sampling method but it requires homogenous population (Saunders et al., 2009, p. 213). Nevertheless, when research population is heterogeneous then non-probably sampling ae preferable (Bryman and Bell, 2007). Therefore, probability sampling and non-probably sampling are most frequently used in quantitative and qualitative studies respectively (Saunders et al., 2009, p. 214-233; Ghauri and Gronhaug, 2010, p.139-149); however, researcher could use the both types of sampling (Saunders et al., 2009, p. 214).

3.9.1 Justification for selecting convenience sampling strategy

Literature review undertaken by the researcher showed that convenience sample was used in most of the review studies on training transfer such as Truitt (2011), Dirani (2012), Hutchins et al. (2013), Madagamage et al. (2014), Ng (2015) and Massenberg et al. (2016) (Appendix 5).

In the present study, the researcher used convenience type of non-probability sampling for selection two out of 12 training centres of Saudi PSO i.e. King Fahad Security College and Public Sector Training City that are both located in Riyadh – the capital city of Saudi Arabia. The justification for selecting these two training

centres was that a large number of public security personnel from all over the country get training at these two institutions. In addition, the selected training centres were both located in Riyadh city, which was very convenient to the researcher.

In selecting research participants for the study, the researcher applied a stratified convenience sampling method because it is very useful sampling methodology when the population is heterogeneous (Bryman and Bell, 2007). In the present study, the population of interest was heterogeneous in terms of their ranking e.g. soldiers, commissioned and non-commissioned officers, job profiles (e.g. traffic police and Hajj and Umrah security personnel) as well as being trainees and trainers at the training centres. In addition, participants were from different regions of the country and all of them were native Saudi nationals. Literature suggests that when the research population is divided into different strata or subgroups then samples could be selected from the different strata (Bryman and Bell (2007, p. 187). The researcher therefore targeted 500 officers including commissioned and non-commissioned officers who were receiving training at the above-mentioned two training centres at the time of the present study, and the officers who were involved in providing professional training courses to the trainees at the selected two training centres.

3.9.2 Limitations and advantages of convenience sampling

Convenience sampling being a non probability method of sampling has been criticised for a number limitations or disadvantages such as biasness (Mackey and Gass, 2005), problem of outliers (Farrokhi and Mahmoudi-Hamidabad, 2012), unrepresentative of the population of interest, hence, not suitable for generalisability of the findings (Trochim and Donnelly, 2008, p. 51), which are limited to the studied sample (Bornstein et al., 2013).

However, the convenience sampling is useful when the random sampling in not practical especially when due to organisational policy and strictly confidential nature of employee data (Ng, 2015). Therefore, in the present study, convenience sampling was the best option due to the public security nature of the study participants and their organisation. In addition, the population of interest was heterogeneous in terms of their ranking e.g. commissioned and non-commissioned officers, job profiles e.g. traffic police, Hajj and Umrah security officers as well as trainees and, trainers. In addition, participants were from different regions of the country and all of them were native Saudi nationals. Literature suggests that when the research population is divided into different strata or subgroups then samples could be randomly selected from the different strata (Bryman and Bell, 2007, p. 187). In addition, while using a convenient sampling method, the sample size has to be large to increase the external validity and representativeness of the sample (Salkind, 2010, p. 469).

In the present study, the researcher attempted to minimise the limitations of the convenience sampling as follows. Respondents' bias was reduced providing detailed information about the study to the research participants and completing surveys at their convenience (Zikmund, 2003). The issue of outliers was also handled by removal of both univariate and multivariate outliers from statistical analysis; thus reducing their impact on the statistical results. In addition, convenience sampling has been used in earlier studies on training transfer in nongovernmental organisations (Rasool et al., 2015) and governmental organisations (Hua et al., 2011; Ng, 2015) , especially in security related organisations such as the US coast guards (Giovengo, 2014). In addition, the size of convenient sample in the present study was large i.e. 500 cases, which could increase the external validity and representativeness of the

sample as suggested by Salkind (2010, p. 469). Therefore, use of convenience sampling in the present study was in line with the literature on training transfer.

3.10 Research participants

In the present doctoral study, research population included trainee commissioned and non-commissioned officers of Saudi PSO who were going through training at the time of the present study and the officers who were providing training at the two training centres. As mentioned above, out of 12 training centres of Saudi PSO, the researcher selected two training centres i.e. King Fahad Security College and the Public Sector Training City, which are both located in Riyadh – the capital city of Saudi Arabia. The main reasons for selection of these two centres included the convenience in data collection by the researcher and a large number of soldiers and officers from all over the country get initial training at these centres.

It is also worth mentioning here that the researcher is one of the middle ranking officers at Saudi PSO but at the time of undertaking the present research study, he was on study leave for higher education in the UK. Nevertheless, due to the researcher's affiliation with the Saudi PSO, it was relatively convenient for him to get permission from the authorities and access to participants to collect data for the study.

3.11 Sample size

In research studies, determination of a sample size depends on different factors such as the total population of research interest, number of items in the survey questionnaire, intended statistical analysis, the time, money and response rate (Saunders et al., 2009, p. 218-219). When the total population of research interest is between 100,000 and 1,000,000, then the minimum sample size required is 384 with a 95% confidence level for 5% margin of error (Saunders et al., 2009, p. 219). The

researcher estimated 500 participants to be the appropriate sample size based on the above mentioned recommendations for selection of a sample size, taking into account the possibility of participant attrition, non-response and incomplete / ineligible responses (Saunders et al , 2009, p. 219-220) and about 400,000 total number of soldiers and officers working at Saudi PSO,. Consequently, 500 trainee commissioned and non-commissioned officers and training providers officers at King Fahad Security College and Public Sector Training City of Saudi public security organisation were selected for the present study. The selection criteria for the participants included commissioned and non-commissioned officers who were receiving training and officers who had completed training earlier and were providing training at these two training centres at the time of survey.

3.12 Pilot Study

A pilot study is a preliminary test of a questionnaire for developing a reliable and validated survey instrument (Bryman and Bell, 2007, pp. 273-374), which is very important prior to collecting full-scale data. The essence of conducting a pilot study is to confirm the reliability and validity of the instrument in relation to the objectives of a research study (Zumrah and Boyle (2015). The main purpose of piloting of a survey questionnaire is to evaluate the survey instrument for checking the language and wording used for questionnaire items, understanding of the content and context of the questions by potential respondents and more importantly assessing the psychometric properties of the measures and checking and ensuring that the instrument as a whole works well (Bryman and Bell, 2007, pp. 273). In addition, other considerations of piloting of a survey instrument include assessing the question sequence, questionnaire layout, familiarity with respondents, time taken for completion of the questionnaire, participant response and the analysis process

involved (Veal, 2005). Moreover, researchers, like Sekaran (2003) stated that pilot study is undertaken for evaluating the level of reliability and content validity of the questionnaire and for confirming respondents' understanding of the survey instructions, language of questions and scale of questions. In summary, a pilot study is a rehearsal of the real study and it serves three key aims i.e. testing research materials' adequacy, identification of logistical problems and training of the experimenter(s) (Detweiler-Bedell et al, 2013).

Regarding the sample size for a pilot study, researchers have different opinions. For example, Luck and Rubin (1987) suggested a sample size between 10 to 30 participants while Diamantopoulos and Siguaw (2000) suggested a sample size of up to 100 participants for a pilot study. In a doctoral study of training transfer, Edwards et al. (2013) used 13 participants in the pilot study.

In the present study, the researcher conducted a pilot study to find any weaknesses in the survey instrument, assessed the psychometric properties of the measure items and confirmed the use of relevant and appropriate scales included in the survey questionnaire prior to collecting full-scale data for this empirical study.

3.12.1 Procedure of conducting pilot study

The pilot study was conducted in February 2013 during which the researcher in person distributed survey instruments to a convenience sample of 60 trainee commissioned and non-commissioned officers at the two training centres of Saudi PSO in Riyadh city. The participants of the pilot study were given one week to complete the questionnaire. The researcher informed the participants how to complete the survey questionnaire and to report any difficulties faced in completing the survey, mainly in understanding of the wording of questions and more importantly to provide feedback about the sequence of questions and overall layout

of the survey questionnaire. To ascertain the time taken in completing the survey, a statement “how much time did you take to complete this questionnaire” was written at the end of the questionnaire. After the cut-off date, the researcher personally collected completed surveys. Results of the pilot study are presented in chapter 5.

3.13 Main Study

Following the pilot study, the researcher carried out the main study, which involved a convenience sample of 500 participants at two PSO training Centres i.e. 200 participants at the King Fahad Security College and 300 participants at the Public Sector Training City in Saudi Arabia. The number of participants selected at the Public Sector Training City was more because it is one of the biggest training centres and has more trainees compared to the King Fahad Security College for training. The main study started in December 2013 and completed in February 2014. The survey procedure adopted in the main study is described below.

3.13.1 Procedure of survey in the main study

In the main study, the survey procedure started with introductory meetings with the management authorities of the King Fahad Security College and the Public Sector Training City, which were both located in Riyadh. During the meetings, the researcher introduced the research work to the management of the above-mentioned training institutions and sought their permission for the survey and for collecting data from a sample of trainees, officers and trainers at the institutions. It was mutually decided that data from the trainees would be collected during the classes / training period. This type of administration of survey questionnaire is known as group distribution of survey instrument, which is a convenient and low cost method of administering questionnaires when the respondents are located at a few small locations or at one big location or in an organisation (Collis and hussy, 2014,

206). For the officers who were trainers at these training centres, the survey questionnaires were served in their respective offices. This type of distribution of survey questionnaire is known as individual distribution, which is a variant of the group distribution and has the similar benefits as that of the group distribution of the survey questionnaires (Collis and hussy, 2014, 206).

Before distributing the survey instrument among the trainee commissioned and non-commissioned officers, the researcher personally briefed them about the purpose of the study and its importance. The researcher allowed participants to ask questions about any aspect of the survey and study, the opportunity to participate and other any queries or questions regarding the questionnaire and the participant privacy. All the participants were informed and given options to withdraw their participation from the research study at any time. After getting verbal consent from the participants, the researcher personally distributed a copy of the survey questionnaire to the each participant. For the return of completed surveys, trainers and managers / officers were given one week to complete the questionnaire; however, no time limit was given to the trainee participants. Nevertheless, if the researcher still had not received the questionnaires back from the trainee participants after a week, then they were served a reminder and maximum three reminders were issues after a week between the reminders. Trainee participants who did not return their surveys after three reminders, they were dropped off from the survey.

3.14 Response rate

In quantitative research studies, it is highly unlikely to get a 100% response rate; however, et al., 2009, p. 219) and avoid non-response bias (Frankfort-Nachmias and Nachmias, 1996). Response rate could be increased by adopting different approaches such as by reminding research participants, offering incentives for

completion of surveys and providing information and assurances to the respondents for winning their confidence (Punch, 2003, p. 43-44). Despite lack of it is imperative to strive for a high response rate for ensuring the representativeness of the sample (Saunders consensus among researchers with regard to what is a high or a low response rate, a response rate of 60% is considered good (Babbie, 1973, p.165), representative and generalisable to the population from which sample is drawn (Armstrong and Ashworth, 2000). Response rate achieved in the present study is reported in chapter 4 that present results of the study.

3.15 Research bias in data collection

The researcher tried to reduce any bias during data collection. According to Robson (1993), subject error and bias may occur under time pressure to carry out data collection. The researcher attempted to minimise any bias in the data collection process by adopting the following procedure. The researcher saved cost and time from the expected delay in the postal service and from travelling by conducting personal visits to the participants at the training institutions for the survey distribution and collection of completed surveys. In addition, from the perspective of respondent's convenience with the self-administrated survey method (i.e. personal visit), the respondents were free to ask any questions about their responses to the questionnaire items and to reply to the questions within a convenient time (Zikmund, 2003). Thus, by adopting this method, bias was minimised by avoiding bias in respondents' opinions and by the researcher's hassle free requirements.

3.16 Difficulties in data collection

In the present study, the researcher encountered several difficulties while collecting the data from the public security organisation of the Kingdom of Saudi Arabia. Participants were initially wary of completing the survey questionnaires probably due

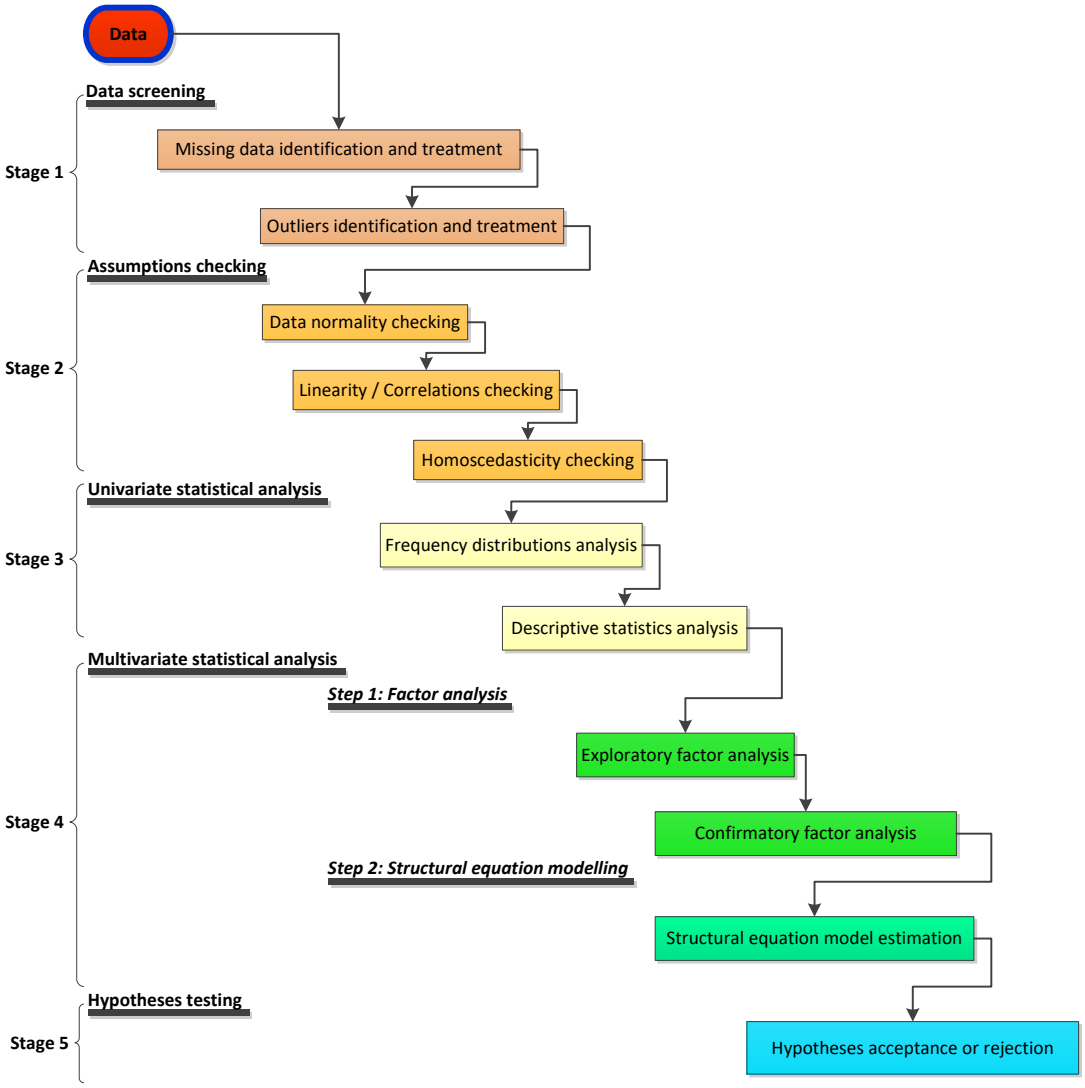
to their perception that completing the survey might affect their positions and service / employment in the organisation in a negative way if their views were not acceptable to the organisation. From the non-commissioned officers' perspective, such feelings might have been derived from their relatively less knowledge and understanding of the whole context for the questionnaire items. Many of the trainee soldier participants objected to having to fill out a lengthy questionnaire. Those who did overcome their nervousness and reluctance were still afraid of negative repercussions from superiors and higher authorities in their organisations. However, the researcher assured the participants that the information that they provided would remain confidential and anonymous and used only for academic purposes. In addition, they were also assured that nothing would be mentioned by any name or mark on the questionnaire from which any participant's identification could be made. Consequently, the participants agreed to participate in the study. The response rate was sixty five per cent, which is satisfactory for the research.

In the case of officer participants, higher-ranking officers were not interested in completing the questionnaire surveys because they felt it was a waste of time. Many of them felt it was something that was of low-level activity, hence not suitable for them. This perception was probably because there is no research culture or any regular research activities in these types of institutions in Saudi Arabia. However, the researcher briefed these participants about the importance of the research study in his individual meetings with the participants and motivated them to participate in the study by completing the surveys. Finally, they accepted the request and participated in the study. The researcher ended the survey within ten weeks in December 2013 to February 2014.

3.17 Data analysis process

After collecting surveys from the participants, the researcher developed a list of codes for survey questions (Appendix 4) for entering data into SPSS software (version 21.0 for windows). The value section of the column was developed with a four point Likert scale with values that were included from 1 (strongly disagree) to 4 (strongly agree). After completing the data entry manually in the SPSS, the researcher started the data analysis process that comprised of five main stages (Figure 3-4), which are explained below.

Figure 3-4 Flow chart of data analysis process



Source: Researcher

3.17.1 Stage 1. Data screening

In data analysis process, stage 1 involved screening of collected data and running preliminary checks and analyses including assessing the extent of missing values and their treatment as well as identification of univariate and multivariate outliers and their handling.

Literature supports screening of the data through a number of steps, which include identification of the missing data and outliers and their handling (Hair *et al*., 2006; Tabachnick and Fidel, 2007). In this study, the researcher screened the data as follows.

Missing data: Missing data can create many problems in statistical analysis and thus can affect results and inferences (Dong and Peng, 2013). According to Corderio *et al*. (2010), missing data reduces statistical power, which can led to bias for generalisation of the findings. Therefore, dealing with missing data is important in research studies. According to Tabachnick and Fidell (2007, p-62) “the seriousness of missing data depends on the pattern of missing data, how much is missing, and why it is missing”. Various methods for addressing the issue of missing data have been suggested by researchers. For example, Stevens (1992) suggested use of the mean of the scores while Nurusis (1995) suggested removing samples that did not respond to a question. According to Hair *et al*., (2006) calculation of the mean value can be the best single replacement for any missing value; however, the most suitable remedy to detect and remove the missing data is the imputation method (Hair *et al*., 2006). In addition, Tabachnick and Fidel (2007, p-63) have suggested that “if only a few data points, about 5% or less, are missing in a random pattern from a large data set, the problems are less serious and almost any procedure for handling missing value yields similar results”. Therefore, Tabachnick and Fidell

(2007) suggested that if there were missing data, use any one option amongst the estimate, delete, or missing data pairwise correlation matrix.

Outliers: An outlier refers to a case that is distinct from the rest of cases in a research study (Wu, 2009, p.33) With quantitative data, it is very much important to deal with the outliers because outliers can affect the inference of the results (Osborne and Overbay, 2004). . According to Hair *et al.* (2006, p-73) “an outlier is judged to be an unusually high or low value on a variable, or a unique combination of values across several variables that make the observation stand out from the others”. According to Hair *et al*. (2006) and Tabachnick and Fidel, (2007) there are certain reasons that outliers occur within data such as indirect data entry, failure of specifying codes for missing values which might be treated as real data, entering observation which is not a part of the population from which the sample was extracted, including observation from population; but the distribution for the variable in the population has more extreme values than normal distribution. Researchers like Kline (2005) reported that outliers are due to non-normality of data, which may distort the results. However, the methodology of identification of outliers is different in the quantitative research, like an outlier which is a case with an extreme value on one variable, known as univariate or such a strange combination of scores on two or more variables known as multivariate (Tabachnick and Fidel, 2006, p-72).

Therefore, the outliers can be characterised as univariate, bivariate and multivariate outliers. A univariate outlier is defined as a case with an extreme value on only one variable (Hair *et al*., 2006). A multivariable outlier is a strange combination of scores on two or more variables. It is distinct from other observations due to either high or low scores (Hair *et al*., 2006). Field (2009) strongly emphasised that a researcher should be aware of such values because they bias the model research fit to the data.

In the literature, no accepted rule is available to detect outliers; however, researchers suggest a widely accepted rule of thumb. For example, Hair *et al*. (2006, p-75) suggested that if the standard score for a small sample size (eighty or less) is ± 2.5 or beyond, while for a large sample size the standard scores can be considered up to value more than ±3.0, standard deviations away from the mean are considered as an outlier.

The second method to detect the outliers is finding out the multivariate outlier, which is defined as a case of a strange combination of extreme values in two or more than two variables (Kline, 2005). In this connection, the researcher applied Mahalanobis distance (D^2) measure to detect multivariate outliers. In this test, if D^2/df (df denotes degree of freedom) value exceeds 2.5 in small samples and 3 or 4 or $p \leq 0.05$ in large samples it can be designated as a possible multivariate outlier (Hair, at el., 2006, p-75).

In the present study, the univariate outliers were detected by standardised scores (z scores), to identify cases of an extreme value on a single variable. The standardised value of z score is (± < 3.0) (Hair *et al*., 2006). In the present study, multivariate outliers were detected in the Mahalanobis distance test by applying the D^2/df and any case whose D^2/df value exceeded the cut off value of 2.5 was considered as a multivariate outlier. The researcher used the deletion option for dealing with univariate and multivariate outlier cases, which were deleted from the main data prior to undertaking any univariate or multivariate statistical analysis.

3.17.2 Stage 2. Assumptions checking

Step 2 of the data analysis process involved checking assumptions such as testing for normality of data distributions, testing for homoscedasticity (i.e. homogeneity of variance) and checking for presence of homoscedasticity, which are essential

assumptions and must be checked and meet prior to statistical analysis, in particular in multivariate statistical analysis (Field, 2009).

According to Tabachnick and Fidell (2007), before inferring accurate results, it is important to confirm the normality of data distribution in which the relationship of factors must be confirmed. Following the literature, the researcher checked the normality, linearity and homoscedasticity of data as follows.

Normality is considered as the variation and relationships of the variable and it is a fundamental assumption of the multivariate statistical analysis. According to Kline (2005), normality is the basic assumption of data analysis that is related to the variations of a variable. If there is variation in normal distribution, all statistical tests are worthless and result less because normality is required to use the F and t statistics (Hair *et al*., 2006, p. 79). In statistics, the normality of data can be measured through Shapiro-Wilk (S-W) test, Lilliefors corrected Kolmogorov-Smirnov (K-S) test, Skewness and Kurtosis test, Anderson-Darling test, Cramer-von Mises Test, Agostino-Pearson omnibus test and the Jarque-Bera test (Peat and Barton, 2005; Oztuna *et al* 2006). Among the above tests, the K-S test and S-W test are the most famous and frequently used by researchers (Thode, 2002). The purpose of K-S test and S-W test is to see the violation of normality within multivariate analysis that might be the case of underestimation of fit indices and standardised residuals of estimations. According to Hair *et al*. (2006, p. 80), if the variable / item satisfies the multivariate normality then it also satisfies the univariate normality, while the reverse is not necessarily true. For the fulfilment of the K-S and S-W tests, the use of SPSS has been highly recommended (Ghasemi and Zahediasl, 2012).

The Kurtosis and Skewness test compares the data distribution and normal distribution. The idea regarding Kurtosis is an indication of the height of the distribution like “peakness” or “flatness” while the Skewness is an indication towards the balance and the symmetry of the distribution. Hair *et al*. (2006, p-80) described that positive kurtosis values indicate a peaked distribution and negative kurtosis values suggest a flatter distribution. For Skewness, if the distribution has positively skewed values like the values that are clustered to the left of the distribution; this indicates a positive skew. The range of results of both is ± 2.58 at the significant level of $p < 0.05$.

According to Pallant (2007, p. 56), the negative or positive skewness and kurtosis does not represent any problem until and unless they are within the normal range i.e. ± 2.58. In addition, for this test, researchers have suggested a significant value .000 ($p \leq 0.05$) in the context of large samples (Shapiro and Wilk, 1965).

In the present study, the researcher applied the K-S and S-W tests for confirming the normality of data as suggested by earlier researchers (Field, 2009; Pallant, 2010).

Linearity is an implicit assumption required for all multivariate statistical techniques, including multiple regression, logistic regression, factor analysis, and structural equation modelling, which are based on co-relational measures of association (Hair *et al*., 2006, p.85). The linearity of variables can be measured Pearson’s correlations and scatter plots (Field, 2009; Hair *et al*., 2006; Tabachnick and Fidell, 2007). Following the literature, the researcher applied the Pearson’s correlations in the SPSS to find the linearity (relationships) between the variables included in the theoretical model.

homoscedasticity refers to homogeneity of variance (also known as of the dependent variables with the independent variables. Researchers have defined that the homoscedasticity is an assumption of normality related to the supposition that dependent variable(s) display an equal variance across the number of independent variables (Hair *et al*., 2006, p.83). For multivariate statistical analysis such as multiple regression analysis, the assumption of equal variation between variables is a pre-requisite (Field, 2009). Researchers like Tabachnick and Fidell (2007, p.85) defined homoscedasticity as variability in scores for one variable roughly the same as the values of all other variables. However, if multivariate normality is not present then the homoscedasticity is known as the hetroscedasticity and it can create serious problems (Hair *et al*., 2006). Researchers have proposed that hetroscedasticity is caused either by the presence of non-normality or higher error of measurement at some level in independent variable(s) (Hair *et al*., 2006; Tabachnick and Fidell, 2007). In statistics, test of homogeneity can be done by Levene's test of homogeneity of variance. By applying this test, results of variability of dependent variables with independent variables was confirmed. The Levene's test was run for checking the homogeneity of variance in the measured variables (Table 8-9 in Appendix 8). Like K-S and S-W tests, Levene's test is also be sensitive with respect to the sample size and can be significant for large samples (Field, 2009, p.98). Therefore, for the current study with a sample of 351 the presence of significance of few constructs in Levene's test did not represent the presence of substantial deviation from the required homogeneity of variances between the measured variables (Table 8-9 in Appendix 8).

3.17.3 Stage 3. Univariate statistical analysis

In data analysis process, step 2 involved univariate statistical analysis, which included running of frequencies and descriptive statistics as suggested by Field (2009)

3.17.4 Stage 4. Multivariate statistical analysis

Step 4 of the data analysis process involved multivariate statistical analysis, which was done in two steps. The first step in multivariate statistical analysis included running of exploratory factor analysis (EFA) followed by confirmatory factor analysis (CFA) for checking the validity of the EFA results (Field 2009; Hair *et al*., 2010). In the fourth stage, the second step structural equation modelling (SEM) for testing the theoretical model (Figure 1-1).

Factor analysis is a multivariate statistical approach that is commonly used in psychology and business research (Fabrigar *et al* 1999; Williams *et al* 2010). According to Gorsuch (1983), factor analysis is a process by which information can be reduced by controlling the amount of measuring items into a smaller set of new composite dimensions / factors. The factor analysis is conducted for mainly two main reasons. First, factor analysis facilitates in identifying the unit of analysis. In this sense, the factor analysis is used to recognise the arrangement of the relationships (correlations) between variables or respondents. Second, factor analysis also facilitates in attaining summarised and reduced data. With regard to the summarisation of data, factor analysis is used to unite the individual variables grouped together so that they correspond to join the primary dimensions (Hair *et al*., 2006, p.107-111). Researchers have suggested two methods such as the EFA and CFA to find out the variable(s) of interest from a set of consistent subsets that are moderately independent from each other.

Exploratory factor analysis

Exploratory factor analysis (EFA) is a statistical technique that is applied for reducing the dimensions in a set of measured variables known as measured items and identifying groups or clusters of measured items called as the latent factors or unmeasured constructs (Field, 2009, p.). Reducing the number of items for measurement scales has different purposes such as "to understand the structure of a set of variables…, to construct a questionnaire to measure any underlying variables and …to reduce a data set to a more manageable size while retaining as much of the original information as possible." (Field 2009, p. 619).

The procedure for undertaking the EFA in the present study involved the following steps.

- **Selection of the factor analysis method:**

In the present study, the researcher used the principal component analysis (PCA) method to generate the initial solutions for the EFA. According to Tabachnick and Fidell (2007, p. 635) "principal component analysis helps to extract the maximum variance from the data set, as in, the first component extracts the highest variance and the last component extracts the least variance". According to literature, the PCA supports in reducing a large set of variables into a smaller number of components by transforming interrelated variables into new unrelated linear composite variables (Hair *et al*., 2006; Tabachnick and Fidell, 2007).

- **Selection of the axis rotation method:**

The researcher applied the orthogonal varimax rotational method because it is the most common variance maximising procedure and has a higher generalisability and replicability power compared to the oblique rotational method (Pallant, 2007; Tabachnick and Fidell, 2007).

- **Measuring the sampling adequacy**

For getting suitable results of EFA, measuring the sampling adequacy (MSA) is required and it is judged by the Kaiser-Meyer-Olkin (KMO) statistics (Field, 2009). The minimum acceptable value of the KMO has been suggested to be 0.5 and the values from 0.5 to 0.7 are considered as mediocre, 0.7 to 0.8 are good, 0.8 to 0.9 are great and values above 0.9 are superb (Hutcheson and Sofroniou, 1999). Other researchers like Tabachnick and Fidell (2007) suggested that the value of KMO greater than 0.6 along with the statistically significant Bartlett's Test of Sphericity ($p \leq 0.05$) is suitable for the EFA to provide a parsimonious set of factors.

In the present study, the researcher applied the KMO statistics and Bartlett's test as suggested by Tabachnick and Fidell (2007)

- **Assessing the adequacy of latent factors**

Literature suggested four main criteria i.e. communalities, Eigen values, latent root criterion, percentage of variance criterion and the Scree test criterion for assessing the adequacy of latent factors extracted in the EFA (Hair *et al*. (2006, 2007, Tabacknick and Fidell, 2007; Field, 2009).

The communality refers to "the total amount of variance an original variable shares with all other variables included in the analysis" (Hair *et al*., 2007, p.102). According to Field (2009, p.630) "a variable that has no specific variance (or random variance) has a communality of 1 and a variable that shares nothing with all other variables would have a communality of 0". In the present study, the researcher followed the published literature and considered that any measured item that exhibits communality lower than 0.5 was a weak item (Hair *et al*., 2006); hence, all such items were excluded from the analysis.

The size of the eigenvalues reported as part of an initial run with the principal component extraction provides a quick estimate of the number of factors that could be extracted in the EFA (Tabacknick and Fidell, 2007, p.644). In this regard, Hair *et al*. (2006) suggested that the Eigen values greater than one satisfy the latent root criterion and the solution that accounts for 60% or more cumulative variance satisfying the criterion of variance percentage. In the present study, the research followed the Eigen values greater than one criterion as suggested in the literature.

The percentage of variance criterion involves assessment of loadings of items on the latent factor. In this regard, literature suggests that the greater the loading, the more the variable / item is a pure measure of the latent factor (Tabachnick and Fidell, 2007). Comrey and Lee (1992) categorised factor loadings in to following categories: excellent loading = .71 (50% overlapping of variance between the measured item / variable and the latent factor), very good loading =.63 (40% overlapping variance), good loading = .55 (30% overlapping variance), fair loading = .45 (20% overlapping variance) and poor loading = .32 (10% overlapping variance). In the present research, the researcher used .50 loading as the minimum acceptable loading of a measured item on to a latent factor.

The Scree test / plot criterion is one of the important criteria for determining the number of latent factors that needs to be extracted. According to Hair *et al*. (2006, p.120) “scree plot test is derived by plotting the latent roots against the number of factors in their order of extraction, and the shape of the resulting curve is used to evaluate the cut-off point”. In s scree plot, the shape comes in a curve, which goes negatively, and decreases like an elbow shape, which shows the eigenvalue is highest for the first factor and moderate but decreasing for the next few factors before reaching small value for the last several factors (Tabachnick and Fidell, 2007,

p.644). However, the points of inflection i.e. changing of plot show a clear distinction between latent factors.

In this study, the researcher applied the scree plot, along with other criteria mentioned above, for determining the acceptable number of latent factors from the measured items in the survey.

In summary, the researcher applied the EFA for examining the structure of the measurement items corresponding to the constructs / factors / variables included in the theoretical framework (Figure 2-1) and for identifying the number of possible latent factors / constructs that best stand for the collected data (Hair *et al*., 2006). The researcher applied three main criteria i.e. latent root criterion, percentage of variance criterion and the Scree test criterion for assessing the adequacy of extraction of latent factors in the EFA.

Confirmatory factor analysis

Confirmatory factor analysis (CFA), according to Brown (2015, p. 1) “is a type of SEM that deals specifically with measurement models – that is, the relationships between observed measures or indicators and latent variables or factors”. A typical CFA model includes testing of hypothesised relationships of measured variables to confirm the latent variables (Byrne, 2016, p. 6; Schumacker and Lomax, 2016, p. 2). Most commonly, CFA is used for confirming the results of EFA comprising loading of measured items on latent factors (Field, 2009; Hair et al., 2010). In the present study, results of EFA were confirmed by CFA, which was a applied as a part of structural equation modelling, which is explained as follows.

Structural equation modelling

Structural equation modelling (SEM) is a multivariate statistical technique that is used for statistical testing of hypothesised relationships between various observed

(measured) and latent (unmeasured) variables, which include independent and depend variables, in a theoretical model (Byrne, 2016, p. 4; Schumacker and Lomax, 2016, p. 1-3). In SEM different models such as CFA model, path model and regression model can be tested (Schumacker and Lomax, 2016, p. 2). A typical SEM model comprises a CFA model and a path model with additional measured variables with hypothesised relationships (Schumacker and Lomax, 2016, p. 5). The most significant advantages of using SEM is simultaneous measurement and testing of theoretical relationships between several measured and latent variables as well as identification of measurement errors; hence, SEM is preferred over other statistical model such as multiple regression models (Schumacker and Lomax, 2016, p. 6).

In addition, some researchers such as Ford and Bell (2007), Gegenfurtner et al. (2009a), Madagamage et al. (2014) and Cheng et al (2015) reported revising initial models and re-estimating the revised models (also known as post-hoc models) to improve the model fit with the data. SEM requires a large sample size depending on the number of observed variables and latent factors included in the model (Kline, 2016, p. 16).

For SEM, a large sample size is required and a review of sample sizes used in SEM reported average sample size of 200 cases (Shah and Goldstein, 2006).

3.17.5 Stage 5. Hypotheses testing

In the data analysis process, the last stage (stage 5) was hypotheses testing, which involved hypothesis acceptance or rejection based on the standardised estimates of hypothesised relationships in the theoretical model (Figure 1-1), which was tested by running earlier studies on training transfer (Zumrah et al., 2013; Lee et al., 2014; Wen and Lin, 2014a,b; Ng, 2015).

In summary, the use of above mentioned statistical techniques and the data analysis process was based on the earlier studies on transfer of training (Bates and Khasawneh, 2005; Velada *et al*., 2007, 2009; Grossman and Salas, 2011; Yusof, 2012; Zumrah et al., 2013; Grohmann *et al*., 2014; Lee et al., 2014; Wen and Lin, 2014a, b; Ng, 2015; Massenberg et al., 2015, 2016; Zumrah, 2015).

3.18 Statistical software for quantitative data analysis

In the present study, the researcher used the Statistical Package for Social Sciences (SPSS), version 21.0 for Windows (IBM Inc.) for all statistical tests mentioned in stage 1 through to stage 3 and the EFA in the stage 4 of the data analysis process (Figure 3-4). In addition, the researcher used the Analysis of Moment Structure (AMOS) statistical software, version 19.0 for Windows (IBM Inc.) for the CFA and SEM mentioned in the stage 4 of the data analysis process (Figure 3-4) in the present study.

3.19 Validity and Reliability

In quantitative research, the reliability and validity are essential considerations for checking measurement related issues such as assessment of measurement scales used in a survey questionnaire (Muijs, 2011, p. 56) such as reducing errors in the measurement process (Oates, 2006; Kimberlin and Winterstein, 2008) and assessing the data, data collection instruments and research outcomes (Hammersley, 1992, p. 67). These concepts are described below.

3.19.1 Validity

The term validity refers to “the extent to which the measure actually does capture the concept that (the researcher) is trying to measure” (Collis and Hussey, 2014, p. 218). In other words. validity means “the degree to which an instrument measures what it is intended to measure” (Portney and Watkins, 2009, p. 879). Validity concerns with

the accuracy of the research procedure (Polgar and Thomas, 2008, p. 128) and it allows for making reasonable interpretation from the data based on controls such as internal validity and external validity (Portney and Watkins, 2009, p. 879).

The **internal validity** of a research study is the degree of accuracy and repeatability of the study methods and data collection instruments e.g. survey questionnaire in terms of intended measurements (Peat et al., 2002, p. 105-106); hence, reflecting accuracy of the findings of the study (Thompson and Panacek (2007). It can be measured by face validity, content validity and construct validity (Peat et al. (2002, p. 106). Several factors such as participants' selection and dropout and changes in the measurement instruments could affect the internal validity (Frankfort-Nachmias and Nachmias, 1996; Thompson and Panacek, 2007), which can be ensured by randomisation in participant selection and using appropriate statistical tests for making conclusions (Thompson and Panacek, 2007).

The **external validity** (also known as **generalisability**) refers to the degree of generalisability of the study findings beyond the sample to the whole population of interest (Frankfort-Nachmias and Nachmias, 1996, p. 113; Peat et al., 2002, p. 105; Thompson and Panacek, 2007). It could be affected by some factors such as respondents' bias and repeated measurements (Thompson and Panacek, 2007). In addition, external validity requires representativeness of the sample (Frankfort-Nachmias and Nachmias, 1996), which can be ensured by randomised sampling techniques for participant and a high response rate (Peat et al., 2002, p. 106).

In the present study, internal validity and external validity were checked as suggested by earlier researchers (Frankfort-Nachmias and Nachmias, 1996; Peat et al., 2002, p. 106; Thompson and Panacek, 2007), which included confirming validity of the measurement scales by Chronbach's alpha (Hair *et al*., 2010; Zumrah and Boyle, 2015).

In addition, the face validity of the survey instrument was checked a few selected faculty members at the researcher's university and field experts, working at two training centres of Saudi public security organisation that were participating in the present study .

3.19.2 Reliability

In research studies, the term reliability refers to "the degree of consistency …and... usefulness of the particular research strategy used" (Hammersley, 1992, p. 67). In addition, reliability also means "the property of reproducibility of the results of a measurement procedure or tool" (Polgar and Thomas, 2008, p. 127). Thus, the reliability means the ability to produce almost same results on reapplication in similar situations / settings (Blunch, 2008, p.27-28) as well as "the accuracy and precision of the measurement and absence of differences in the results if the research were repeated" (Collis and Hussey, 2014, p. 217). Reliability is of two types: repeated measurement ("the ability to measure the same thing at different times") and internal consistency ("how homogeneous the items of a test are, or how well they measure a single construct" (Muijs, 2011, p. 62-63).

The reliability of a measure refers to the consistency (Collis and Hussey, 2014, p. 275). The reliability of measurement scales can be checked by different techniques such as 'test retest reliability', 'split half reliability' and Chronbach's alpha coefficient (Collis and Hussey, 2014, p. 275; Blunch, 2008, p.30-31; Polgar and Thomas, 2008, p. 127; Muijs, 2011, p.64). The Cronbach's alpha or coefficient alpha should be minimum 0.7 for confirming the reliability of scales / constructs (Brace et al., 2009, p.368).

In the present study, the researcher used the Cronbach's alpha for checking the reliability of various constructs used in the survey questionnaire, as reported by

earlier researchers in the domain of training transfer (Zumrah et al., 2013; Lee et al., 2014; Wen and Lin, 2014a,b; Ng, 2015; Zumrah and Boyle, 2015).

3.20 Ethical Considerations

Ethics is one of the most important considerations when humans are involved in a research study (Bryman 2008, p. 118; Robson, 2011, pp. 194). For ethical research, researchers must study participants need to be informed properly and accurately about the aims of the research work, security, anonymity, confidentiality of participants' data, how collected data would be used, and the participant's right to withdraw from the research study (Christians, 2000; Bryman, 2008, p. 118-133; Robson, 2011, pp. 194-233)..

In the literature, Beauchamp and Childress (2001) suggested four fundamental moral principles for data collection. The first principle was autonomy, which reveals that individuals should have the full right to know what the purpose of the study is and why it is going ahead. According to this principle, participants of the study should have full authority to freely decide whether to participate in the study, without fear of coercion. Following this principle, the researcher briefed the management of the participating Saudi public security training centres regarding the aims and objectives of the present study and its impact on the country, particularly for the participating organisations. After getting permission from the management of the participating training centres, the researcher briefed the research participants about the purpose of the study and its importance. The researcher introduced himself as a research scholar doing a PhD in a reputable university of the UK. He informed all the participants that this data would be used only for academic research purposes and would not be disclosed to any third party / anywhere else. The researcher also briefed the participants about the privacy of the questionnaire surveys, which did not

mention any name, had no serial number nor had any other remark that could lead to identification of the participants. Thus, a clear picture of the privacy of the participants and their data was shown to the participants. After the briefing and full assurance, the researcher asked participants for their voluntary participation and handed over a copy of the letter to the participants, which stated that every participant was free to show his willingness to participate and any queries or questions regarding the questionnaire and privacy would be answered (Appendix 2). Researcher apprised the participants about the procedure for completion and return of the surveys prior to data collection.

After getting participants' verbal consent to partake, the searcher in person distributed a copy of the survey pack to each participant. The survey pack included a copy each of the letter from the researcher's PhD supervisor, survey questionnaires in English language (Appendix 1) and survey questionnaires in Arabic language (Appendix 2).

The second principle is non-maleficence, which reveals that participants should have no harm to either their physical or psychological nature at the time of data collection and afterwards (Beauchamp and Childress, 2001). Following this principle, the researcher briefed the participants that their participation in the study was voluntary; any participant could withdraw at any time without giving any reason, and omitting questions that were deemed uncomfortable and wished not to be answered. The participants were informed that there was no number or identification mark on the questionnaire that could show the identification of the participant and they were asked not to write their names on the completed surveys. In addition, the participants were informed verbally and in writing in the participants' information sheet that their data will be treated with full confidentiality and the information reported / published

will be anonymous and non identifiable. Thus, this procedure made it quite clear that there would be no harm physically or psychologically to the participants. Thus, the participants were well informed about their participation in the study and their rights, obligations and expectations vis-à-vis the present study.

The third principle is beneficence, which indicates that participants must know about the benefit of the research for the participants and for society as a whole (Beauchamp and Childress, 2001). Before proceeding to collect the data, the researcher briefed the participants about the study purpose and its impact on the KSA in general and on the public security organisations in particular.

The fourth (last) principle is the justice principle, which is concerned with equal treatment of all participants with no preferential treatment for any one or group or their position (Beauchamp and Childress, 2001). Considering these principles, the researcher distributed questionnaires in the training classroom to all participants. They were informed that there was no time barrier for completion of the questionnaire but completion of the surveys as soon as possible would be greatly appreciated. Thereafter, the researcher debriefed participants at the end of their participation / completion of the survey questionnaires.

In addition, the researcher followed ethical guidelines and procedures to maintain confidentiality, neutrality, credibility and integrity of data during its collection, storing and processing in the present study. In this regard, the researcher followed ethical guidelines and requirements of the research ethics committee at University of Westminster, London and the researcher signed a research ethics form (Appendix 3). The researcher obtained permission from the authorities of Saudi PSO training centres before collecting data from study participants.

3.21 Summary

The methodology of the present study began with a literature review, which led to development of a conceptual framework, suggesting relationships between a set of independent (predictor) variables i.e. work environment, individual characteristics, training design and motivation factors and the dependent (outcome) variable i.e. training transfer. Based on the methodological findings of the literature review, the researcher used the positivist paradigm because the main purpose of this study was to find out the impact of work environment, individual characteristics, training design and motivation factors on training transfer to the work in the context of Saudi public security organisation.

From the philosophical stance perspective, the researcher applied the deductive approach and hence used the hypothetico-deductive quantitative method to carry out the present study. Based on the measurement scales used by earlier studies on training transfer, the researcher developed a survey questionnaire for quantitative data collection, which was pilot tested prior to the main study, which involved a cross sectional questionnaire survey of a stratified convenience sample of 500 officers at two training centres of Saudi public security organisation. After data screening, checking assumptions and determining frequencies and descriptive statistics, the collected data were analysed for inferential statistics using multivariate statistical techniques i.e. exploratory and confirmatory factor analyses and structural equation modelling, which enabled the acceptance or rejection of proposed hypotheses. The next chapter presents the analysis of data collected in both the pilot study and the main study.

4 Chapter 4: Results

This chapter presents results of the present empirical study that investigated training transfer to the work in public security organisation in Saudi Arabia. This chapter is divided into three sections as follows. The first section reports the results of the pilot study. The second section presents the results of the main study. The results of the main study are presented in seven sub-sections, which report the response rate (section 4.2.1), data screening (section 4.2.2), normality, linearity and homoscedasticity (section 4.2.3), demographic characteristics of participants (section 4.2.4), results of the exploratory factor analysis (EFA) (section 4.2.5), results of CFA / SEM of the hypothesised model (section 4.2.6) and CFA and SEM results of the revised (post hoc) model (section 4.2.7). The last (third) section provides a summary of the results presented in this chapter.

4.1 Pilot Study

In the pilot study, 47 completed survey questionnaires were returned of which four surveys were excluded due to a large number of missing data. Thus, the effective response rate in the pilot study was 71.66% (43 surveys completed out of 60 surveys distributed). Thus, data from only 43 complete surveys returned in the pilot study were analysed.

The results of the socio-demographic characteristics of the participants showed that all respondents were male (n=43,100%) and most of them were between 21 to 30 years of age (n=18, 41.9%) (Table 8-1 in Appendix 7). The majority of the participants were married (n=37, 86%) and holders of a graduate degree (n=30, 69.8%). The majority of participants were officer of colonel rank (n=11, 25.6%), had experience of more than 20 years (n=13, 30.2%) and worked in Saudi PSO for 5-10

years (n=12, 27.9%) (Table 8-1 in Appendix 7). The pilot study data also showed that the majority of participants (n=25, 58.1%) had more than 20 employees under their supervision / command and about half of the participants (n=21, 48.8%) had direct contact with their line manager / commander on daily basis.

By applying the Cronbach's Alpha test, the researcher assessed the reliability of the measured items included in the pilot survey questionnaire. The result showed that the overall reliability of all measurement items used in the questionnaire was .93 (Table 4-1) and the reliability of individual measurement items ranged between .55 and .91. The locus of control (LOCO)construct was the only construct that produced a lower reliability i.e. less than .6 and had a reliability of .55 compared to recommended Cronbach's alpha level of ≥.70 (Nunnally, 1978).

Table 4-1 Pilot study – Construct Reliabilities

S. No.	Factor	Cronbach's Alpha
1	Training transfer (TRTR)	.86
2	Learning motivation (LEMO)	.72
3	Transfer motivation (TRMO)	.74
4	Locus of Control (LOCO)	.55
5	Peer Support (PESU)	.70
6	Supervisor Support (SUSU)	.91
7	Feedback (FEBA)	.68
8	Opportunity to use Learning (OPLE)	.65
9	Opportunity to Change (OPCH)	.65
10	Self-efficacy (SEEF)	.80
11	Goal Orientation (GOOR)	.76
12	Training Retention (TRRA)	.78
13	Training Content (TRCO)	.73
14	Training Design (TRDE)	.74

The results of the pilot study revealed that on average the respondents took from 30 minutes to 45 minutes to complete the survey. In addition, as the question items

used within the instrument were widely used in the training transfer literature, very little corrections were suggested by the respondents, which ensured the accuracy of the face validity of the survey instrument.

4.2 Main Study

The present study involved a self-completion questionnaire survey on training transfer to the work by officers of Saudi public security organisation. Results of the main study are presented below.

4.2.1 Response rate

In the present study, the response rate was 75.2% (376 surveys returned out of 500 administered); however, 25 returned surveys were incomplete or unusable; hence, they were excluded. Thus, the effective response rate was 70.2% (351 complete / usable surveys out of 500 administered).

4.2.2 Data Screening Prior to Data Analysis

Results of data screening before data analysis were as follows.

Missing Data identification and treatment

For finding out the missing values, the frequencies of participants' minimum and maximum scores for measured items on a four point Likert scale were run and the results are presented in Table 8-3 in Appendix 8.

The frequencies results showed that only 4 (1.064%) cases had missing values (Table 8-3 and Figure 8-1 in Appendix 8). The missing values were for different measured items, which included training transfer (TRTR) item No. 6, transfer motivation (TRMO) item No.2, opportunity to use learning (OPLE) item No.1 and training retention (TRRA) item No.2. There were no missing data for the remaining 71 items measured in the survey questionnaire.

Following the Tabachnick and Fidell (2007) suggestions for managing missing data, are missing values were estimating and replaces. Thereafter, the researcher confirmed the data by running frequencies, which showed the minimum and maximum scores between 1 and 4 respectively for all measured items in the survey questionnaire (Table 8-4 and Figure 8-2 in Appendix 8).

Outliers

In the present study, the univariate outliers were detected by two methods: (a) By determining standardised values i.e. z-scores >± 3.0 for measured items (Table 8-6 in Appendix 8), which showed that values of cases Nos. 27, 176, 226, 242, 303 and 322 exceeded the standardised z-scores. (b)Through a Box Plot (Figure 4-3), which showed no case with an asterisk mark indicating an extreme univariate outlier. The researcher therefore deleted all six univariate outliers from the main data. The remaining 370 cases were used for detecting the multivariate outliers, which were detected by Mahalanobis distance test by applying the D^2/df values (Hair et al., 2006, p. 75). The researcher detected 19 multivariate outliers whose D^2/df value exceeded the cut off value of 2.5 (Table 8-6 in Appendix 8); hence, all these 19 multivariate outlier cases were deleted and the remaining 351 were processed for further statistical analysis.

4.2.3 Normality, Linearity and Homoscedasticity

After detecting and deleting the univariate and multivariate outliers from the data, the researcher focused on the normality, linearity and homoscedasticity of the data. Following the literature (Tabachnick and Fidell, 2007), the researcher checked the normality, linearity and homoscedasticity of data as follows.

Normality

Normality of data distribution was checked by the Kurtosis and Skewness test and the results (Table 8-7 in Appendix 8.8) showed that all measured variables were normally distributed.

In addition, the normality of data was also confirmed by the K-S test and S-W test as suggested by Field (2009) and Pallant (2010). The results showed that the values of K-S test and S-W test as significant not exceeding from $p \leq 0.05$ (Table 8-8 in Appendix 8), which were because these two tests can be significant due to their sensitivity to a large sample size (Shapiro and Wilk, 1965; Field, 2009, p.98) such as the large sample size (n=351) in the present study. Hence, the presence of normality of data distribution was ensured in the present study.

Linearity and correlations

Following on from the literature (Hair *et al*., 2006; Tabachnick and Fidell, 2007; Field, 2009), the Pearson's correlations were applied to find the relationships between the variables. Results showed that all variables were positively correlated with each other (Table 4-2).

Table 4-2 Pearson's Correlations

	Pearson's Correlations													
Variables	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**
1. LEMO	1													
2. TRMO	.581**	1												
3. LOCO	.450**	.394**	1											
4. PESU	.503**	.473**	.495**	1										
5. SUSU	.312**	.290**	.284**	.529**	1									
6. FEBA	.415**	.342**	.370**	.545**	.542**	1								
7. OPLE	.336**	.267**	.382**	.488**	.574**	.649**	1							
8. OPCH	.285**	.194**	.309**	.389**	.276**	.447**	.478**	1						
9. SEEF	.519**	.474**	.395**	.554**	.367**	.513**	.417**	.386**	1					
10. GOOR	.496**	.513**	.410**	.547**	.381**	.457**	.465**	.359**	.701**	1				
11. TRRA	.468**	.421**	.442**	.564**	.366**	.447**	.509**	.469**	.600**	.676**	1			
12. TRCO	.279**	.326**	.373**	.450**	.450**	.406**	.486**	.319**	.455**	.495**	.573**	1		
13. TRDE	.341**	.412**	.335**	.470**	.423**	.487**	.465**	.331**	.515**	.531**	.604**	.634**	1	
14. TRTR	.445**	.480**	.341**	.463**	.412**	.470**	.460**	.338**	.581**	.537**	.627**	.527**	.642**	1

**Correlation is significant at the 0.01 level (2-tailed).

Homoscedasticity

As an assumption of normality, homoscedasticity i.e. homogeneity of variance of the dependent variables with the independent variables was checked by Levene's test (Hair *et al*., 2006; Tabachnick and Fidell, 2007) and results are shown in (Table 8-9 in Appendix 8). Like K-S test and S-W test, Levene's test is also sensitive to the sample size and can be significant for large samples (Field, 2009, p.98). Therefore, for a sample of 351 in the present study presence of significance of few constructs in the Levene's test did not suggest substantial deviation from the presence of homogeneity of variances between the measured variables (Table 8-9 in Appendix 8).

4.2.4 Demographic Characteristics

Data on participants' demographic characteristics (Table 4-3) showed that all respondents were male (n=351, 100%) and most of them were aged between 31 to 40 years old (n=159, 45.3%). The majority of participants were married (n=310, 88%) and graduate degree holders (n=210, 59.9%). Most of the participants had working experience of 20 years (n=133, 37.9%) and about a quarter of participants had worked with the present employer (Saudi PSO) for more than 20 years (n=92, 26.2%). Demographic characteristics of the participants also showed that the majority of them had more than 20 employees under their supervision (n=134, 38.2%) and about half of the respondents had contact with their supervisor / line manager every day (n=178, 50.7%).

Table 4-3 Participants' socio-demographic characteristics (N=351)

Characteristics	*Category*	*Frequencies (count, n)*	*%*
Gender	Male	351	100.0
Age	Less than 21	4	1.1
	21-30	76	21.7
	31-40	159	45.3
	41-50	100	28.5
	51-60	12	3.4
Social Status	Single	38	10.8
	Married	310	88.3
	Divorced / Widow	3	0.9
Education Level	Undergraduate	106	30.2
	Graduate	210	59.8
	Post Graduate	35	10.0
Job Position	Lieutenant-Colonel	50	14.2
	First Lieutenant	48	13.7
	Captain	60	17.1
	Major	61	17.4
	Colonel	58	16.5
	Brigadier General	4	1.1
	First Sargent	61	17.4
	Corporal	7	2.0
	Sergeant Major	2	0.6
Total Experience	Less than 5 rears	35	10.0
	5-10 years	64	18.2
	10-15 years	71	20.2
	15-20 years	48	13.7
	More than 20 years	133	37.9
Experience with Present Employer	Less than 5 years	71	20.2
	5-10 years	86	24.5
	10-15 years	72	20.5
	15-20 years	30	8.5
	More than 20 years	92	26.2

Characteristics	*Category*	*Frequencies (count, n)*	*%*
Number of People supervised	Less than 5	85	24.2
	5-10	70	19.9
	10-15	39	11.1
	15-20	23	6.6
	More than 20	134	38.2
Frequency of having contact with direct / line managers in a week	Never	1	0.3
	Rarely	41	12.0
	Occasionally	11	3.1
	Very Often	119	33.9
	Every Day	178	50.7

4.2.5 Exploratory Factor Analysis

Results of the EFA conducted for examining the structure of the measurement items corresponding to the variables / factors / constructs included in the theoretical framework (Figure 2-1) showed that, the observed level of KMO was .885 and the Bartlett's Test of Sphericity was significant (p= .000), which is considered a good range that confirmed the sampling adequacy for the EFA in the present study (Table 8-10 in Appendix 8). Results of the communalities statistics showed extraction values from .611 to .879 for all measured items that were entered in the EFA (Table 8-11 in Appendix 8).

By applying the principal component extraction method to find eigenvalues, fourteen factors with greater than 1 eigenvalues were found (Table 4-4). In addition, results of rotated component matrix showed that all items were loaded on the relevant factors (Table 4-5). However, twenty-five out of seventy-five items were not loaded. In addition, the researcher could not find any cross loading of factors higher than .5 and results showed that the first factor had a high Eigen value i.e.

12.121 and then the successive factors had smaller Eigen values (Table 4-5). Results showed that all fourteen factors explained 74.91% of total variance (Table 4-4), which is higher than the recommended values.

Table 4-4 Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	12.121	24.241	24.241	12.121	24.241	24.241	3.627	7.255	7.255
2	4.752	9.503	33.745	4.752	9.503	33.745	3.215	6.429	13.684
3	2.931	5.862	39.607	2.931	5.862	39.607	3.121	6.243	19.927
4	2.784	5.568	45.175	2.784	5.568	45.175	3.117	6.233	26.160
5	2.206	4.412	49.587	2.206	4.412	49.587	3.027	6.054	32.214
6	1.971	3.942	53.528	1.971	3.942	53.528	2.954	5.908	38.121
7	1.783	3.565	57.093	1.783	3.565	57.093	2.930	5.860	43.982
8	1.587	3.174	60.267	1.587	3.174	60.267	2.381	4.763	48.745
9	1.461	2.922	63.189	1.461	2.922	63.189	2.356	4.711	53.456
10	1.325	2.650	65.839	1.325	2.650	65.839	2.291	4.582	58.038
11	1.268	2.536	68.375	1.268	2.536	68.375	2.217	4.434	62.471
12	1.159	2.319	70.694	1.159	2.319	70.694	2.180	4.360	66.831
13	1.074	2.149	72.842	1.074	2.149	72.842	2.044	4.088	70.919
14	1.035	2.070	74.912	1.035	2.070	74.912	1.997	3.993	74.912
15	.703	1.405	76.317						
16	.641	1.281	77.599						
…	…	…	…						
49	.142	.284	99.772						
50	.114	.228	100.000						

Extraction Method: Principal Component Analysis

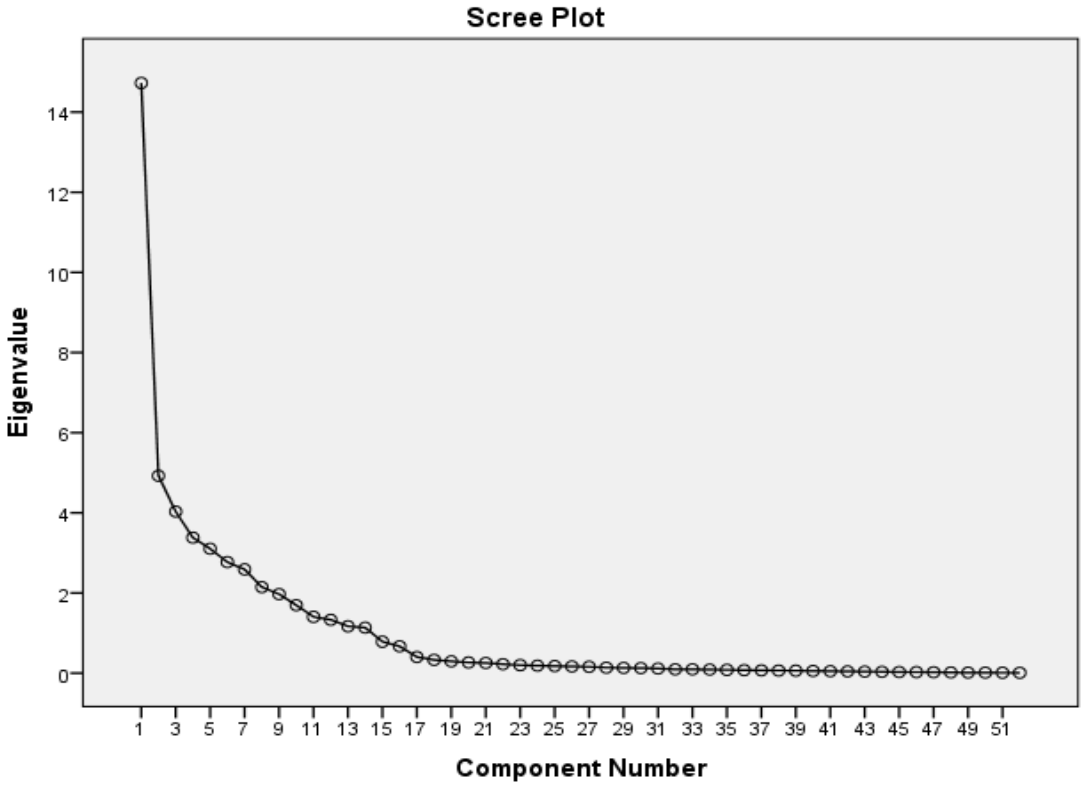
Table 4-5 Rotated Component Matrix[a]

	Component													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
LEMO2	.812													
LEMO5	.771													
LEMO3	.737													
LEMO7	.707													
LEMO8	.703													
TRCO5		.861												
TRCO1		.855												
TRCO4		.827												
TRCO3		.786												
OPLE4			.808											
OPLE3			.805											
OPLE1			.792											
OPLE6			.768											
FEBA6				.826										
FEBA3				.817										
FEBA4				.805										
FEBA2				.787										
LOCO1					.866									
LOCO9					.833									
LOCO3					.832									
LOCO5					.813									
GOOR3						.803								
GOOR6						.784								
GOOR1						.769								
GOOR5						.758								
TRTR6							.807							
TRTR4							.760							
TRTR2							.753							
TRTR1							.738							
TRDE3								.824						
TRDE4								.793						
TRDE2								.787						
SEEF3									.811					
SEEF1									.787					
SEEF4									.785					
SUSU4										.814				
SUSU5										.814				
SUSU1										.665				
OPCH2											.846			
OPCH5											.838			
OPCH4											.785			
TRRA3												.754		
TRRA1												.746		
TRRA2												.735		
TRMO2													.761	
TRMO1													.758	
TRMO3													.690	
PESU1														.770
PESU4														.742
PESU3														.692

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 7 iterations.

After extracting factors, scree plot was applied to determine the number of factors that needs to be extracted. The scree plot showed that fourteen factors can be extracted (Figure 4-1), which are reported below

Figure 4-1 Scree Plot



Peer Support: The measure of peer support (PESU) consisted of a four-item scale with a four-point Likert scale. The factor loading results (Table 4-5) showed that only three items were loaded on this factor with loading values higher than .5 value that was used as a cut-off value for showing cross loadings in the EFA in the present study.

Supervisor support: The measure of supervisor support (SESU) consisted of six items with a four point Likert scale of which only three items were loaded above the required loading value of .5 in the EFA (Table 4-5) .

Feedback: The measure of performance feedback (FDBK) consisted of three items with four-point Likert scale. Results of factor loading showed that all three items were loaded above than required loading value of .5 (Table 4-5).

Opportunity to use learning: The measure of opportunity to use learning (OPLE) consisted of six items with a four-point Likert scale. The factor loading results showed that only four original items were loaded on this factor with loading values higher than the required loading value of .5 (Table 4-5).

Openness to Change: The measure of openness to change (OPCH) consisted of six item scales with a four point Likert scale. Results of factor loading revealed that only three items were loaded on to this factor and their loading values were higher than the required loading value of .5 (Table 4-5).

Locus of Control: The measure of locus of control (LOCO) was assessed by applying nine items using a four-point Likert scale. In the factor loading matrix, only four original items were loaded on this factor with item loadings above the required value of .5 (Table Table 4-5).

Performance self-efficacy: The measure of performance self-efficacy (SEEF) was measured with four items on a four-point Likert scale. Results showed that three items were loaded on to this factor with loading values higher than the .5 value required for the EFA (Table 4-5).

Goal Orientation: The measure of goal orientation (GOOR) was measured using six measured items and the EFA results showed factor loadings of four items on the factor with values above than the required loading value of .5 (Table 4-5).

Training Retention: The training retention (TRRE) variable was measured using three items and the EFA results revealed loadings of three items higher than the required .5 values loaded on this factor (Table 4-5).

Training Content: The measure of training content (TRCO) consisted five items, which were measured on a four point Likert scale. The EFA results showed four items loaded with their respective factor with loadings above than the required .5 values (Table 4-5).

Training design: The training design (TRDE) factor was measured with four items that were measured on a four point Likert scale. The EFA results showed three items loaded on this factor with loadings more than the required value of .5 (Table 4-5).

Learning Motivation: The learning motivation (LEMO) was measured using nine items using a four point Likert scale. The results of EFA showed that only five items were loaded on this factor with loadings above the required value of .5 (Table 4-5).

Transfer Motivation: The measure of transfer motivation (TRMO) was measured with four items on a four-point Likert scale. The EFA results showed that three items were loaded on this factor with loadings higher than the required value of .5 (Table 4-5).

Training Transfer: Training transfer (TRTR) measure was measured using six items on a four-point scale. The EFA results revealed that only four original items

were loaded on this factor with loadings above the required .5 loading value (Table 4-5).

Reliability and Validity of latent factors extracted in EFA

Reliability of all latent factors extracted in the EFA was tested by determining the Cronbach's Alpha. The results showed that the Cronbach's Alpha values for all variables were above .7 and the range of Cronbach's Alpha values was between .79 and .89 (Table 4-6). The higher values of Cronbach's Alpha suggested a high internal consistency of all loaded measured items for all 14 latent factors extracted in the EFA.

Table 4-6 Cronbach's Alpha Reliability of latent factors extracted in EFA

No.	Factor name	Factor code	Cronbach's Alpha
1	Training Transfer	TRTR	.85
2	Leaning Motivation	LEMO	.85
3	Transfer Motivation	TRMO	.83
4	Locus of Control	LOCO	.87
5	Peer Support	PESU	.79
6	Supervisor support	SUSU	.84
7	Performance feedback	FEBA	.88
8	Opportunity to Use Learning	OPLE	.89
9	Openness to Change	OPCH	.79
10	Performance Self-Efficacy	SEEF	.87
11	Goal Orientation	GOOR	.85
12	Training Retention	TRRE	.82
13	Training Content	TRCO	.88
14	Training Design	TRDE	.89

Normality of items loaded on extracted latent factors

The normality of measured items loaded on latent factors extracted in the EFA was checked with the K-S test and S-W test (Table 8-12 in Appendix 8). The statistics for both the tests were significant, which was due to the larger sample size (n=351) of the present study. Thus, the results confirmed the presence of normality of spread in the measured items that were loaded on the latent factors in the EFA.

Homogeneity of variance of items loaded on extracted latent factors

The homogeneity of variance of measured items loaded on latent factors extracted in the EFA was checked with the Levene's test and the Levene statistics for most of the measured items were not significant ($p>0.05$) (Table 8-13 in Appendix 8), which confirmed the presence of homogeneity of variances between the measured items. Results of the EFA i.e. loading of measured items on the latent factors were confirmed by the CFA and SEM, which are presented below.

4.2.6 Hypothesised Model - Confirmatory Factor Analysis and Structural Equation Modelling

Results of the CFA and SEM of the hypothesised model are shown in Figure 4-2 and the standardised regression (β) estimates for the hypothesised model are shown in Table 4-7.

Factors affecting Learning Motivation

In the revised model, results of the standardised regression (β) estimates revealed that self-efficacy (SEFIC) (β = .164, p = .047), peer support (PESUP) (β = .299, p = .000) and goal orientation (GOOR) (β = .163, p = .044) were the only significant factors affecting the learning motivation (LERNMOT).

Factors affecting Transfer Motivation

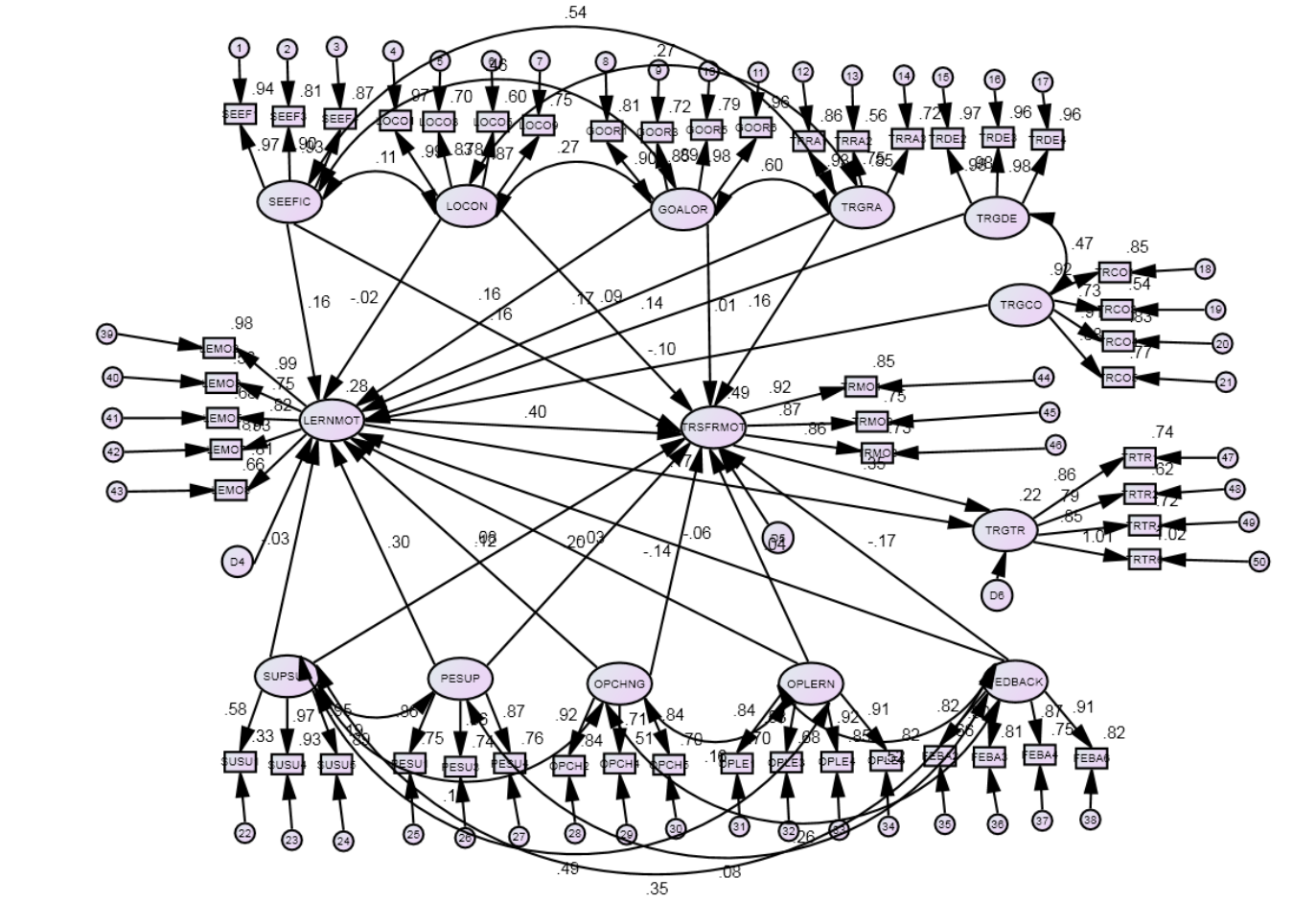
Results of the standardised regression (β) estimates in the revised model revealed that performance feedback (FEDBACK) (β = -.174, p = .013), learning motivation (LERNMOT) (β = .399, p = .000), openness to change (OPCHNG) (β = -.140, p = .025), peer support (PESUP) (β = .196, p = .008), and self-efficacy (SEFIC) (β = .166, p = .027) were significant predicting factors for the (training) transfer motivation (TRNSRMOT).

Factors affecting Training Transfer

The standardised regression (β) estimates showed that the training transfer (TRGTR) was significantly explained / affected only by the learning motivation (LERNMOT) (β = .166, p = .027) and the transfer motivation (TRNSRMOT) (β = .352, p = .000) as hypothesised in the theoretical framework. However, all other factors had no significant effect on the outcome factor i.e. training transfer (TRGTR) factor.

The CFA and SEM results also showed that two factors i.e. locus of control (LOCO) and opportunity of use learning (OPLER) had no significant effect neither on the mediatory factors i.e. learning motivation (LRNMOT) and transfer motivation (TRSFRMOT) nor on the outcome variable i.e. training transfer (TRGTR). These findings suggested that these two factors were redundant; hence, could be excluded from the model, which might improve the model fit with the study data.

Figure 4-2 Hypothesised Model – Confirmatory factor analysis and structural equation modelling



FEDBACK = Feedback, GOOR = Goal orientation, LERNMOT = Learning motivation, LOCO = Locus of control, OPLER = Opportunity of use learning, OPCHNG = Openness to change, PESUP = Peer support, SEFIC = Self-efficacy, SUSUP = Supervisor support, TRGCO = Training content, TRDE = Training design, TRRA = Training retention, TRGTR = Training transfer, TRNSRMOT = Transfer motivation

Table 4-7 Hypothesised Model – Estimates showing Standardised Regression Weights

Predictor variable		Outcome variable	Estimate (β)	S.E.	C.R.	P	Label	Hypothesis Outcome
SEEFIC	→	LERNMOT	**.164**	**.067**	**1.985**	**.047**	**par_36**	**Accepted**
SUPSUP	→	LERNMOT	-.025	.059	-.340	.734	par_41	Rejected
LOCON	→	LERNMOT	-.020	.046	-.317	.752	par_42	Rejected
PESUP	→	LERNMOT	**.299**	**.072**	**3.725**	**.000**	**par_43**	**Accepted**
OPCHNG	→	LERNMOT	.117	.057	1.691	.091	par_44	Rejected
OPLERN	→	LERNMOT	-.031	.067	-.359	.720	par_45	Rejected
FEDBACK	→	LERNMOT	-.057	.063	-.731	.465	par_46	Rejected
TRGDE	→	LERNMOT	.139	.065	1.774	.076	par_66	Rejected
TRGRE	→	LERNMOT	.166	.079	1.714	.087	par_68	Rejected
TRGCO	→	LERNMOT	-.099	.060	-1.351	.177	par_70	Rejected
GOALOR	→	LERNMOT	**.163**	**.063**	**2.011**	**.044**	**par_72**	**Accepted**
OPLERN	→	TRSFRMOT	.039	.075	.519	.604	par_37	Rejected
FEDBACK	→	TRSFRMOT	**-.174**	**.072**	**-2.474**	**.013**	**par_38**	**Accepted**
LERNMOT	→	TRSFRMOT	**.399**	**.085**	**5.952**	**.000**	**par_47**	**Accepted**
OPCHNG	→	TRSFRMOT	**-.140**	**.065**	**-2.238**	**.025**	**par_48**	**Accepted**
PESUP	→	TRSFRMOT	**.196**	**.084**	**2.654**	**.008**	**par_49**	**Accepted**
SUPSUP	→	TRSFRMOT	.075	.068	1.124	.261	par_50	Rejected
GOALOR	→	TRSFRMOT	.006	.072	.079	.937	par_65	Rejected
LOCON	→	TRSFRMOT	.088	.053	1.504	.133	par_67	Rejected
TRGRA	→	TRSFRMOT	.164	.090	1.892	.059	par_69	Rejected
SEEFIC	→	TRSFRMOT	**.163**	**.075**	**2.241**	**.025**	**par_71**	**Accepted**
TRSFRMOT	→	TRGTR	**.352**	**.074**	**4.437**	**.000**	**par_35**	**Accepted**
LERNMOT	→	TRGTR	**.166**	**.088**	**2.217**	**.027**	**par_51**	**Accepted**

FEDBACK = Feedback, GOOR = Goal orientation, LERNMOT = Learning motivation, LOCO = Locus of control, OPLER = Opportunity of use learning, OPCHNG = Openness to change, PESUP = Peer support, SEFIC = Self-efficacy, SUSUP = Supervisor support, TRGCO = Training content, TRDE = Training design, TRRA = Training retention, TRGTR = Training transfer, TRNSRMOT = Transfer motivation

Hypotheses testing in the Hypothesised model

The acceptance and rejection of the hypotheses proposed in the initial hypothesised model are shown in Table 4-8, which showed that some hypotheses

were fully accepted, some were partly accepted and the remaining were fully rejected.

The results about the impact of work environment factors on the learning motivation (H1) suggested in the hypothesised model revealed that apart from peer support (H1a), other four work environment factors i.e. supervisor support (H1b), feedback (H1c), opportunity to use learning (H1d) and openness to change (H1e) included in the model had no statistically significant impact on learning motivation factor. These findings showed that only one sub-hypothesis H1a was accepted while all other sub-hypotheses from H1b to H1e were rejected (Table 4-11). Consequently, hypothesis H1 (Work environment factors will be positively related to learning motivation) was partially accepted and thereby a related hypothesis H6 (Learning motivation will mediate the relationship between work environment and training transfer) was also partially accepted (Table 4-8).

The results about the impact of work environment factors on transfer motivation (H4) proposed in the hypothesised model (Figure 4-2) showed that peer support (H4a), feedback (H1c) and openness to change (H1e) had a statistically significant impact on transfer motivation while supervisor support (H4b) and opportunity to use learning (H4d) had statistically no significant impact on transfer motivation. These findings led to acceptance of three sub-hypotheses H4a, H4c and H4e while the remaining two sub-hypotheses H1b and H4e were rejected (Table 4-8). As a result, hypothesis H4 (Work environment factors will be positively related to transfer motivation) was partially accepted. It was however noteworthy that the feedback and openness to change factors had statistically significant but negative influence on transfer motivation, which was opposite to the initial hypotheses that

suggested a positive relationship (impact) of all work environment factors on the transfer motivation. Based on the partial acceptance of H4, a related hypothesis H11 (Transfer motivation will mediate the relationship between work environment and training transfer) was also partially accepted (Table 4-8).

The results regarding the impact of individual characteristics factors on learning motivation (H2) suggested in the hypothesised model (Figure 4-2) showed that this hypothesis was also partially accepted as follows. Two individual characteristics factors i.e. self-efficacy (H2a) and goal orientation (H2b) showed statistically significant impact on the learning motivation while the remaining two individual characteristics factors i.e. training retention (H2c) and locus of control (H2d) showed statistically no significant impact on the learning motivation factor. Therefore, the hypothesis H2 (Individual characteristics factors will be positively related to learning motivation) was partially accepted (Table 4-8). Accordingly, a related hypothesis H7 (learning motivation will mediate the relationship between individual characteristics and training transfer) was also partially accepted (Table 4-8).

The results about the impact of individual characteristic factors on the transfer motivation (H5) proposed in the hypothesised model (Figure 4-2) revealed that only one individual characteristic factor i.e. self-efficacy (H5a) had a statistically significant impact on transfer motivation. However, the remaining three individual characteristic factors, i.e. goal orientation (H5b), training retention (H5c) and locus of control (H5d) showed statistically no significant impact on learning motivation factor. These findings resulted in acceptance of only one sub-hypothesis, i.e. H5a and rejection of three sub-hypotheses, i.e. H5b, H5c and H5d (Table 4-8). Hence,

the hypothesis H5 (Individual characteristic factors will be positively related to transfer motivation) was partially accepted. Consequently, a related hypothesis H11 (transfer motivation will mediate the relationship between individual characteristics and training transfer) was also partially accepted (Table 4-8).

In addition, the results of the hypothesised model (Figure 4-2) showed that none of the two training factors i.e. training content and training design included in the hypothesised model statistically had a significant impact on the learning motivation factor. Hence, hypothesis H3 (training factors will be positively related to learning motivation) was completely rejected and subsequently, hypothesis H8 (learning motivation will mediate the relationship between training design factors and training transfer factor) was also rejected completely (Table 4-8).

The results about the impact of two mediating factors, i.e. learning motivation and transfer motivation on training transfer shown in the hypothesised model (Figure 4-2) revealed that both motivation factors had a statistically significant and direct impact on the training transfer factor, which was the penultimate outcome variable in the present study. These findings showed full support for acceptance of hypothesis H9 (learning motivation will be positively related to training transfer) and hypothesis H10 (transfer motivation will be positively related to training transfer) (Table 4-8).

Table 4-8 Summary of Results of Hypotheses

Hypothesis No.		Hypothesis explanation	Outcome
H1		The work environment (peer support, supervisor support, feedback, opportunity to use, and openness to change) will be positively related to learning motivation.	**Partly accepted**
	a	Peer support has a positive impact on the learning motivation	**Accepted**
	b	Supervisor support has a positive impact on the learning motivation	Rejected
	c	Feedback has a positive impact on learning motivation	Rejected
	d	Opportunity to use learning has a positive impact on learning motivation	Rejected
	e	Openness to change has a positive impact on learning motivation	Rejected
H2		The individual characteristics (self-efficacy, goal orientation, training retention, and locus of control) will be positively related to learning motivation.	**Partly Accepted**
	a	Self-efficacy has a positive impact on the learning motivation	**Accepted**
	b	Goal orientation has a positive impact on the learning motivation	**Accepted**
	c	Training retention has a positive impact on the learning motivation	Rejected
	d	Locus of control has a positive impact on the learning motivation	Rejected
H3		The training design (training contents and training design) will be positively related to learning motivation.	Totally Rejected
	a	Training contents will be positively related to learning motivation	Rejected
	b	Training design will be positively related to learning motivation	Rejected
H4		The work environment (peer support, supervisor support, feedback, opportunity to use, and openness to change) will be positively related to transfer motivation.	**Partly Accepted**
	a	Peer support has a positive impact on the transfer motivation	**Accepted**
	b	Supervisor support has a positive impact on the transfer	Rejected

		motivation	
	c	Feedback has a positive impact on the transfer motivation	**Accepted**
	d	Opportunity to use learning has a positive impact on the transfer motivation	Rejected
	e	Openness to change has a positive impact on the transfer motivation	**Accepted**
H5		The individual characteristics (self-efficacy, goal orientation, training retention, locus of control) will be positively related to transfer motivation.	**Partly Accepted**
	a	Self-efficacy has a positive impact on the transfer motivation	**Accepted**
	b	Goal orientation has a positive impact on the transfer motivation	Rejected
	c	Training retention has a positive impact on the transfer motivation	Rejected
	d	Locus of control has a positive impact on the transfer motivation	Rejected

Hypothesis No.	**Hypothesis explanation**	**Outcome**
H6	Learning motivation will mediate the relationship between work environment and training transfer. (See H1 above)	**Partly Accepted**
H7	Learning motivation will mediate the relationship between individual characteristics and training transfer. (See H2 above)	**Partly accepted**
H8	Learning motivation will mediate the relationship between training design and training transfer. (See H3 above)	Totally Rejected
H9	Learning motivation will be positively related to transfer motivation	**Accepted**
H10	Transfer motivation will be positively related to training transfer	**Accepted**
H11	Transfer motivation will mediate the relationship between work environment and training transfer. (See H4 above)	**Partly accepted**
H12	Transfer motivation will mediate the relationship between individual characteristics and training transfer. (See H5 above)	**Partly accepted**
H13	Learning motivation will be positively related to training transfer	**Accepted**
H14	Transfer motivation will mediate the relationship between learning motivation and training transfer. (See H13 above)	**Accepted**

Overall, the findings showed that most of the hypotheses proposed in the hypothesised conceptual model (Figure 4-2) were rejected (Table 4-8). These findings thus suggested a revision of the hypothesised model and re-evaluation of the revised model. The findings related to the revised model are presented in the following section.

Goodness of Fit Indices of Hypothesised model

Goodness of fit indices of the hypothesised model are shown Table 4-9, which revealed that the overall model was fit with the data but the values of CMIN/DF index were lower than the required values, which was highly significant (p = .000).

Table 4-9 Hypothesised CFA/ SEM Model – Summary of Goodness of fit indices

	CMIN		**Baseline Comparisons Indexes**			**RMSEA**	
	CMIN/DF	*P*	*Bollen's Incremental Fit Index (IFI)*	*Tucker-Lewis (Coefficient) Index (TLI)**	*Bentler's Comparative Fit Index (CFI)*	*Value*	*P*
Suggested values	≤ 2.00	>.05	>0.90	>0.90	>0.90	≤0.05	>0.05
Observed values	1.402	.000	.957	.954	.957	0.043	0.991

*Also known as the Bentler-Bonett non-normed fit index (NNFI), CMIN = Chi Square minimum, DF = Degree of freedom, RMSEA = Root Mean Square Error of Approximation.

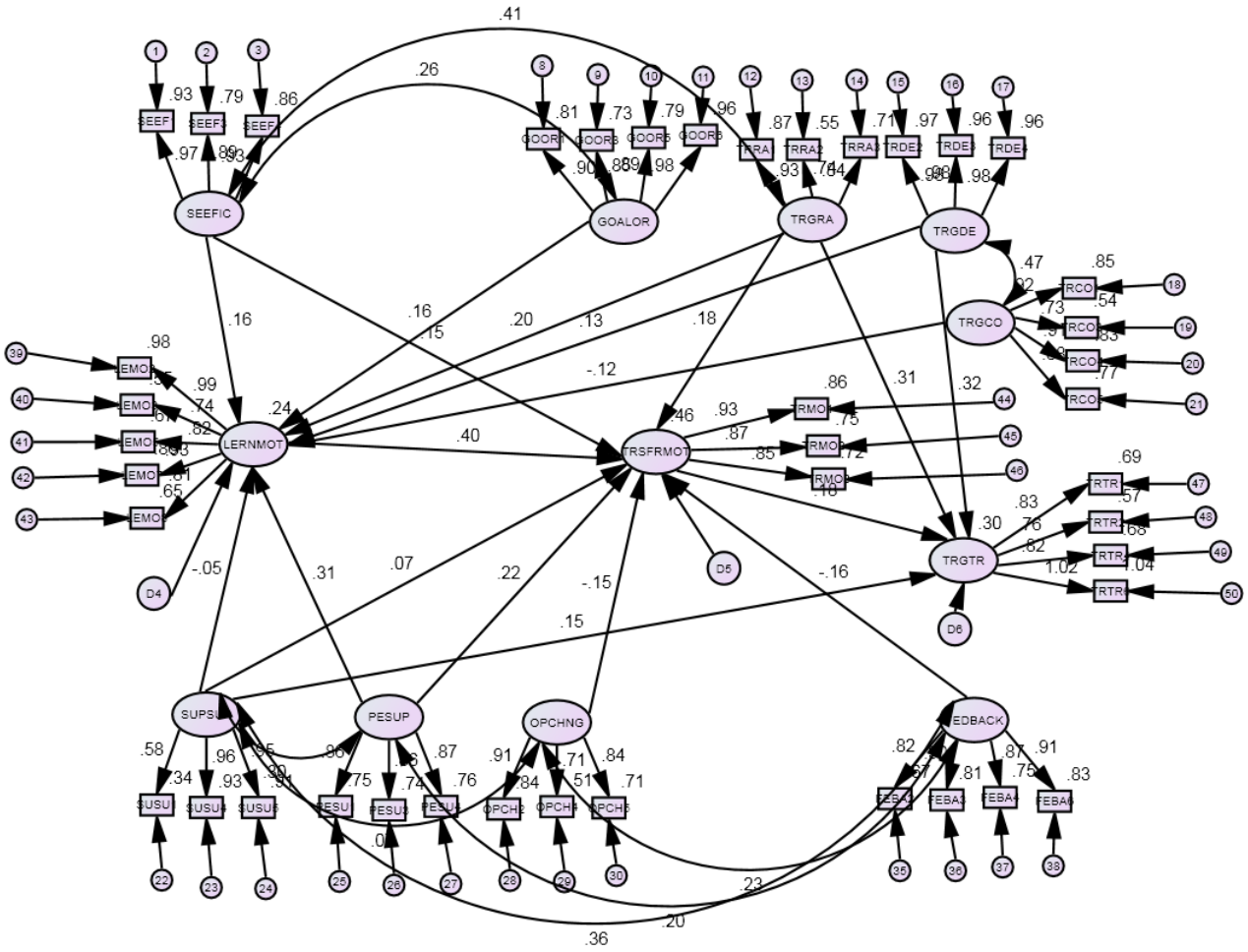
In addition, the modification indices obtained in the SEM suggested that the goodness of fit indices (Table 4-9) of the hypothesised model would be improved with the addition of three new links i.e. between training retention (TRRA) and training transfer (TRGTR), between training design (TRDE) and training transfer

(TRGTR) and between supervisor support (SUSU) and training transfer (TRGTR). These findings suggested revising the hypothesised model and re-running the SEM. Consequently, the original hypothesised model was revised and the revised model (post hoc model) was tested by rerunning the SEM. The CFA/ SEM results of the revised model are presented in the next section.

4.2.7 Revised Model - Confirmatory Factor Analysis and Structural Equation Modelling

The CFA / SEM results of the revised / post hoc model (Figure 4-3) are presented in Table 4-10, which revealed statistically significant standardised regression estimates for all three new links between the outcome variable i.e. training transfer (TRGTR) and three independent variables i.e. training retention (TRRA), training design (TRDE) and supervisor support (SUSU). Detailed CFA / SEM results of the revised model are presented in the following sub-sections.

Figure 4-3 Revised Model – Confirmatory factor analysis and structural equation modelling



FEDBACK = Feedback, GOOR = Goal orientation, LERNMOT = Learning motivation, OPCHNG = Opportunity to change, PESUP = Peer support, SEFIC = Self-efficacy, SUSUP Supervisor support, TRGCO = Training content, TRDE = Training design, TRRA = Training retention, TRGTR = Training transfer, TRNSRMOT = Transfer motivation

Table 4-10 Revised CFA/ SEM model – Estimates: Standardised Regression Weights

Predictor variable		Outcome variable	Estimate (β)	S.E.	C.R.	P	Label	Hypothesis Outcome
SEEFIC	→	LERNMOT	**.158**	**.067**	**1.984**	**.047**	**par_30**	**Accepted**
PESUP	→	LERNMOT	**.311**	**.072**	**3.810**	**.000**	**par_34**	**Accepted**
TRGDE	→	LERNMOT	.128	.065	1.605	.109	par_44	Rejected
TRGCO	→	LERNMOT	-.120	.059	-1.630	.103	par_46	Rejected
GOALOR	→	LERNMOT	**.163**	**.059**	**2.095**	**.036**	**par_48**	**Accepted**
SUPSUP	→	LERNMOT	-.053	.053	-.762	.446	par_53	Rejected
TRGRA	→	LERNMOT	**.197**	**.071**	**2.208**	**.027**	**par_56**	**Accepted**
FEDBACK	→	TRSFRMOT	**-.159**	**.065**	**-2.466**	**.014**	**par_31**	**Accepted**
LERNMOT	→	TRSFRMOT	**.401**	**.085**	**6.056**	**.000**	**par_35**	**Accepted**
OPCHNG	→	TRSFRMOT	**-.147**	**.065**	**-2.319**	**.020**	**par_36**	**Accepted**
PESUP	→	TRSFRMOT	**.224**	**.084**	**2.995**	**.003**	**par_37**	**Accepted**
TRGRA	→	TRSFRMOT	**.176**	**.078**	**2.305**	**.021**	**par_45**	**Accepted**
SEEFIC	→	TRSFRMOT	**.152**	**.074**	**2.196**	**.028**	**par_47**	**Accepted**
SUPSUP	→	TRSFRMOT	.073	.063	1.124	.261	par_54	Rejected
TRSFRMOT	→	TRGTR	**.177**	**.057**	**2.667**	**.008**	**par_29**	**Accepted**
SUPSUP	→	TRGTR	**.146**	**.052**	**2.370**	**.018**	**par_50**	**Accepted**
TRGDE	→	TRGTR	**.318**	**.060**	**4.717**	**.000**	**par_51**	**Accepted**
TRGRA	→	TRGTR	**.313**	**.066**	**4.137**	**.000**	**par_52**	**Accepted**

FEDBACK = Feedback, GOOR = Goal orientation, LERNMOT = Learning motivation, OPCHNG = Opportunity to change, PESUP = Peer support, SEFIC = Self-efficacy, SUSUP Supervisor support, TRGCO = Training content, TRDE = Training design, TRRA = Training retention, TRGTR = Training transfer, TRNSRMOT = Transfer motivation

Factors affecting Learning Motivation

The results of CFA / SEM of the revised model confirmed that the self-efficacy (β = .158, p = .047), peer support (β = .311, p = .000), goal orientation (β = .163, p = .036) and training retention (β = .197, p = .027) statistically significantly affected the learning motivation (Table 4-10). However, training design, training content and supervisor support had no statistically significant effect on the learning motivation factor.

Factors affecting Transfer Motivation

Results of CFA / SEM of the revised model revealed that six factors i.e. feedback (β = -.159, p = .014), learning motivation (β = .401, p = .000), openness to change (β = -.147, p = .020), peer support (β = .224, p = .003), training retention (β = .176, p = .021) and self-efficacy (β = .152, p = .028) had statistically significant impact on the transfer motivation (Table 4-10). However, the supervisor support had no statistically significant effect on the transfer motivation factor.

Factors affecting Training Transfer

The CFA / SEM results of the revised model (Table 4-10) confirmed that four factors i.e. transfer motivation (β = .177, p = .008), supervisor support (β = .146, p = .018), training design (β = .318, p = .000) and training retention (β = .313, p = .000) had statistically significant impact on the training transfer factor as hypothesised in the revised model (Figure 4-3).

Hypotheses testing for the revised model

The acceptance and rejection of the hypotheses proposed in the revised model are shown in Table 4-11, which reveals that some hypotheses were fully accepted, some hypotheses were partly accepted and a few hypotheses were fully rejected. In addition, post-hoc hypotheses 1, 2 and 3 suggested in the revised model were all accepted (Table 4-11).

Table 4-11 Results of hypotheses in the revised / post hoc model

Hypothesis No.		Hypothesis explanation	Outcome
H1		The Work Environment (peer support, supervisor support, feedback, opportunity to use, and openness to change) will be positively related to learning motivation.	**Partly Accepted**
	a	peer support has a positive impact on the learning motivation	**Accepted**
	b	supervisor support has a positive impact on the learning motivation	Rejected
H2		The Individual Characteristics (self-efficacy, goal orientation, training retention, and locus of control) will be positively related to learning motivation.	**Accepted**
	a	self-efficacy has a positive impact on the learning motivation	**Accepted**
	b	goal orientation has a positive impact on the learning motivation	**Accepted**
	c	training retention has a positive impact on the learning motivation	**Accepted**
H3		The training design (training contents and training design) will be positively related to learning motivation.	Totally Rejected
	a	Training contents will be positively related to learning motivation	Rejected
	b	Training design will be positively related to learning motivation	Rejected
H4		The Work Environment (peer support, supervisor support, feedback, opportunity to use, and openness to change) will be positively related to transfer motivation.	**Partly Accepted**
	a	peer support has a positive impact on the transfer motivation	**Accepted**
	b	supervisor support has a positive impact on the transfer motivation	Rejected
	c	feedback has a positive impact on the transfer motivation	**Accepted**
	d	openness to change has a positive impact on the transfer motivation	**Accepted**

Hypothesis No.		Hypothesis explanation	Outcome
H5		The Individual Characteristics (self-efficacy, goal orientation, training retention, locus of control) will be positively related to transfer motivation.	**Partly Accepted**
	a	self-efficacy has a positive impact on the transfer motivation	**Accepted**
	b	training retention has a positive impact on the transfer motivation	**Accepted**
H6		Learning motivation will mediate the relationship between work environment and training transfer. (See H1 above)	
H7		Learning motivation will mediate the relationship between individual characteristics and training transfer. (See H2 above)	
H8		Learning motivation will mediate the relationship between training design and training transfer. (See H3 above)	
H9		Learning motivation will be positively related to training motivation	**Accepted**
H10		Transfer motivation will be positively related to training transfer	**Accepted**
H11		Transfer motivation will mediate the relationship between work environment and training transfer. (See H4 above)	**Partly accepted**
H12		Transfer motivation will mediate the relationship between individual characteristics and training transfer. (See H5 above)	**Partly accepted**
H13		The learning motivation will be positively related to training transfer	**Not directly linked**
H14		Transfer motivation will mediate the relationship between learning motivation and training transfer.	**Accepted**
H_{p-h} 1		Supervisor support has a significant effect the training transfer.	**Accepted**
H_{p-h} 2		Training design has a significant effect the training transfer.	**Accepted**
H_{p-h} 3		Training retention has a significant effect the training transfer.	**Accepted**

H_{p-h} = Post-hoc hypothesis

The results of the post hoc / revised model showed that among the work environment factors, the peer support factor showed the highest statistically significant direct and positive impact on learning motivation (H1a) and it also had statistically significant impact on the transfer motivation (H4a); hence, hypotheses H1a and H4a were accepted (Table 4-11). In addition, the findings showed that peer support had an indirect impact on training transfer through two mediating factors, i.e. learning motivation and transfer motivation. These findings suggested that peer support plays an important role in trainee's motivation to learning and motivation to transfer training. However, these findings revealed that peer support does not play a statistically significant direct role in training transfer at the workplace. These findings suggest that in the case of Saudi public security organisation, training transfer at the workplace perhaps depends on some other work environment factors such as supervisor support.

In addition, the results of the revised / post hoc model revealed that supervisor support had no statistically significant direct impact on learning motivation (H1b) and transfer motivation (H4b); thus, hypotheses H1b and H4b were again rejected (Table 4-11). Moreover, the statistically non-significant impact of the supervisor support factor on transfer motivation (Table 4-11) suggested that participants disagreed that their supervisors provided enough support that could lead and increase their transfer motivation. Participants' ranking of items of supervisor' support construct are given in Table 8-14 Frequency Tables in Appendix 8. Therefore, this finding suggested that there is a need of supervisors' support for trainee officers during training and for motivating them for training transfer to the workplace in public security organisation in Saudi Arabia.

More importantly, the findings of the revised / post hoc model (Figure 4-3) identified that supervisor support had a statistically significant positive and direct impact on training transfer and this link was not hypothesised in the theoretical model; hence, it was a new finding in the present study. Therefore, this finding could be considered as a contribution to the body of knowledge made by the present study. This finding however, could be specific to officers of Saudi public security organisation; hence, the generalisation of this finding should be made cautiously.

In addition, the findings of the revised / post hoc model (Figure 4-3) revealed that two other work environment factors, i.e. opportunity to change and performance feedback also showed a statistically significant, but the negative direct impact on transfer motivation only; thus, the proposed hypotheses H4a, H4c and H4d were accepted (Tables 4-8 and 4-11).

Overall, the findings of the revised model (Figure 4-3) regarding work environment factors showed a statistically significant direct impact of three work environment factors, i.e. peer support, openness to change and performance feedback on (training) transfer motivation. This finding revealed that these three work environment factors influence training transfer indirectly, i.e. through the transfer motivation, which was used as a mediator factor in the revised model. Thus, the initial hypothesis H11 was once again partially accepted (Tables 4-8 and 4-11). In addition, statistically significant direct impact of only one work environment factor, i.e. peer support on learning motivation also revealed that this work environment factor also had an indirect impact on transfer motivation through learning

motivation and through transfer motivation on training transfer. Hence, this finding suggested partial acceptance of the initial hypothesis H6 (Table 4-8).

Regarding the individual characteristic factors, the findings of the post hoc / revised model revealed that training retention was the only individual characteristic factor that had a statically significant positive and direct impact on learning motivation, transfer motivation and training transfer. The findings of the revised model (Figure 4-3) also showed that the direct positive impact of training retention was the highest on training transfer, followed by its impact on learning motivation (H2c) and then on transfer motivation (H5c). This finding suggested that the most important individual characteristic factor is training retention, which directly influences not only the individual's learning motivation (H2c) and transfer motivation (H5c) during the training but also training transfer in the work place. These findings led to the acceptance of two initial hypotheses H2c and H5c (Tables 4-8 and 4-11). In addition, the finding of statistically significant positive and direct impact of training retention on training transfer, which was not hypothesised in the theoretical model, was a new finding in the present study. Hence, this finding could be considered as a contribution to the body of knowledge made by the present study. Nevertheless, the generalisation of this finding might be limited because this finding could be specific to the present study context, i.e. public security organisation in Saudi Arabia.

The findings of the post hoc / revised model (Figure 4-3) also revealed that another individual characteristics factor, i.e. self-efficacy also had a statistically significant positive, and the highest direct, impact on the learning motivation (H2a) followed by a statistically significant positive and direct impact on the transfer motivation

(H5a). The third individual characteristics factor, i.e. goal orientation, also showed a statistically significant impact only on learning motivation (H2b). These findings suggested that training retention was the strongest variable compared to performance self-efficacy and goal orientation in influencing an individual's motivations to learning and training transfer, as well as training transfer in the workplace.

Goodness of fit indices of Revised Model

The results of goodness of fit indices of the revised model are shown in Table 4-12, which revealed that the overall model was fit with the data. However, the values of CMIN/DF were lower than the required values, which was highly significant (p = .000). However, other fit indices in the revised model (Table 4-12, Figure 4-3) were better than the initial hypothesised model (Table 4-9, Figure 4-2).

Table 4-12 Revised CFA/ SEM model – Summary of Goodness of fit indices

	CMIN		**Baseline Comparisons Indexes**			**RMSEA**	
	CMIN/DF	*P*	*Bollen's Incremental Fit Index (IFI)*	*Tucker-Lewis (Coefficient) Index (TLI)**	*Bentler's Comparative Fit Index (CFI)*	*Value*	*P*
Suggested values	≤ 2.00	>.05	>0.90	>0.90	>0.90	≤0.05	>0.05
Observed values	1.466	.000	.959	.956	.959	0.046	0.856

*Also known as the Bentler-Bonett non-normed fit index (NNFI), CMIN = Chi Square minimum, DF= Degree of freedom, RMSEA = Root Mean Square Error of Approximation

4.3 Summary

In summary, the results of the hypothesised model (Figure 4-2) showed that among four individual characteristics factors only two factors i.e. self-efficacy (β = .158, p = .047) and goal orientation (β = .163, p = .036) had a statistically significant direct and positive impact on the learning motivation factor (Table 4-7). In addition, the self-efficacy (β = .152, p = .028) had a statistically significant direct and positive impact on the (training) transfer motivation factor (Table 4-7). The training retention factor (β = .313, p = .000) had a statistically significant direct and positive impact and on learning motivation (β = .197, p = .027), transfer motivation (β = .176, p = .021) and the training transfer (β = .313, p = .000) (Table 4-7). While the remaining individual characteristics factors i.e. locus of control had no statistically significant effect on either of the two mediating factors i.e. learning motivation, (training) transfer motivation as well as on the outcome variable i.e. training transfer.

The results revealed that out of five work environment factors only one factor i.e. peer support had a statistically significant direct and positive effect (β = .311, p = .000) on the learning motivation variable (Table 4-7). In addition, two work environment factors i.e. feedback (β = -.159, p = .014) and openness to change (β = -.147, p = .020) had statistically significant direct but negative effect on the transfer motivation factor (Table 4-7). Moreover, only one work environment factor i.e. peer support had a statistically significant direct and positive effect (β = .224, p = .003) on the transfer motivation variable (Table 4-7). Results also showed that only one work environment factor i.e. supervisor support had a statistically significant direct and positive effect (β = .146, p = .018) on the training transfer

factor (Table 4-7). Whereas the remaining work environment factors i.e. opportunity to use learning and openness to change factors had no statistically significant effect on learning motivation, transfer motivation and training transfer.

Results also showed that among two training design factors included in the hypothesised model (Figure 4-2), only training design factor had a statistically significant direct and positive effect ($\beta = .318$, $p = .000$) on training transfer factor only (Table 4-7). However, the other training design factor i.e. training content factor had no statistically significant direct effect on learning motivation, transfer motivation and training transfer factors (Table 4-7).

Results regarding two mediatory factors i.e. learning motivation and transfer motivation included in the hypothesised model showed that transfer motivation factor had a statistically significant direct and positive effect ($\beta = .177$, $p = .008$) on training transfer factor (Table 4-7) and the learning motivation had a statistically significant direct and positive effect ($\beta = .401$, $p = .000$) only on the transfer motivation variable (Table 4-7). Learning motivation had no statistically significant direct impact on the outcome variable i.e. training transfer.

Consequent to the results explained above, the initial hypothesised model (Figure 4-2) was revised by excluding the locus of control factor, opportunity to use learning and openness to change factors due to their no statistically significant impact neither on mediating factors i.e. learning motivation and transfer motivation nor on the main outcome variable i.e. training transfer. In addition, the modification indices obtained in CFA/SEM of the hypothesised model (Figure 4-2) suggested that the hypothesised model could be improved showing a better fit with the

collected data when three new links were added between the outcome variable i.e. training transfer and three independent variables i.e. training retention, training design and supervisor support. Consequently, the hypothesised model (Figure 4-2) was revised (Figure 4-3) and retested by running the CFA/ SEM.

For the revised / post hoc model (Figure 4-3), results showed that self-efficacy (β = .158, p = .047), peer support (β = .311, p = .000), goal orientation (β = .163, p = .036) and training retention (β = .197, p = .027) had statistically significant impact on learning motivation (Table 4-10). However, training design, training content and supervisor support had statistically no significant impact on learning motivation. In addition, CFA / SEM results (Table 4-10) for the revised model (Figure 4-3) revealed that there was statistically significant impact of feedback (β = -.159, p = .014), learning motivation (β = .401, p = .000), openness to change (β = -.147, p = .020), peer support (β = .224, p = .003), training retention (β = .176, p = .021) and self-efficacy (β = .152, p = .028) on the transfer motivation, which had statistically no significant impact of supervisor support. Moreover, CFA / SEM results of the revised model (Table 4-10) confirmed that there was statistically significant impact of transfer motivation (β = .177, p = .008), supervisor support (β = .146, p = .018), training design (β = .318, p = .000) and training retention (β = .313, p = .000) on the outcome variable i.e. training transfer as hypothesised in the revised model (Figure 4-3).

Results of hypotheses testing (Table 4-8) for the hypothesised model (Figure 4-2) showed that three proposed hypotheses were accepted i.e. H9 (Learning motivation will have a statistically significant positive and direct impact on transfer motivation), H13 (Learning motivation will have a statistically significant, positive

and direct impact on training transfer) and H14 (Transfer motivation will mediate the impact of learning motivation on training transfer), eight proposed hypotheses were partly accepted (i.e. HI (work environment factor will have a statistically significant positive and direct impact on learning motivation), H2 (individual characteristics factor will have a statistically significant positive and direct impact on learning motivation), H4 (work environment factor will have a statistically significant positive and direct impact on transfer motivation), H5 (Individual characteristics factor will have a statistically significant positive and direct impact on transfer motivation), H6 (Learning motivation will mediate the impact of work environment factor on transfer motivation), H7 (Learning motivation will mediate the impact of individual characteristics factor on transfer motivation), H11 (Transfer motivation will mediate the impact of work environment factor on training transfer) and H12 (Transfer motivation will mediate the impact of individual characteristics factor on training transfer) while two hypotheses were rejected (i.e. H3 (training design will have a statistically significant positive and direct impact on learning motivation) and H8 (Learning motivation will mediate the impact of training design factor on transfer motivation) (Table 4-8).

For the revised (post hoc) model (Figure 4-3), results of hypotheses testing (Table 4-11) revealed that H2 (Individual characteristics will be positively related to learning motivation), H9 (Learning motivation will be positively related to training motivation), H10 (Transfer motivation will be positively related to training transfer), H14 (Transfer motivation will mediate the relationship between learning motivation and training transfer) and all post-hoc hypotheses $H_{p\text{-}h}$ 1 (Supervisor support has a significant effect the training transfer), $H_{p\text{-}h}$ 2 (Training design has a significant

effect the training transfer) and $H_{p\text{-}h}$ 3 (Training retention has a significant effect the training transfer) were accepted), while H1 (Work environment will be positively related to learning motivation), H4 (Work environment will be positively related to transfer motivation), H5 (Individual characteristics will be positively related to transfer motivation.) H6 (Learning motivation will mediate the relationship between work environment and training transfer), H7 (Learning motivation will mediate the relationship between individual characteristics and training transfer), H8 (Learning motivation will mediate the relationship between training design and training transfer), H11 (Transfer motivation will mediate the relationship between work environment and training transfer) and H12 (Transfer motivation will mediate the relationship between individual characteristics and training transfer) were partly accepted and H3 was rejected (details presented in Table 4-11). These findings are discussed in the next chapter.

5 Chapter 5: Discussion

This empirical study investigated training transfer to the work by officers of Saudi public security organisation. This chapter presents discussion on the key findings of the present study in the light of relevant published literature. This chapter is divided in to ten sections as follows. The first section comments on the response rate. The second section discusses about the findings of the participants' demographics. The third section highlights the key findings in relation to the research questions addressed in the present study. The fourth section provides discussion regarding the findings about the learning motivation. The fifth section discusses the findings in relation to the transfer motivation. The sixth section presents discussion about the findings vis-à-vis training transfer to the work. The seventh section discusses the findings about hypotheses testing. The eighth section discusses the contributions of the study. The ninth section comments on the limitations of the study. The last (tenth) section presents a summary of the discussion on the key findings.

5.1 Response rate

In the present study, the effective response rate was 70.2% (351 complete / useable surveys of 500 administered), which is considered as a very good response rate (Bobbie, 1973, p.165). The response achieved in this study was lower than some recent studies such as Chauhan et al. (2016), Cur ado et al., (2015), Ng (2015), Lee et al., (2014) and Dirani (2012) that reported a response rate of 74.5%, 74.6%, 76.5%, 96.3% and 82.5% respectively. However, the present study has a higher response rate than many recent studies in the domain

of training transfer such as a response rate of 23.7% by Tura and Casmir (2015), 63.2 % by Wen and Lin (2014a,b), 59.8%. by Homklin et al., (2014), 50.3% by Bhatti et al., (2014), 48.6 % By Truitt (2011), 18.5% by Davis et al. (2013), 15.7% by Donovan and Darcy (2011) and 13.2 by Cheng et al., (2015) . It is interesting to note that response rate was not reported in most of the earlier studies (Velada et al., 2007; Tziner et al., 2007; Pham et al., 2013, Zumrah et al., 2012, 2013; Zumrah and Boyle 2015). Therefore, from the response rate perspective, the present study was a good study.

5.2 Participants' demographics

The results about the demographics of the participants revealed that the all participants were male and there was no female participant in the study. These findings suggest gendered inequalities in HRD in Saudi public security, reflecting inequalities in employment and career development for women at the national level in the country (Iles et al., 2012) such as the dearth of women officers in Saudi public security, which has been identified in the present study. Hence, there is need for inclusion of female officers in Saudi public security organisation for dealing with gender specific security issues such as screening of women passengers at airports and investigation of females offenders require women security officers (Ren and Zhao, 2005; Strobl, 2008). Literature shows that there is penetration of women in the national police force in some GCC countries such as 10% in Bahrain, 4.7% in Qatar and 4.5% in Oman but data is not available for the KSA, Kuwait and United Arab Emirates (Strobl, 2010). This does not mean that there are no women in the police forces in these GCC countries but there representation is very small, which was recognised in 2012 by the head of Saudi

Arabian religious police (known as *Mutawaa'in*) and he suggested increasing the recruitment of women in the police force (BBC, 2012). In addition, Saudi women are reported to be increasingly applying for and getting jobs as female security guards at banks, malls, private offices run by women as well as social, educational and health facilities (Al-Fawaz, 2015). Nevertheless, the findings of the present study has revealed that women officers need to be inducted in Saudi public security, which is imperative from the gender diversity perspective as well as from the perspective of public security, which requires both male and female officers in dealing with diverse public security issues.

5.3 Key findings and research questions

The key findings of this study regarding the research questions about the impact of work environment, individual characteristics, training design, learning motivation and transfer motivation on training transfer to the work in the context of Saudi public security organisation are presented in Table 5-1. These findings are discussed in the light of published literature in the following sections.

Table 5-1 Key findings – Direct predictors of learning motivation, transfer motivation and training transfer

Direct predictor variables	Outcome variables		
	Mediating variables		Main outcome variable
Work Environment	Learning motivation	Transfer Motivation	Training Transfer
Performance Feedback	◆	☑	◆
Peer Support	☑	☑	◆
Supervisor support	☒	☒	☑
Openness to Change	◆	☑	◆
Individual Characteristics			
Performance Self-Efficacy	☑	☑	◆
Goal Orientation	☑	◆	◆
Training Retention	☑	☑	☑
Training Design			
Training Content	☒	◆	◆
Training Design	☒	◆	☑
Motivations			
Learning Motivation		☑	◆
Transfer Motivation			☑

☑=Statistically Significant; ☒=Statistically Not-Significant; ◆=Not directly linked in the model

5.4 Learning Motivation

In this study, the first research questions asked about the direct impact of work environment, individual characteristics and training design on learning motivation. In this regard, the findings of the present study revealed that self-efficacy, peer support, goal orientation and training retention factors had a statistically significant direct impact on the learning motivation of officers of Saudi public security organisation (Tables 4-7 and 4-10).

These findings are discussed below.

5.4.1 Explanation of Variance in Learning Motivation

The findings of the present study also revealed that four explanatory variables, i.e. self-efficacy, peer support, goal orientation and training retention explained 24% of the variance in learning motivation (Figure 4-3). The percentage of total variance explained in the learning motivation in the present study is lower than an earlier study by Kontoghiorghes (2002) who reported extraction of 57.6% of the variance in the learning motivation. The difference between the findings of the present study and the study by Kontoghiorghes (2002) could be due to differences between the two studies as explained below. There were only six predictors of learning motivation in the present study while Kontoghiorghes (2002) used eleven predictors of learning motivation. In addition, there was no predictor variable of learning motivation common in the both studies. Other differences included the differences in the organisational and country contexts and methodologies of the two studies. In terms of the country context, the study by Kontoghiorghes (2002) involved employees of a healthcare insurance corporation in Malaysia while the

present study involved officers belonging to Public Security Organisation in Saudi Arabia. These findings might suggest that the use of a different set of predictor variables and conducting research studies in different settings / contexts could provide different findings vis-à-vis the same outcome variable (Ghosh et al., 2015) such as the learning motivation as reported in this thesis. Methodological differences showed that Kontoghiorghes (2002) surveyed respondents who had completed training prior to the survey and they were working at their job place, whereas the researcher of the present study surveyed respondents whose majority were under training at their training centres at the time of the study. Another methodological difference was the application of statistical analytical techniques between the two studies. Kontoghiorghes (2002) used the Pearson's correlations and stepwise regression technique while the present researcher applied exploratory and confirmatory factor analyses and structural equation modelling. The use of factor analyses followed by structural equation modelling is a robust multivariate statistical analytical approach compared to the Pearson's correlations and stepwise regression due to the following reasons. The confirmatory factor analysis and structural equation modelling take into account the complete hypothesised model including the measured and the latent variables included in the model; however, the stepwise regression estimates only the measured variables. In addition, the structural equation modelling provides error estimates, which are not reported in the regression models (Schumacker and Lomax, 2016, p. 6). Consequently, there were differences in the findings of models tested in the present study and the study by Kontoghiorghes (2002). These findings suggest that differences in the methodological approaches and statistical analytical

techniques could lead to varying findings with respect to the same outcome variables, such as the learning motivation.

5.4.2 Significant determinants of Learning Motivation

The findings of the present study showed the highest variance in the learning motivation was explained by peer support factor, which was followed by training retention, goal orientation and self-efficacy (Figure 5-1). These findings suggest that peer support was the strongest determinant of learning motivation of Saudi public security officers. In addition, these findings suggest that peers can play a critical role in motivating colleagues in the learning environment (Chiaburu and Marinova, 2005; Martin, 2010; Korir and Kipkemboi, 2014).

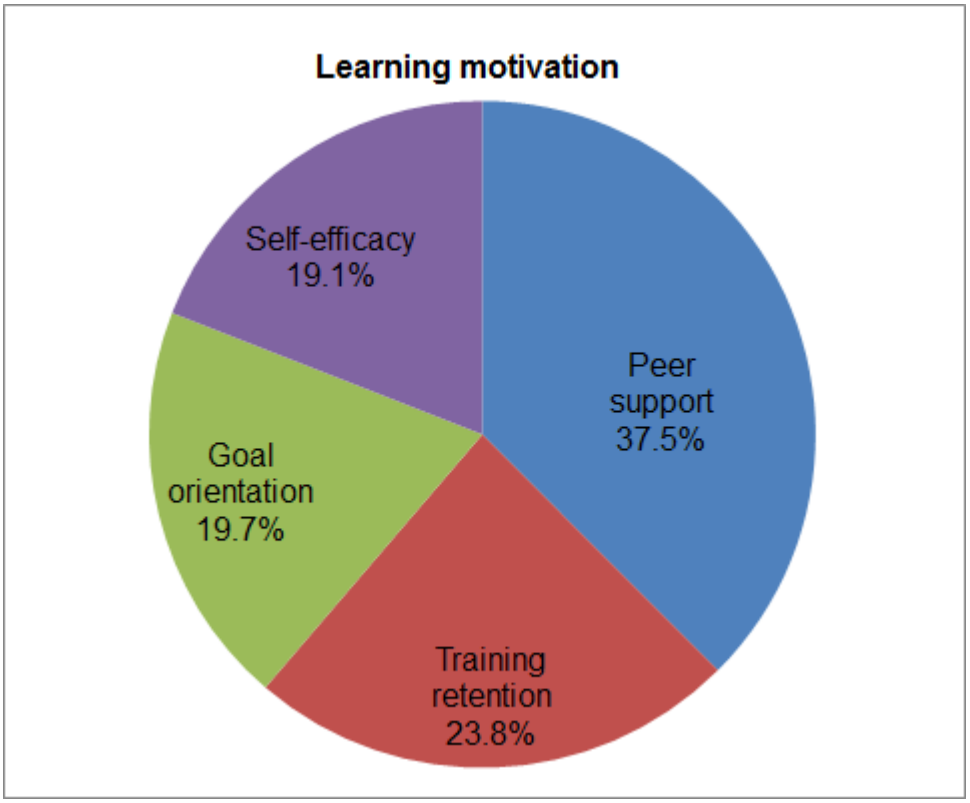


Figure 5-1 Impact (%) of statistically significant predictors on learning motivation

Literature showed that a study by Kontoghiorghes (2002) reported that the strongest determinant of learning motivation was organisational commitment, which was followed by task cues (similarity between training and work task). However, the present study revealed that the strongest predictor of learning motivation was peer support, which was followed by self-efficacy and goal orientation. In addition, the literature revealed that learning motivation is essential for a trainee's interest in the training and learning (Jehanzeb et al, 2013). Moreover, earlier studies reported that trainees having higher training motivation prior to training have higher learning outcomes (Baldwin et al., 1991); hence, motivation for learning and training is essential for effectiveness of training programmes (Kontoghiorghes, 2004). In the present study, the researcher did not ask the participants about their learning motivation prior to joining the training course but instead asked about their motivation to learn from the training. The responses of the participants (Table 8-14 Frequency Tables in Appendix 8) showed that most of the participants either agreed or strongly agreed about their motivation to learn from their training programmes, which most of them were receiving at the time of survey. In addition, their selection of the agreeing options also reflects their high learning motivation at the time of training. These findings suggest that officers of Saudi public security organisation have a higher motivation for learning.

A very recent study involving Malaysian public sector employees conducted by Ng (2015) reported that supervisor support statistically significantly affected learning motivation through which it affected training transfer. However, the findings of the present study showed that supervisor support was not a significant predictor of learning motivation. In addition, the present study found that learning motivation

had no statistically significant direct impact on training transfer. These differences in the findings between the present study and the study by Ng (2015) could be due to contextual differences (different countries and different types of organisations) and methodological differences between the two studies. The present study was conducted in Saudi Arabia in the Middle East and it involved officers of Saudi public security organisation whereas the study by Ng (2015) was conducted in Malaysia in the Far East Asia and it involved employees of a large Malaysian public sector organisation (name not reported). These findings suggest that the context in which a research study is conducted affects the determinants / predictors of the outcome variable, such as the training transfer (Ghosh et al., 2015) and learning motivation as discussed above. Regarding methodological differences, Ng (2015) applied stepwise mediating regression analysis while in the present study the researcher used highly robust multivariate analytical techniques, which included exploratory and confirmatory factor analyses followed by structural equation modelling for evaluating the relationships between different types of factors in the proposed model. Therefore, the differences in the findings of the present study and the study by Ng (2015) suggest that differences in the application of statistical analytical techniques in research studies could also lead to varying empirical findings about the same outcome variables e.g. learning motivation.

Nevertheless, the findings of the present study regarding the predictors of the learning motivation are similar to a study by Lee et al. (2014), which involved employees of an insurance company in South Korea. The findings of the present study and Lee et al. (2014) study confirmed that the trainee's self-efficacy

statistically significantly determines learning motivation, which is also in agreement with other studies (Tziner et al., 2007; Wen and Lin, 2014b). In addition, both the present study and the study by Lee et al. (2014) have also established that supervisor support does not statistically affect the learning motivation. However, the findings of the two studies differ from each other vis-à-vis the influence of peer support on learning motivation as follows. The study by Lee et al. (2014) found that peer support was not a statistically significant determinant of learning motivation, which was contrary to the findings of the present study that revealed that peer support statistically significantly and positively affected the learning motivation. These differences between the findings of the two studies could be due to differences between the contexts of the studies i.e. the training environment, work environment, nature of work, country of work and background of the participants.

These findings show that results of statistical analytical techniques used in the present study were similar to the other studies that used the same analytical techniques such as SEM, and the findings of the present study differed from studies that used simple regression techniques to study training transfer. Thus, these findings suggest that the use of analytical techniques i.e. EFA, CFA and SEM used in the present study were very appropriate and relevant to studying training transfer by officers of Saudi public security organisation.

5.4.3 Non-significant determinants of Learning Motivation

The results of the present study (Table 4-10) showed that supervisor support, training content and training design had no statistically significant impact on learning motivation. Although statistically not significant, supervisor support and

training content showed negative relationship with the learning motivation (Table 4-10). These findings suggested that the participants did not agree that their supervisors supported them in enhancing their motivation to learning during the training (Table 8-14 Frequency Tables in Appendix 8). In addition, the negative non-significant association between the training content and learning motivation might also suggest that the content of training was perhaps not interesting and contributing in the learning of officers of Saudi PSO. These findings are evident from the participants' (trainees) disagreement that showed that there was not enough supervisor support during the training and that the content of training was not interesting (Table 8-14 Frequency Tables in Appendix 8). These findings suggest that supervisors at the Saudi PSO need to support and motivate their officers especially the trainees during their training. In addition, these findings suggest that there is a need for evaluation of the training content, which might need to be revised toward the requirements of the trainees so that it is interesting to them. These suggestions could enhance trainee officers' learning motivation during the training.

5.4.4 Learning Motivation as a Mediator variable

The findings of the present study revealed that learning motivation was a statistically significant mediator variable between the transfer motivation variable and three individual characteristic factors i.e. self-efficacy, goal orientation and training retention and one work environment factor i.e. peer support (Figure 4-3, Tables 4-7 and 4-10). These findings showed that self-efficacy, goal orientation, training retention and peer support have a significant indirect influence through the learning motivation on the (training) transfer motivation. The indirect influence of

the above explanatory variables could be in addition to any direct influence on the transfer motivation of officers of Saudi APSO (Figure 4-3, Tables 4-7 and 4-10).

The above findings are in conformity with earlier studies that reported that learning motivation was a statistically significant mediator between some individual characteristics factors, work environment factors and (training) transfer motivation factor (Chiaburu and Lindsay, 2008; Lee et al., 2014; Wen and Lin, 2014a,b). Despite differences in the organisational and country contexts, the findings of the present study were in agreement with earlier studies (Chiaburu and Lindsay, 2008; Lee et al., 2014; Wen and Lin, 2014a, b). For example, the study by Chiaburu and Lindsay (2008) involved research participants in a service organisation in the USA while the present study involved research participants of Saudi public sector security organisation in the KSA. However, the findings of both studies were similar, perhaps due to the use of same analytical techniques, i.e. SEM and similar methodological approaches i.e. data collection methods i.e. administering self-completion questionnaire survey to the participants during the training at their training place.

Similarly, a study by Lee et al. (2014) involved employees of an insurance company in South Korea, which applied SEM, and their findings about determinants of learning motivation were similar to the present study. In addition, Wen and Lin (2014a, b) involved employees of different industries in Taiwan and used the SEM, reported results similar the present study vis-à-vis the determinants of learning motivation. These findings suggest that the despite differences in the study contexts and research participants, use of same methodological approaches

and statistical techniques in the same research domain such as the training transfer to the work could led to similar results.

The next section provides discussion on the findings regarding (training) transfer motivation to the job and workplace.

5.5 Transfer Motivation

In the present study, the second research questions asked about the direct impact of work environment, individual characteristics and training design on transfer motivation. The findings showed that statistically significant predictors of transfer motivation of officers of Saudi PSO were feedback, learning motivation, openness to change, peer support, training retention and self-efficacy (Tables 4-7 and 4-10). Similar findings have been reported in the earlier literature as discussed below.

5.5.1 Explanation of Variance in Transfer Motivation

The findings of the present study showed that 46% of the variance in transfer motivation of officers of Saudi PSO (Figure 4-3) was explained by three individual characteristics variables (i.e. learning motivation, training retention and self-efficacy) and three work environment variables (i.e. peer support, feedback and opportunity to change). However, only one work environment variable i.e. supervisor support, had statistically no significant impact on the variance in (training) transfer motivation in the present study.

The percentage of total variance explained in the motivation to transfer training in the present study was 46%, which was higher than an earlier study (Kontoghiorghes, 2002), which reported 34.7% of the variance in transfer motivation of employees of healthcare insurance sector in Malaysia. The variables

predicting training motivation in the present study and the study by Kontoghiorghes (2002) were different except the learning motivation variable, which was used in the both studies and it was found to be the strongest predictor of transfer motivation in the both studies. These findings suggest that using the same strongest predictor variable(s), e.g. learning motivation, could result in similar findings vis-à-vis the strongest determinant of same outcome variables, e.g. transfer motivation, despite the differences in the contexts in which research studies are conducted. Nevertheless, comparison of the present study with the study by Kontoghiorghes (2002) revealed that use of different predictor variables make differences in the percentage of total variance explained in the same outcome variables. Conversely, the results of the present study showed that the percentage of total variance explained in the motivation to transfer training could be similar to other studies such as Bhatti *et al*. (2014) who found explanation of 48% of the variance in the training motivation of banking sector trainees in Malaysia. Despite differences in the contexts i.e. countries and organisations in the study by Bhatti *et al* (2014) and the present study, the finding of an almost similar percentage of variance explained in the transfer motivation in the both studies. This could be due to inclusion of some common explanatory variables such as self-efficacy and peer support in the models of the present study and the study by Bhatti *et al* (2014). Thus, it could be suggested that application of similar variables in the training transfer models could result in similar findings despite contextual differences and vice versa.

5.5.2 Significant determinants of Transfer Motivation

The findings revealed the highest variance explained in the transfer motivation was by learning motivation, which was followed by peer support, training retention, feedback, self-efficacy and openness to change (Figure 5-2).

These findings suggest that an individual's transfer motivation is strongly determined by his/her learning motivation, which affects about 1/3 of the variation in the motivation to transfer training at the work in the case of officers of Saudi public security (Figure 5-2).

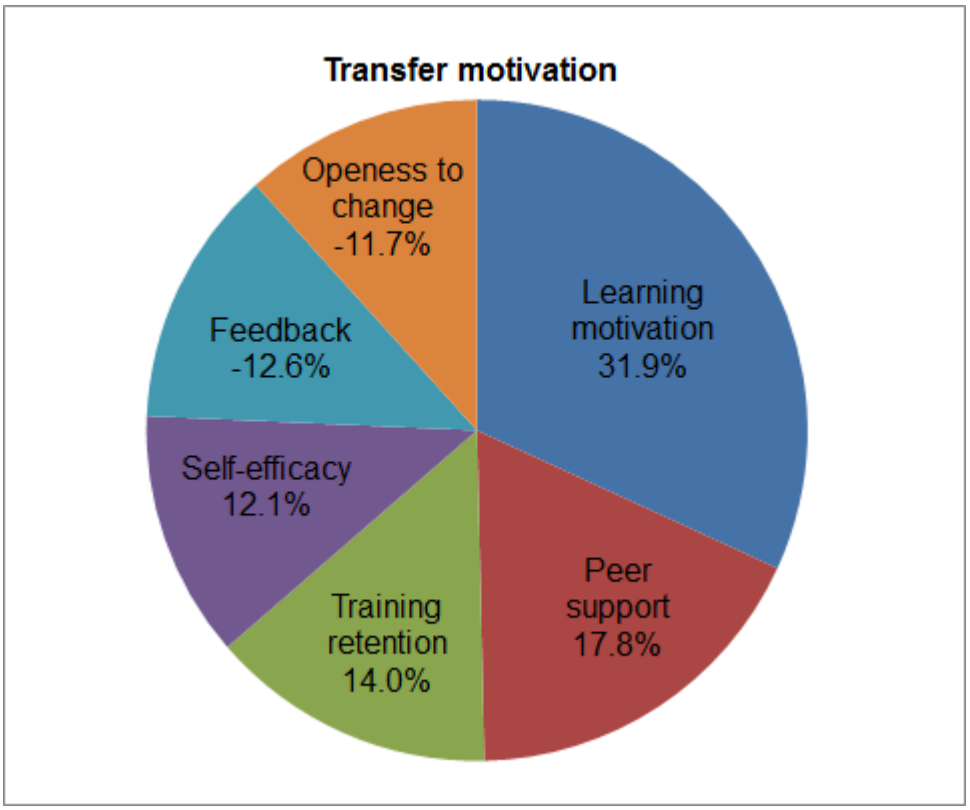


Figure 5-2 Impact (%) Statistically significant predictors on transfer motivation

The findings of the present study revealed that the variance in the transfer motivation of Saudi public security officers was strongly determined by learning motivation, which was followed by peer support, training retention, self-efficacy, feedback and opportunity to change. All these variables were positively associated with the transfer motivation except the feedback and opportunity to change, which were negatively related to the transfer motivation. In addition, four significant determinants of learning motivation, i.e. self-efficacy, goal orientation, training retention and peer support, contributed indirectly in explaining the variance in the participant's motivation to transfer training (Tables 4-7 and 4-10, Figure 4-3). These findings are discussed below.

A number of earlier studies such as Pidd (2004), Kirwan and Birchall (2006), Burke and Hutchins (2007) and Stephen (2008) reported that transfer motivation was statistically significantly determined by a number of variables which included self-efficacy and peer support, which is in agreement with the findings of the present study. However, the above-mentioned studies found that supervisor support and training design statistically significantly affected transfer motivation, which was contrary to the findings of the present study that showed that supervisor support and training design had statistically no significant impact on transfer motivation of Saudi public security officers. Concerning the impact of supervisor support on transfer motivation, a study by Gegenfurtner *et al*. (2009b) reported that the supervisor support diminishes the transfer motivation within a period of three months. These findings suggest that continuous support of supervisors could be essential for transfer motivation, which would ultimately lead to the training transfer (Grossman and Salas, 2011).

Regarding the determinants of transfer motivation, a study by Lee *et al*. (2014), which involved employees of an insurance company in South Korea, reported that the support of both the supervisors and the peers significantly influenced the transfer motivation and they reported that trainee's self-efficacy was not a significant determinant of transfer motivation. Thus, the findings of the present study and the study by Lee *et al*. (2014) are in agreement with respect to the impact of only the peer support variable on the transfer motivation, while the findings of the two studies are different vis-à-vis the influence of supervisor support and self-efficacy on the transfer motivation.

Another study that is also in partial agreement with the present study findings regarding the determinants of transfer motivation is a recent study by Bhatti *et al* (2014), which was conducted in Malaysia and involved trainees from the banking sector. They reported that the transfer motivation was statistically, significantly and directly affected by supervisor support, peer support and performance self-efficacy (Bhatti *et al*., 2014), which is also in partial agreement with the findings of the present study, except that the supervisor support was not a statistically significant determinant of transfer motivation in the present study.

The lack of statistically significant impact of supervisor support on transfer motivation in the present study could be due to the nature of the participants' organisation that is public security organisation, and the country context (i.e. Saudi Arabia), which could be different from the other countries. Literature shows that in Saudi Arabia, like many other Middle Eastern countries, work outcomes are influenced by several factors such as the behaviours, values and organisational cultures (Dirani, 2012). Therefore, the findings vis-à-vis supervisors' support in the

present study might suggest that the supervisors in Saudi PSO need to support the trainee officers / junior officers in motivating them to transfer training to the work. This is important because the application of the training transfer could be affected by the organisational culture, work policies and procedures, and teamwork (Dirani, 2012).

A study that involved civil servants in Sri Lanka reported a statistically significant and positive influence of self-efficacy on transfer motivation (Madagamage *et al*., 2014), which is also supported in the present study.

However, a study by Lin and Wen (2014) found a significant effect of self-efficacy on transfer motivation indirectly i.e. through learning motivation. Nevertheless, the findings of the present study and the study by Lin and Wen (2014) are in agreement that they did not find any direct impact of self-efficacy on training transfer.

Moreover, a study conducted by Curado *et al* (2015) in insurance sector employees in Portugal revealed that transfer motivation was higher in trainees who took part voluntarily in the training, compared to their counterparts who were recruited compulsorily for the training. In the present study, the trainees were attending a mandatory training course and they included those officers who were sent compulsorily on the training but they might have included some officers who were interested in the training. Hence, there might be some voluntary trainees who would voluntarily attend the training, which would lead to their promotion to a higher rank (Dirani, 2012). However, the present study did not attempt to

differentiate the participants into a mandatory group and a voluntary group because training is mandatory for all officers of Saudi PSO.

A study by Kontoghiorghes (2002) reported that the strongest determinant of transfer motivation was learning motivation. The present study also confirmed that learning motivation was the strongest determinant of transfer motivation. Thus, the findings of the present study with regard to learning motivation as the strongest determinant of transfer motivation are in agreement with the study by Kontoghiorghes (2002). This could be due to the similarity of the tested models and the application of learning motivation and transfer motivation as mediating variables between training transfer and explanatory variables belonging to individual characteristics, work environment and training design.

In addition, a study by Choi and Park (2014) involving public and private sector employee in South Korea reported that openness to change and performance feedback affected transfer of learning. The findings of the present study revealed that performance feedback and openness to change were statistically significant predictors of transfer motivation; however, these two factors were negatively related to transfer motivation in the present study. The statistically significant negative association between openness to change and performance feedback with transfer motivation revealed that there was probably a lack of, or less, opportunities to use learning and providing constructive feedback on the performance fin Saudi public security organisation. These findings therefore suggest a need for providing opportunities to use learning at the workplace and for improving the system and procedures for providing performance feedback to the officers of Saudi public sector security organisation.

These findings suggest that there was a lack of feedback and reward on using the learned knowledge at the work, which is in agreement with a study of public sector employees in Oman (Rajasekar and Khan, 2013), which has a similar culture like Saudi Arabia since the both countries are Arabs, Muslims, neighbours, and members of the GCC.s

The findings of the negative association of openness to change and transfer motivation in the present study is also in agreement with a study conducted by Dirani (2012), in Lebanon, which is also a Arab, Muslim and Middle Eastern country. Dirani (2012) reported that there were a number of barriers such as organisational culture and work policies and procedures, which could be very rigid systems having very little possibility of openness to change, that could greatly hinder the transfer motivation of the trainees. Therefore, the findings of the present study suggest that there is a need to change behaviours and employee encouragement in countries like the KSA to support and enhance transfer motivation, especially among the public sector officers.

5.5.3 Non-significant determinants of Transfer Motivation

The results of the present study (Table 4-10) showed that only supervisor support did not statistically significantly explain any variance in transfer motivation. These findings revealed that participants disagreed that their supervisors provided enough support that could lead and increase their transfer motivation (Participants' ranking of items of supervisor' support construct are shows in Table 8-14 Frequency Tables in Appendix 8).

The non-significant impact of supervisor support on transfer motivation identified in the present study is also in agreement with a study that involved public sector employees in Sri Lanka (Madagamage *et al*., 2014). These findings suggest that in the public sector in developing countries there is a lack of supervisor support to trainee officers in developing transfer motivation, which is imperative for training transfer to the work (Bates *et al*., 2007; Grohmann *et al*., 2014; Lee at al., 2014; Massenberg *et al*., 2015). Another perspective on the lack of supervisor support to trainee / junior officers as identified in the present study could be due to the national and organisational culture where there is a higher power distance between the supervisor and a trainee officer as in Saudi Arabia (Bjerke and Al-Meer, 1993), which could manifest as a lack of supervisor support to trainees.

Literature shows that in Saudi Arabia and other Arabian countries, the Arabian culture plays a vital role in developing the organisational culture and decision making (Wilkins, 2001), such as use of *Wasta* in managing junior employees and officers, which could have negative consequences and unfair outcomes (Harbi, et al., 2016). Therefore, this finding suggests that there is a need for supervisor support to Saudi public security officers, especially during training and for motivating them for training transfer to the work.

5.5.4 Transfer Motivation as a Mediator variable

The findings of the present study showed that transfer motivation was a statistically significant mediators between training transfer and three work environment factors (i.e. feedback, peer support and openness to change), two individual characteristics factors (i.e. self-efficacy and training retention) and learning

motivation (Figure 4-6, Table 4-22 and Table 5-1). These findings revealed that feedback, peer support, openness to change, self-efficacy, training retention and learning motivation have an indirect and significant impact through transfer motivation on training transfer. The indirect impact of the above explanatory variables on training transfer could be in addition to their direct influence on training transfer (Figure 4-3, Tables 4-7 and 4-10).

Literature showed that a number of earlier studies reported that learning motivation significantly mediated relationships between training transfer and work environment factors (Bhatti *et al*., 2014; Lee *et al*., 2014; Huang *et al* 2015;), individual characteristics factors (Grohmann *et al*., 2014; Lee *et al*., 2014) and learning motivation (Chiaburu and Lindsay, 2008; Wen and Lin, 2014a,b). The next section provides a discussion on the findings regarding training transfer and its determinants.

5.6 Training Transfer

In the present study research questions from 4 to 6 asked about the direct and indirect (mediated) impact of work environment, individual characteristics and training design, learning motivation and transfer motivation on training transfer. In this regard, the findings of the present study revealed that statistically significant direct determinants of training transfer were transfer motivation, supervisor support, training design and training retention (Tables 4-7 and 4-10). These findings are discussed in the light of earlier studies below.

5.6.1 Explanation of Variance in Transfer Motivation

The findings of the present study showed that 30% of the variance in training transfer was explained in the final (revised) model in the present study. The observed explanation of the variance in training transfer was directly explained by four variables i.e. training design, training retention, transfer motivation and supervisor support (Figure 4-3). In the present study, the percentage of total variance explained in transfer motivation of Saudi PSO trainee officers is slightly higher than a recent study by Bhatti *et al*. (2014), who reported explanation of 23% of the variance in the training transfer variable. It is reiterated that the study by Bhatti *et al*. (2014), which involved banking sector trainees in Malaysia. In addition, their model included only two variables, i.e. transfer motivation and training retention, which directly contributed to explaining the variance in the training transfer variable (Bhatti *et al*., 2014). Therefore, the difference in the percentages of the variance explained in the present study and the study by Bhatti *et al*. (2014) could be due to differences in the contexts, i.e. organisations and countries of the two studies, and the number of explanatory variables contributing to explaining the variance in the training transfer. These findings suggest that the context of a research study and the methodological approaches such as the selection of a relevant set of explanatory variables are important in studying training transfer outcomes.

5.6.2 Significant determinants of Training Transfer

The findings of this study showed that the training design factor was the strongest and the supervisor support factor was the weakest statistically significant

predictors of training transfer. In addition, the findings revealed training design explained the highest variance and then by training retention, transfer motivation and supervisor support in training transfer to the work (Figure 5-3).

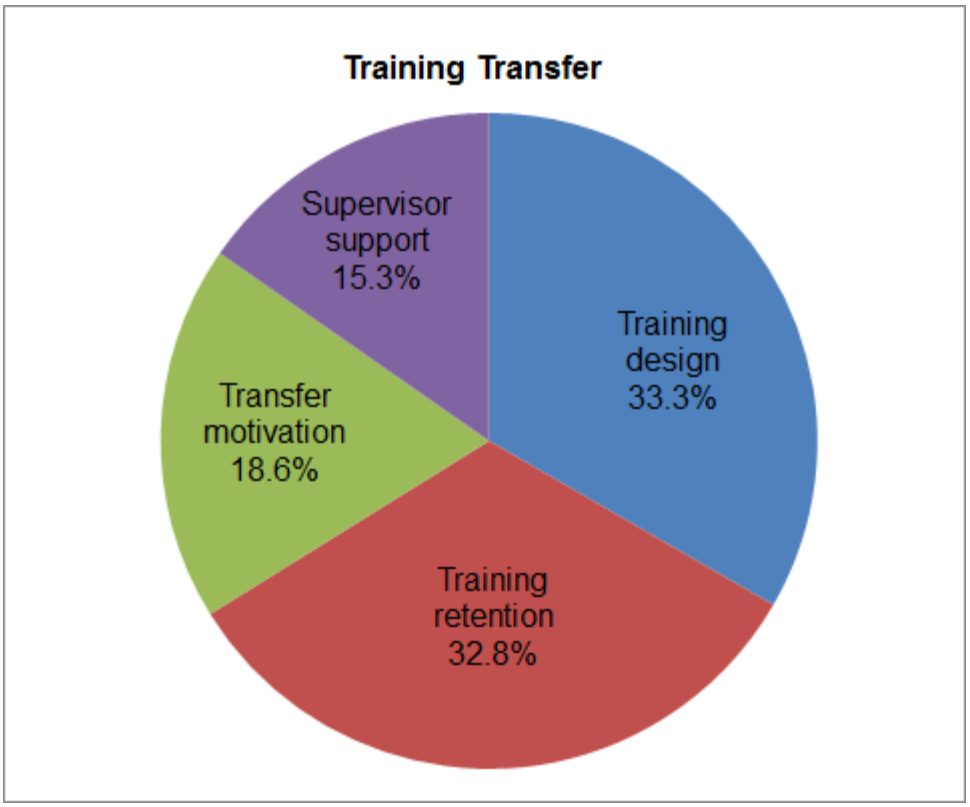


Figure 5-3 Impact (%) of statistically significant predictors on training transfer

The findings of the present study revealed that four variables i.e. training design, training retention, transfer motivation and supervisor support, in order of strongest to weakest determinants had a statistically significant, direct and positive impact on the training transfer. In addition, four significant predictors of learning motivation (i.e. peer support, training retention, goal orientation and self-efficacy) and six significant predictors of transfer motivation (i.e. learning motivation, training

retention, self-efficacy, peer support, feedback and opportunity to change) indirectly explained the variance in training transfer in the present study (Figure 4-3, Tables 4-7 and 4-10).

Direct determinants of training transfer

The findings regarding the direct determinants of training transfer are discussed below

Training design:

The findings of the present study revealed that training design has the highest direct impact on training transfer (Figure 5-3). These findings are in agreement with an earlier study conducted by Broucker (2010), which involved Belgian civil Servants, reported that training transfer to the work place was facilitated by training content and training design. The positive and statistically significant effect of training design and training content on training transfer mediated by transfer motivation was reported in a recent empirical study involving employees of manufacturing, administration, public health, education and service sectors in Germany (Grohmann *et al*., 2014). However, the findings of the present study showed that training content had no significant effect on training transfer, learning motivation and transfer motivation in the present study. These findings might suggest evaluation and review of training content at the training centres providing training to the officers of PSO in Saudi Arabia because the content of training programmes has been reported to be a barrier in actual and optimal training transfer to the work place (Broucker, 2010). In this regard, the trainers can play a significant role because the trainers' style of delivering training and knowledge as

well as the training content have a significant and positive influence on trainees' intentions to transfer training to the work (Rangel *et al*., 2015).

Training retention:

The findings of the post hoc model in the present study revealed that training retention was the only predictor variable that had a statistically significant and positive influence on both mediating variables i.e. learning motivation and transfer motivation as well as on the main outcome variable i.e. training transfer (Figures 4-3 and 5-3, Table 4-10).

A recent study by Bhatti *et al* (2014) reported that training transfer was affected statistically significantly and directly by training retention and transfer motivation, which is supported in the present study. The present study also revealed that the supervisors' support and training design also directly influenced the training transfer; however, in the study by Bhatti *et al* (2014) these factors affected training transfer indirectly, i.e. via transfer motivation. Therefore, the findings of the present study suggest that supervisors' support and training design are also significantly important, in addition to the transfer motivation and training retention, in influencing training transfer to the work in Saudi public security organisation. However, the present study has revealed that the strongest determinant of training transfer is training retention, which is followed by training design, transfer motivation and supervisor support. These findings suggest significant policy implications vis-à-vis planning and implementation of training programs.

However, an earlier study by Abdullah and Suring (2011) reported that the strongest predictor of training transfer was transfer motivation that was followed by

transfer climate and training design, which they found in an empirical study involving civil servants working in the Chief Minister's Department in a state government in Malaysia. However, the empirical literature revealed that training retention (retention of knowledge learned through training) is a significant predictor of training transfer (Velada *et al*., 2007). The significant effect of training retention on training transfer was also supported in a recent study by Homklin *et al*. (2014), which involved participants of a human resource development programme in an automobile industry in Thailand.

Transfer motivation:

The published literature showed that the transfer motivation was a significant determinant of transfer training in some earlier empirical studies (Ferrer-Caja and Weiss, 2000; Bates *et al*.,2007; Grohmann *et al*., 2014; Massenberg *et al*., 2015) and in a literature review (Gegenfurtner *et al*., 2009b). However, a recent South Korean study by Lee at al. (2014) reported that transfer motivation was not a statistically significant determinant of training transfer, which is contrary to the findings of the present perhaps due to differences in the country and organisation contexts. In addition, a study by Lee *et al* (2014) found that learning motivation was a statistically significant predictor of training transfer, which was not supported in the present study. However, both the study by Lee *et al* (2014) and the present study have shown that the impact of transfer motivation on training transfer is higher than the supervisor support (Table 4-10).

Supervisor support:

Literature shows that supervisor support was a statistically significant direct determinant of training transfer (Hua *et al*., 2011; Zumrah, 2015). In addition, a German study by Massenberg *et al*. (2015) revealed that both supervisor support and peer support affected training transfer directly as well as indirectly via learning motivation. However, the findings of the present study revealed that supervisor support affected training transfer only directly while the peer support affected training transfer only indirectly i.e. s via transfer motivation(Table 4-10, Figure 4-3). Thus, the findings of the present study are in full agreement with Hua *et al*. (2011) and Zumrah (2015) and in partial agreement with Massenberg *et al*. (2015).

Contrary to the findings of the present study, Homklin *et al*. (2014) found that supervisor support was a not a significant predictor of training transfer but peer support was a statistically significant predictor of training transfer among employees of the private sector (automobile industry) in Thailand. The differences between the findings could be due to the differences in types of organisations of research participants who were employees of the private sector (automobile industry) in Thailand in the study of Homklin *et al*. (2014) whereas in the present study the participants were officers of Saudi public security organisation. It is therefore more likely that trainees cannot transfer training to workplace without the support and approval of their supervisors in public sector organisations especially in public security organisations such as found in the present study. These findings suggest that supervisor support is one of the important factors in transferring training to the work in public security organisations. Additional differences between the findings of the present study and the findings of the study by Homklin *et al*.

(2014) could be due to the difference in the models proposed / tested in the two studies as follows. Homklin *et al*. (2014) used multiple regression analysis while the researcher in the present study used the CFA/SEM.

Nevertheless, significant effect of supervisor support on training transfer in the present study could be supported by the fact that initiating an action by officers of a security organisation requires approval of the supervisor or commanding officer. For example, the officers at Saudi public security organisation would not necessarily require peer support but the support of their supervisors in taking any activity at the workplace. Therefore, support of supervisors for training transfer is important because the participants in the present study were officers of Saudi public security organisation and they would need permission from their supervisors or commanding officers for important actions, which might need the application of new skills that they learned during the training. The finding of supervisor support as a statistically significant determinant of training transfer in the present study is in congruence with the study by Lee *et al* (2014). In addition, a study by Homklin *et al*. (2014) found no significant effect of supervisor support on training transfer.

It is imperative to mention that the conflicting findings vis-à-vis the role of supervisor's support in training transfer were reported in various empirical studies reported in a recent literature review (Ghosh *et al*., 2015). As discussed above, the reasons for the inconsistent effect of supervisor support on training transfer could also be due to the content of supervisor support construct, which has been found to be different in various studies, as reported in a recent systematic review that involved 78 empirical studies (Govaerts and Dochy, 2014). In addition, the impact of supervisor support on training transfer is reported to be contextual rather than

relational / directional as depicted in study models (Ghosh *et al*., 2015). Therefore, supervisor support is critical for effective training transfer to work otherwise only a small fraction of training is transferred to and applied at the work despite huge investment on training, which has been reported in studies from Europe (Nikandrou *et al*., 2009), Asia (Wen and Lin, 2014a,b) and the Middle East (Turab and Casimer, 2015).

Indirect determinants of training transfer

The findings regarding the direct determinants of training transfer showed that training transfer to the work is affected indirectly by peer support, training retention, goal orientation and self-efficacy via learning motivation. In addition, learning motivation, training retention, self-efficacy, peer support, feedback and opportunity to change through transfer motivation impact training transfer (Figure 4-3, Tables 4-7 and 4-10).

In this regard, a Belgian study involving civil servants reported that training transfer to the work place was facilitated by a trainee's performance self-efficacy, transfer motivation, performance feedback, openness to change, opportunity to use learning (Broucker, 2010). However, in the present study, openness to change was found to have no statistical impact neither on training transfer nor on learning and transfer motivation; hence it was removed from the final model, which is discussed later in this chapter. These findings suggested that there was perhaps no openness to change in the case of Saudi public security organisations, which could be a barrier to transfer training to the work.

Literature showed that barriers to training transfer in the workplace could be due a number of factors such as resistance to change and climate of transfer (Broucker 2010). In addition, unsupportive culture and work environment and lack of time and resources to the trainee have been reported as the most common barriers in training transfer in the public sector in studies from Canada (Brown and McCracken, 2009) and Northern Ireland and Canada (McCracken *et al*., 2012). Moreover, earlier empirical studies have reported that training transfer is affected by organisational cultures, types of organisations and types of training (Holton *et al*., 2003; Chen *et al*., 2006). In the present study, most of the participants reported their high performance self-efficacy but low ranking for the openness to change, opportunity to use learning and supervisor's support as barriers in the optimal training transfer at their work place. Moreover, a study by Almannie (2015) reported that training transfer in Saudi education sector was inhibited by lack of encouragement in the workplace, an unsuitable working environment, and dearth of cooperation from both the supervisors and the peers (colleagues) in the education sector in Saudi Arabia.

These findings could be a reflection of culture pf public sector organisations Saudi Arabia, where a social networking based on the family, kinship and friendship known as Wasta penetrates almost every occupation (Iles et al., 2012). The Wasta plays a critical role not only in the creation of opportunities and knowledge transmission (Hutchings and Weir, 2006; Metcalfe, 2006) but also in recruitment, career development and promotion, performance appraisal procedures, and allocation of benefits to employees (Tlaiss and Kauser, 2011; Iles et al., 2012). Thus, the organisational culture in the country needs to be changed by providing

training to managers and trainers, especially focussing on needs of trainees and junior officers such as developing their learning and transfer motivations and supporting them in training transfer to the work. This is imperative because supervisor support positively influences training motivation (Kim *et al*., 2014) and supervisors and managers play the central role in training and job performance in Saudi Arabia (Jehanzeb *et al*, 2013).

Moreover, supervisors can also support their junior staff / officers prior to training, during training and after training (Bhatti *et al*., 2014). However, the findings of the present study showed that there was not enough supervisor support especially during training, which resulted in non-significant impact of supervisor support on learning motivation and transfer motivation in the present study. Therefore, the above findings suggest that trainee officers in Saudi PSO need continuous supervisor support during training and after training at the workplace. In addition, the supervisors at the PSO in the KSA need to accept and encourage their junior officers about training transfer by application of learned knowledge, skills and attitudes at the work.

In addition, a very recent meta-analysis study by Huang *et al*. (2015) reported that post-training performance self-efficacy affects training transfer; however, in the present study performance self-efficacy affected training transfer indirectly via learning motivation and transfer motivation. These findings suggest that the trainee's self-efficacy is an important factor vis-à-vis training transfer but not as important as the training retention and training design, transfer motivation and supervisor support for training transfer especially in the context of public security., as identified in the present study.

5.7 Hypotheses Testing

The findings regarding the hypotheses testing in the hypothesised and revised model are discussed below.

5.7.1 Hypothesised Model

The hypothesised conceptual model (Figure 5-4) developed by the researcher proposed that work environment factors (n=5), individual characteristics factors (n=4) and training factors (n=2) have a direct impact on learning motivation. In addition, the hypothesised model suggested that the work environment factors and individual characteristics also have a direct impact on transfer motivation, which was also directly influenced by the learning motivation factor (Figure 5-4).

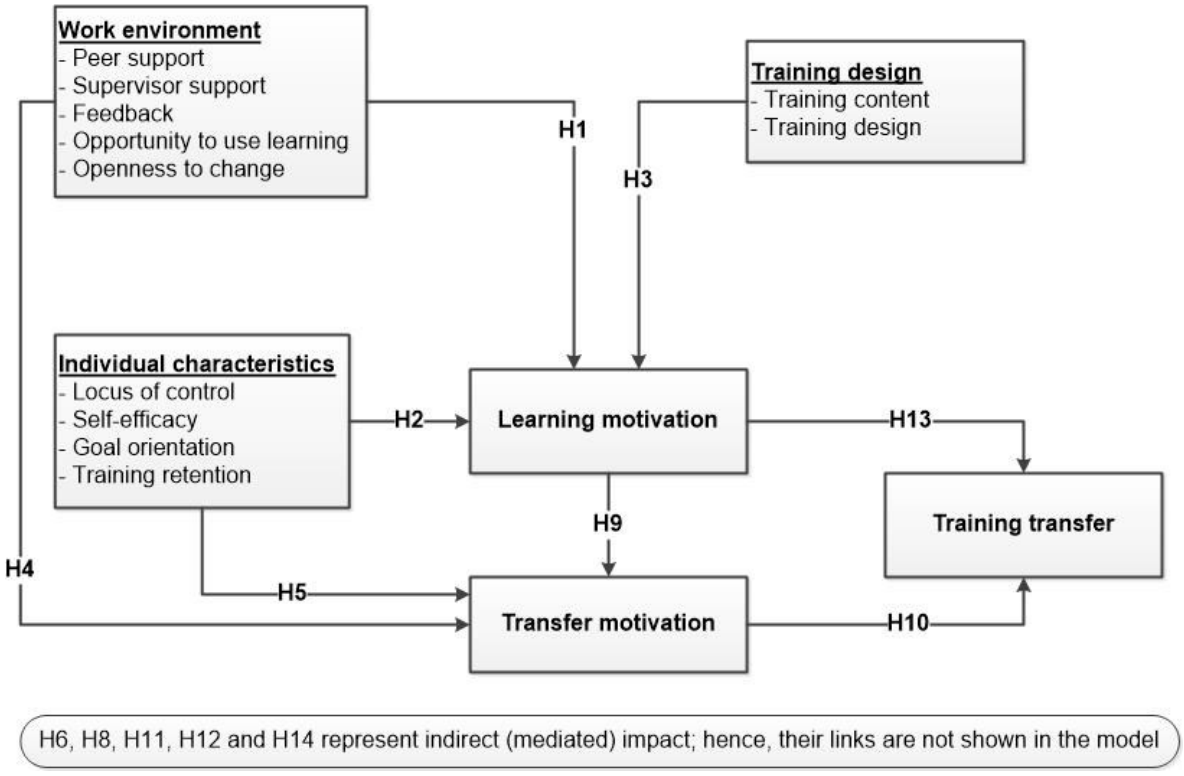


Figure 5-4 Hypothesised conceptual model based on the literature review

The hypothesised model also suggested that both the learning motivation and the transfer motivation have direct impact on the ultimate outcome variable i.e. training transfer. The model (Figure 5-4) further suggested that the two motivation factors i.e. learning motivation and transfer motivation act as mediators between training transfer factor and three types of explanatory / predictor factors i.e. work environment factors (n=5), individual characteristics factors (n=4) and training factors (n=2). However, the findings revealed that most of the hypothesised relationships suggested in the hypothesised model (Figure 5-4) were rejected (see Table 4-20). It is imperative to mention that the findings of the hypothesised model revealed that opportunity to use learning (a work environment factor) and locus of control (an individual characteristics factor) had statistically no significant effect on any of the two mediating variables, i.e. learning motivation and training transfer motivation as well as on the main outcome variable i.e. training transfer included in the hypothesised model (Tables 4-7, Figure 4-2). The researcher therefore excluded opportunity to use learning and locus of control from the revised model (Figure 5-5), which is discussed below. In addition, the findings of the hypothesised model (Figure 5-4) showed that supervisor support had no significant impact on training transfer in the present study. However, the literature showed that supervisor support is an important determinant of training transfer (Hua *et al*., 2011; Massenberg *et al*., 2015). The researcher therefore realigned hypothesised linkages between the explanatory / predictor variables and the outcome variables such as the direct impact of supervisor support on training transfer to the work in the revised model (Figure 5-5), which is discussed below.

5.7.2 Revised Model

The use of revised / post-hoc models has been reported in various studies such as Ford and Bell (2007), Gegenfurtner et al (2009a), Madagamage et al. (2014) and Cheng et al (2015) who revised their hypothesised models based on the modification indices obtained in the SEM and theoretical considerations. They reported post hoc (revised) models, which showed the goodness of fit indices within the acceptable ranges and a good fit with the data.

In the present study, the researcher also revised the hypothesised model and ran the SEM by readjusting relationships between the significant predictors and three outcome variables. A CFA / SEM model showing learning motivation directly linked with training transfer and learning motivation showed most of the work environment and individual characteristic factors as having a significant impact on learning and transfer motivations, but revealed a non-significant impact on both learning motivation and transfer motivation on the training transfer (Appendix 11 - Rejected revised model). Therefore, the researcher readjusted the revised model and removed a direct link of learning motivation on training transfer while retaining a direct link of learning motivation on transfer motivation, which was directly linked with the training transfer. The results of the final revised model (Figure 5-5) showed significant impact of transfer motivation on training transfer (Table 4-10, Figure 4-3) and most of the hypotheses were found acceptable (Table 5-3). In addition, the goodness of fit indices of the revised model was comparable to the original hypothesised model (Table 5-2). The revised / post hoc model is shown in Figure 5-5, which illustrates determinants and mediating factors of training transfer in the present study that involved officers of PSO in Saudi Arabia.

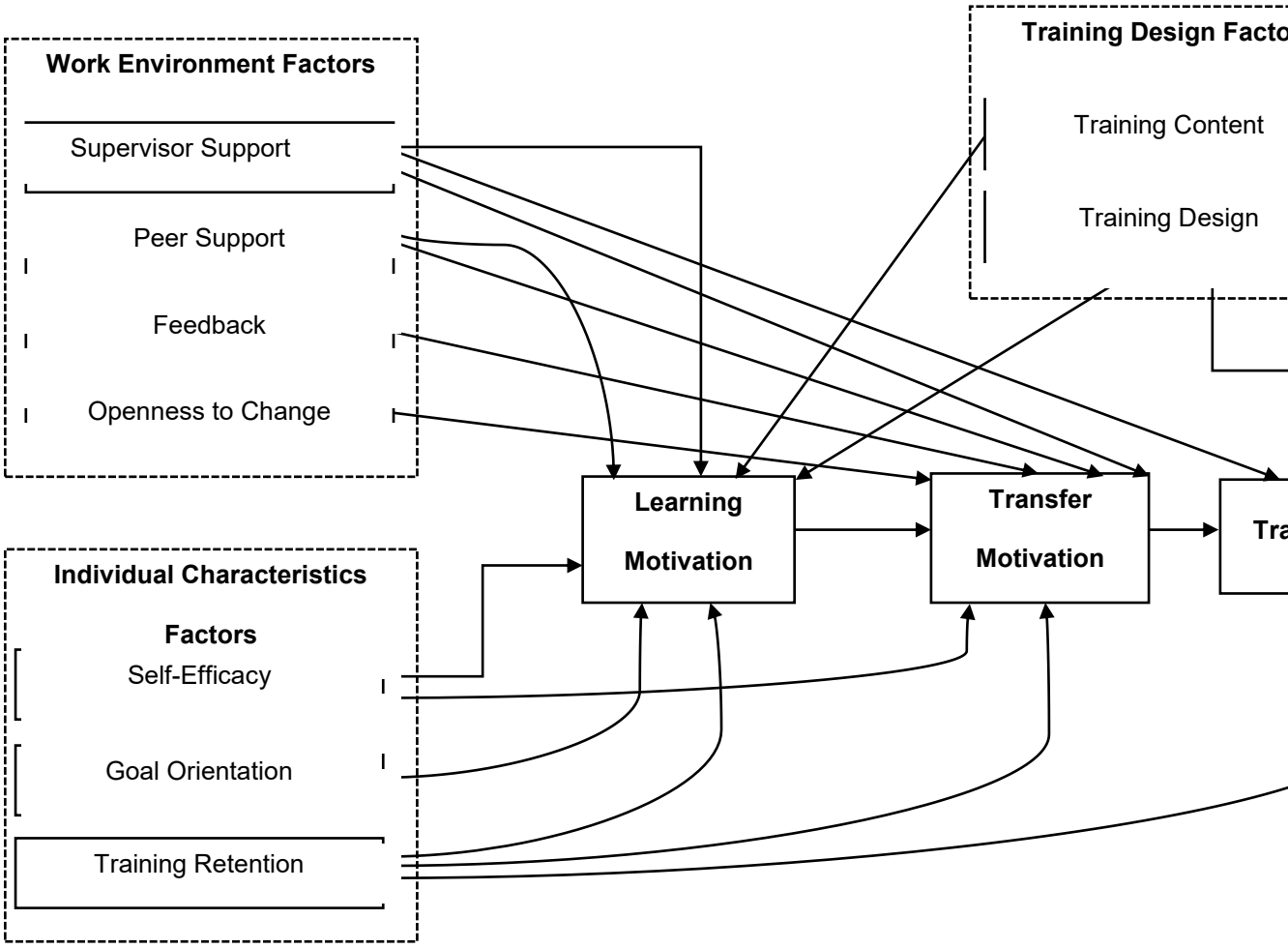


Figure 5-5 Post hoc / revised model of training transfer

In summary, findings of the revised model (Figure 5-5) regarding the impact of individual characteristic factors revealed that three individual characteristic factors, i.e. self-efficacy, goal orientation and training retention, had a statistically significant direct and positive impact on learning motivation. In addition, performance self-efficacy and training retention had a statistically significant, direct and positive impact on the (training) transfer motivation. These findings revealed that these individual characteristic factors also have an indirect impact on training transfer through the mediating factors, i.e. through learning motivation to transfer

motivation and via transfer motivation on to the training transfer. Thus, hypotheses H7 and H12 were once again partially accepted (Table 5-3).

Table 5-2 Comparison of SEM goodness of fit indices of hypothesised and revised models

	CMIN		**Baseline Comparisons Indexes**			**RMSEA****	
	CMIN/DF	***P***	***Bollen's Incremental Fit Index (IFI)***	***Tucker-Lewis (Coefficient) Index (TLI)****	***Bentler's Comparative Fit Index (CFI)***	***Value***	***P***
Recommended values	⩽ 2.00	>.05	>0.90	>0.90	>0.90	⩽ 0.05	>0.05
Values observed in hypothesised model	1.402	.000	.957	.954	.957	0.043	0.991
Values observed in revised model	1.466	.000	.959	.956	.959	0.046	0.856

*Also known as the Bentler-Bonett non-normed fit index (NNFI), **RMSEA = Root Mean Square Error of Approximation, CMIN = Chi Square minimum, DF = Degree of freedom

Regarding the impact of training factors, the findings of the post hoc model (Figure 5-5) revealed that training design factor and training content factor had statistically no significant direct impact on learning motivation (H3). Thus, the hypothesis H3 was again totally rejected as in the case of the original hypothesised model. In addition, the findings of the revised model revealed that training design factors had a statistically significant, positive and direct impact on training transfer, which was not hypothesised in the original hypothesised model. Therefore, identification of statistically significant positive and direct impact of training design on training transfer in the present study is a novel finding that could be a significant contribution to the literature on the training transfer. However, this finding could be specific to the present study context, i.e. public security organisations in Saudi

Arabia. Hence, the generalisation of this finding might be limited. In short, the findings about the impact of training design factors in the revised model revealed that training content has statistically no significant impact on any of the three main outcome variables, i.e. learning motivation, transfer motivation and training transfer. This finding therefore suggests that the content of training offered at the training centres for trainee officers of Saudi public security organisation needs to be evaluated so that it can have a positive influence on the trainee officers' learning motivation, transfer motivation and ultimately positively influence training transfer to the work.

Findings of the revised model about the two motivation factors, i.e. learning motivation and transfer motivation, used as mediator variables in the present study, revealed that learning motivation had a statistically significant positive and direct impact on transfer motivation only. Thus, hypothesis H13 was accepted as in the case of the original hypothesised model. However, this finding suggested that learning motivation does not directly mediate relationships between training transfer and work environment factors, individual factors and training factors. Consequently, hypotheses H6, H7 and H8 were rejected. However, findings of the revised model showed that the learning motivation had an indirect impact on training transfer via another motivation factor, i.e. transfer motivation. Thus, it could be argued that learning motivation indirectly, i.e. through transfer motivation, mediates relationships between training transfer and work environment factors, individual factors and training factors. This finding was not initially hypothesised in the theoretical hypothesised model; hence, it could be a significant contribution to the present empirical study of the literature on training transfer. However, it is once

again reiterated that generalisation of this finding could be restricted because this finding might be specific to the Saudi public security organisation.

Table 5-3 Comparison of hypotheses testing in Hypothesised and Revised models

Hypotheses			Outcome	
No.		**Explanation**	**Hypothesised model**	**Revised model**
H1		The Work Environment (peer support, supervisor support, feedback, opportunity to use, and openness to change) will be positively related to learning motivation.	**Partly accepted**	**Partly Accepted**
	a	Peer support has a positive impact on the learning motivation.	**Accepted**	**Accepted**
	b	Supervisor support has a positive impact on the learning motivation.	Rejected	Rejected
	c	Feedback has a positive impact on learning motivation.	Rejected	Not linked
	d	Opportunity to use learning has a positive impact on learning motivation.	Rejected	Factor excluded from the model
	e	Openness to change has a positive impact on learning motivation.	Rejected	Not linked
H2		The Individual Characteristics (self-efficacy, goal orientation, training retention, and locus of control) will be positively related to learning motivation.	**Partly Accepted**	**Largely Accepted**
	a	Self-efficacy has a positive impact on the learning motivation.	**Accepted**	**Accepted**
	b	Goal orientation has a positive impact on the learning motivation.	**Accepted**	**Accepted**
	c	Training retention has a positive impact on the learning motivation.	Rejected	**Accepted**
	d	Locus of control has a positive impact on the learning motivation.	Rejected	Factor excluded from the model
H3		The training design (training contents and training design) will be positively related to learning motivation.	Totally Rejected	Totally Rejected
	a	Training contents will be positively related to learning motivation.	Rejected	Rejected
	b	Training design will be positively related to learning motivation.	Rejected	Rejected

Hypotheses			Outcome	
No.		**Explanation**	**Hypothesised model**	**Revised model**
H4		The Work Environment (peer support, supervisor support, feedback, opportunity to use, and openness to change) will be positively related to transfer motivation.	**Largely Accepted**	**Largely Accepted**
	a	Peer support has a positive impact on the transfer motivation.	**Accepted**	**Accepted**
	b	Supervisor support has a positive impact on the transfer motivation.	Rejected	Rejected
	c	Feedback has a positive impact on the transfer motivation.	**Accepted**	**Accepted**
	d	Opportunity to use learning has a positive impact on the transfer motivation.	Rejected	Factor excluded from the model
	e	Openness to change has a positive impact on the transfer motivation.	**Accepted**	**Accepted**
H5		The Individual Characteristics (self-efficacy, goal orientation, training retention, locus of control) will be positively related to transfer motivation.	**Partly Accepted**	**Partly Accepted**
	a	Self-efficacy has a positive impact on the transfer motivation.	**Accepted**	**Accepted**
	b	Goal orientation has a positive impact on the transfer motivation.	Rejected	Not linked
	c	Training retention has a positive impact on the transfer motivation.	Rejected	**Accepted**
	d	Locus of control has a positive impact on the transfer motivation.	Rejected	Factor excluded from the model
H6		Learning motivation will mediate the relationship between work environment and training transfer. (See H1 above)	**Partly Accepted**	Not directly linked
H7		Learning motivation will mediate the relationship between individual characteristics and training transfer. (See H2 above)	**Partly accepted**	Not directly linked
H8		Learning motivation will mediate the relationship between training design and training transfer.	Rejected	Not directly linked
H9		Learning motivation will be positively related to training motivation.	**Accepted**	**Accepted**
H10		Transfer motivation will be positively related to training transfer.	**Accepted**	**Accepted**

Hypotheses		Outcome	
No.	**Explanation**	**No.**	**Explanation**
H11	Transfer motivation will mediate the relationship between work environment and training transfer. (See H4 above)	**Partly accepted**	**Partly accepted**
H12	Transfer motivation will mediate the relationship between individual characteristics and training transfer. (See H5 above)	**Partly accepted**	**Partly accepted**
H13	Learning motivation will be positively related to training transfer.	**Accepted**	Not directly linked
H14	Transfer motivation will mediate the relationship between learning motivation and training transfer.	**Accepted**	**Accepted**
H_{p-h} 1	Supervisor support will be positively related to training transfer.	Relationship not hypothesised (Not linked)	**Accepted**
H_{p-h} 2	Training design will be positively related to training transfer.	Relationship not hypothesised (Not linked)	**Accepted**
H_{p-h} 3	Training retention will be positively related to training transfer.	Relationship not hypothesised (Not linked)	**Accepted**

H_{p-h}= post-hoc hypothesis

In addition, findings of the revised model (Figure 5-5) showed that the second motivation factor, i.e. transfer motivation was a statistically significant direct and positive impact on training transfer. Consequently, hypothesis H10 was once gain fully accepted as suggested in the original hypothesised model. In addition, the statistically significant direct and positive impact of transfer motivation on the training transfer revealed that transfer motivation mediating relationships between training transfer and work environment factors (H11), individual factors (H12) and learning motivation (H14) were accepted.

Overall, the findings of the revised model (Figure 5-5) in the present study revealed that the strongest predictor of training transfer was the training retention, which

was followed by training design and then transfer motivation and supervisor support. These findings suggest that training retention and training design play a significant role in the training transfer; hence, the practitioners could focus more on these factors in the planning and delivery of training programmes. In addition, training content factor, which was found to have no significant impact on any hypothesised factor in both the original hypothesised model and the post hoc / revised model in the present study, also needs to be evaluated and modified so that it could contribute positively in influencing trainee officers' learning and transfer motivations as well as training transfer. Comparison of the findings of a hypothesised and revised model showed that the goodness of fit indices (Table 5-2) and number of hypotheses accepted (Table 5-3) in the revised model were better than the original hypothesised model. Therefore, the researcher has retained the revised model as the final model (Figure 5-6) in the present study.

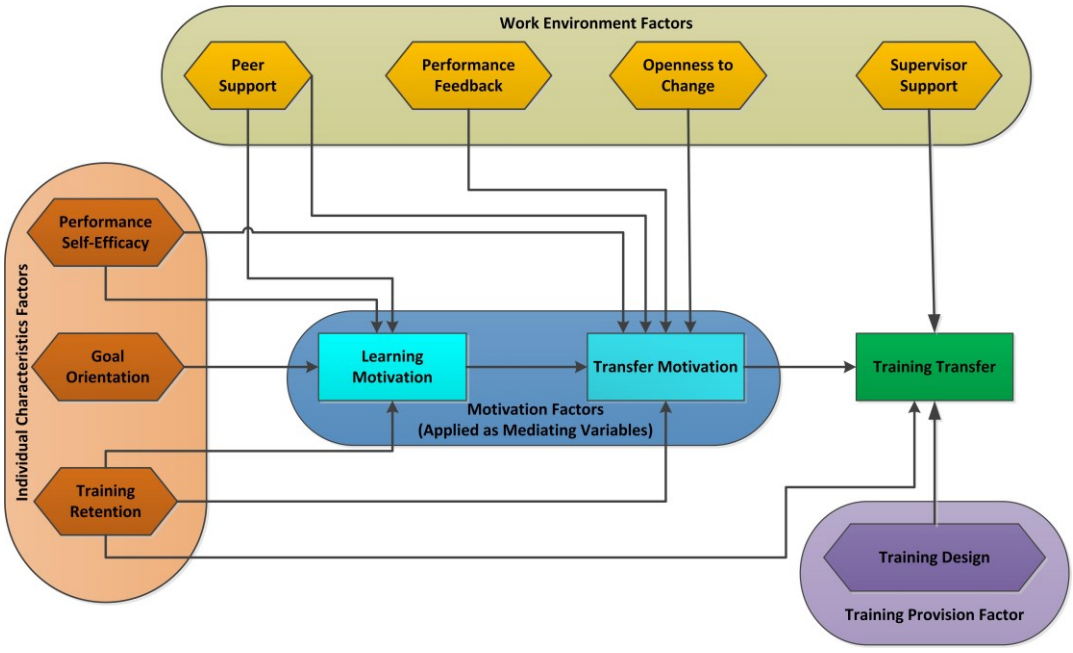


Figure 5-6 Final model - Statistically significant determinants and mediators of training transfer

5.8 Contributions of the study

This section summarises the contributions of the present empirical study to the body knowledge in the domain of training transfer as follows:

a) Empirical study of training transfer and its determinants in a new organisational and country context i.e. Public Security Organisation in Saudi Arabia.

b) Identification of statistically significant and not significant factors affecting training transfer in the public security organisation based on the empirical testing and evaluation of training transfer model using highly robust multivariate statistical techniques i.e. the CFA and SEM.

c) Development of an empirically validated training transfer model that illustrates statistically significant determinants and mediators of training transfer to the work in the field of public security.

d) Identification of redundant factors i.e. locus of control and opportunity to use factors in the domain of training transfer in the context of Saudi Arabian public security.

e) Identification of the strongest and the weakest but statistically significant predictors and mediating factors in the domain of training transfer in the context of Saudi public security.

f) Addition of an empirical evidence that supervisor support has a statistically significant positive and direct impact on training transfer to the work but not on learning and transfer motivations of trainee officers in the context of public security organisation in Saudi Arabia.

g) Provision of empirical evidence that training retention is the only individual characteristics factor that has a statistically significant direct and positive impact not only on the trainee's learning motivation and transfer motivation but also on training transfer at the work in the context of Saudi Arabian public security organisation .

h) Empirical identification of strongest predictor of training transfer was the training retention, which was followed by training design and then by transfer motivation.

i) Development of a final / refined model (Figure 5-6), which depicts only statistically significant determinants of training transfer and statistically significant relationships between work environment factors, individual characteristics factors, training provision factors and two motivations factors i.e. learning motivation and transfer motivation and the ultimate outcome variables i.e. training transfer.

5.9 Limitations of the Study

The findings of the present study need to be generalised cautiously because the present study has a number of limitations, which are presented as follows.

a) The present study used a single method of data collection, i.e. a cross sectional questionnaire survey, which could have a number of limitations, such as the common-method bias (also known as common-method variance), in which results are due to use of only one method of data collection and/or measurement of particular construct(s) (Spector, 2006). The common-method bias (CMB) or common-method variance (CMV) leads

to the inflation of correlations (Lindel and Whitney, 2001). The researcher in the present study however, avoided the adverse effects of CMB / CMV by running a confirmatory factor analysis, which has been suggested as an important post hoc remedial analytical technique that helps in the reduction of adverse effects due to the CMB / CMV (Richardson *et al*. 2009).

b) The researcher used a convenience sample of trainee officers of a Saudi public security organisation, who were attending a mandatory training course at two training centres of the Saudi public security organisation within the country. Therefore, the findings of the present study could be related to the opinions of the selected sample; hence, the findings of the present study could have a limited generalisability and the findings could not be very representative of all trainee officers at the Saudi public security organisation.

c) The researcher did not go back to the participants to confirm the responses of the participants and ask for further information and any associated explanations in relations to the constructs used in the questionnaire survey. The researcher could not go back to the researcher participants because of a number of reasons such as logistical, economic and time constraint point of view. Yet more importantly, the survey asked respondents information that was mostly quantitative, which the researcher assumed that the participants had provided this based on their own judgement; hence, he did not require any reconfirmation from them.

d) The researcher used only a questionnaire survey to study training transfer by trainee officers of Saudi public security organisation. The survey only contained closed questions and there was no room for providing qualitative answers hence providing open-ended comments by the participants. The findings of the present study therefore could provide only limited information related to a set of options for each of question included in the survey questionnaire. Consequently, the data obtained through the closed ended questionnaire survey used in the present study is lacking in in-depth insightful evidence that could be obtained through an in-depth qualitative enquiry using qualitative data collection methods, such as through semi-structured interviews. However, the quantitative data collected from the research participants was most suitable from the deductive approach perspective. Hence, collection of quantitative data was appropriate and very useful for the empirical testing and modelling of training transfer in Saudi public security organisation using multivariate statistical techniques such as the exploratory and confirmatory factor analyses and the structural equation modelling, and finally for testing a number of hypotheses, as reported earlier.

5.10 Summary

The findings of the present study have confirmed that Saudi public security officers' learning motivation was significantly directly affected by peer support (work environment factor), and self-efficacy, goal orientation and training retention (individual characteristics factors) i.e. . These officers' motivation to transfer training was significantly and directly affected by performance feedback, peer

support and openness to change (work environment factors), self-efficacy and training retention (individual characteristics factors), and their leaning motivation (motivation factor). The findings of the present study also revealed that training transfer to the work by Saudi public security officers was statistically significantly and directly affected by supervisor support (a work environment factor), training retention (individual characteristics factor), training design (training design factor) and transfer motivation (motivation factor) (Table 5-1).

In addition, the findings of the present study confirmed that learning motivation statistically significantly mediated between transfer motivation and work environment factors and individual characteristics factors. Moreover, the present study showed that transfer motivation mediated between training transfer and work environment factors, individual characteristic factors and the learning motivation factor.

Based on these findings, this study suggests a statistically significant model of training transfer to the work in the public security domain (Figure 5-6), which needs to be validated in the future research preferably in the Middle Eastern Muslim countries and in the wider context of developing countries.

Nevertheless, this study revealed that locus of control and opportunity to using learning have statistically no significant impact on learning motivation, transfer motivation and training transfer in the context of Saudi public security. In addition, this study identified that there was a negative relationship between transfer motivation and performance feedback and openness to change, which could affect training transfer to the work. This finding therefore suggested a review of the

performance feedback and providing openings for changes at the work to realise the fruits of training in Saudi public security organisation.

This study also identified that all participants in the study were male, which suggested that there was dearth of female officers in Saudi Public security. In addition, it was observed that there was a lack of openness to change and opportunity to use learning, which can be major barriers in training transfer to the work in the public security in the country.

The conclusions and implications of the present study and recommendations for further research in the training transfer domain are reported in the next chapter.

6 Chapter 6: Conclusions, Implications, and Recommendations

This chapter presents conclusions, implications, and recommendations of the present empirical doctoral research study that investigated training transfer to the work in the context of public security organisation in Saudi Arabia. This chapter is divided into four sections as follows. The first section provides conclusions of the present study. The second section presents theoretical and practical policy implications stemming from the empirical research presented in this doctoral thesis. The third section suggests recommendations for the further research. The last (fifth) section provides a summary of the present chapter.

6.1 Conclusions

This section provides a recap of the aim and objectives, theoretical model and hypotheses and methodology of the present research study. This is followed by an overview of the key findings and then based on the key findings of the study conclusions are made.

The aim of the present doctoral research was to study training transfer by officers of Saudi public security organisation. The participants of the present study comprised a convenience sample of 500 officers who were involved in training at two training centres of Saudi public security organisation in Riyadh –the capital of Saudi Arabia. A cross sectional questionnaire survey on training transfer was undertaken by manually administering a self-completed survey questionnaire to the research participants. The survey instrument was developed by the researcher based on a review of extant literature on training transfer. Empirical data collected

from the participants was cleaned and normalised prior to running multivariate statistical analyses using a number of statistical analytical techniques, which included frequencies, descriptive statistics, exploratory factor analysis, confirmatory factor analysis and structural equation modelling.

6.1.1 The key findings

The key findings of the present study revealed statistically significant determinants of Saudi public security officers' learning motivation, training transfer motivation and training transfer to the work, which are as follows:

Determinants of learning motivation

The present study has revealed that statistically significant, direct and positive determinants of learning motivation of trainee officers of Saudi public security service are, in order of high to low impact, as follows: peer support (β = .311, p = .000) > training retention (β = .197, p = .027) > goal orientation (β = .163, p = .036) > self-efficacy (β = .158, p = .047) (Figure 6-1).

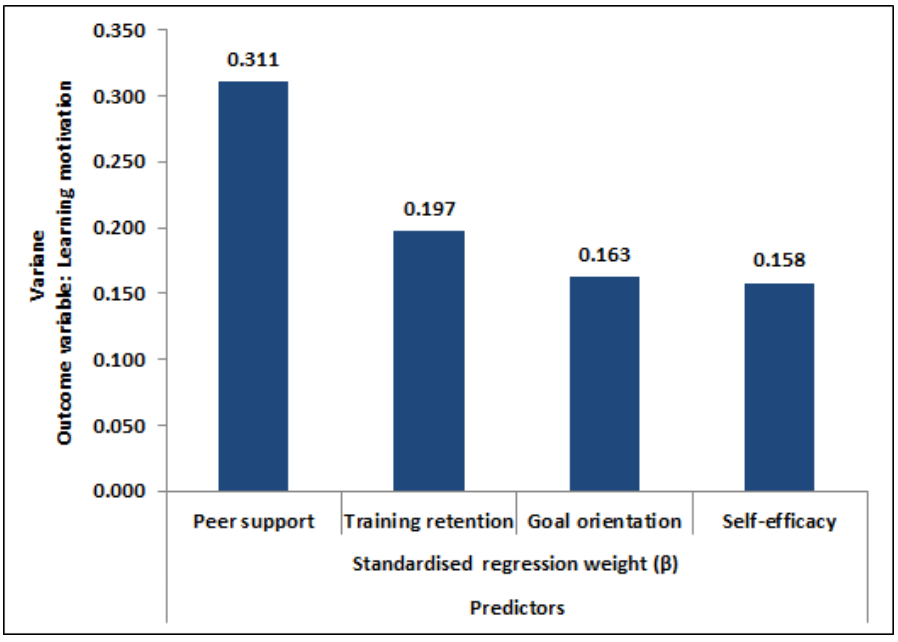


Figure 6-1 Statistically significant predictors of learning motivation

Based on the above-mentioned findings, the present study provides empirical evidence vis-à-vis hypothesised relationships of work environment factors, individual characteristic factors and design factors. Consequently, the study concluded as follows.

H1: Among four work environment factors, only peer support has statistically significant positive and direct impact on learning motivation.

H2: Among five individual characteristic factors, training retention, goal orientation and self-efficacy have statistically significant positive and direct impact on learning motivation.

In addition to above, the present study has shown that supervisor support, training design and training content factors had statistically no significant effect on the learning motivation of the trainee officers of the Saudi PSO. Therefore, the researcher concluded a suggested hypothesis as follows.

H3: Training design factors, i.e. training content and training design, have statistically no significant impact on learning motivation.

These findings suggested policy implications, which are described in section 6.2.2 that is given later in this chapter.

Determinants of transfer motivation

The present empirical research has shown that statistically significant direct determinants of (training) transfer motivation of trainee officers belonging to Saudi public security organisation are in order of high to low impact as: learning motivation (β = .401, p = .000) > peer support (β = .224, p = .003) > training retention (β = .176, p = .021) > self-efficacy (β = .152, p = .028) > feedback (β = -

.159, p = .014) > openness to change (β = -.147, p = .020) (Figure 6-2). Thus, the strongest statistically significant predictor of the transfer motivation was the learning motivation in the present study. In addition, the findings revealed that learning motivation, peer support, training retention and self-efficacy were positively related to the transfer motivation. However, feedback and openness to change were negatively related to the transfer motivation and supervisor support had statistically no significant effect on the transfer motivation in this study. These findings suggested policy implications that are described in section 6.2.2, which is presented later in this chapter.

The present study has also shown that goal orientation factors affect motivation to transfer training indirectly, i.e. through learning motivation.

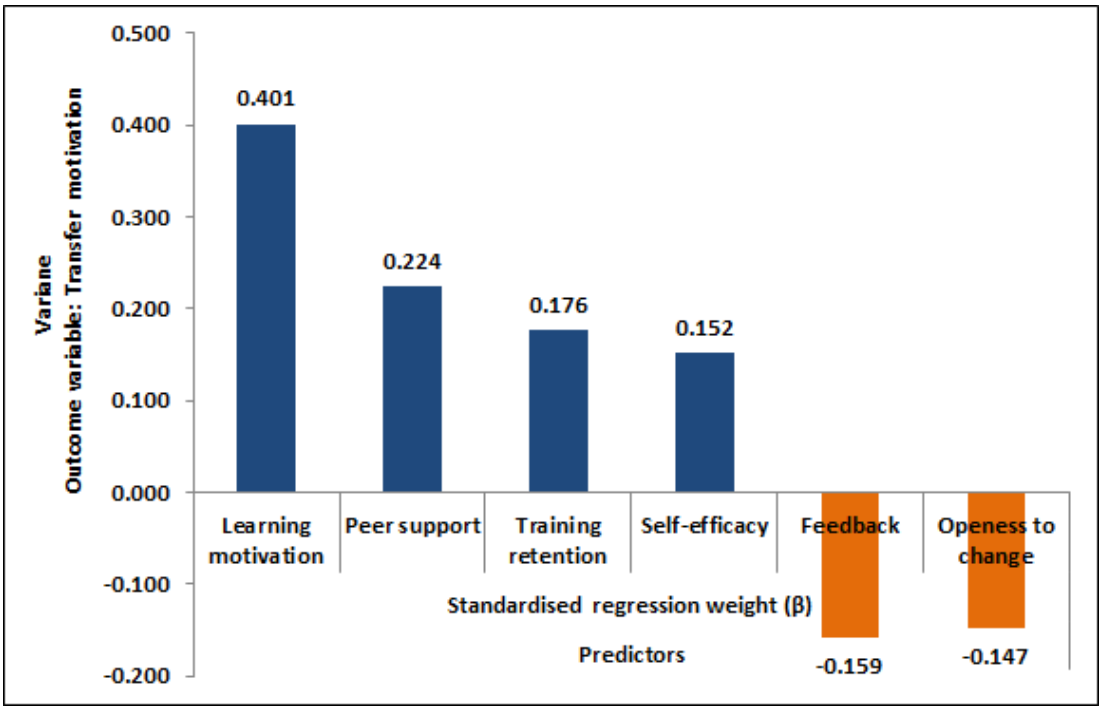


Figure 6-2 Statistically significant predictors of transfer motivation

Based on the findings regarding statistically significant determinants of the transfer motivation, the researcher concluded as follows.

H4: Among four work environment factors tested, peer support has statistically significant and positive impact on transfer motivation while feedback and openness to change factors have negative impact on transfer motivation.

H5: Among three individual characteristic factors, training retention and self-efficacy have statistically significant positive and direct impact on transfer motivation.

H6: Learning motivation statistically significantly mediates relationship between transfer motivation and only one work environment factor, i.e. peer support.

H7: Learning motivation statistically significantly mediates relationships between transfer motivation and three individual characteristics factors, i.e. training retention, goal orientation and self-efficacy.

H8: Learning motivation does not mediate statistically significant relationship between transfer motivation and training design factors, i.e. training content and training design,.

H9: Learning motivation has no direct statistically significant positive impact on training transfer.

H13: Learning motivation has a statistically significant and positive impact on transfer motivation.

Determinants of training transfer

The present doctoral research study has revealed that statistically significant direct and positive determinants of training transfer in the workplace by trainee officers of Saudi public security services are, in order of high to low impact, as follows: statistically significant determinants of training transfer were training design (β = .318, p = .000) > training retention (β = .313, p = .000) > transfer motivation (β = .177, p = .008) > supervisor support (β = .146, p = .018) (Figure 6-3). These findings show that the strongest statistically significant predictor of training transfer is training design in the present empirical study of trainee personnel of public security organisation in Saudi Arabia.

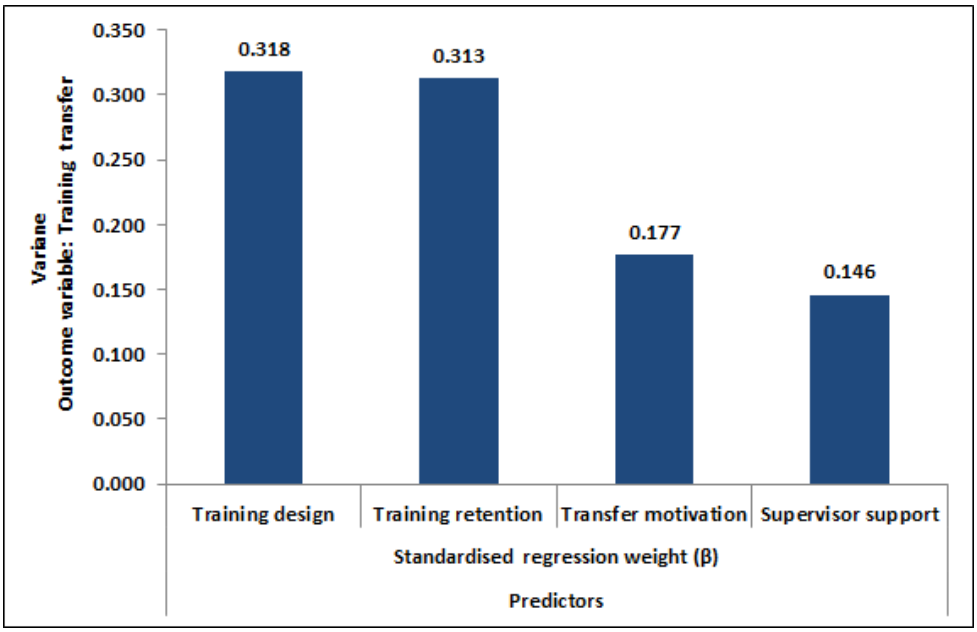


Figure 6-3 Statistically significant predictors of training transfer

In addition, the present study has shown that a number of other factors, i.e. peer support, feedback, self-efficacy, openness to change, training retention and

learning motivation have a significant but indirect influence, i.e. through transfer motivation on training transfer.

On the basis of the aforementioned findings, the researcher concluded the suggested hypotheses as follows:

H10: Transfer motivation has statistically significant and positive impact on training transfer.

H11: Training motivation statistically significantly mediates relationships between training transfer and three work environment factors, i.e. peer support, feedback and openness to change.

H12: Training motivation statistically and significantly mediates relationships between three individual characteristics factors, i.e. training retention and self-efficacy and training transfer.

H14: Training motivation statistically and significantly mediates relationships between learning motivation and training transfer.

Hp-h1: Supervisor support has statistically significant and positive impact on training transfer.

Hp-h2: Training design has statistically significant and positive impact on training transfer.

Hp-h3: Training retention has statistically significant and positive impact on training transfer.

It is noteworthy that two factors, i.e. locus of control and opportunity to use learning, were found redundant in the present study because they had statistically no

significant impact on either of the two motivation factors, i.e. learning motivation and transfer motivation, or on the training transfer factor. Therefore, the two factors, i.e. locus of control and opportunity of use of learning, were excluded in the revised model in the present study.

6.1.2 The Impact of key findings

As argued in the discussion chapter, findings of the present study have revealed that differences in the settings of the studies, i.e. training environment, work environment, nature of work, country of work and type of organisations and participants, are important high-level factors in the domain of training transfer. In addition, differences in the methodological design and statistical analytical techniques used are very important in training transfer studies. The findings of the present study have also shown that application of the same methodological approach and statistical analytical technique(s) in studying the same outcome variables could result in similar findings, despite differences in the organisational and country context of research studies. In addition, the findings of the present study, in comparison with the earlier literature, have shown that the selection of a relevant set of explanatory variables is also important in studying comparable training transfer outcomes.

The implications of these findings are reported in the next section.

6.2 Theoretical and Policy Implications

Theoretical and policy implications of the findings of the present study are as follows.

6.2.1 Theoretical implications

The theoretical implications of the empirical research reported in the present doctoral thesis include the following:

a) The present empirical doctoral research has extended study of training transfer to public security organisation in the context of Saudi Arabia, which was hitherto not studied by any other researchers.

b) The present empirical research study has extending literature on training transfer in the domain of public security and has attempted to fill the gap of a dearth of literature on training transfer in security services, which was not studied prior to the present study, according to the best knowledge of the researcher.

c) The present empirical research could serve as a base line study in studying training transfer in security services organisations in other countries especially in the Middle Eastern and Arabian countries, which have public security organisations similar to Saudi Arabian public security organisation.

d) The present doctoral research study has extended the training transfer theory by finding out that the training retention ("the degree to which trainees retain the content after training" (Velada et al. 2007) is an important individual characteristic that has a significant impact, not only on learning and transfer motivations but also on training transfer to the work.

e) The present empirical research study has also extended literature on the supervisors' role in training transfer by finding out that supervisors' support is a

significant factor, which directly affects training transfer to the work in public security organisations, especially in the context of Saudi Arabia.

f) The present study has contributed to the training transfer literature that the relationships between performance feedback and openness to change and training transfer are not always positive but can be negative in the context of security services where there is a need for approval for an action from the superiors and compliance to prescribed rules and regulations.

g) The present empirical study has contributed in adding to the literature on training transfer by finding out that the locus of control and opportunity to use learning factors could be redundant factors in training transfer in the domain of public security organisations for the following reasons. First, the locus of control in these types of organisations is not in the hands of an individual but there is a chain of hierarchy / command and the approval of senior officers / commanders is required before taking any important action. Second, there could be no or very limited opportunity to use learning from training on the job in public security organisations due to the public security related nature of the job where any action of a junior officer would require an approval of the commanding officer.

6.2.2 Practical implications

The following are possible practical implications of the empirical research reported in this doctoral thesis:

a) The present doctoral research study has shown that most of the participants (trainee officers) reported that there was not enough supervisor support (Table 8-14 Frequency Tables in Appendix 8). These findings suggest that

supervisors need to support and motivate trainees both during the training and afterwards in the workplace. The current practice could be changed through regular meetings either one to one and/ or in small groups of trainees with their training providers and line managers to discuss the ways and means to support trainees during training as well as in the workplace.

b) The present empirical research study has identified that most of the participants (trainee officers) reported that the content of training was not interesting (Table 8-14 Frequency Tables in Appendix 8). These findings suggest that there is a need for evaluation of the training content, which might need to be revised to the requirements of the trainees so that it is interesting to them. The content of courses could be evaluated through various ways, such as getting trainee participants' feedback during the training and at the completion of the course and by undertaking formal research aimed at evaluating the training material, delivery style and assessment methodologies of training courses at the Saudi PSO. More importantly, the content and design of training courses needs to be assessed every year by involving public security experts, training course developers and the training providers.

c) The present empirical research has revealed that there was a negative relationship between the openness to change factor and transfer motivation factor. These findings suggested that there is probably a lack of, or less opportunities to, change within the workplace in Saudi public security organisation. This finding therefore suggests that there is a need for providing opportunities to the trainee officers of the Saudi public security

organisation in using learning in the workplace. This might involve delegation of a degree of power and delegation in some instances, such as decision-making, based on a case-to-case basis because of the security nature of the organisation.

d) The present doctoral research study has discovered that there was a negative relationship between the performance feedback factor and the transfer motivation factor. This finding suggests that there is probably a lack of or less chances of getting performance feedback in the Saudi public security organisation. This finding therefore suggests a need for improving and enhancing the process of providing performance feedback to the trainee officers of Saudi public security organisation. The process of performance feedback could be improved at the Saudi PSO by setting up schedules such as monthly or quarterly meetings for feedback on a trainees' performance and targets during training and identifying trainees' needs to achieve their targets and goals and enhancing their motivation of training transfer to the work.

6.3 Recommendations for Further Research

The researcher used a cross-sectional questionnaire survey to study training transfer by trainee officers of Saudi public security organisation. However, to gain an in-depth and insightful study of training transfer by trainee officers of public security organisation in Saudi Arabia, the following recommendations are made for future research.

a) There is a need for in-depth qualitative study of training transfer by trainee officers of Saudi Arabian public security organisation. The future research therefore can fill this gap by using qualitative data collection methods such as semi-structured interviews for in-depth study of training transfer by trainee officers of public security organisation in Saudi Arabia.

b) The present doctoral research studied training transfer of trainee officers of Saudi public security organisation during training. However, the perspectives of individual trainee officers could be different during training and after training / at workplace. In addition, the time after training and other work environment factors such as position / rank in the organisation might influence the officer's perspectives on training transfer in the workplace. The future research therefore can use a longitudinal study design to study the perspectives of officers on training transfer in the public security organisation in Saudi Arabia.

c) The researcher has developed a refined model of statistically significant explanatory factors that significantly determine the training transfer by trainee officers in the Saudi public sector security service organisation. This refined model could be evaluated and tested in future research through its application in the context of public sector security service organisations in not only Saudi Arabia but also elsewhere, especially in other Arab countries in the Middle East and North Africa.

6.4 Summary

The present doctoral empirical research investigated the issue of training transfer to the workplace by officers of Saudi public security organisation. In this cross

sectional survey study, a convenient sample of trainee officers completed a manually administered self-completion survey questionnaire during training at the Saudi public security organisation. The response rate of usable completed questionnaire surveys was 70% (351 out of 500 surveys).

Results of structural equation modelling run on the data revealed that the participants' learning motivation was significantly positively and directly affected by training retention, training design, transfer motivation and supervisor support. The findings showed that (training) transfer motivation of the participating trainee officers was significantly positively and directly influenced by learning motivation, peer support, training retention, self-efficacy, feedback and openness to change factors. In addition, the present study revealed that Saudi Arabian public security service officers' training transfer to the workplace was statistically, significantly and directly determined by training retention, training design, training transfer motivation and supervisor support factors.

The present study found that the relationship between feedback and openness to change factors with (training) transfer motivation of these participants was negative, which suggested a lack or low level of feedback and openness to change in the public security organisation in Saudi Arabia. In addition, the impact of supervisors' support was not significant on the learning motivation and transfer motivation of these participants, which suggested a need for more support from supervisors to the trainee officers at the Saudi public security organisation.

The present doctoral research has empirically studied training transfer in Saudi Arabian public security organisation; thereby, it has extended the literature on

training transfer in the domain of security services in the context of a Middle Eastern country, i.e. Saudi Arabia. The present study has developed a refined model of significant determinants of training transfer by trainee officers of Saudi public sector security service and future research could test the refined model in other similar organisations and countries. The present study used a cross sectional questionnaire survey design that has limitations, which could be minimised in future research by using a longitudinal study design in the study of training transfer elsewhere.

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8 Appendices

8.1 Appendix-1 Letter to participants and survey questionnaire (English language)

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Westminster Business School

I am writing to ask for your help in my PhD study on “The Influence of Work Environment, Individual / Trainee Characteristics, and Training Design Factors on the Transfer of Training: The Case of Public Security Sector in Saudi Arabia”. This research study is sponsored by the government of the Kingdom of Saudi Arabia and is being carried out at Westminster Business School, University of Westminster, UK. This research involves completion of a questionnaire that comprises questions about demography, work environment, individual / trainee characteristics and training design factors. The sample of this study comprises different cadres of employees from public sector security organisation of the Kingdom of Saudi Arabia.

In the hope that you are able to take part in this study, I am enclosing the consent form and the questionnaire. If you are happy to proceed, please complete the attached form and return it to me within two weeks of receiving it. Participation is voluntary and individuals may withdraw from the study at any time. Participants’ names, positions and answers will be kept anonymous and strictly confidential. If you require any further assistance whilst filling in the questionnaire, please do not hesitate to contact me.

I look forward to your cooperation.

Yours sincerely,

Abdulaziz Alnowaiser

Survey Questionnaire

1. Background Details (please click the relevant box)

1. Gender ☐ Male ☐ Female
2. Age ☐ Less than 21 ☐ 21-30 ☐ 31-40 ☐ 41-50 ☐ 51 – 60 ☐ above 60
3. Social Status ☐ Single ☐ Married ☐ Others
4. Level of Degree ☐ Undergraduate ☐ Graduate ☐ Postgraduate
5. Your job position please ----------
6. Work experience ☐ Less than 5 years ☐ 5-10 years ☐ 10-15 years ☐ 15-20 years ☐ More than 20 years
7. Experience with present employer ☐ Less than 5 years ☐ 5-10 years ☐ 10-15 years ☐ 15-20 years ☐ > than 20 years
8. Number of people you supervise/manage ☐ Less than 5 ☐ 5-10 ☐ 10-15 ☐ 15-20 ☐ More than 20
9. How often during the week do you have contact with your direct manager ☐ Never ☐ Rarely ☐ Occasionally ☐ Very Often ☐ Every day

Note: Please tick on the scale below to what extent you like with each of the following statement about the training work environment. 1 - Strongly disagree 2 - Disagree 3 - Agree 4 – Strongly agree.

01	I try to learn as much as I can from training programmes.				
02	I try to learn more from training programmes than most people.				
03	I am usually motivated to learn the skills emphasized in training programmes.				
04	I am willing to exert considerable effort in training programmes in order to improve my skills.				
05	I believe I can improve my skills by participating in training programmes.				
06	I believe I can learn the knowledge presented in most training programmes.				
07	Participation in training programmes is of little use to me because I have all the knowledge and skills I need to successfully perform my job.				
08	I am willing to invest effort to improve skills and competencies related to my current job.				
09	I am willing to invest effort to improve skills and competencies in order to prepare myself for a promotion.				
10	When I leave training, I can't wait to get back to work to practice what I learned.				
11	I believe the training will help me do my current job better.				
12	I get excited when I think about trying to use my new learning on my job.				

13	In the long run employees get the respect they deserve in this organisation.				
14	The idea that trainers are unfair to trainees is nonsense.				
15	Most trainees don't realise the extent to which their performance are influenced.				
16	It is one's experiences not training in life which determine what they're like.				
17	Becoming a success is a matter of hard work, luck has little or nothing to do with it.				
18	Getting a good job depends mainly on being in the right place at the right time.				
19	When I make plans, I am almost certain that I can make them work.				
20	Getting people to do the right thing depends upon training.				
21	You should always be willing to admit your own mistakes.				
22	My colleagues appreciate me using the new skills I have learned in training				
23	My colleagues encourage me to use the skills I have learned in training.				
24	At work, my colleagues expect me to use what I learn in training.				
25	My colleagues are patient with me when I try out new skills or techniques at work.				
26	My manager shows interest in what I learn in training.				
27	My manager sets goals for me that encourage me to apply my training on the job.				

28	My manager meets with me regularly to work on problems I may be having in applying my training.				
29	My manager meets with me to discuss ways to apply training on the job.				
30	My manager lets me know I am doing a good job when I use my training.				
31	After training, I get feedback from people on how well I am applying what I learnt.				
32	When I try new things I have learned, I know who will help me.				
33	I regularly have conversations with people about how to improve my performance.				
34	People often make suggestions about how I can improve my job performance.				
35	I get a lot of advice from others about how to do my job better.				
36	If my performance is not what it should be, people will help me improve.				
37	The resources I need to apply my learning are available to me after training.				
38	There are enough human resources available to allow me to use skills acquired in training.				
39	At work, budget limitations will prevent me from using skills acquired in training.				
40	I get a lot of advice from others about how to do my job better.				
41	I will get opportunities to use this training on my job.				

42	Our current staffing level is adequate for me to use this training.				
43	People in my group generally prefer to use existing methods, rather than try new methods learned in training.				
44	Experienced employees in my group ridicule others when they use techniques they learn in training.				
45	People in my group are open to changing the way they do things.				
46	People in my group are not willing to put in the effort to change the way things are done.				
47	My workgroup is open to change if it will improve our job performance.				
48.	I am confident in my ability to use new skills at work.				
49.	I never doubt my ability to use newly learned skills on the job.				
50.	I am sure I can overcome obstacles on the job that hinder my use of new skills or knowledge.				
51.	At work, I feel very confident using what I learned in training even in the face of difficult or taxing situations.				
52.	I often read materials related to my work to improve my knowledge				
53.	I am willing to select a challenging work assignment so that I can learn from the experience				
54.	I often look for opportunities to develop new skills and knowledge.				
55.	I enjoy challenging and difficult tasks at work where I'll learn new skills.				

56.	For me, development of my work ability is important enough for me to take risks.	☐	☐	☐	☐
57.	I prefer to work in situations that require a high level of ability and talent.	☐	☐	☐	☐
58.	I still remember the main topics that I have learned in the training course.	☐	☐	☐	☐
59.	I can easily say several things that I have learned in the training course.	☐	☐	☐	☐
60.	After a training course, I do not think about it again.	☐	☐	☐	☐
61.	The instructional aids (equipment, illustrations, etc.) used in training are very similar to real things I use on the job.	☐	☐	☐	☐
62.	The methods used in training are very similar to how we do it on the job.	☐	☐	☐	☐
63.	I like the way training seems so much like my job.	☐	☐	☐	☐
64.	What is taught in training closely matches my job requirements.	☐	☐	☐	☐
65.	The situations used in training are very similar to those I encounter on my job.	☐	☐	☐	☐
66.	The activities and exercises the trainers used helped me know how to apply my learning on the job.	☐	☐	☐	☐
67.	It is clear to me that the people conducting the training understand how I will use what I learnt.	☐	☐	☐	☐
68.	The trainer(s) used lots of examples that showed me how I could use my learning on the job.	☐	☐	☐	☐
69.	The way the trainer(s) taught the material made me feel more confident that I could apply it.	☐	☐	☐	☐

70.	Using the knowledge, skills and attitudes has helped me improve my work.				
71.	I can accomplish my job tasks faster than before training.				
72.	I have accomplished my job tasks faster than before training.				
73.	I can accomplish job tasks better by using new knowledge skills and attitudes				
74.	The quality of my work has improved after using new knowledge skills and attitudes				
75.	I make fewer mistakes in production when using new knowledge skills and attitudes				

Thank you for your help and time

8.2 Appendix-2 Letter to participants and survey questionnaire (Arabic language)

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مدرسة وستمنستر لإدارة الأعمال

أكتب إليكم لأطلب مساعدتكم في دراستي لدرجة الدكتوراه حول "تأثير بيئة العمل، خصائص المتدرب، وعوامل تصميم برامج التدريب على تحويل ونقل التدريب إلى حيز التطبيق: دراسة مطبقة على قطاع الأمن العام في المملكة العربية السعودية". وترعى حكومة المملكة العربية السعودية هذه الدراسة البحثية التي يجري تنفيذها في مدرسةادارةالأعمال،التابعهلجامعة وستمنستر، بالمملكة المتحدة. يتضمن هذا البحث تعبئة استبانة تضم أسئلة عن الديموغرافيا،و بيئة العمل، وخصائص المتدربين وعوامل تصميم برامج التدريب. وتستهدف الدراسة كوادر مختلفة من العاملين في قطاع الأمن العام. راجياً منكم التكرم بالمشاركة في هذه الدراسة،وبرفقه لاستبيان إذا كنت راغباً في المتابعة.

أرجوا منكم التكرمبتعبئة الاستمارة المرفقة.كما أود التنويه إلى أن المشاركة طوعية وأن بإمكانك الإنسحاب من الدراسة في أي وقت تشاء.علما ان أسماء المشاركين والمراتب الوظيفية والأجوبة ستبقى مجهولة وستحفظ في سرية تامة. إذا كنت بحاجة إلى أي مساعدة في تعبيةالاستبيان، أرجو عدم التردد في الاتصال بي.

وإنني أتطلع إلى تعاونكم.

تفضلوا بقبول فائق الاحترام،

عبدالعزيز بن ناصر النويصر

استبيان

أولا : البيانات الشخصية

يرجى وضع إشارة على المربع المناسب:

١) الجنس: ☐ذكر ☐ أنثى

٢) العمر: ☐أقل من (٢١) سنة ☐من (٢١) الى (٣٠) سنة ☐من (٣١) الى (٤٠) سنة
☐من (٤١) الى (٥٠) سنة ☐من(٥١) الى (٦٠) سنه ☐أكثرمن (٦٠) سنه

٣) الحالة الإجتماعية: ☐أعزب ☐متزوج ☐غير ذلك

٤) المؤهل العلمي: ☐مؤهل قبل جامعي ☐شهادة دراسة جامعية ☐شهادة دراسات عليا

منصبك الوظيفي من : فضلك٥) **(الرتبه)**

٦) عدد سنوات الخبرة: ☐أقلمن (٥) سنوات ☐سنواتمن (٥) الى (١٠) ☐ من (١٠) الى (١٥) سنة
☐من (١٥) الى (٢٠) سنة ☐ ☐(٢٠) سنةفأكثر

٧) عدد سنوات الخبرة ☐أقلمن (٥) سنوات ☐سنواتمن (٥) الى (١٠) ☐ من (١٠) الى (١٥) سنة

في عملك الحالي:			☐
	من (١٥) الى (٢٠) سنة ☐	**☐(٢٠) سنةفأكثر**	
٨) عدد المرؤوسين تحت إدارتك:	**☐أقلمن (٥)**	**☐٥-١٠**	**☐١١-١٥**
	☐١٦-٢٠	**☐أكثرمن٢٠**	
٩) كم مره في الاسبوع تقابل المباشر رئيسك في العمل:	**☐لاأقابله اطلاقا**	**☐نادراماأقابله**	**☐فيالمناسبات**
	☐أقابله غالبا	**☐أقبله يوميا**	

ثانياً: أسئلة الدراسة حول تحويل التدريب الى حيز التنفيذ

ملاحظة: يرجى وضع علامة على المقياس أدناه إلى أي مدى ترغب مع كل من العبارت التالية حول بيئة العمل التدريبية.

١- لا أوافق بشدة ٢- لا أوافق ٣ - أوافق ٤ - أوافق بشدة.

١	أحاول أن أتعلم قدر ما أستطيع من برامج التدريب	❐	❐	❐	❐
٢	أحاول أن أتعلم المزيد من برامج التدريب على نحو أكثر من معظم الناس	❐	❐	❐	❐
٣	عادة لدي الدافع لتعلم المهارات المشار إليها في برامج التدريب	❐	❐	❐	❐
٤	وأنا على استعداد لبذل جهد كبير في برامج التدريب من أجل تحسين مهاراتي	❐	❐	❐	❐
٥	أعتقد أني أستطيع تحسين مهاراتي من خلال المشاركة في برامج التدريب	❐	❐	❐	❐
٦	أعتقد أنه يمكنني اكتساب لمعرفة المقدمة في معظم برامج التدريب	❐	❐	❐	❐
٧	المشاركة في برامج التدريب ذات فائدة لا تذكر بالنسبة لي لأن لدي جميع المعارف والمهارات التي احتاجها لأداء مهمتي بنجاح	❐	❐	❐	❐
٨	أنا على استعداد لاستثمار الجهد لتحسين المهارات والكفاءات التي تتطلبها وظيفتي الحالية	❐	❐	❐	❐

٩	أنا على استعداد لاستثمار الجهد لتطوير المهارات والكفاءات اللازمة من أجل إعداد نفسي للحصول على ترقية	❐	❐	❐	❐
١٠	عندما أترك التدريب،أتوق للعودة إلى العمل لممارسة ما تعلمته	❐	❐	❐	❐
١١	أعتقد أن التدريب سيساعدني على أداء وظيفتي الحالية بشكل أفضل	❐	❐	❐	❐
١٢	أتحمس عندما أفكر في محاولة استخدام ما تعلمته في وظيفتي	❐	❐	❐	❐
١٣	في المدى الطويل يحصل الموظفون على الاحترام الذي يستحقونه في هذه المنظمة	❐	❐	❐	❐
١٤	فكرة أن المدربين غير عادلين مع المتدربين هي مجرد هراء	❐	❐	❐	❐
١٥	معظم المتدربين لا يدركون إلى أي مدى قد تأثر أدائهم	❐	❐	❐	❐
١٦	ان التجارب وليس التدريب الذي يتلقاه في الحياة ما يحدد ما انت عليه	❐	❐	❐	❐
١٧	النجاح وليد العمل الجاد وحده وقد يكون للحظ دور بسيط	❐	❐	❐	❐
١٨	الحصول على وظيفة جيدة يعتمد بشكل أساسي على التواجد في المكان المناسب وفي الوقت المناسب	❐	❐	❐	❐
١٩	عندما أضع خطط، أكون واثق تقريبا من قدرتي على جعلها قابلة للتنفيذ	❐	❐	❐	❐
٢٠	حمل الناس على القيام بالشيء الصحيح يعتمد على التدريب	❐	❐	❐	❐
٢١	يجب أن تكون دائما على استعداد للاعتراف بأخطاءك	❐	❐	❐	❐
٢٢	زملائي يقدرون لي استخدام المهارات الجديدة التي تعلمتها خلال التدريب	❐	❐	❐	❐
٢٣	زملائي يشجعوني على استخدام المهارات التي تعلمتها في التدريب	❐	❐	❐	❐
٢٤	في العمل، زملائي يتوقعون مني استخدام ما تعلمته في التدريب	❐	❐	❐	❐
٢٥	يتحلى زملائي بالصبر اتجاهي عندما أحاول تجريب مهارات أو تقنيات جديدة في العمل	❐	❐	❐	❐
٢٦	يولي مديري اهتماماً في ما أتعلمه خلال التدريب	❐	❐	❐	❐
٢٧	يحدد لي مديري أهدافاً تشجعني على تطبيق ما تلقيته من تدريب في عملي	❐	❐	❐	❐
٢٨	يجتمع مديري معي بانتظام للعمل على حل المشاكل التي قد تواجهني في تطبيق تدريبي	❐	❐	❐	❐
٢٩	يجتمع مديري معي لمناقشة سبل تطبيق التدريب في العمل	❐	❐	❐	❐

٣٠	مديري يتيح لي أن أعرف أني أقوم بعمل جيد عندما استخدم تدريبي	❐	❐	❐	❐
٣١	بعد التدريب، أتلقى ردود فعل من الناس على مدى جودة تطبيق ما تعلمته	❐	❐	❐	❐
٣٢	عندما أحاول تجربة أشياء جديدة تعلمتها أعرف من سيساعدني	❐	❐	❐	❐
٣٣	لدي بانتظام المحادثات مع الناس حول كيفية تحسين أدائي	❐	❐	❐	❐
٣٤	غالباً ما يقدم الناس اقتراحات حول كيفية تحسين أدائي الوظيفي	❐	❐	❐	❐
٣٥	أتلقى الكثير من النصائح من الآخرين حول كيفية القيام بعملي بشكل أفضل	❐	❐	❐	❐
٣٦	إذا كان أدائي ليس كما ينبغي أن يكون، سوف يساعدني الناس على تحسينه	❐	❐	❐	❐
٣٧	الموارد التي أحتاجها لتطبيق ماتعلمته متاحة لي بعد التدريب	❐	❐	❐	❐
٣٨	هناك ما يكفي من الموارد البشرية المتاحة للسماح لي باستخدام المهارات المكتسبة في التدريب	❐	❐	❐	❐
٣٩	في العمل، قيود الميزانية تمنعني من استخدام المهارات المكتسبة في التدريب	❐	❐	❐	❐
٤٠	أحصل على الكثير من النصائح من الآخرين حول كيفية القيام بعملي بشكل أفضل	❐	❐	❐	❐
٤١	سوف أحصل على فرص لاستخدام هذا التدريب في عملي	❐	❐	❐	❐
٤٢	المستوى الحالي للموظفين كافٍ بالنسبة لي لاستخدام هذا التدريب	❐	❐	❐	❐
٤٣	الناس في مجموعتي عموما يفضلون استخدام الأساليب القائمة بدلاً من محاولة تجريب أساليب جديدة مكتسبة في التدريب	❐	❐	❐	❐
٤٤	الموظفين ذوي الخبرة في مجموعتي يسخرون من الآخرين عند استخدامهم تقنيات تعلموها في التدريب	❐	❐	❐	❐
٤٥	الناس في مجموعتي منفتحون لتغيير الطريقة التي يؤدون بها الأشياء	❐	❐	❐	❐
٤٦	الناس في مجموعتي ليسوا مستعدين لبذل الجهود الرامية إلى تغيير الطريقة التي تؤدى بها الأمور	❐	❐	❐	❐
٤٧	مجموعتي في العمل منفتحة على التغيير إذا كان من شأنه تحسين أدائنا الوظيفي	❐	❐	❐	❐
٤٨	أنا واثق في قدرتي على استخدام مهارات جديدة في العمل	❐	❐	❐	❐
٤٩	أنا لا أشك في قدرتي على استخدام المهارات المكتسبة حديثاً في عملي	❐	❐	❐	❐
٥٠	أنا متأكد من أنني أستطيع التغلب على عقبات العمل التي تعيق استخدامي لمهارات أو معارف جديدة	❐	❐	❐	❐

٥١	في العمل، أشعر بثقة كبيرة باستخدام ما تعلمته في التدريب حتى في مواجهة المواقف الصعبة والمرهقة	❐	❐	❐	❐
٥٢	غالبًا ما أقرأ المواد المتعلقة بعملي لتحسين معرفتي	❐	❐	❐	❐
٥٣	أنا على استعداد لاختيار مهمة عمل صعبة لأتعلم من التجربة	❐	❐	❐	❐
٥٤	غالباً ما أبحث عن فرص لتطوير مهارات ومعارفه جديدة	❐	❐	❐	❐
٥٥	أستمتع بالمهام الصعبة والمتطلبة في العمل حيث أنني سوف تعلم مهارات جديدة	❐	❐	❐	❐
٥٦	تطوير قدرتي في العمل مهم بما فيه الكفاية بالنسبة لي لأخوض التجربة وأتحمل عواقبها	❐	❐	❐	❐
٥٧	أفضل العمل في الحالات التي تتطلب مستوى عال من القدرة والموهبة	❐	❐	❐	❐
٥٨	لازلت أتذكر الموضوعات الرئيسية التي تعلمتها في الدورة التدريبية	❐	❐	❐	❐
٥٩	أستطيع بسهولة أن أتكلم عن العديد من الأشياء التي تعلمتها في الدورة التدريبية	❐	❐	❐	❐
٦٠	بعد انقضاء الدورة تدريبية لم أعد أفكر فيها مرة أخرى	❐	❐	❐	❐
٦١	الوسائل التعليمية (المعدات، والرسوم التوضيحية، الخ) المستخدمة في التدريب مشابهة جداً لأشياء حقيقية أستخدمها في العمل	❐	❐	❐	❐
٦٢	الأساليب المستخدمة في التدريب مشابهة جداً لما هي عليه في العمل	❐	❐	❐	❐
٦٣	أحب الطريقة التي يبدو فيها التدريب إلى حد كبير مثل عملي	❐	❐	❐	❐
٦٤	ما يتم تدريسه في التدريب يوافق إلى حد بعيد متطلبات عملي	❐	❐	❐	❐
٦٥	الأوضاع المستخدمة في التدريب مشابهة جداً لتلك التي أواجهها في عملي	❐	❐	❐	❐
٦٦	الأنشطة والتمارين التي يستخدمها المدربين ساعدتني أن أعرف كيف أطبق ماتعلمته في العمل	❐	❐	❐	❐
٦٧	من الواضح لي أن الناس الذين يجرون التدريب يفهمون كيف سأستخدم ما تعلمته	❐	❐	❐	❐
٦٨	المدرب (المدربون) يستخدم الكثير من الأمثلة التي تبين لي كيف يمكنني استخدام ما تعلمته في عملي	❐	❐	❐	❐
٦٩	طريقة المدرب (المدربين) في تدريس المواد جعلتني أشعر بمزيد من الثقة بقدرتي على تطبيقهم	❐	❐	❐	❐
٧٠	لقد ساعد استخدام المعارف والمهارات والمواقف في تحسين عملي	❐	❐	❐	❐

٧١	يمكنني إنجاز مهام وظيفتي أسرع مما كنت عليه قبل التدريب	❒	❒	❒	❒
٧٢	لقد أنجزت مهام عملي بشكل أسرع مما كنت عليه قبل التدريب	❒	❒	❒	❒
٧٣	يمكنني إنجاز مهام العمل على نحو أفضل باستخدام المعارف والمهارات الجديدة	❒	❒	❒	❒
٧٤	لقد تحسنت نوعية عملي بعد استخدام المعارف والمهارات الجديدة	❒	❒	❒	❒
٧٥	أرتكب عدد أقل من الأخطاء في الإنتاج عند استخدام المعارف والمهاراتالجديدة	❒	❒	❒	❒

شكرا لكم على مساعدتكم و وقتكم

8.3 Appendix-3 Research ethics application form

OFFICE USE: 19 / 06 / 2013

University of Westminster

Research Ethics sub-Committee

Application for Research Ethics Consideration

COVER SHEET

(To be completed by all applicants)

Section 1 – PROJECT AND APPLICANT DETAILS **To be completed by all applicants**

Project Title: The Influence of Work Environment, Individual / Trainee Characteristics, and Training Design Factors on the Transfer of Training: The Case of Public Security Sector in Saudi Arabia

1.1 Applicant Details	
Name: **Abdulaziz Nasser Alnowaiser**	**EmailAddress:** **a.alnowaiser@my.westminster.ac.uk**
Contact Address: **60 Kensington West** **Blythe Road** **London** **W14 0JQ**	**Telephone Number:** **0778 077 7477**
Please check the relevant box: **☐ Undergraduate ☐ Postgraduate ☒ MPhil/PhD Student ☐ Staff**	

1.3 Supervisor/Dean of School/ School Research Director details

Please note that all applicants with a supervisor(s) must ensure that the supervisor signs the declaration at the bottom of this page if completing Part A only or in **Section 10.3** if completing Part B

All staff must ensure that their Dean of School, or School Research Director (or nominee), as appropriate, signs the declaration at the bottom of this page if completing Part A only or in **Section 10.3** if completing Part B

Name: Prof Barbara Allen	**Email Address: B.Allen@wesminister.ac.uk**
School/Centre/Unit: WBS	**Telephone Number: 0207 911 5000**

NOW COMPLETE PART A

PART A

Section 2 – Project Details

2.1 Please provide a description of the background to your study including a literature review (250 words maximum):

Training is the means in which to support employees in achieving organisation goals through performing tasks according to their job. It has been conceptualised as a strategic tool to transfer acquired knowledge and skills from the classroom to the work floor (Bernard et al., 2001). In view of increasing employee skills and knowledge, training can affect organisation productivity, job performance, organisational performance, attitudes and competitiveness (Yamnill and McLean, 2001; Donovan, Hannigan and Crowe, 2001; Awoniyi, Griego and Morgan, 2002; Salas et al., 2006). Nevertheless, the use of training and its effectiveness can be determined by the efficiency of trainee to transfer training and the knowledge and skills for effective performance. In literature, transfer of training has been defined by Baldwin & Ford (1988, p.63) “the degree to which trainees effectively apply the knowledge, skills, and attitudes gained in the training context to the job”. Holton & Baldwin (2003) further explained that the skills and behaviours

learned and practiced in the training programme have to be transferred to the job, sustained over time, and generalised across contexts to increase job performance. Learning here as identified by Weiss (1990) is the relatively permanent change in knowledge, skills and the behaviour of trainees. In literature training, the subject of transfer is not a new one to human resources development but the constant challenge is for learners to acquire new knowledge and skills to enhance the performance of an organisation. However, research is put forward to enhance training applications by addressing cognitive, psychological, behavioural and cultural aspects of work performance in an organisation (Holton et al., 2000; Cromwell & Kolb, 2004).

2.2. Please provide a brief description of your study (250 words maximum):

This study is an attempt to illustrate the extent of training effectiveness in Saudi Arabia, more specifically, in Public Security Sector and explore how employees' performance can be improved. In addition, it is one of few studies that studied training transfer in Saudi Arabia in general and in the Middle East in particular. This research is intended for academics, companies, and policy makers.

On an academic level, this study is trying to contribute to the literature of training transfer by conducting an empirical research examining the relationship between different set of variables (Work environment, individual characteristics, Training Design) and the transfer of training.

On a practical level, this study will give guidance to companies that need to change their training policies on strategic considerations. This guidance will provide institutions and companies with insight on how they can improve the performance of their employees through advising them on how they can maximize the benefits of their training programmes by understanding the transfer of training process so they can adopt some strategies to increase the training transfer.

2.3. What are the specific aims of the study?

The aim of this study is to examine the effects of aspects of the motivation to learn and the transference of knowledge and skills gained from training. In support of this aim, researchers proposed the following objectives:

1. To examine the impact of work environment factors on the transfer of training directly and through learning motivation and transfer motivation.

2. To assess the role of individual characteristics on the transference of training directly and through learning motivation and transfer motivation.

3. To investigate the impact of training design factors on the transfer of training both directly and through learning motivation and transfer motivation.

2.4. Please outline the design and methodology of your study [attach extra information as necessary] (250 words maximum in total):

This research has been designed to focus the research step by step as described by Neuman (1995) & Sekaran (2003). By applying hypothetico-deductive approach this study starts from the literature review which helps to create an awareness of the research domain. From the literature, researcher developed a research gap which supported to articulate a conceptual model and is going to be tested empirically. In the proposed model, many factors of training design, individual variables and organizational environment have been connected to understand the effects of these factors for transfer of training. Based on the relationship researcher developed several hypotheses. For validating the research hypotheses, the data would be collected from the public security organisation of Saudi Arabia. Before collecting full scale data, research would conduct a pilot study to get the reliability and validity of survey questionnaire. Researcher has determined quantitative data for examining the model for that epistemology stance would be determined.

Researcher has adapted survey questionnaire from the existing literature to test the hypotheses (Noe and Schmitt, 1986; Facteau et al., 1995; Holton et al., 2000; Velada et al., 2007). These scales would be measured through a

different number of items on five point Likert scales grading from (1=Strongly Disagree and 5=Strongly Agree). The questionnaire would be originally prepared in English and then translated into the local language of participants, such as Arabic, by English-language experts based on the translation and back translation process.

This study has been proposed to conduct in the Public Sector Security Organisation of Saudi Arabia. Public security organisations render services for all public where training is relevant to the reality of the administration directed to the effective development of human resources in the security services. Given the importance of training for employees to acquire knowledge and skills to perform organizational goals and objectives, this study is going to focus on the training institution of Riyadh where large numbers of employees including soldiers and officers are getting training. In this regard, researchers will focus on 500 public security officers including trainee commissioned and non-commissioned officers and officer providing training. The sample will be stratified convenience sample of participants at two big training centres located in Riyadh, KSA. Officers attending professional training courses will be provided with the opportunity to participate in the study. Researchers will purposefully select those participants for whom training is mandatory. Researchers will ask participants to answer questions relating to training programs attended previously. Participation rates for the study are expected to be good. Our survey invitation, which gives the incentive to voluntarily participate along with data security measures, will be created and administered. However, access to this sector will be through acquiring permission from the authority. Moreover, researchers being a member of staff in this sector will help to gain access to this institution and achieve the objectives of the study. All participants would be informed of the purpose of the study and assured confidentiality and anonymity of their responses. Researchers will distribute the survey in person and via mail and email. A return envelope will be issued with a request to return it to the researcher.

Finally, data would be analysed to obtain accurate results. In this study three main stages have been proposed for the data analysis. First, the content and the relevance of the multi-item scales would be refined. Second, scales would be validated by exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) through SPSS. Finally, hypotheses would be tested. Researchers will have applied Structural Equation modeling to examine the relationship of scales based on the interest. As recommended by Anderson & Gerbing (1988) two stages would be used in which a first measurement model would be tested and then a structural equation model would be evaluated.

2.5 Timescales

Start Date (01/10/2012):

Estimated duration of work12 months Transfer from MPhil to PhD and 18 months to finish the research

Section 3

RISK OF HARM

		Yes	No	N/A
1	Is pain or more than mild discomfort likely to result from the study		**X**	
2	Could the study induce psychological stress or anxiety or cause harm or negative consequences beyond the risks encountered in normal life?		**X**	
3	Will the study involve prolonged or repetitive testing?		**X**	
4	Will the study involve raising sensitive topics (e.g. sexual activity, drug use, revelation of medical history and/or illegal activities)		**X**	
5	Does your work involve any material containing human cells (e.g. blood, urine, saliva, body tissues) from living or deceased persons? (Such work must take account		**X**	

	of the Human Tissue Act).			
6	Will DNA samples be taken from human participants? (Such work must take account of the Human Tissue Act).		**X**	
7	Does your study raise any issues of personal safety for you or other researchers involved in the project? (Especially relevant if taking place outside working hours or off University premises)		**X**	
8	Does your study involve deliberately misleading the participants (e.g. deception, covert observation)		**X**	
9	Does your work involve administration of a non-food substance in abnormally large amounts or one that is known to cause allergic reaction(s) in some people?		**X**	
PARTICIPANTS				
Does your work involve any of the following:				
		Yes	**No**	**N/A**
10	Human participants in health settings (e.g. private patients in private clinics)		**X**	
11	Human participants in health settings (e.g. NHS patients in NHS clinics/hospitals)		**X**	
12	Human participants who are in the care of a social worker		**X**	
13	Expectant or new mothers		**X**	
14	Refugees		**X**	
15	Minors (under the age of 18 years old)		**X**	
16	Participants in custody (e.g. prisoners or arrestees)		**X**	
17	Participants with impaired mental capacity (e.g. severe mental illness, brain damaged, sectioned under Mental Health Act, lowered or reduced sense of consciousness)		**X**	
INFORMATION TO PARTICIPANTS				

		Yes	No	N/A
18	Will you provide participants with a Participant Information Sheet prior to obtaining consent which can be taken away by the participant?	**X**		
19	Will you describe the procedures to participants in advance, so that they are informed about what to expect?	**X**		
20	Will you obtain consent for participation? (normally written)	**X**		
21	Will you tell participants that they may withdraw from the research at any time and for any reason?	**X**		
22	With questionnaires, will you give participants the option of omitting questions they do not want to answer?	**X**		
23	Will you tell participants that their data will be treated with full confidentiality and that, if published, it will not be identifiable as theirs?	**X**		
24	Will you debrief participants at the end of their participation (e.g. give them a brief explanation of their study)?	**X**		

If you have answered NO to questions 1-17 (inclusive) and YES to questions 18-24 (inclusive), you do not need to complete the Full Research Ethics Approval Form (Part B). Please keep this form for your records.

If you have answered YES to any of the questions 1-17 (inclusive) or NO to any of the questions 18-24 the Full Research Ethics Approval Form (Part B) MUST be completed.

If you are applying for external Ethical Approval, please send a *copy* of the Conditions/Approvals letter to Huzma Kelly, Secretary Research Ethics sub Committee; Senior Research Officer (Policy and Governance), Academic Services Department, 101 New Cavendish Street, London, W1W 6XH.

8.4 Appendix-4 Survey questionnaire with codes

Coding of Survey Questionnaire Items

Gender	Gender
Age	Age
SOST	Social Status
LEDE	Level of Degree
YOJP	Your Job Please
WOEX	Work Experience
EWPE	Experience with Present Employer
NPYS	Number of People you supervise/manage
CWYF	How often during the week do you have contact with your direct manager
LEMO1	I try to learn as much as I can from training programmes.
LEMO2	I try to learn more from training programmes than most people.
LEMO3	I am usually motivated to learn the skills emphasized in training programmes.
LEMO4	I am willing to exert considerable effort in training programmes in order to improve my skills.
LEMO5	I believe I can improve my skills by participating in training programmes.
LEMO6	I believe I can learn the knowledge presented in most training programmes.
LEMO7	Participation in training programmes is of little use to me because I have all the knowledge and skills I need to successfully perform my job.
LEMO8	I am willing to invest effort to improve skills and competencies related to my current job.

LEMO9	I am willing to invest effort to improve skills and competencies in order to prepare myself for a promotion.
TRMO1	When I leave training, I can’t wait to get back to work to practice what I learned.
TRMO2	I believe the training will help me do my current job better.
TRMO3	I get excited when I think about trying to use my new learning on my job.
LOCO1	In the long run employees get the respect they deserve in this organisation.
LOCO2	The idea that trainers are unfair to trainees is nonsense.
LOCO3	Most trainees don't realise the extent to which their performance are influenced.
LOCO4	It is one's experiences not training in life which determine what they're like.
LOCO5	Becoming a success is a matter of hard work, luck has little or nothing to do with it.
LOCO6	Getting a good job depends mainly on being in the right place at the right time.
LOCO7	When I make plans, I am almost certain that I can make them work.
LOCO8	Getting people to do the right thing depends upon training.
LOCO9	You should always be willing to admit your own mistakes.
PESU1	My colleagues appreciate me using the new skills I have learned in training
PESU2	My colleagues encourage me to use the skills I have learned in training.
PESU3	At work, my colleagues expect me to use what I learn in training.
PESU4	My colleagues are patient with me when I try out new skills or techniques at work.

SUSU1	My manager shows interest in what I learn in training.
SUSU2	My manager sets goals for me that encourage me to apply my training on the job.
SUSU3	My manager meets with me regularly to work on problems I may be having in applying my training.
SUSU4	My manager meets with me to discuss ways to apply training on the job.
SUSU5	My manager lets me know I am doing a good job when I use my training.
FEBA1	After training, I get feedback from people on how well I am applying what I learnt.
FEBA2	When I try new things I have learned, I know who will help me.
FEBA3	I regularly have conversations with people about how to improve my performance.
FEBA4	People often make suggestions about how I can improve my job performance.
FEBA5	I get a lot of advice from others about how to do my job better.
FEBA6	If my performance is not what it should be, people will help me improve.
OPLE1	The resources I need to apply my learning are available to me after training.
OPLE2	There are enough human resources available to allow me to use skills acquired in training.
OPLE3	At work, budget limitations will prevent me from using skills acquired in training.
OPLE4	I get a lot of advice from others about how to do my job better.
OPLE5	I will get opportunities to use this training on my job.
OPLE6	Our current staffing level is adequate for me to use this training.
OPCH1	People in my group generally prefer to use existing methods, rather than

	try new methods learned in training.
OPCH2	Experienced employees in my group ridicule others when they use techniques they learn in training.
OPCH3	People in my group are open to changing the way they do things.
OPCH4	People in my group are not willing to put in the effort to change the way things are done.
OPCH5	My workgroup is open to change if it will improve our job performance.
SEEF1	I am confident in my ability to use new skills at work.
SEEF2	I never doubt my ability to use newly learned skills on the job.
SEEF3	I am sure I can overcome obstacles on the job that hinder my use of new skills or knowledge.
SEEF4	At work, I feel very confident using what I learned in training even in the face of difficult or taxing situations.
GOOR1	I often read materials related to my work to improve my knowledge
GOOR2	I am willing to select a challenging work assignment so that I can learn from the experience
GOOR3	I often look for opportunities to develop new skills and knowledge.
GOOR4	I enjoy challenging and difficult tasks at work where I'll learn new skills.
GOOR5	For me, development of my work ability is important enough for me to take risks.
GOOR6	I prefer to work in situations that require a high level of ability and talent.
TRRA1	I still remember the main topics that I have learned in the training course.
TRRA2	I can easily say several things that I have learned in the training course.
TRRA3	After a training course, I do not think about it again.
TRCO1	The instructional aids (equipment, illustrations, etc.) used in training are very similar to real things I use on the job.

TRCO2	The methods used in training are very similar to how we do it on the job.
TRCO3	I like the way training seems so much like my job.
TRCO4	What is taught in training closely matches my job requirements.
TRCO5	The situations used in training are very similar to those I encounter on my job.
TRDE1	The activities and exercises the trainers used helped me know how to apply my learning on the job.
TRDE2	It is clear to me that the people conducting the training understand how I will use what I learnt.
TRDE3	The trainer(s) used lots of examples that showed me how I could use my learning on the job.
TRDE4	The way the trainer(s) taught the material made me feel more confident that I could apply it.
TRTR1	Using the knowledge, skills and attitudes has helped me improve my work.
TRTR2	I can accomplish my job tasks faster than before training.
TRTR3	I have accomplished my job tasks faster than before training.
TRTR4	I can accomplish job tasks better by using new knowledge, skills and attitudes.
TRTR5	The quality of my work has improved after using new knowledge, skills and attitudes
TRTR6	I make fewer mistakes in production when using new knowledge, skills and attitudes

8.5 Appendix-5 Literature review data extracted from empirical studies on training transfer

Study / Authors	Year	Country	Organisation / sector	Study design	Data collection method	Sample type and size	Response rate	Data analysis techniques
Chiaburu and Marinova	2005	USA	Work organisation	Cross sectional survey	Self-report questionnaire	N=192	96.8%, n=186	CFA / SEM
Chen et al.	2006	Taiwan	Public and private sectors	Cross sectional survey	Self-report questionnaire	Convenience & purposive, N=800	Not Reported	MANOVA, ANOVA
Kirwan and Birchall	2006	Ireland	Health sector s	Cross sectional survey	Self-report questionnaire	N=112	64%, n=72	Correlation, Multiple linear regression
Bates et al.	2007	Germany	Private sector organisations*	Cross sectional survey	Self-report questionnaire	N=579	90.3%, n=523	EFA, CFA, Multiple regression
Bell and Ford	2007	USA	Driving trainees	Longitudinal study	Self-report questionnaire	Convenience,, N=152	74.35, n=113	SEM
Tziner et al.	2007	Israel	Industrial power sector	Cross sectional survey	Self-report questionnaire	Convenience, N=130	Not reported	Hierarchical regression
Velada et al.	2007	Portugal	Grocery market sector	Longitudinal study	Self-report questionnaire	Convenience, N= 336	T1 = 100%, T2= 54.2%	EFA, Hierarchical regression analysis
Chiaburu and Lindsay	2008	USA	Service organisation	Cross sectional survey	Self-report questionnaire	N=289	87.9%	SEM
Burke and Hutchins	2008	USA	HRD / Training sector	Cross sectional	Self-report questionnaire	Purposive,	33.7%, n=172	Quantitative content analysis

				survey	(open ended, online)	N=143		
Hutchins	2009	USA	HRD / Training sector	Cross sectional survey	Self-report questionnaire	Purposive, N=143	33.7%, n=172	Quantitative content analysis
Velada et al.	2009	Portugal	Industrial, services, commercial financial, and insurance sectors	Cross sectional survey	Self-report questionnaire	Purposive and convenience, N=500	92.8%	EFA, MANOVA, ANOVA
Brown and McCracken,	2009	Canada	Public sector	Cross sectional survey	Self-report questionnaire (open ended)	N=137	72%	Content analysis
Chiaburu et al.,	2010	USA	Service organisation	Longitudinal study	Self-report questionnaire	N=750	T1= 49.6%, T2 =29.7%' T3= 24.8%	SEM
Martin	2010	USA	Manufacturing sector	Cross sectional survey	Self-report questionnaire	N=237	Not reported	ANOVA
Yamkovenko and Holton	2010	USA	Organisational employees (Sector not reported)	Cross sectional survey	Self-report questionnaire	N=450	64%, n=290	Multiple regression, CFA / SEM
Broucker	2010	Belgium	Federal civil servants	Case studies	Semi-structured interviews	Case study 1= 13 Case study 2=16	40%	Content analysis

Abdullah and Suring	2011	Malaysia	Civil servants	Cross sectional survey	Self-report questionnaire	Stratified random, N=160	66.7%, n=120	EFA, Pearson's correlations
Donovan and Darcy	2011	Republic of Ireland	HRD professionals (Manufacturing, financial services, services and public sector)	Cross sectional survey	Self-report questionnaire	Convenience, N=2000	15.7%, n=314	EFA
Hua et al.	2011	Malaysia	Public sector (local government)	Cross sectional survey	Self-report questionnaire	N=1100	64%	EFA, Pearson's correlations, Multiple regression
Truitt	2011	USA	University and businesses	Cross sectional survey	Self-report questionnaire	Convenience, N=487	48.6 %	Chi square and gamma statistical procedures
Dirani	2012	Lebanon	Financial sector	Cross sectional	Mixed methods Questionnaire survey and interviews	Convenience, N=120	82.5%	Descriptive statistics
Simosi	2012a	Greece	Public sector (financial services	Cross sectional survey	Self-report Questionnaire	Convenience, N=252	100%	Hierarchical regression
Simosi	2012b	Greece	Public sector (financial services	Cross sectional survey	Self-report Questionnaire	Convenience, N=252	100%	Hierarchical regression
McCracken	2012	Canada &	Public sector	Cross sectional	Semi-structured	N=20	50%	Thematic analysis

et al.		Northern Ireland (UK)		interviews	interviews			
Gegenfurtner	2013	Germany	Industrial organisations	Longitudinal survey	Self-report Questionnaire	Convenience, N=496	26.4%, n=131	CFA / SEM
Hutchins et al.	2013	USA	Law enforcement / police	Cross sectional survey	Self-report Questionnaire	Convenience, N=235	95%, n=244	Multiple linear regression
Bhatti et al.	2014	Malaysia	Banking sector	Cross sectional survey	Self-report Questionnaire	N=1000	50.3%	CFA/ SEM
Choi and Park	2014	South Korea	Public sector and private sector	Cross sectional survey	Self-report Questionnaire	N=600	65%	Multiple regression
Grohmann et al.	2014	Germany	Manufacturing, administration, public health, education and service sectors	Cross sectional survey	Self-report Questionnaire (online and in person)	Study 1 = 252; Study 2 = 391	Study 1 = 95.6% Study 2 = 100%	CFA / SEM
Homklin et al.	2014	Thailand	Automobile industry	Cross sectional survey	Self-report questionnaire	N=363	59.8%	CFA, Hierarchical regression
Kim et al.	2014	South Korea	Public sector / government officials	Cross sectional survey	Self-report questionnaire	N=335	Not reported	Hierarchical regression
Lee et al.	2014	South Korea	Insurance company	Cross sectional survey	Self-report questionnaire	N=400	96.3%	CFA / SEM

Madagamage et al.	2014	Sri Lanka	Public sector / administrative service officers	Cross sectional survey	Self-report questionnaire	Convenience , N=236	64.4%	EFA, CFA / SEM
Wen and Lin	2014a	Taiwan	Different industries	Cross sectional survey	Self-report questionnaire	Convenience, N=500	63.2 %	CFA / SEM
Wen and Lin	2014b	Taiwan	Different industries	Cross sectional survey	Self-report questionnaire	Convenience, N=500	63.2 %	CFA / SEM
Almannie	2015	Saudi Arabia	Education sector	Cross sectional survey	Self-report questionnaire	N=90	Not reported	Descriptive statistics
Cheng et al.,	2015	Hong Kong / China	Construction practitioners	Cross sectional survey	Self-report questionnaire	Convenience, N=203	43.7%, n=132	CFA / SEM
Massenberg et al.	2015	Germany	Automotive and electrical sectors	Cross sectional survey	Self-report questionnaire	N=194	Not reported	SEM
Ng	2015	Malaysia	Public sector organisation	Cross sectional survey	Self-report questionnaire	Convenience, N=400	76.5%	EFA, Stepwise mediating regression
Zumrah	2015	Malaysia	Public sector employees	Cross sectional survey	Self-report Questionnaire	Purposive, N=222	Not reported	CFA / SEM
Turab and Casmir	2015	Kuwait	Oil sector	Cross sectional survey	Self-reported questionnaire	N=123	23.7%	No information
Chauhan et al.	2016	India	Power transmission	Cross sectional	Self-reported questionnaire	N=200	74.5%	Hierarchical regression

			manufacturing	survey				
Massenberg et al.	2016	Germany	Financial and insurance industry	Longitudinal study survey	Self-reported questionnaire	Convenience, N=547	T1=84%, n=459; t2=91%, n=479	SEM

ANOVA = Univariate Analysis of Variance, CFA = Confirmatory Factor Analysis, MANOVA = Multivariate Analysis of Variance, SEM =Structural Equation Modelling, *=Electrical engineering, mechanical engineering, construction, financial services, social service, health and pharmaceutical, automotive, information technology (IT) and telecommunications, metal and plastics processing, and foods industries

Source: Researcher

8.6 Appendix-6 Key variables and findings of reviewed empirical studies on training transfer

Direct predictors	Mediating variables		Main outcome variable
	Learning motivation	**Transfer Motivation**	**Training Transfer**
Work Environment			
Performance Feedback	☑ Bell and Ford, 2007	☑ Kirwan and Birchall, 2006; Choi and Park, 2014; Dirani, 2012	☑ Velada et al., 2007; Broucker, 2010 ☒ Hutchins et al., 2013
Peer Support	☑ Chiaburu and Marinova, 2005; Martin, 2010 ☒ Lee et al. 2014; Massenberg et al., 2015	☑ Chiaburu and Marinova, 2005; Kirwan and Birchall, 2006; Stephen, 2008; Lee et al., 2014; Bhatti et al., 2014; Massenberg et al., 2015, 2016; Chauhan et al., 2016	☑ Chiaburu and Marinova, 2005; Bates et al., 2007; Burke and Hutchins, 2008; Massenberg et al., 2015 ☒ Hutchins et al., 2013; Lee et al., 2014; Almannie, 2015
Supervisor support	☑ Ng, 2015; Massenberg et al., 2015 ☒ Lee et al. 2014;	☑ Kirwan and Birchall, 2006, Stephen, 2008; Chiaburu et al., 2010; Lee et al., 2014, Bhatti et al., 2014; Kim et al., 2014; Massenberg et al., 2015, 2016; Chauhan et al., 2016 ☒ Chiaburu and Marinova 2005; Madagamage et al., 2014	☑ Burke and Hutchins, 2008; Hua et al., 2011; Simosi, 2012b; Lee et al., 2014. Massenberg et al., 2015; Zumrah, 2015 ☒ Chiaburu and Marinova 2005; Velada et al., 2007; Hutchins et al., 2013; Homklin et al., 2014; Almannie, 2015; Ng, 2015

Openness to Change		☑ Choi and Park, 2014 ☒ Massenberg et al., 2016	☑ Broucker, 2010 ☒ Hutchins et al., 2013
Opportunity to use learning		☑ Kirwan and Birchall, 2006; Massenberg et al., 2016 ☒ Madagamage et al., 2014	☑ Broucker, 2010 ☒ Hutchins et al., 2013
Individual Characteristics			
Performance Self-Efficacy	☑ Lee et al. 2014 Tziner et al., 2007; Wen and Lin, 2014b;	☑ Chiaburu and Marinova 2005; Kirwan and Birchall, 2006; Stephen, 2008; Chiaburu and Lindsay, 2008; Massenberg et al., 2016 ☒ Lee et al., 2014; Bhatti et al., 2014. Madagamage et al., 2014; Wen and Lin, 2014b	☑ Bates et al., 2007; Velada et al., 2007; Burke and Hutchins, 2008 Broucker, 2010; Chiaburu et al., 2010; Simosi, 2012a,b; ☒ Tziner et al., 2007; Hutchins et al., 2013; Wen and Lin, 2014b
Goal Orientation	☑ Bell and Ford, 2007	☒ Chiaburu and Marinova, 2005	☑ Tziner et al., 2007; Simosi, 2012a ☒Yamkovenko and Holton, 2010; Hutchins et al., 2013;
Training Retention			☑ Velada et al., 2007; Bhatti et al., 2014; Homklin et al., 2014 ☒Gegenfurtner, 2013
Training Design			
Training Content		☑ Grohmann et al., 2014	☑ Bates et al., 2007; Gegenfurtner, 2013 ☒ Hutchins et al., 2013

Training Design	☑ Kirwan and Birchall 2006; Stephen 2008; Bhatti et al.,2014; Grohmann et al., 2014	☑ Velada et al., 2007; Burke and Hutchins, 2008; Broucker, 2010; Abdullah and Suring, 2011
Motivation		
Learning Motivation	☑ Chiaburu and Lindsay, 2008; Wen and Lin, 2014a,b ☒ Lee et al. 2014	☑ Bell and Ford, 2007; Tziner et al., 2007; Lee at al., 2014; Ng, 2015; Wen and Lin, 2014a ☒ Chiaburu and Lindsay, 2008; Wen and Lin 2014b
Transfer Motivation		☑ Chiaburu and Marinova 2005; Bates et al., 2007; Chiaburu and Lindsay, 2008; Broucker, 2010; Chiaburu et al., 2010; Yamkovenko and Holton, 2010; Abdullah and Suring, 2011; Gegenfurtner, 2013; Hutchins et al., 2013; Bhatti et al., 2014; Huang et al., 2014; Grohmann et al., 2014; Wen and Lin, 2014a,b; Cheng et al., 2015; Massenberg et al., 2015; Chauhan et al. 2016 ☒ Lee at al., 2014

Source: Researcher

8.7 Appendix-7 Pilot study results

Table 8-1 Pilot Study: Demographic characteristics of participants

Demographic characteristics	***Category***	***Frequencies*** (N=43)	
		Count (n)	***Percentage (%)***
Gender	Male	43	100.0
Age	Less than 21	00	00.0
	21-30	18	20.0
	31-40	14	41.9
	41-50	14	32.6
	51-60	02	04.7
	Total	43	100.0
Social status	Single	06	14.0
	Married	37	86.0
	Divorced/Widow	00	00.0
	Total	43	100.0
Education level	Undergraduate	06	14.0
	Graduate	30	69.8
	Postgraduate	07	16.3
	Total	43	100.0
Job position	Lieutenant-Colonel	09	20.9
	First Lieutenant	06	14.0
	Captain	10	23.3
	Major	07	16.3
	Colonel	11	25.6
	Total	43	100.00
Total working experience	Less than 5 rears	04	9.3
	5-10 years	09	20.9
	10-15 years	08	18.6
	15-20 years	09	20.9
	More than 20 years	13	30.2
	Total	43	100.0

Experience with present employer	Less than 5 years	11	25.6
	5-10 years	12	27.9
	10-15 years	05	11.6
	15-20 years	06	14.0
	More than 20 years	09	20.9
	Total	43	100.0
Number of people supervised	Less than 5	06	14.0
	5-10	09	20.9
	10-15	02	4.7
	15-20	01	2.3
	More than 20	25	58.1
	Total	43	100.0
Frequency of weekly contact with line managers	Rarely	06	14.0
	Occasionally	02	4.7
	Very Often	14	32.6
	Every Day	21	48.8
	Total	43	100.0

8.8 Appendix-8 Main study: Data screening tables and graphs

Table 8-2 Measured items: minimum and maximum scores

Item	Minimum	Maximum
TRTR1	1	4
TRTR2	1	4
TRTR3	1	4
TRTR4	1	4
TRTR5	1	4
TRTR6	1	4
LEMO1	1	4
LEMO2	1	4
LEMO3	1	4
LEMO4	1	4
LEMO5	1	4
LEMO6	1	4
LEMO7	1	4
LEMO8	1	4
LEMO9	1	4
TRMO1	1	4
TRMO2	1	4
TRMO3	1	4
LOCO1	1	4
LOCO2	1	4
LOCO3	1	4
LOCO4	1	4
LOCO5	1	4
LOCO6	1	4
LOCO7	1	4
LOCO8	1	4
LOCO9	1	4
PESU1	1	4

PESU2	1	4
PESU3	1	4
PESU4	1	4
SUSU1	1	4
SUSU2	1	4
SUSU3	1	4
SUSU4	1	4
SUSU5	1	4
FEBA1	1	4
FEBA2	1	4
FEBA3	1	4
FEBA4	1	4
FEBA5	1	4
FEBA6	1	4
OPLE1	1	4
OPLE2	1	4
OPLE3	1	4
OPLE4	1	4
OPLE5	1	4
OPLE6	1	4
OPCH1	1	4
OPCH2	1	4
OPCH3	1	4
OPCH4	1	4
OPCH5	1	4
OPCH6	1	4
SEEF1	1	4
SEEF2	1	4
SEEF3	1	4
SEEF4	1	4
GOOR1	1	4
GOOR2	1	4
GOOR3	1	4

GOOR4	1	4
GOOR5	1	4
GOOR6	1	4
TRRA1	1	4
TRRA2	1	4
TRRA3	1	4
TRCO1	1	4
TRCO2	1	4
TRCO3	1	4
TRCO4	1	4
TRCO5	1	4
TRDE1	1	4
TRDE2	1	4
TRDE3	1	4
TRDE4	1	4

Table 8-3 Measured items: missing values

Items	Valid N	Missing N
TRTR1	376	0
TRTR2	376	0
TRTR3	376	0
TRTR4	376	0
TRTR5	376	0
TRTR6	375	1
LEMO1	376	0
LEMO2	376	0
LEMO3	376	0
LEMO4	376	0
LEMO5	376	0
LEMO6	376	0
LEMO7	376	0
LEMO8	376	0
LEMO9	376	0
TRMO1	376	0
TRMO2	375	1
TRMO3	376	0
LOCO1	376	0
LOCO2	376	0
LOCO3	376	0
LOCO4	376	0
LOCO5	376	0
LOCO6	376	0
LOCO7	376	0
LOCO8	376	0
LOCO9	376	0
PESU1	376	0
PESU2	376	0
PESU3	376	0
PESU4	376	0

SUSU1	376	0
SUSU2	376	0
SUSU3	376	0
SUSU4	376	0
SUSU5	376	0
FEBA1	376	0
FEBA2	376	0
FEBA3	376	0
FEBA4	376	0
FEBA5	376	0
FEBA6	376	0
OPLE1	375	1
OPLE2	376	0
OPLE3	376	0
OPLE4	376	0
OPLE5	376	0
OPLE6	376	0
OPCH1	376	0
OPCH2	376	0
OPCH3	376	0
OPCH4	376	0
OPCH5	376	0
OPCH6	376	0
SEEF1	376	0
SEEF2	376	0
SEEF3	376	0
SEEF4	376	0
GOOR1	376	0
GOOR2	376	0
GOOR3	376	0
GOOR4	376	0
GOOR5	376	0
GOOR6	376	0

TRRA1	376	0
TRRA2	375	1
TRRA3	376	0
TRCO1	376	0
TRCO2	376	0
TRCO3	376	0
TRCO4	376	0
TRCO5	376	0
TRDE1	376	0
TRDE2	376	0
TRDE3	376	0
TRDE4	376	0

Figure 8-1 Missing data before treatment

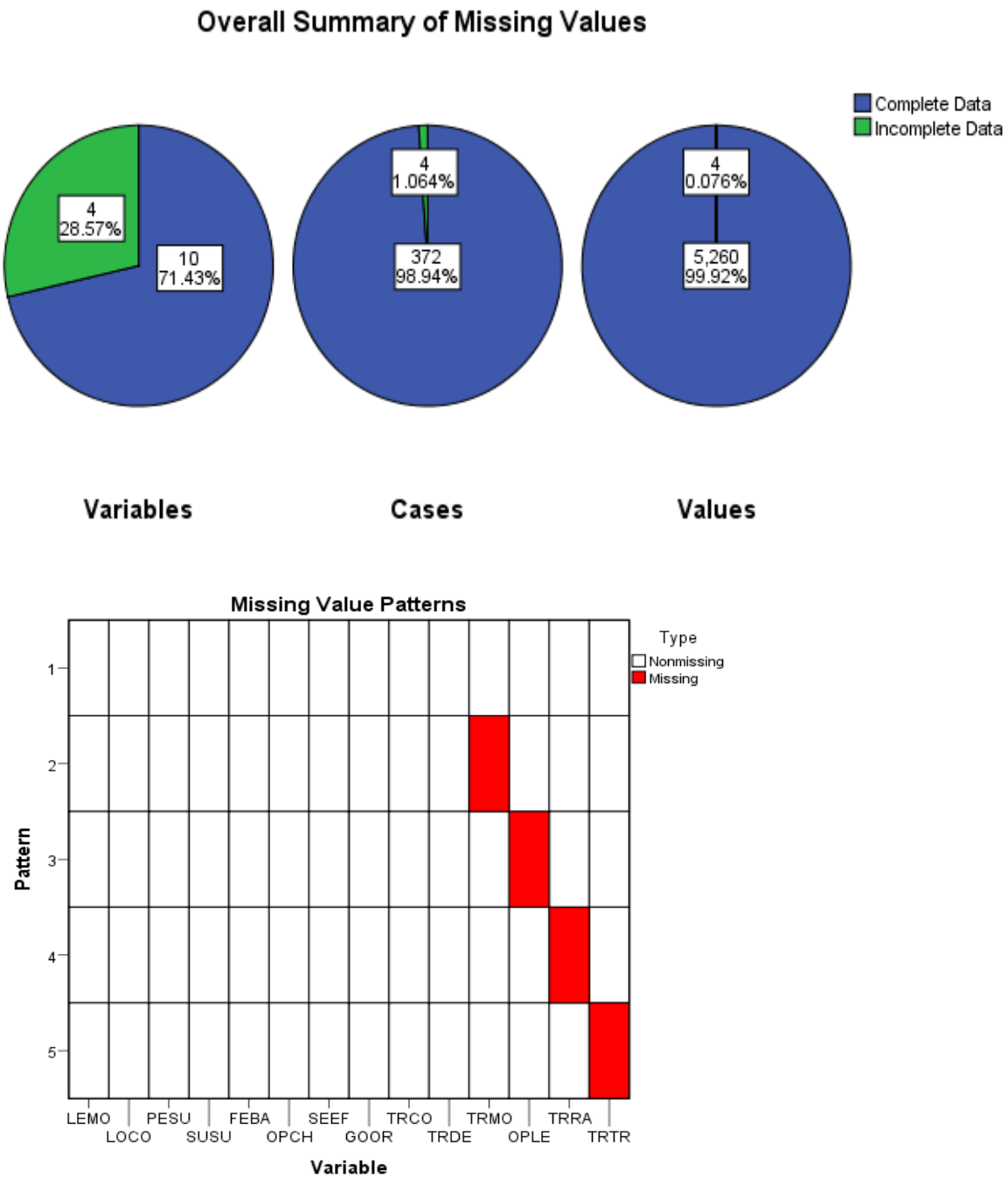


Table 8-4 Frequencies after treatment of missing data

Case Processing Summary of all items after treatment						
	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
TRTR1	376	100.0%	0	0.0%	376	100.0%
TRTR2	376	100.0%	0	0.0%	376	100.0%
TRTR3	376	100.0%	0	0.0%	376	100.0%
TRTR4	376	100.0%	0	0.0%	376	100.0%
TRTR5	376	100.0%	0	0.0%	376	100.0%
TRTR6	376	100.0%	0	0.0%	376	100.0%
LEMO1	376	100.0%	0	0.0%	376	100.0%
LEMO2	376	100.0%	0	0.0%	376	100.0%
LEMO3	376	100.0%	0	0.0%	376	100.0%
LEMO4	376	100.0%	0	0.0%	376	100.0%
LEMO5	376	100.0%	0	0.0%	376	100.0%
LEMO6	376	100.0%	0	0.0%	376	100.0%
LEMO7	376	100.0%	0	0.0%	376	100.0%
LEMO8	376	100.0%	0	0.0%	376	100.0%
LEMO9	376	100.0%	0	0.0%	376	100.0%
TRMO1	376	100.0%	0	0.0%	376	100.0%
TRMO2	376	100.0%	0	0.0%	376	100.0%
TRMO3	376	100.0%	0	0.0%	376	100.0%
LOCO1	376	100.0%	0	0.0%	376	100.0%
LOCO2	376	100.0%	0	0.0%	376	100.0%
LOCO3	376	100.0%	0	0.0%	376	100.0%
LOCO4	376	100.0%	0	0.0%	376	100.0%
LOCO5	376	100.0%	0	0.0%	376	100.0%
LOCO6	376	100.0%	0	0.0%	376	100.0%
LOCO7	376	100.0%	0	0.0%	376	100.0%
LOCO8	376	100.0%	0	0.0%	376	100.0%
LOCO9	376	100.0%	0	0.0%	376	100.0%
PESU1	376	100.0%	0	0.0%	376	100.0%

PESU2	376	100.0%	0	0.0%	376	100.0%
PESU3	376	100.0%	0	0.0%	376	100.0%
PESU4	376	100.0%	0	0.0%	376	100.0%
SUSU1	376	100.0%	0	0.0%	376	100.0%
SUSU2	376	100.0%	0	0.0%	376	100.0%
SUSU3	376	100.0%	0	0.0%	376	100.0%
SUSU4	376	100.0%	0	0.0%	376	100.0%
SUSU5	376	100.0%	0	0.0%	376	100.0%
FEBA1	376	100.0%	0	0.0%	376	100.0%
FEBA2	376	100.0%	0	0.0%	376	100.0%
FEBA3	376	100.0%	0	0.0%	376	100.0%
FEBA4	376	100.0%	0	0.0%	376	100.0%
FEBA5	376	100.0%	0	0.0%	376	100.0%
FEBA6	376	100.0%	0	0.0%	376	100.0%
OPLE1	376	100.0%	0	0.0%	376	100.0%
OPLE2	376	100.0%	0	0.0%	376	100.0%
OPLE3	376	100.0%	0	0.0%	376	100.0%
OPLE4	376	100.0%	0	0.0%	376	100.0%
OPLE5	376	100.0%	0	0.0%	376	100.0%
OPLE6	376	100.0%	0	0.0%	376	100.0%
OPCH1	376	100.0%	0	0.0%	376	100.0%
OPCH2	376	100.0%	0	0.0%	376	100.0%
OPCH3	376	100.0%	0	0.0%	376	100.0%
OPCH4	376	100.0%	0	0.0%	376	100.0%
OPCH5	376	100.0%	0	0.0%	376	100.0%
SEEF1	376	100.0%	0	0.0%	376	100.0%
SEEF2	376	100.0%	0	0.0%	376	100.0%
SEEF3	376	100.0%	0	0.0%	376	100.0%
SEEF4	376	100.0%	0	0.0%	376	100.0%
GOOR1	376	100.0%	0	0.0%	376	100.0%
GOOR2	376	100.0%	0	0.0%	376	100.0%
GOOR3	376	100.0%	0	0.0%	376	100.0%
GOOR4	376	100.0%	0	0.0%	376	100.0%

GOOR5	376	100.0%	0	0.0%	376	100.0%
GOOR6	376	100.0%	0	0.0%	376	100.0%
TRRA1	376	100.0%	0	0.0%	376	100.0%
TRRA2	376	100.0%	0	0.0%	376	100.0%
TRRA3	376	100.0%	0	0.0%	376	100.0%
TRCO1	376	100.0%	0	0.0%	376	100.0%
TRCO2	376	100.0%	0	0.0%	376	100.0%
TRCO3	376	100.0%	0	0.0%	376	100.0%
TRCO4	376	100.0%	0	0.0%	376	100.0%
TRCO5	376	100.0%	0	0.0%	376	100.0%
TRDE1	376	100.0%	0	0.0%	376	100.0%
TRDE2	376	100.0%	0	0.0%	376	100.0%
TRDE3	376	100.0%	0	0.0%	376	100.0%
TRDE4	376	100.0%	0	0.0%	376	100.0%

Figure 8-2 Missing values after treatment

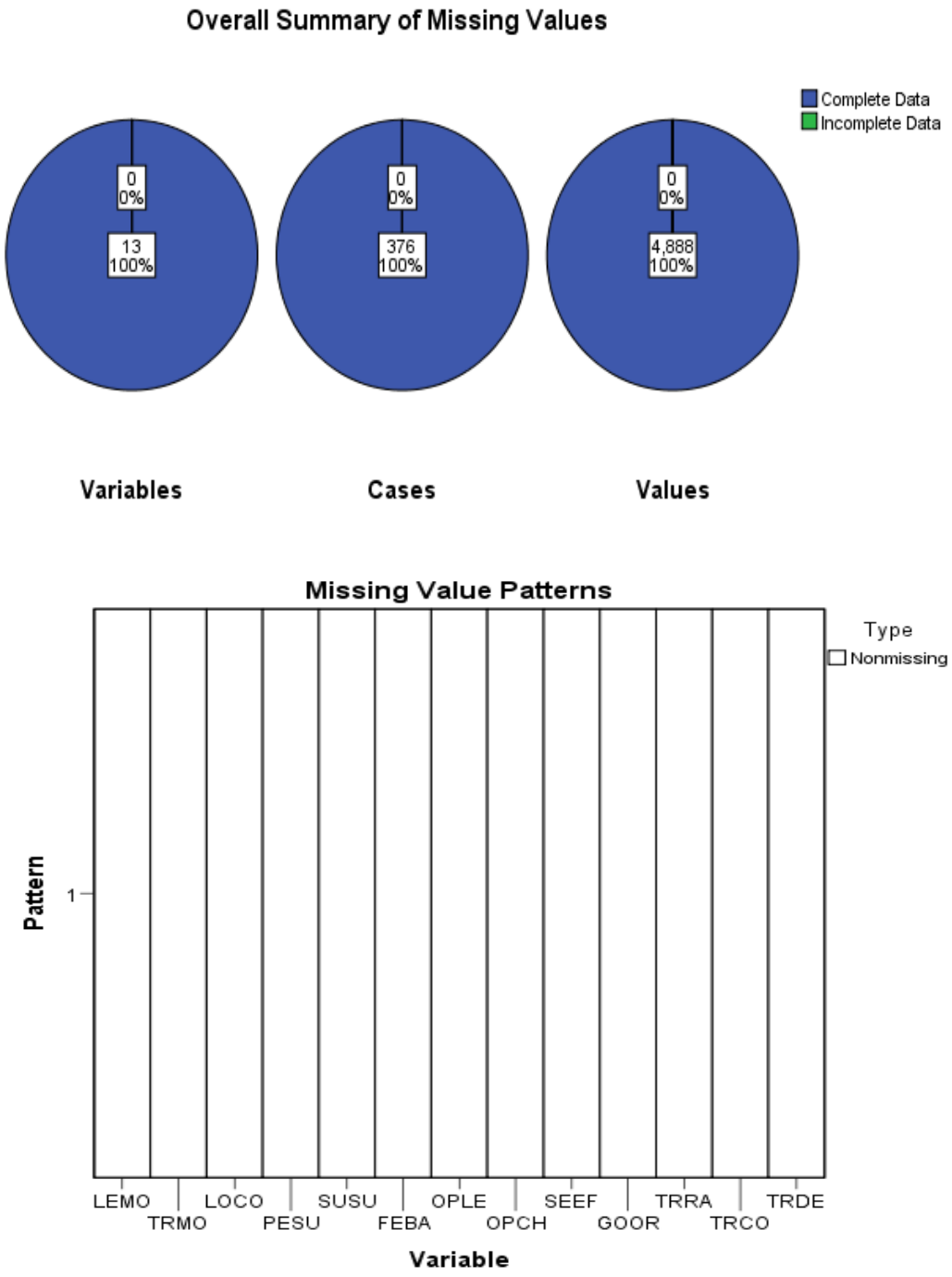


Table 8-5 Univariate outliers

S. No	Variables	case of outlier	standardised values i.e. z-scores > ± 3.0
1	TRTR	No case	------
2		176	-3.4238
	LEMO	226	-3.4238
		322	-3.4238
3	TRMO	No case	------
4	LOCO	242	-3.0923
		303	-3.0923
5	PESU	No case	------
6	SUSU	No case	------
7	FEBA	No case	------
8	OPLE	No case	------
9	OPCH	No case	------
10	SEEF	No case	------
11	GOOR	27	-3.2663
12	TRRA	No case	------
13	TRCO	No case	------
14	TRDE	No case	------

Figure 8-3 Box Plot of univariate outliers

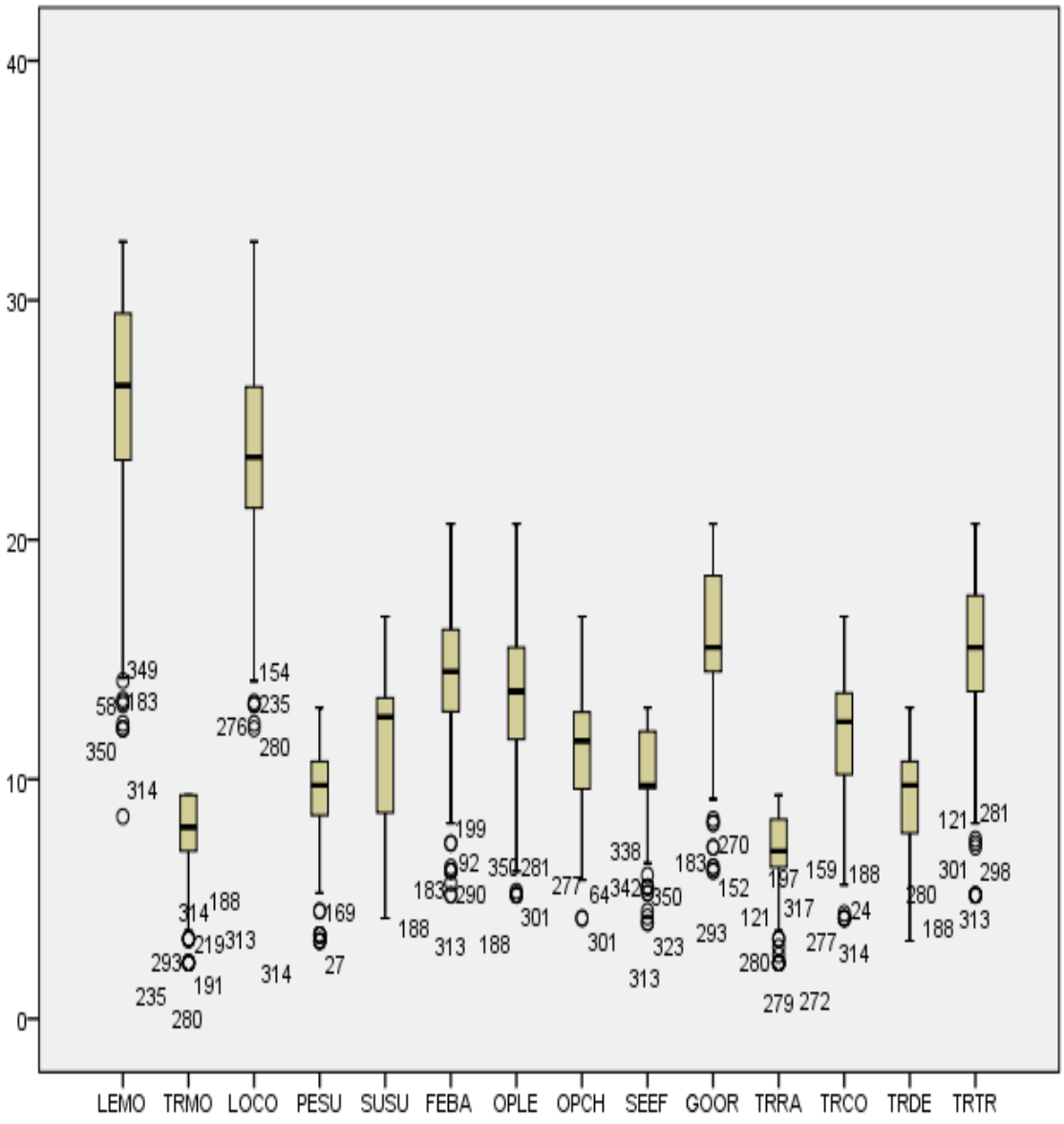


Table 8-6 Multivariate outliers

Count	Case (outlier)	Mahalanobis D^2	D^2/Df
1	28	46.9493	3.6111
2	48	36.4883	2.8067
3	82	32.5133	2.501
4	89	41.1819	3.1678
5	95	36.2546	2.7888
6	150	34.6166	2.6628
7	192	50.4014	3.877
8	203	48.0196	3.6999
9	288	34.9905	2.6915
10	240	37.5604	2.8892
11	287	42.3396	3.2568
12	294	35.3098	2.7161
13	309	42.0345	3.2334
14	311	33.4027	2.5694
15	331	44.20884	3.4006
16	344	53.5296	4.1176
17	346	34.0839	2.6218
18	356	44.5851	3.4296
19	358	51.7383	3.9798

Table 8-7 Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
TRTR	351	3	13	9.84	2.018	-.482	.130	.798	.260
LEMO	351	5	17	12.98	2.160	-.473	.130	.645	.260
TRMO	351	2	9	7.63	1.564	-.923	.130	.725	.260
LOCO	351	4	13	9.64	1.783	-.123	.130	-.147	.260
PESU	351	2	9	6.88	1.404	-.438	.130	.575	.260
SUSU	351	2	9	6.43	1.724	-.504	.130	-.216	.260
FEBA	351	3	13	9.30	1.875	-.133	.130	.378	.260
OPLE	351	3	13	8.78	2.064	-.011	.130	.013	.260
OPCH	351	2	9	6.36	1.584	.033	.130	-.429	.260
SEEF	351	2	9	7.31	1.423	-.529	.130	.685	.260
GOOR	351	4	13	10.12	1.871	-.464	.130	.276	.260
TRRA	351	2	9	7.02	1.470	-.500	.130	.626	.260
TRCO	351	3	13	9.24	2.089	-.290	.130	-.001	.260
TRDE	351	2	9	6.72	1.581	-.345	.130	.166	.260

Table 8-8 Data Normality Tests

Variable	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	Df	Sig.
TRTR	.153	351	.000	.933	351	.000
LEMO	.098	351	.000	.966	351	.000
TRMO	.147	351	.000	.889	351	.000
LOCO	.112	351	.000	.977	351	.000
PESU	.168	351	.000	.944	351	.000
SUSU	.191	351	.000	.942	351	.000
FEBA	.159	351	.000	.960	351	.000
OPLE	.096	351	.000	.978	351	.000
OPCH	.104	351	.000	.972	351	.000
SEEF	.204	351	.000	.904	351	.000
GOOR	.139	351	.000	.945	351	.000
TRRA	.145	351	.000	.940	351	.000
TRCO	.114	351	.000	.967	351	.000
TRDE	.168	351	.000	.943	351	.000

a. Lilliefors Significance Correction

Table 8-9 Test of Homogeneity of Variances

Variable / Factor	Levene's Statistic	df1	df2	Sig. (p)
TRTR	7.250	3	347	.000
LEMO	15.138	3	347	.000
TRMO	16.117	3	347	.000
LOCO	3.494	3	347	.016
PESU	9.324	3	347	.000
SUSU	1.116	3	347	.343
FEBA	4.525	3	347	.004
OPLE	4.492	3	347	.004
OPCH	6.017	3	347	.001
SEEF	7.674	3	347	.000
GOOR	5.522	3	347	.001
TRRA	3.195	3	347	.024
TRCO	2.334	3	347	.074
TRDE	1.934	3	347	.124

Table 8-10 KMO and Bartlett's test of Sphericity

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.885
Bartlett's Test of Sphericity	Approx. Chi-Square	10634.699
	Df	1225
	Sig.	.000

Table 8-11 Communalities

Item	Initial	Extraction
LEMO2	1.000	.765
LEMO3	1.000	.622
LEMO5	1.000	.662
LEMO7	1.000	.611
LEMO8	1.000	.608
TRMO1	1.000	.792
TRMO2	1.000	.749
TRMO3	1.000	.726
LOCO1	1.000	.794
LOCO3	1.000	.728
LOCO5	1.000	.712
LOCO9	1.000	.741
PESU1	1.000	.820
PESU3	1.000	.722
PESU4	1.000	.689
SUSU1	1.000	.633
SUSU4	1.000	.826
SUSU5	1.000	.831
FEBA2	1.000	.731
FEBA3	1.000	.760
FEBA4	1.000	.773
FEBA6	1.000	.766
OPLE1	1.000	.788
OPLE3	1.000	.749
OPLE4	1.000	.797
OPLE6	1.000	.753
OPCH2	1.000	.790
OPCH4	1.000	.677
OPCH5	1.000	.752
SEEF1	1.000	.842
SEEF3	1.000	.807
SEEF4	1.000	.798
GOOR1	1.000	.713
GOOR3	1.000	.727
GOOR5	1.000	.688
GOOR6	1.000	.781
TRRA1	1.000	.794
TRRA2	1.000	.715
TRRA3	1.000	.739
TRCO1	1.000	.777
TRCO3	1.000	.664
TRCO4	1.000	.770
TRCO5	1.000	.826
TRDE2	1.000	.825
TRDE3	1.000	.821

TRDE4	1.000	.865
TRTR1	1.000	.702
TRTR2	1.000	.658
TRTR4	1.000	.700
TRTR6	1.000	.879

Extraction Method: Principal Component Analysis.

Table 8-12 Tests of Normality of measured items loaded on factors in the EFA

Item name	Level of Degree (Category)	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig. (p)
LEMO2	Undergraduate	.257	68	.000	.777	68	.000
	Graduate	.329	128	.000	.748	128	.000
	Postgraduate	.315	22	.000	.677	22	.000
LEMO3	Undergraduate	.260	68	.000	.786	68	.000
	Graduate	.309	128	.000	.762	128	.000
	Postgraduate	.359	22	.000	.637	22	.000
LEMO5	Undergraduate	.260	68	.000	.788	68	.000
	Graduate	.297	128	.000	.756	128	.000
	Postgraduate	.277	22	.000	.702	22	.000
LEMO7	Undergraduate	.253	68	.000	.778	68	.000
	Graduate	.312	128	.000	.753	128	.000
	Postgraduate	.359	22	.000	.637	22	.000
LEMO8	Undergraduate	.260	68	.000	.788	68	.000
	Graduate	.295	128	.000	.756	128	.000
	Postgraduate	.315	22	.000	.677	22	.000
TRMO1	Undergraduate	.226	68	.000	.825	68	.000
	Graduate	.246	128	.000	.793	128	.000
	Postgraduate	.359	22	.000	.637	22	.000
TRMO2	Undergraduate	.235	68	.000	.829	68	.000
	Graduate	.246	128	.000	.795	128	.000
	Postgraduate	.290	22	.000	.691	22	.000
TRMO3	Undergraduate	.235	68	.000	.821	68	.000
	Graduate	.249	128	.000	.796	128	.000
	Postgraduate	.309	22	.000	.736	22	.000
LOCO1	Undergraduate	.246	68	.000	.866	68	.000
	Graduate	.276	128	.000	.846	128	.000
	Postgraduate	.273	22	.000	.809	22	.001

	Undergraduate	.222	68	.000	.869	68	.000
LOCO3	Graduate	.268	128	.000	.856	128	.000
	Postgraduate	.254	22	.001	.829	22	.001
	Undergraduate	.249	68	.000	.863	68	.000
LOCO5	Graduate	.295	128	.000	.846	128	.000
	Postgraduate	.279	22	.000	.805	22	.001
	Undergraduate	.238	68	.000	.867	68	.000
LOCO9	Graduate	.283	128	.000	.850	128	.000
	Postgraduate	.254	22	.001	.829	22	.001
	Undergraduate	.322	68	.000	.821	68	.000
PESU1	Graduate	.375	128	.000	.765	128	.000
	Postgraduate	.401	22	.000	.661	22	.000
	Undergraduate	.365	68	.000	.775	68	.000
PESU3	Graduate	.362	128	.000	.783	128	.000
	Postgraduate	.401	22	.000	.661	22	.000
	Undergraduate	.350	68	.000	.797	68	.000
PESU4	Graduate	.377	128	.000	.761	128	.000
	Postgraduate	.401	22	.000	.661	22	.000
	Undergraduate	.268	68	.000	.862	68	.000
SUSU1	Graduate	.321	128	.000	.829	128	.000
	Postgraduate	.220	22	.007	.869	22	.007
	Undergraduate	.313	68	.000	.833	68	.000
SUSU4	Graduate	.287	128	.000	.843	128	.000
	Postgraduate	.296	22	.000	.820	22	.001
	Undergraduate	.317	68	.000	.828	68	.000
SUSU5	Graduate	.286	128	.000	.844	128	.000
	Postgraduate	.283	22	.000	.847	22	.003
	Undergraduate	.249	68	.000	.863	68	.000
FEBA2	Graduate	.266	128	.000	.846	128	.000
	Postgraduate	.246	22	.001	.862	22	.006
	Undergraduate	.244	68	.000	.863	68	.000
FEBA3	Graduate	.268	128	.000	.848	128	.000
	Postgraduate	.253	22	.001	.846	22	.003

	Undergraduate	.258	68	.000	.846	68	.000
FEBA4	Graduate	.271	128	.000	.847	128	.000
	Postgraduate	.246	22	.001	.862	22	.006
	Undergraduate	.267	68	.000	.849	68	.000
FEBA6	Graduate	.275	128	.000	.845	128	.000
	Postgraduate	.234	22	.003	.829	22	.001
	Undergraduate	.228	68	.000	.876	68	.000
OPLE1	Graduate	.224	128	.000	.858	128	.000
	Postgraduate	.324	22	.000	.817	22	.001
	Undergraduate	.215	68	.000	.872	68	.000
OPLE3	Graduate	.240	128	.000	.850	128	.000
	Postgraduate	.305	22	.000	.820	22	.001
	Undergraduate	.212	68	.000	.879	68	.000
OPLE4	Graduate	.239	128	.000	.849	128	.000
	Postgraduate	.324	22	.000	.817	22	.001
	Undergraduate	.213	68	.000	.879	68	.000
OPLE6	Graduate	.246	128	.000	.849	128	.000
	Postgraduate	.277	22	.000	.841	22	.002
	Undergraduate	.286	68	.000	.851	68	.000
OPCH2	Graduate	.213	128	.000	.877	128	.000
	Postgraduate	.253	22	.001	.846	22	.003
	Undergraduate	.249	68	.000	.855	68	.000
OPCH4	Graduate	.211	128	.000	.864	128	.000
	Postgraduate	.257	22	.001	.850	22	.003
	Undergraduate	.267	68	.000	.861	68	.000
OPCH5	Graduate	.228	128	.000	.873	128	.000
	Postgraduate	.222	22	.006	.867	22	.007
	Undergraduate	.247	68	.000	.857	68	.000
SEEF1	Graduate	.314	128	.000	.830	128	.000
	Postgraduate	.433	22	.000	.633	22	.000
	Undergraduate	.252	68	.000	.857	68	.000
SEEF3	Graduate	.317	128	.000	.832	128	.000
	Postgraduate	.405	22	.000	.714	22	.000

	Undergraduate	.252	68	.000	.857	68	.000
SEEF4	Graduate	.312	128	.000	.830	128	.000
	Postgraduate	.399	22	.000	.728	22	.000
	Undergraduate	.309	68	.000	.818	68	.000
GOOR1	Graduate	.302	128	.000	.827	128	.000
	Postgraduate	.290	22	.000	.760	22	.000
	Undergraduate	.332	68	.000	.801	68	.000
GOOR3	Graduate	.301	128	.000	.830	128	.000
	Postgraduate	.349	22	.000	.732	22	.000
	Undergraduate	.316	68	.000	.805	68	.000
GOOR5	Graduate	.303	128	.000	.830	128	.000
	Postgraduate	.273	22	.000	.800	22	.001
	Undergraduate	.315	68	.000	.810	68	.000
GOOR6	Graduate	.305	128	.000	.818	128	.000
	Postgraduate	.349	22	.000	.732	22	.000
	Undergraduate	.261	68	.000	.845	68	.000
TRRE1	Graduate	.356	128	.000	.772	128	.000
	Postgraduate	.433	22	.000	.633	22	.000
	Undergraduate	.265	68	.000	.852	68	.000
TRRE2	Graduate	.363	128	.000	.775	128	.000
	Postgraduate	.387	22	.000	.720	22	.000
	Undergraduate	.267	68	.000	.849	68	.000
TRRE3	Graduate	.350	128	.000	.787	128	.000
	Postgraduate	.387	22	.000	.720	22	.000
	Undergraduate	.256	68	.000	.857	68	.000
TRCO1	Graduate	.254	128	.000	.861	128	.000
	Postgraduate	.293	22	.000	.856	22	.004
	Undergraduate	.201	68	.000	.872	68	.000
TRCO3	Graduate	.255	128	.000	.858	128	.000
	Postgraduate	.293	22	.000	.856	22	.004
	Undergraduate	.241	68	.000	.866	68	.000
TRCO4	Graduate	.261	128	.000	.853	128	.000
	Postgraduate	.299	22	.000	.847	22	.003

	Undergraduate	.242	68	.000	.868	68	.000
TRCO5	Graduate	.258	128	.000	.857	128	.000
	Postgraduate	.277	22	.000	.854	22	.004
	Undergraduate	.265	68	.000	.863	68	.000
TRDE2	Graduate	.382	128	.000	.742	128	.000
	Postgraduate	.322	22	.000	.820	22	.001
	Undergraduate	.268	68	.000	.864	68	.000
TRDE3	Graduate	.382	128	.000	.742	128	.000
	Postgraduate	.322	22	.000	.820	22	.001
	Undergraduate	.265	68	.000	.863	68	.000
TRDE4	Graduate	.382	128	.000	.742	128	.000
	Postgraduate	.324	22	.000	.817	22	.001
	Undergraduate	.273	68	.000	.841	68	.000
TRTR1	Graduate	.380	128	.000	.755	128	.000
	Postgraduate	.412	22	.000	.684	22	.000
	Undergraduate	.274	68	.000	.834	68	.000
TRTR2	Graduate	.378	128	.000	.759	128	.000
	Postgraduate	.403	22	.000	.718	22	.000
	Undergraduate	.272	68	.000	.845	68	.000
TRTR4	Graduate	.392	128	.000	.730	128	.000
	Postgraduate	.387	22	.000	.720	22	.000
	Undergraduate	.276	68	.000	.839	68	.000
TRTR6	Graduate	.388	128	.000	.719	128	.000
	Postgraduate	.412	22	.000	.684	22	.000

a. Lilliefors Significance Correction

Table 8-13 Test of Homogeneity of Variance of items loaded on Factors retained in the EFA

		Levene Statistic	df1	df2	Sig. (p)
LEMO2	Based on Mean	4.232	2	215	.016
	Based on Median	3.889	2	215	.022
	Based on Median and with adjusted df	3.889	2	200.276	.022
	Based on trimmed mean	4.214	2	215	.016
LEMO3	Based on Mean	2.537	2	215	.081
	Based on Median	2.502	2	215	.084
	Based on Median and with adjusted df	2.502	2	212.602	.084
	Based on trimmed mean	2.525	2	215	.082
LEMO5	Based on Mean	4.143	2	215	.017
	Based on Median	5.061	2	215	.007
	Based on Median and with adjusted df	5.061	2	209.345	.007
	Based on trimmed mean	4.072	2	215	.018
LEMO7	Based on Mean	6.014	2	215	.003
	Based on Median	5.600	2	215	.004
	Based on Median and with adjusted df	5.600	2	208.929	.004
	Based on trimmed mean	6.186	2	215	.002
LEMO8	Based on Mean	3.877	2	215	.022
	Based on Median	4.096	2	215	.018
	Based on Median and with adjusted df	4.096	2	206.238	.018
	Based on trimmed mean	3.788	2	215	.024
TRMO1	Based on Mean	2.979	2	215	.053
	Based on Median	3.018	2	215	.051
	Based on Median and with adjusted df	3.018	2	211.182	.051
	Based on trimmed mean	2.996	2	215	.052
TRMO2	Based on Mean	.595	2	215	.552
	Based on Median	.687	2	215	.504
	Based on Median and with adjusted df	.687	2	208.763	.504

	Based on trimmed mean	.738	2	215	.479
TRMO3	Based on Mean	.193	2	215	.825
	Based on Median	.262	2	215	.770
	Based on Median and with adjusted df	.262	2	211.817	.770
	Based on trimmed mean	.197	2	215	.821
LOCO1	Based on Mean	1.402	2	215	.248
	Based on Median	1.127	2	215	.326
	Based on Median and with adjusted df	1.127	2	212.614	.326
	Based on trimmed mean	1.708	2	215	.184
LOCO3	Based on Mean	3.083	2	215	.048
	Based on Median	2.072	2	215	.128
	Based on Median and with adjusted df	2.072	2	212.643	.128
	Based on trimmed mean	3.243	2	215	.041
LOCO5	Based on Mean	2.391	2	215	.094
	Based on Median	1.439	2	215	.239
	Based on Median and with adjusted df	1.439	2	213.508	.239
	Based on trimmed mean	2.388	2	215	.094
LOCO9	Based on Mean	3.149	2	215	.045
	Based on Median	1.988	2	215	.139
	Based on Median and with adjusted df	1.988	2	212.395	.139
	Based on trimmed mean	3.356	2	215	.037
PESU1	Based on Mean	10.395	2	215	.000
	Based on Median	4.035	2	215	.019
	Based on Median and with adjusted df	4.035	2	201.096	.019
	Based on trimmed mean	10.073	2	215	.000
PESU3	Based on Mean	7.249	2	215	.001
	Based on Median	2.018	2	215	.135
	Based on Median and with adjusted df	2.018	2	203.908	.136
	Based on trimmed mean	6.655	2	215	.002
PESU4	Based on Mean	6.471	2	215	.002
	Based on Median	2.032	2	215	.134
	Based on Median and with adjusted df	2.032	2	205.281	.134
	Based on trimmed mean	5.913	2	215	.003

SUSU1	Based on Mean	3.126	2	215	.046
	Based on Median	1.854	2	215	.159
	Based on Median and with adjusted df	1.854	2	210.595	.159
	Based on trimmed mean	3.187	2	215	.043
SUSU4	Based on Mean	1.053	2	215	.351
	Based on Median	.481	2	215	.619
	Based on Median and with adjusted df	.481	2	212.790	.619
	Based on trimmed mean	1.064	2	215	.347
SUSU5	Based on Mean	.803	2	215	.449
	Based on Median	.268	2	215	.765
	Based on Median and with adjusted df	.268	2	212.341	.765
	Based on trimmed mean	.809	2	215	.447
FEBA2	Based on Mean	.516	2	215	.598
	Based on Median	.293	2	215	.746
	Based on Median and with adjusted df	.293	2	214.654	.746
	Based on trimmed mean	.512	2	215	.600
FEBA3	Based on Mean	.672	2	215	.512
	Based on Median	.302	2	215	.740
	Based on Median and with adjusted df	.302	2	182.916	.740
	Based on trimmed mean	.640	2	215	.528
FEBA4	Based on Mean	1.111	2	215	.331
	Based on Median	.906	2	215	.406
	Based on Median and with adjusted df	.906	2	189.547	.406
	Based on trimmed mean	1.108	2	215	.332
FEBA6	Based on Mean	1.674	2	215	.190
	Based on Median	.692	2	215	.502
	Based on Median and with adjusted df	.692	2	206.584	.502
	Based on trimmed mean	1.550	2	215	.215
OPLE1	Based on Mean	.322	2	215	.725
	Based on Median	.298	2	215	.743
	Based on Median and with adjusted df	.298	2	206.772	.743
	Based on trimmed mean	.309	2	215	.735
OPLE3	Based on Mean	.101	2	215	.904

	Based on Median	.036	2	215	.965
	Based on Median and with adjusted df	.036	2	195.305	.965
	Based on trimmed mean	.115	2	215	.892
OPLE4	Based on Mean	.633	2	215	.532
	Based on Median	.624	2	215	.537
	Based on Median and with adjusted df	.624	2	203.893	.537
	Based on trimmed mean	.639	2	215	.529
OPLE6	Based on Mean	1.114	2	215	.330
	Based on Median	.676	2	215	.510
	Based on Median and with adjusted df	.676	2	205.883	.510
	Based on trimmed mean	1.100	2	215	.335
OPCH2	Based on Mean	.164	2	215	.849
	Based on Median	.054	2	215	.947
	Based on Median and with adjusted df	.054	2	205.205	.947
	Based on trimmed mean	.163	2	215	.849
OPCH4	Based on Mean	2.291	2	215	.104
	Based on Median	2.018	2	215	.135
	Based on Median and with adjusted df	2.018	2	208.977	.136
	Based on trimmed mean	2.233	2	215	.110
OPCH5	Based on Mean	.738	2	215	.479
	Based on Median	.121	2	215	.886
	Based on Median and with adjusted df	.121	2	163.170	.886
	Based on trimmed mean	.758	2	215	.470
SEEF1	Based on Mean	3.674	2	215	.027
	Based on Median	3.624	2	215	.028
	Based on Median and with adjusted df	3.624	2	209.671	.028
	Based on trimmed mean	2.922	2	215	.056
SEEF3	Based on Mean	.098	2	215	.907
	Based on Median	.665	2	215	.515
	Based on Median and with adjusted df	.665	2	212.673	.515
	Based on trimmed mean	.062	2	215	.940
SEEF4	Based on Mean	1.060	2	215	.348
	Based on Median	1.611	2	215	.202

	Based on Median and with adjusted df	1.611	2	214.118	.202
	Based on trimmed mean	.941	2	215	.392
GOOR1	Based on Mean	.274	2	215	.761
	Based on Median	.217	2	215	.805
	Based on Median and with adjusted df	.217	2	213.430	.805
	Based on trimmed mean	.178	2	215	.837
GOOR3	Based on Mean	.430	2	215	.651
	Based on Median	.538	2	215	.585
	Based on Median and with adjusted df	.538	2	210.174	.585
	Based on trimmed mean	.220	2	215	.803
GOOR5	Based on Mean	.895	2	215	.410
	Based on Median	.271	2	215	.763
	Based on Median and with adjusted df	.271	2	213.843	.763
	Based on trimmed mean	.481	2	215	.619
GOOR6	Based on Mean	.277	2	215	.759
	Based on Median	.415	2	215	.661
	Based on Median and with adjusted df	.415	2	211.185	.661
	Based on trimmed mean	.068	2	215	.934
TRGRE 1	Based on Mean	11.085	2	215	.000
	Based on Median	8.534	2	215	.000
	Based on Median and with adjusted df	8.534	2	203.298	.000
	Based on trimmed mean	10.584	2	215	.000
TRRE2	Based on Mean	5.168	2	215	.006
	Based on Median	3.691	2	215	.027
	Based on Median and with adjusted df	3.691	2	214.140	.027
	Based on trimmed mean	5.286	2	215	.006
TRRE3	Based on Mean	3.989	2	215	.020
	Based on Median	3.161	2	215	.044
	Based on Median and with adjusted df	3.161	2	213.678	.044
	Based on trimmed mean	4.002	2	215	.020
TRCO1	Based on Mean	.156	2	215	.856
	Based on Median	.152	2	215	.859
	Based on Median and with adjusted df	.152	2	213.765	.859

	Based on trimmed mean	.155	2	215	.856
TRCO3	Based on Mean	.437	2	215	.647
	Based on Median	.222	2	215	.801
	Based on Median and with adjusted df	.222	2	209.912	.801
	Based on trimmed mean	.373	2	215	.689
TRCO4	Based on Mean	.671	2	215	.513
	Based on Median	.209	2	215	.811
	Based on Median and with adjusted df	.209	2	186.307	.811
	Based on trimmed mean	.671	2	215	.512
TRCO5	Based on Mean	1.120	2	215	.328
	Based on Median	.322	2	215	.725
	Based on Median and with adjusted df	.322	2	185.343	.725
	Based on trimmed mean	1.134	2	215	.324
TRDE2	Based on Mean	5.258	2	215	.006
	Based on Median	3.588	2	215	.029
	Based on Median and with adjusted df	3.588	2	213.177	.029
	Based on trimmed mean	5.720	2	215	.004
TRDE3	Based on Mean	5.963	2	215	.003
	Based on Median	3.904	2	215	.022
	Based on Median and with adjusted df	3.904	2	212.480	.022
	Based on trimmed mean	6.440	2	215	.002
TRDE4	Based on Mean	5.769	2	215	.004
	Based on Median	3.789	2	215	.024
	Based on Median and with adjusted df	3.789	2	210.213	.024
	Based on trimmed mean	6.278	2	215	.002
TRTR1	Based on Mean	1.757	2	215	.175
	Based on Median	2.100	2	215	.125
	Based on Median and with adjusted df	2.100	2	214.441	.125
	Based on trimmed mean	1.739	2	215	.178
TRTR2	Based on Mean	3.706	2	215	.026
	Based on Median	3.580	2	215	.030
	Based on Median and with adjusted df	3.580	2	214.224	.030
	Based on trimmed mean	3.547	2	215	.031

TRTR4	Based on Mean	4.253	2	215	.015
	Based on Median	3.738	2	215	.025
	Based on Median and with adjusted df	3.738	2	214.719	.025
	Based on trimmed mean	4.244	2	215	.016
TRTR6	Based on Mean	4.641	2	215	.011
	Based on Median	5.010	2	215	.007
	Based on Median and with adjusted df	5.010	2	210.850	.007
	Based on trimmed mean	4.419	2	215	.013

Table 8-14 Frequencies of measured items retained in EFA

LEMO2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	6	2.8	2.8	2.8
	Disagree	14	6.4	6.4	9.2
	Agree	113	51.8	51.8	61.0
	Strongly agree	85	39.0	39.0	100.0
	Total	218	100.0	100.0	

LEMO3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	13	6.0	6.0	6.0
	Disagree	14	6.4	6.4	12.4
	Agree	111	50.9	50.9	63.3
	Strongly agree	80	36.7	36.7	100.0
	Total	218	100.0	100.0	

LEMO5

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	12	5.5	5.5	5.5
	Disagree	14	6.4	6.4	11.9
	Agree	110	50.5	50.5	62.4
	Strongly agree	82	37.6	37.6	100.0
	Total	218	100.0	100.0	

LEMO7

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	8	3.7	3.7	3.7
	Disagree	14	6.4	6.4	10.1
	Agree	111	50.9	50.9	61.0
	Strongly agree	85	39.0	39.0	100.0
	Total	218	100.0	100.0	

LEMO8

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	12	5.5	5.5	5.5
	Disagree	14	6.4	6.4	11.9
	Agree	111	50.9	50.9	62.8
	Strongly agree	81	37.2	37.2	100.0
	Total	218	100.0	100.0	

RMO1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	14	6.4	6.4	6.4
	Disagree	25	11.5	11.5	17.9
	Agree	88	40.4	40.4	58.3
	Strongly agree	91	41.7	41.7	100.0
	Total	218	100.0	100.0	

TRMO2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	16	7.3	7.3	7.3
	Disagree	25	11.5	11.5	18.8
	agree	88	40.4	40.4	59.2
	Strongly agree	89	40.8	40.8	100.0
	Total	218	100.0	100.0	

TRMO3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	16	7.3	7.3	7.3
	Disagree	25	11.5	11.5	18.8
	agree	89	40.8	40.8	59.6
	Strongly agree	88	40.4	40.4	100.0
	Total	218	100.0	100.0	

LOCO1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	16	7.3	7.3	7.3
	Disagree	46	21.1	21.1	28.4
	agree	102	46.8	46.8	75.2
	Strongly agree	54	24.8	24.8	100.0
	Total	218	100.0	100.0	

LOCO3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	27	12.4	12.4	12.4
	Disagree	46	21.1	21.1	33.5
	agree	92	42.2	42.2	75.7
	Strongly agree	53	24.3	24.3	100.0
	Total	218	100.0	100.0	

LOCO5

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	30	13.8	13.8	13.8
	Disagree	40	18.3	18.3	32.1
	agree	101	46.3	46.3	78.4
	Strongly agree	47	21.6	21.6	100.0
	Total	218	100.0	100.0	

LOCO9

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	25	11.5	11.5	11.5
	Disagree	44	20.2	20.2	31.7
	agree	98	45.0	45.0	76.6
	Strongly agree	51	23.4	23.4	100.0
	Total	218	100.0	100.0	

PESU1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	25	11.5	11.5	11.5
	Disagree	35	16.1	16.1	27.5
	agree	136	62.4	62.4	89.9
	Strongly agree	22	10.1	10.1	100.0
	Total	218	100.0	100.0	

PESU3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	27	12.4	12.4	12.4
	Disagree	32	14.7	14.7	27.1
	agree	137	62.8	62.8	89.9
	Strongly agree	22	10.1	10.1	100.0
	Total	218	100.0	100.0	

PESU4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	23	10.6	10.6	10.6
	Disagree	34	15.6	15.6	26.1
	agree	140	64.2	64.2	90.4
	Strongly agree	21	9.6	9.6	100.0
	Total	218	100.0	100.0	

SUSU1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	25	11.5	11.5	11.5
	Disagree	54	24.8	24.8	36.2
	agree	110	50.5	50.5	86.7
	Strongly agree	29	13.3	13.3	100.0
	Total	218	100.0	100.0	

SUSU4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	30	13.8	13.8	13.8
	Disagree	67	30.7	30.7	44.5
	agree	106	48.6	48.6	93.1
	Strongly agree	15	6.9	6.9	100.0
	Total	218	100.0	100.0	

SUSU5

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	31	14.2	14.2	14.2
	Disagree	67	30.7	30.7	45.0
	agree	105	48.2	48.2	93.1
	Strongly agree	15	6.9	6.9	100.0
	Total	218	100.0	100.0	

FEBA2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	37	17.0	17.0	17.0
	Disagree	76	34.9	34.9	51.8
	agree	93	42.7	42.7	94.5
	Strongly agree	12	5.5	5.5	100.0
	Total	218	100.0	100.0	

FEBA3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	32	14.7	14.7	14.7
	Disagree	79	36.2	36.2	50.9
	agree	94	43.1	43.1	94.0
	Strongly agree	13	6.0	6.0	100.0
	Total	218	100.0	100.0	

FEBA4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	32	14.7	14.7	14.7
	Disagree	77	35.3	35.3	50.0
	agree	96	44.0	44.0	94.0
	Strongly agree	13	6.0	6.0	100.0
	Total	218	100.0	100.0	

FEBA6

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	36	16.5	16.5	16.5
	Disagree	72	33.0	33.0	49.5
	agree	97	44.5	44.5	94.0
	Strongly agree	13	6.0	6.0	100.0
	Total	218	100.0	100.0	

OPLE1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	45	20.6	20.6	20.6
	Disagree	80	36.7	36.7	57.3
	agree	79	36.2	36.2	93.6
	Strongly agree	14	6.4	6.4	100.0
	Total	218	100.0	100.0	

OPLE3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	52	23.9	23.9	23.9
	Disagree	69	31.7	31.7	55.5
	agree	84	38.5	38.5	94.0
	Strongly agree	13	6.0	6.0	100.0
	Total	218	100.0	100.0	

OPLE4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	44	20.2	20.2	20.2
	Disagree	76	34.9	34.9	55.0
	agree	84	38.5	38.5	93.6
	Strongly agree	14	6.4	6.4	100.0
	Total	218	100.0	100.0	

OPLE6

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	42	19.3	19.3	19.3
	Disagree	79	36.2	36.2	55.5
	agree	83	38.1	38.1	93.6
	Strongly agree	14	6.4	6.4	100.0
	Total	218	100.0	100.0	

OPCH2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	40	18.3	18.3	18.3
	Disagree	68	31.2	31.2	49.5
	agree	87	39.9	39.9	89.4
	Strongly agree	23	10.6	10.6	100.0
	Total	218	100.0	100.0	

OPCH4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	55	25.2	25.2	25.2
	Disagree	64	29.4	29.4	54.6
	agree	79	36.2	36.2	90.8
	Strongly agree	20	9.2	9.2	100.0
	Total	218	100.0	100.0	

OPCH5

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	34	15.6	15.6	15.6
	Disagree	73	33.5	33.5	49.1
	agree	88	40.4	40.4	89.4
	Strongly agree	23	10.6	10.6	100.0
	Total	218	100.0	100.0	

SEEF1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	12	5.5	5.5	5.5
	Disagree	47	21.6	21.6	27.1
	agree	119	54.6	54.6	81.7
	Strongly agree	40	18.3	18.3	100.0
	Total	218	100.0	100.0	

SEEF3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	21	9.6	9.6	9.6
	Disagree	42	19.3	19.3	28.9
	agree	115	52.8	52.8	81.7
	Strongly agree	40	18.3	18.3	100.0
	Total	218	100.0	100.0	

SEEF4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	14	6.4	6.4	6.4
	Disagree	47	21.6	21.6	28.0
	agree	117	53.7	53.7	81.7
	Strongly agree	40	18.3	18.3	100.0
	Total	218	100.0	100.0	

GOOR1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	20	9.2	9.2	9.2
	Disagree	28	12.8	12.8	22.0
	agree	114	52.3	52.3	74.3
	Strongly agree	56	25.7	25.7	100.0
	Total	218	100.0	100.0	

GOOR3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	19	8.7	8.7	8.7
	Disagree	28	12.8	12.8	21.6
	agree	118	54.1	54.1	75.7
	Strongly agree	53	24.3	24.3	100.0
	Total	218	100.0	100.0	

GOOR5

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	19	8.7	8.7	8.7
	Disagree	29	13.3	13.3	22.0
	agree	115	52.8	52.8	74.8
	Strongly agree	55	25.2	25.2	100.0
	Total	218	100.0	100.0	

GOOR6

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	13	6.0	6.0	6.0
	Disagree	28	12.8	12.8	18.8
	agree	121	55.5	55.5	74.3
	Strongly agree	56	25.7	25.7	100.0
	Total	218	100.0	100.0	

TRRA1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	17	7.8	7.8	7.8
	Disagree	29	13.3	13.3	21.1
	agree	128	58.7	58.7	79.8
	Strongly agree	44	20.2	20.2	100.0
	Total	218	100.0	100.0	

TRRA2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	24	11.0	11.0	11.0
	Disagree	29	13.3	13.3	24.3
	agree	125	57.3	57.3	81.7
	Strongly agree	40	18.3	18.3	100.0
	Total	218	100.0	100.0	

TRRA3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	19	8.7	8.7	8.7
	Disagree	31	14.2	14.2	22.9
	agree	125	57.3	57.3	80.3
	Strongly agree	43	19.7	19.7	100.0
	Total	218	100.0	100.0	

TRCO1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	25	11.5	11.5	11.5
	Disagree	79	36.2	36.2	47.7
	agree	96	44.0	44.0	91.7
	Strongly agree	18	8.3	8.3	100.0
	Total	218	100.0	100.0	

TRCO3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	40	18.3	18.3	18.3
	Disagree	75	34.4	34.4	52.8
	agree	87	39.9	39.9	92.7
	Strongly agree	16	7.3	7.3	100.0
	Total	218	100.0	100.0	

TRCO4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	24	11.0	11.0	11.0
	Disagree	80	36.7	36.7	47.7
	agree	96	44.0	44.0	91.7
	Strongly agree	18	8.3	8.3	100.0
	Total	218	100.0	100.0	

TRCO5

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	28	12.8	12.8	12.8
	Disagree	78	35.8	35.8	48.6
	agree	94	43.1	43.1	91.7
	Strongly agree	18	8.3	8.3	100.0
	Total	218	100.0	100.0	

TRDE2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	14	6.4	6.4	6.4
	Disagree	44	20.2	20.2	26.6
	agree	132	60.6	60.6	87.2
	Strongly agree	28	12.8	12.8	100.0
	Total	218	100.0	100.0	

TRDE3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	15	6.9	6.9	6.9
	Disagree	43	19.7	19.7	26.6
	agree	132	60.6	60.6	87.2
	Strongly agree	28	12.8	12.8	100.0
	Total	218	100.0	100.0	

TRDE4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	15	6.9	6.9	6.9
	Disagree	43	19.7	19.7	26.6
	agree	132	60.6	60.6	87.2
	Strongly agree	28	12.8	12.8	100.0
	Total	218	100.0	100.0	

TRTR1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	24	11.0	11.0	11.0
	Disagree	26	11.9	11.9	22.9
	agree	130	59.6	59.6	82.6
	Strongly agree	38	17.4	17.4	100.0
	Total	218	100.0	100.0	

TRTR2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	28	12.8	12.8	12.8
	Disagree	26	11.9	11.9	24.8
	agree	127	58.3	58.3	83.0
	Strongly agree	37	17.0	17.0	100.0
	Total	218	100.0	100.0	

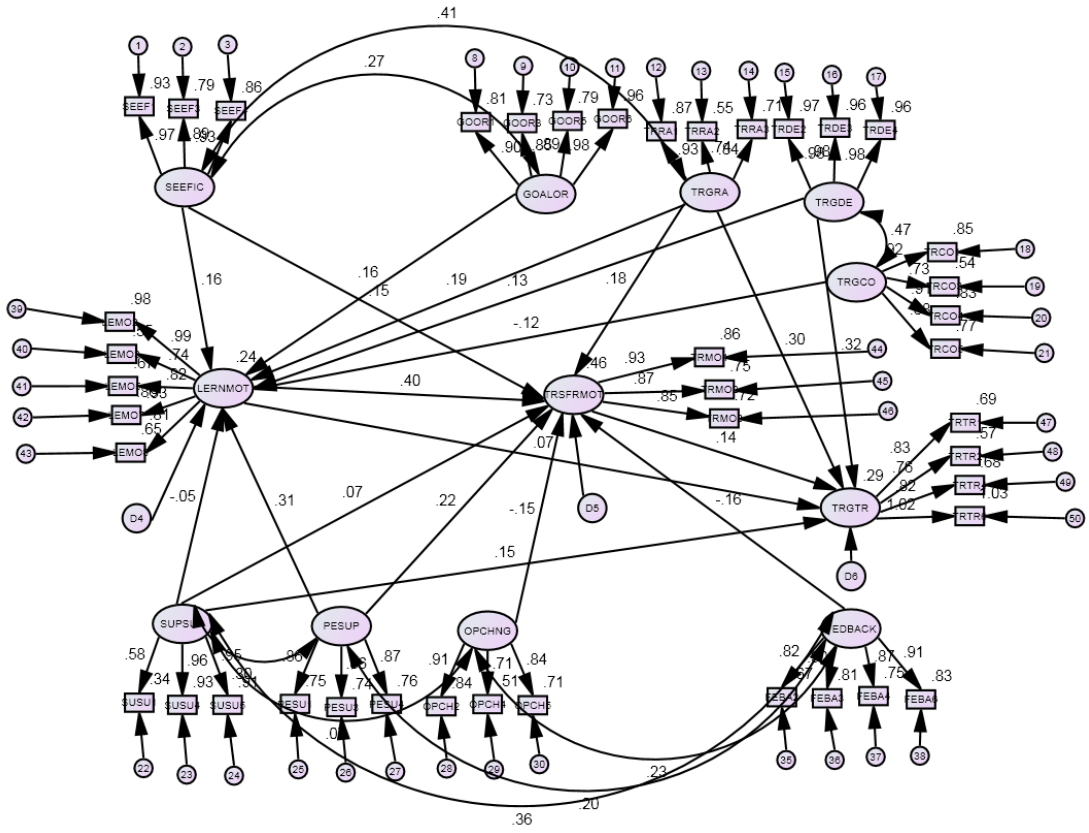
TRTR4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	24	11.0	11.0	11.0
	Disagree	24	11.0	11.0	22.0
	agree	132	60.6	60.6	82.6
	Strongly agree	38	17.4	17.4	100.0
	Total	218	100.0	100.0	

TRTR6

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	14	6.4	6.4	6.4
	Disagree	27	12.4	12.4	18.8
	agree	139	63.8	63.8	82.6
	Strongly agree	38	17.4	17.4	100.0
	Total	218	100.0	100.0	

8.9 Appendix-11 Rejected revised model



8.10 Appendix-12 Revised Model Estimates: Standardised Regression Weights

(Group number 1 - Default model)

Predictor variable		Outcome variable	Estimate	S.E.	C.R.	P	Outcome
SEEFIC	**--->**	**LERNMOT**	**.159**	**.067**	**1.995**	**.046**	**Accepted**
PESUP	**--->**	**LERNMOT**	**.312**	**.072**	**3.818**	**.000**	**Accepted**
TRGDE	--->	LERNMOT	.128	.065	1.603	.109	Rejected
TRGCO	--->	LERNMOT	-.119	.059	-1.624	.104	Rejected
GOALOR	**--->**	**LERNMOT**	**.164**	**.059**	**2.109**	**.035**	**Accepted**
SUPSUP	--->	LERNMOT	-.053	.053	-.765	.444	Rejected
TRGRA	**--->**	**LERNMOT**	**.194**	**.071**	**2.169**	**.030**	**Accepted**
FEDBACK	**--->**	**TRSFRMOT**	**-.159**	**.065**	**-2.465**	**.014**	**Accepted**
LERNMOT	**--->**	**TRSFRMOT**	**.400**	**.085**	**6.042**	**.000**	**Accepted**
OPCHNG	**--->**	**TRSFRMOT**	**-.147**	**.065**	**-2.318**	**.020**	**Accepted**
PESUP	**--->**	**TRSFRMOT**	**.224**	**.084**	**2.987**	**.003**	**Accepted**
TRGRA	**--->**	**TRSFRMOT**	**.178**	**.078**	**2.329**	**.020**	**Accepted**
SEEFIC	**--->**	**TRSFRMOT**	**.151**	**.074**	**2.186**	**.029**	**Accepted**
SUPSUP	--->	TRSFRMOT	.073	.063	1.125	.260	Rejected
TRSFRMOT	--->	TRGTR	.141	.066	1.841	.066	Rejected
SUPSUP	**--->**	**TRGTR**	**.149**	**.052**	**2.402**	**.016**	**Accepted**
TRGDE	**--->**	**TRGTR**	**.316**	**.060**	**4.687**	**.000**	**Accepted**
TRGRA	**--->**	**TRGTR**	**.299**	**.067**	**3.867**	**.000**	**Accepted**
LERNMOT	--->	TRGTR	.065	.076	.935	.350	Rejected