

**THE RELATIONSHIP BETWEEN HIGH PERFORMANCE HR  
PRACTICES AND EMPLOYEE ATTITUDES: THE  
MEDIATING ROLE OF PUBLIC SERVICE MOTIVATION  
AND PERSON-ORGANIZATION FIT**

**By**

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**A Thesis Submitted in Fulfilment of the Requirements for the Degree of  
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*To my beloved mother, to the memory of my father and to  
my dear sisters*

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## ABSTRACT

Nowadays, the utilization of high performance human resource (HR) practices is widely believed to lead to a strategic advantage for organisations. However, while there is now a sufficient body of evidence to indicate that high performance HR practices are related to superior firm-level outcomes, it is still unclear how these practices affect such outcomes and whether these practices result in desirable employee level outcomes. The current study aims to fill this gap by empirically examining the effect of high performance HR practices on employee attitudes of job satisfaction, organizational commitment and quit intentions in the Egyptian public sector. This study also sheds light on the mechanisms through which high performance HR practices affect employee attitudes by examining the mediating effects of both public service motivation (PSM) and person-organization (P-O) fit on this relationship. Furthermore, a secondary aim of this study is to identify the mechanisms through which PSM affects employee attitudes. Specifically, the study examines the mediating and moderating effect of P-O fit on the PSM-employee attitudes relationship. In so doing, the current study aims to contribute to the literature in the fields of HRM, PSM and P-O fit.

Using a sample of 671 professionals in the Egyptian health and higher education sectors, a partial mediation model is outlined and tested using structural equation modelling (SEM). The study results show that high performance HR practices and P-O fit have significant positive relationships with job satisfaction and organizational commitment, and significant negative relationships with quit intentions. PSM also has significant positive relationships with job satisfaction and organizational commitment. However, it has no significant relationship with quit intentions. The results also reveal that PSM partially mediates the relationship between high performance HR practices and both job satisfaction and organizational commitment, but has no mediation effect on the relationship between high performance HR practices and quit intentions. Further, P-O fit partially mediates the relationship between high performance HR practices and job satisfaction, organizational commitment and quit intentions. P-O fit also mediates (but does not moderate) the relationship between PSM and employee attitudes. Therefore, the study findings suggest that the adoption of high performance HR practices in the public sector not only leads to desirable employee attitudes, but is also associated with enhanced employee motivation to serve the public and better fit between employees and their organizations.

**Keywords:** High Performance HR Practices, Public Service Motivation, Person-Organization Fit, Employee Attitudes, Egyptian Public Sector

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## **LIST OF ABBREVIATIONS**

AGFI	Adjusted Goodness-of-Fit Index
AMOS	Analysis of Moment Structures
AVE	Average Variance Extracted
CFA	Confirmatory Factor Analysis
CFI	Comparative Fit Index
DF	Degrees of Freedom
EFA	Exploratory Factor Analysis
GFI	Goodness-of-Fit Index
HR	Human Resource
HRM	Human Resource Management
NFI	Normed Fit Index
NNFI	Non Normed Fit Index
OCB	Organizational Citizenship Behaviour
P-E FIT	Person-Environment Fit
P-G FIT	Person-Group Fit
P-J FIT	Person-Job Fit
PNFI	Parsimony Normed Fit Index
P-O FIT	Person-Organization Fit
P-S FIT	Person-Supervisor Fit
PSM	Public Service Motivation
P-V FIT	Person-Vocation Fit
RMSEA	Root Mean Square Error of Approximation
RNI	Relative Non-centrality Index
SD	Standard Deviation
SEM	Structural Equation Modelling
SPSS	Statistical Package for Social Sciences
SRMR	Standardised Root Mean Residual
TLI	Tucker-Lewis Index

# **CHAPTER 1**

## **INTRODUCTION**

### **1.1 Research Background**

It is widely accepted that people within organizations provide one of the most important sources of competitive advantage. Furthermore, it is believed that the effective management of people in organizations is an influential means to respond to rapidly changing and dynamic environments to attain superior organizational outcomes (Kehoe and Wright, 2013). As a result, researchers have increasingly focused on human resource management (HRM) practices as levers by which managers shape the human capital within their organizations (Innocenti, Pilati and Peluso, 2011).

Over the past two decades, a large number of strategic HRM studies have examined the relationship between high performance HR practices and organizational performance (e.g. Richard and Johnson, 2001; Wang and Zang, 2005; Sun, Aryee, and Law, 2007; Guthrie, Flood, Liu, and MacCurtain, 2009; Subramony, 2009; Messersmith and Guthrie, 2010). Together, these studies suggest that high performance HR practices are positively related to a number of firm-level outcome variables such as profitability, growth, sales, innovation and market value. In spite of this growing body of work, it has been argued that research on the relationship between HRM and performance has provided limited insight into the effects of high performance HR practices on the more proximal employee outcomes that they are likely to affect most directly (Messersmith, Patel, Lepak, and Gould-Williams, 2011; Alfes, Shantz, Truss, and Soane, 2013; Den Hartog, Boon, Verburg, and Croon, 2013; Kehoe and Wright, 2013).

High performance HR practices are assumed to enhance employee outcomes which, in turn, are believed to lead to improved organizational performance. Accordingly, researchers have argued that it is important to consider the effects of high performance work systems on employee attitudes and behaviours, which are more proximal indicators and may be regarded as intermediary outcomes in the relationship between high performance HR practices and organizational performance (Messersmith et al., 2011; Alfes et al., 2013; Den Hartog et al., 2013; Kehoe and Wright, 2013).

Accordingly, the current study aims to empirically examine the effect of high performance HR practices on employee attitudes in the Egyptian public sector. The study also seeks to examine the mediating effects of public service motivation (PSM) and person-organization (P-O) fit on this relationship. PSM refers to an individual's orientation to do good for others and society through the delivery of public services (Hondeghem and Perry, 2009), whereas P-O fit refers to the compatibility between the values and goals of an employee and those of his organization (Kristof, 1996). By testing the mediating effects of these variables on the relationship between high performance HR practices and employee attitudes, this study contributes to the literature in the fields of HRM, PSM and P-O fit.

## **1.2 Significance of the Study**

This study is important for three main reasons. First, it provides insight into the role of high performance HR practices in the public sector. Second, it focuses on work-related attitudes that are crucial for organizations and their employees. Finally, this study seeks to address a number of research gaps in the HRM, PSM, and P-O fit literatures. The following is a more detailed discussion of these reasons.

### **1.2.1 Importance of HRM in the Public Sector**

In spite of the claim that high performance HR practices are universally applicable, most of the research on the relationship between high performance HR practices and performance has been conducted in private sector organizations, and less is known about this relationship in public sector organizations (Ichniowski, Kochan, Levine, Olson, and Strauss, 1996; Legge, 1998; Gould-Williams, 2004; Boselie, 2010). Public sector organizations are crucial for the well-being and functioning of societies. According to Vandenabeele (2013), people are considered the most important asset in public sector organizations and their contributions are vital for the delivery of public services. Thus, the effectiveness of organizations in the public sector relies heavily on the knowledge, skills and motivation of their workers. Accordingly, HRM strategies are critical in ensuring that public organizations have the capacity to address the needs of the communities they serve (Burke, Allisey and Noblet, 2013).

According to Burke et al. (2013), there are four major reasons for concentrating on HRM in the public sector. First, in spite of the unique characteristics of the public sector, very little attention has been given by researchers to public sector HRM. For instance, one of the major features of the public sector is the degree to which state-funded services are affected by the



government. This extent of external influence, together with strong public-sector values and somewhat distinctive internal environments has significant implications for how HRM is practiced in the public sector. HRM research in the public sector can help provide more information on the specific needs and circumstances of government agencies and offer a more informed basis for examining issues such as employee motivation and management practice.

The second reason for focusing on HRM in the public sector relates to the significance of the goods and services provided by governmental agencies and the influence these have on public safety and national prosperity. The services provided by public sector organizations in many countries range from those involving high levels of face-to-face interactions with clients and communities such as healthcare and education to the public infrastructure operations involved in public transport, road maintenance, sewage and water, and other public utilities. In all cases, the decisions made by public sector employees and the actions they take have the potential to significantly affect public safety and wellbeing. Accordingly, and because of the range and extensiveness of services provided by public organizations, there are compelling public interest reasons for guaranteeing that we have a strong public sector. The way in which public sector human resources are managed can impede or improve the public sector delivery of services, which makes it essential to determine the effects of high performance HR practices in the public sector.

Focusing on HRM in the public sector is also important because of financial reasons. In 2009, general government expenditures on public sector services represented nearly half of the GDP across the Organisation for Economic Co-operation and Development (OECD) countries. Moreover, almost a quarter of the workforce in OECD member countries is employed by public sector organizations and as a result, a significant proportion of the expenditure of the government is dedicated to salaries and wages. These enormous costs and the budgetary pressures they create for governments and tax payers make it essential for civil services to show that these funds are used as efficiently as possible. Thus, more HRM research is needed in the public sector to ensure that the money invested in human resources has a maximum benefit for society.

Finally, public sector organizations nowadays face a range of unprecedented work-force related challenges. These challenges include severe cost cutting strategies, the enormous increases in the volume and complexity of services needed to address public demands and the

high levels of job strain experienced by public sector employees. Such challenges have significant implications for the profile and size of the labour force in the public sector, the conditions in which employees work, and the way in which people in the public sector are managed. Both the providers of public services and their recipients are affected by these problems, and therefore HRM research in public sector organizations could be of benefit to them and would help them manage these challenges.

### **1.2.2 Importance of Employee Work Attitudes**

Work attitudes refer to people's feelings and beliefs about their work. According to Judge and Kammeyer-Mueller (2012, p. 344), work attitudes are important because work matters to 'people's identities, to their health, and to their evaluations of their lives'. The current study focuses on examining the effects of High performance HR practices, PSM, and P-O fit on three work-related attitudes: job satisfaction, organizational commitment and quit intentions. It is argued that public sector employees with high levels of job satisfaction and organizational commitment, and low levels of quit intentions are usually more willing to work towards the achievement of the goals of their organizations and offer their services wholeheartedly to the organization and the public (Kim, 2005).

Job satisfaction, organizational commitment and quit intentions are frequently studied in the HRM, PSM, and fit literatures, and have been found to be significantly related to the predictor variables in the current study (as will be discussed in Chapters 2 and 3). These attitudes are of crucial importance to organizational practice – to both managers and employees (Kovjanic, Schuh, Jonas, Van Quaquebeke, and Van Dick, 2012). As shown in Table 1.1, research findings reveal that these attitudes impact both employee and organizational performance. Furthermore, these attitudes have been found to have significant relationships with other important job-related variables, such as job involvement, occupational commitment, work motivation, work engagement, life satisfaction, mental health, work stress and withdrawal behaviours (Judge, Parker, Colbert, Heller, and Ilies, 2001; Meyer, Stanley, Herscovitch, and Topolnytsky, 2002; Kim, 2005; Wegge, Schmidt, Parkes, and Van Dick, 2007; Halbesleben, 2010).

**Table 1.1:** A Summary of Empirical Studies on the Relationship between Employee Attitudes and Performance

<b>Author(s)/Year</b>	<b>Country</b>	<b>Findings</b>
Yousef (2000)	UAE	Organizational commitment had a significant positive relationship with employee performance quality and productivity.
Koys (2001)	USA	Employee satisfaction and turnover were related to organizational effectiveness.
Chen & Francesco (2003)	China	Affective commitment had a significant positive relationship with employee performance.
Schneider, Hanges, Smith & Salvaggio (2003)	USA	Job satisfaction had positive relationships with corporate financial and market performance.
Francesco & Chen (2004)	China	Organizational commitment had a significant positive relationship with employee performance.
Kim (2005)	Korea	Job satisfaction and affective commitment had significant positive relationships with the performance of government organizations.
Park & Rainey (2007)	USA	Affective commitment and job satisfaction had significant positive effects on perceived performance of federal employees.
Ritz (2009)	Switzerland	Job satisfaction and affective commitment had significant positive relationships with perceived performance in the federal administration.
Vandenabeele (2009)	Belgium	Job satisfaction and organizational commitment had positive correlations with civil servants self-reported performance.
Nimalathasan & Brabete (2010)	Srilanka	Job satisfaction had a significant positive relationship with employees work performance.
Huang & You (2011)	Taiwan	Organizational commitment had a significant relationship with the performance of nurses.
Conway & Briner (2012)	UK	Unit-level organizational commitment had a significant positive association with unit-level performance quality and speed.
Dizgah, Chegini & Bioskhan (2012)	Iran	Job satisfaction had a significant positive relationship with in-role and innovative job performance in the public sector.
Khan, Nawaz, Aleem & Hamed (2012)	Pakistan	Job satisfaction had a positive effect on employee performance in medical institutions.
Latif, Ahmed, Qasim, Mushtaq, Ferdoos & Naeem (2013)	Pakistan	Job satisfaction had a significant positive relationship with organizational performance.

### 1.2.3 Gaps in the Literature

In addition to the importance of HRM research in the public sector and the importance of the employee attitudes included in this study to organizations, the current study is also important because it aims to address several gaps in the literature. Besides addressing gaps in the HRM

literature, this study also seeks to contribute to both the PSM and the P-O fit literatures by addressing a number of gaps in these areas. First, this study tests the effects of employee perceptions of high performance HR practices on PSM. A large number of studies have identified the organizational outcomes of PSM (e.g. Naff and Crum, 1999; Taylor, 2008; Cerase and Farinella, 2009; Leisink and Steijn, 2009; Taylor and Westover, 2011), but few have investigated its antecedents. According to PSM theory, employees' motives to serve the public are formed by socio-historical factors (such as parental upbringing and religious affiliation) prior to organizational entry. Thereafter, the organisation's environment, especially management practice, will play a role in the further development of such motives (Perry, 2000; Moynihan and Pandey, 2007a). Few studies have considered the socio-historical factors influencing PSM (Perry and Hondeghem 2008a), with even fewer considering those under organizational control (Perry, Brudney, Coursey and Littlepage, 2008; Gould-Williams, Bottomley, Redman, Snape, Bishop, Limpanitgul and Mostafa, 2013). It has been pointed out in particular that there is a need for research on the effect of HRM practices on the development of PSM (Giauque, Ritz, Varone and Anderfuhren-Biget, 2010; Perry, 2010; Gould-Williams et al., 2013). Accordingly, this study examines the relationship between high performance HR practices and PSM.

Second, this research examines the effects of both high performance HR practices and PSM on P-O fit. Findings of previous studies suggest that P-O fit is positively related to a similar range of employee outcomes as those noted for high performance HR practices and PSM (e.g. Zoghbi-Manrique de Lara, 2008; Narayanan and Sekar, 2009). However, less is known about how P-O fit can be established and maintained. According to Boon, Den Hartog, Boselie and Paauwe (2011), more research is needed on the role of HR practices in achieving and maintaining P-O fit. Moreover, according to Bright (2008), more research is also needed on other predictors of P-O fit such as PSM. The current study, therefore, proposes that both high performance HR practices and PSM are predictors of P-O fit in public sector organizations.

Third, findings of recent studies suggest that high performance HR practices are positively related to desirable employee attitudes such as job satisfaction, organizational commitment, and intention to remain with the organization (e.g. Gould-Williams and Gatenby, 2010; Katou and Budhwar 2010; Boon et al., 2011; Innocenti et al., 2011; Mendelson, Turner, and Barling, 2011; Messersmith et al., 2011). However, the mechanisms through which high performance HR practices affect employee outcomes still need more research (Boon et al., 2011; Innocenti et al., 2011; Alfes et al., 2013). Several mechanisms have been proposed

such as trust in the employer (Innocenti et al., 2011; Alfes, Shantz and Truss, 2012), psychological contracts (Raeder, Knorr and Hilb, 2012) and employee engagement (Alfes et al., 2013). The current study will broaden this base of empirical evidence by considering two further mediating variables, namely PSM and P-O fit. By so doing, this study adds to the HRM literature by introducing both PSM and P-O fit in relation to high performance HR practices.

Fourth, the current study introduces self-determination theory (SDT) as an alternative theoretical lens through which the relationship between high performance HR practices and employee outcomes could be explained. According to SDT, the satisfaction of the three basic psychological needs (the need for autonomy, competence and relatedness) will lead to high levels of intrinsic motivation and the internalization of external values, which in turn, leads to positive work-related outcomes (Gagne' and Deci, 2005). Since PSM is viewed as a self-directed motive (Vandenabeele, 2007; Park and Rainey, 2008), and high performance HR practices are a means of satisfying employee needs within organizations (Marescaux, De Winne and Sels, 2013), the study model also *indirectly* addresses calls for more field work to be conducted using the SDT framework in organizational settings (Gagné and Deci, 2005). SDT is highly relevant in predicting employee attitudes and its assertions have wide-spread empirical support in different disciplines and international contexts (Greguras and Diefendorff, 2009).

Fifth, this study assesses both the mediating and the moderating effects of P-O fit on the relationship between PSM and employee work attitudes. As mentioned above, findings of recent studies suggest that PSM is positively related to a number of work-related outcomes such as job satisfaction, organizational commitment, work motivation, intention to remain with the organization and citizenship behaviours (e.g. Park and Rainey, 2007; Taylor, 2008; Xiaohua, 2008; Cerase and Farinella, 2009; Leisink and Steijn, 2009; Vandenabeele, 2009; Taylor and Westover, 2011; Kim, 2012). However, the mechanisms through which PSM affects employee outcomes still require further investigation (Wright and Pandey, 2008; Brewer, 2010). One mechanism proposed by researchers is P-O fit (Bright 2008; Wright and Pandey, 2008; Brewer, 2010; Christensen and Wright, 2011; Kjeldsen and Andersen, 2013). However, the actual role of P-O fit on the link between PSM and employee outcomes still is not clear in that some researchers suggest that it mediates the relationship between PSM and employee outcomes (Bright, 2007; Bright, 2008; Wright and Pandey, 2008; Kim, 2012), while others suggest that it moderates the effect of PSM on employee outcomes (Steijn, 2008;

Taylor, 2008; Kjeldsen and Andersen, 2013). In an attempt to address this issue, the current study will test both the mediating and moderating effects of P-O fit on the relationship between PSM and employee work attitudes.

Finally, the current study extends previous research on the relationships of both high performance HR practices and PSM with employee outcomes by examining these relationships in the Egyptian public sector. In recent years, researchers have shown an increased interest in examining the relationship between high performance HR practices and performance. However, most of this research has been conducted in the United States (e.g. Kehoe and Wright, 2013), Europe (e.g. Boselie, 2010; Messersmith et al., 2011) and Asia (e.g. Gould-Williams and Mohamed, 2010), and less is known about the nature of this relationship in Middle Eastern countries. The same applies to the link between PSM and employee outcomes, where there is a growing body of research linking PSM with employee outcomes in the Western world (e.g. Pandey, Wright and Moynihan, 2008; Cerase and Farinella, 2009; Giauque et al., 2010; Leisink and Steijn, 2009) and Asia (e.g. Kim, 2012), and, to the researchers knowledge, there are no studies evaluating this link in Middle Eastern countries. Since the current study focuses on Egyptian public sector workers, it will help determine the generalizability of these findings in a predominantly Muslim, collectivistic context. The study findings will therefore contribute to the development of both HRM and PSM theory since the international breadth of empirical research used to test theory is increased (Whetten, 1989).

### **1.3 Research Context: Egypt**

Egypt is an Arab country located in the Middle East. It is the largest and most populated country in the Arab world and has the second largest economy in the region. Due to its large population and strategic location, Egypt has become an attractive market for foreign investment and an important entry point to the Middle Eastern markets (Beekun, Hamdy, Westerman, and HassabElnaby, 2008).

Religion plays a significant role in the daily lives of Egyptians, with Muslims accounting for approximately 95 percent of the population (Hatem, 1994; Leat and El-Kot, 2007). The influence of religion was evident when democratic elections were held following the January 2011 revolution, where two thirds of the seats of the first elected Egyptian parliament (people's assembly) were secured by Islamic parties (Khattab, 2012). Also, the first democratically held presidential elections resulted in a majority vote for Mohamed Morsi of

the Muslim Brotherhood, giving the first victory of an Islamist as a head of state in the Arab world (Al-Anani, 2013).

In 1980, the Dutch researcher Geert Hofstede proposed 4 cultural dimensions along which nations differ. These cultural dimensions include power distance, uncertainty avoidance, masculinity/femininity and individualism/collectivism. *Power distance* refers to the degree to which members of a society accept an unequal distribution of power. *Uncertainty avoidance* refers to the extent to which society members feel uncomfortable with unclear and unknown situations. In *masculine* cultures, roles tend to be gender specific and priority is given to the acquisition of money and material objects. In *feminine* cultures, social roles overlap and more emphasis is placed on caring for people's quality of life. In *collectivistic* cultures, people are viewed as part of a group and group members look after the interests of each other. In *individualistic* cultures, people take care of themselves and primarily look after their personal interests and the interests of their close family.

As an Arab country, the Egyptian culture is classified as being collectivistic in context with high power distance, strong uncertainty avoidance and moderate levels of masculinity (Parnell and Hatem, 1999; Beekun et al., 2008; Leat and El-Kot, 2007). Hofstede's cultural dimensions together with religion have important implications for both HRM and PSM in Egypt. These implications will be discussed in detail in Chapter 4.

The current study is conducted in the public sector. The Egyptian public sector covers a large number of social and economic functions such as social services, health and education, along with manufacturing (Peeters, 2011). Consistent with public organizations in other countries, decision-making in the Egyptian public sector is highly centralized with a strict chain of command and formalization. Moreover, the laws and regulations that govern the work in this sector are vague, complex and sometimes contradictory. Furthermore, this sector suffers from high levels of red tape that constrain and regulate employee activities. The focus in this study will be on professionals in the health and higher education sectors. More details of the working conditions of employees in both sectors will be provided in Chapter 4.

## **1.4 Research Objectives**

The major objectives of this research are as follows:

1. To examine the relationships between employee perceptions of high performance HR practices, PSM, P-O fit and employee attitudes in the Egyptian public sector.

2. To investigate the role of employee perceptions of high performance HR practices on the development of PSM.
3. To investigate the role of high performance HR practices and PSM on the achievement of fit between employees and their organizations.
4. To examine the mediating effects of both PSM and P-O fit on the relationship between high performance HR practices and employee attitudes.
5. To examine the mediating and moderating effects of P-O fit on the relationship between PSM and employee attitudes.

## **1.5 Research Questions**

To accomplish the aforementioned objectives, the following research questions are formulated:

1. What is the relationship between employee perceptions of high performance HR practices and their work attitudes in the Egyptian public sector?
2. What is the relationship between employee perceptions of high performance HR practices and their motives to serve the public?
3. What is the relationship between employee perceptions of high performance HR practices and their fit with their organizations?
4. What is the relationship between PSM and employee attitudes?
5. What is the relationship between P-O fit and employee attitudes?
6. What is the relationship between PSM and P-O fit?
7. Do PSM and P-O fit mediate the relationship between high performance HR practices and employee attitudes?
8. Does P-O fit mediate the relationship between PSM and employee attitudes?
9. Does P-O fit moderate the relationship between PSM and employee attitudes?

## **1.6 Research Methodology**

The present study is positioned within the positivist research paradigm. The study employed a descriptive cross-sectional design to achieve the research objectives. The target population for this study comprises professionals in the Egyptian higher education and health sectors.

The study data are based on a convenience sample of professionals from public universities (teaching staff) and hospitals (physicians, nurses and pharmacists) in Egypt. A convenience



sample was adopted due to the challenges of collecting primary data in Egypt where respondents tend to be uncooperative (Hatem, 1994).

A questionnaire survey was used to collect the study data. The English questionnaire was back-translated into Arabic and pretested by six professionals in the higher education and health sectors in Egypt. The Arabic questionnaire was distributed to 1000 professionals in the higher education and health sectors, and 671 useable questionnaires were returned, giving an effective response rate of 67 percent.

The data were analysed using structural equation modelling (SEM) with AMOS 18. The study followed Anderson and Gerbing's (1988) two-step procedure which involves estimating the measurement model prior to estimating the proposed structural model.

## **1.7 Structure of the Thesis**

To accomplish the research objectives, this thesis is divided into seven chapters besides the current one. Chapter 2 sheds light on the relationship between high performance HR practices and employee outcomes. The chapter provides an overview of the concept of high performance HR practices and presents the major theories that have dominated the literature on the HRM-employee outcomes relationship, which are the AMO theory and the social exchange theory. SDT is also proposed as a theory that helps explain the link between high performance HR practices and employee outcomes. This chapter also presents the major studies that have examined the relationship between high performance HR practices and employee attitudes of job satisfaction, organizational commitment, and intention to quit. Chapter 3 discusses the concepts of public service motivation and person-organization fit, and demonstrates how they are related with both high performance HR practices and employee outcomes, and how they may play a role in the HR practices-employee outcomes relationship. Study hypotheses are developed and presented after a review of related literature in each respective section.

Chapter 4 outlines the methodology used to collect and analyse the data for exploring the study hypotheses. The aim of this chapter is to link the conceptual framework developed for this research with the empirical results presented in Chapters 5, 6 and 7. The chapter is organized around six main topics of methodology: the research paradigm, research design, research context, data collection method, research sampling, and data analysis technique.

Chapter 5 presents the results of the descriptive data analysis. It presents a general picture of the demographic profile of the survey respondents and provides the results of the descriptive analysis of responses to the questionnaire items.

Chapter 6 assesses the reliability and the validity of the data. The chapter is structured into four sections. In the first section, the data preparation and screening procedures including the treatment of missing data, detection of outliers, and normality are discussed and presented. In the second section of the chapter, the measurement model is validated through confirmatory factor analysis. In the third section, multi-group invariance is tested for so as to validate the measurement instrument across professionals in the health and higher education sectors. The presence of common method bias is examined in the final section of the chapter.

Chapter 7 explores the hypothesized relationships between the study constructs using SEM. The chapter is organized into four sections. In the first section, the results of evaluating the overall fit of the proposed model are reported. The second section presents the results of testing the direct relationships between the study constructs. The results of testing the mediation effects are presented in the third section. In the fourth section of the chapter, the results of testing the moderating effect of P-O fit on the relationship between PSM and employee attitudes are reported. The results of testing the effects of control variables on employee attitudes are presented in the final section of the chapter.

Chapter 8 is the final chapter of the current study. This chapter provides an overall discussion of the findings of the study. The chapter also provides a discussion of the practical implications and the contributions of the present research. Furthermore, it discusses the limitations of the current study and provides directions for further research.

## **CHAPTER 2**

# **HIGH PERFORMANCE HR PRACTICES AND EMPLOYEE ATTITUDES**

### **2.1 Introduction**

According to Guest (2002), employee outcomes are vital in the study of HRM since employees are the essence of the organization and its most important asset. Exploring the experience of high performance HR practices from the employees' perspective can help provide a comprehensive way of evaluating HRM (Gibb, 2001). This chapter aims to shed light on employee reactions to high performance HR practices and shows how such practices may influence employee outcomes. First, an overview of the concept of high performance HR practices is provided. This is followed by a presentation of the AMO theory and the social exchange theory, which are the major theories that have dominated the literature on the relationship between high performance HR practices and employee outcomes. Self-determination theory is also proposed as a theory that helps explain the link between high performance HR practices and employee outcomes. Finally, the major studies that have examined the relationship between high performance HR practices and employee attitudes of job satisfaction, organizational commitment, and intention to quit are discussed. Study hypotheses are developed after a review of related literature in each respective section.

### **2.2 High Performance HR Practices**

The concept of HRM has gained considerable attention in the past 20 years or so (Redman and Wilkinson, 2009). In spite of this, there is no single agreed definition of the concept (Storey, 2001; Heery and Noon, 2008; Paauwe, 2009). One of the most widely accepted definitions of HRM comes from Storey (1995, p. 5), who defines HRM as 'a distinctive approach to employment management which seeks to achieve competitive advantage through the strategic deployment of a highly committed and capable workforce, using an integrated array of cultural, structural and personnel techniques'. Armstrong (2003, p. 3) also defines HRM as 'a strategic and coherent approach to the management of an organization's most valued assets: the people working there who individually and collectively contribute to the

achievement of its objectives'. Heery and Noon (2008, p. 215) define HRM as 'a coordinated approach to managing people that seeks to integrate the various personnel activities so that they are compatible with each other'. Boxall and Purcell (2008, p. 1) provide a broad definition of HRM, where they define it as 'all those activities associated with the management of work and people in firms and in other formal organizations'. In spite of the above mentioned definitions, HRM is still believed to be 'an evolving field of academic inquiry' which focuses on the study of the employment relationship and the way in which individuals are managed at work (Paauwe, 2009, p. 130).

Storey (1995) distinguishes between 'hard' and 'soft' versions of HRM. The hard version of HRM, also referred to as the control approach (Whitener, 2001), views workers as a resource or object that can be treated dispassionately and in a formally rational way (Storey, 1995). It is mainly concerned with effective employee utilization and the alignment of HR practices with an organization's business strategy (Guest, 1999; Guest, 2002). This approach relies on rules, sanctions, rewards, and monitoring to guide employee behaviour (Whitener, 2001).

In contrast to the hard version, the soft version of HRM, also referred to as the commitment approach (Whitener, 2001), emphasizes the need to treat workers as valued individuals, placing much emphasis on their well-being (Storey, 1995). The soft HRM approach is linked with the human relations movement. It stresses the importance of winning the commitment of workers in order to achieve organizational objectives. Thus, workers according to this approach are viewed as means, not objects (Guest, 1999). The soft version of HRM has been linked with the concept of 'high performance' work systems or practices (Guest, 1999; Butler and Glover, 2010). This is the view adopted in the current study.

In spite of achieving increasing prominence over the last few years, there is still no universally agreed definition of the notion of high performance HR practices (Butler and Glover, 2010). For instance, Messersmith et al. (2011) define high performance HR practices as a group of interrelated HR practices designed to enhance the skills and efforts of employees. A somewhat similar definition was provided by Beardwell and Claydon (2010), who define it as a combination of HR practices intended for enhancing the commitment, flexibility and quality of employees. Guthrie (2001, p. 180) also defines high performance HR practices as 'a system of HR practices thought to enhance employees' levels of skill, motivation, information and empowerment'. Heery and Noon (2008, p. 205) also define it as an 'approach to the management of people that emphasizes the need to develop

organizational commitment amongst employees, on the assumption that this will lead to positive outcomes such as lower labour turnover, better motivation and improved performance’.

All the aforementioned definitions emphasized the importance of high performance HR practices to employees. Focusing on both the employee and the organization, Whitener (2001) defines high performance HR practices as systems of HR practices designed to increase organizational effectiveness through creating conditions that help employees become highly involved in the organization and work hard to accomplish its goals. Similarly, Iverson and Zatzick (2007) define high performance work systems as a set of HR practices aimed to encourage employees to align their goals with those of the organization and to exert effort to achieve them. Heery and Noon (2008) also define high performance HR practices as a range of HR practices designed to improve overall organizational performance through generating commitment amongst employees.

Overall, from the above definitions, high performance HR practices can be described as ‘ *a set of HR practices designed to enhance the overall performance and effectiveness of the organization by making better use of employees skills and improving their commitment to the organization*’.

High performance HR practices have also been referred to by researchers as ‘high commitment’ or ‘high involvement’ work systems or practices. Table 2.1 summarises the widely used terminologies surrounding high performance HR practices.

**Table 2.1:** Terms Used to Label High Performance HR Practices

<b>Terminology</b>	<b>Studies</b>
High performance HR practices	Messersmith, Patel, Lepak, and Gould-Williams (2011), Kehoe and Wright (2013)
High performance work systems	Macky and Boxall (2007), Boselie (2010), Ang, Bartram, McNeil, Leggat and Stanton (2013), Zhang, Zhu, Dowling and Bartram (2013)
High involvement work systems	Mendelson, Turner, and Barling (2011)
High involvement HR practices	Grant and Wagar (2004), Paré and Tremblay (2007), Yang (2012)
High commitment HR practices	Gould-Williams et al. (2013), Agarwala (2003), Gould-Williams (2004)
High commitment performance management	Farndale, Hope-Hailey and Kelliher (2011)

There is a lack of agreement about the specific practices that should be included in high performance work systems. However, the most widely used practices include recruitment and selection, training and development, promotion, job security, performance related pay, communication, and autonomy (Iverson and Zatzick, 2007; McClean and Collins, 2011; Price, 2011).

Rigorous recruitment and selection are critical for hiring employees that fit with the organization. These practices usually create positive work environments of highly skilled employees that are likely to behave in ways that benefit the organization (Iverson and Zatzick, 2007; McClean and Collins, 2011). Comprehensive training and development are essential for equipping employees with up-to-date knowledge, skills, and competencies. Such activities enhance employees' flexibility and increase their loyalty and commitment to the organization (Iverson and Zatzick, 2007).

Providing promotion opportunities strengthens employees' emotional attachment to and identification with the organization. They signal to employees that the employer is concerned about their development and is prepared to invest in their progression as employees (McClean and Collins, 2011). Job security reduces employees' fear of losing their jobs. This will allow them to contribute freely to enhanced productivity and act with the long term in mind (Price, 2011). Performance related pay will provide employees with the feeling of being

fairly rewarded. This is more likely to increase employees' commitment to the organization and induce them to contribute more (McClean and Collins, 2011).

Effective communication helps employees understand their tasks and roles within the organization. It also helps them appreciate the reasons behind organizational decisions and enacted procedures which, in turn, is more likely to increase their trust and commitment to the organization (Den Hartog et al., 2013). Finally, autonomy provides employees with freedom, independence and discretion when carrying out their work assignments (Morgeson and Humphrey, 2006). This gives employees the feeling of being trusted by their organization and encourages them to exert more effort to achieve its goals.

## **2.3 Theories Concerning the Relationship between High Performance HR Practices and Employee Outcomes**

Two theories have dominated the literature on the relationship between high performance HR practices and employee outcomes: the AMO theory and the social exchange theory. This thesis introduces an alternative theoretical lens through which the relationship between high performance HR practices and employee outcomes could be explained: Self-determination theory.

### **2.3.1 AMO Theory**

Appelbaum, Bailey, Berg and Kalleberg's (2000) AMO theory is one of the major theories that can help explain the connection between high performance HR practices and employee behavioural outcomes in organizations. This framework predicts that managers can improve employee performance by positively influencing employee ability (A) to perform, motivation (M) to perform, and opportunity (O) to perform (Boxall and Purcell, 2008).

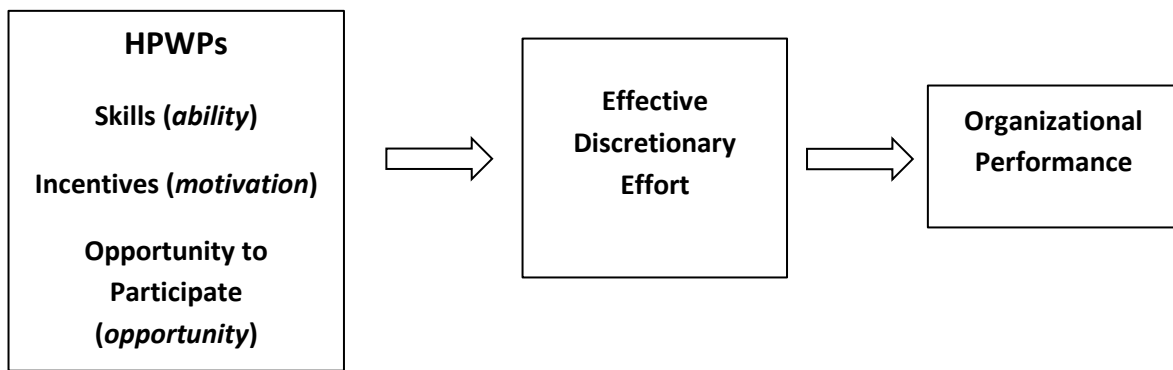
Thus, according to the AMO theory, organizational performance is a function of employee ability, motivation and opportunity to participate and employees will perform well in a job when: (1) they possess the knowledge and skills required to perform that job (abilities); (2) they are adequately interested and incentivised to do that job (motivation); and (3) their work environment supplies the required support and avenues for expression (opportunity to participate) (Boxall and Purcell, 2008).

The AMO variables are significantly affected by HRM practices (Boxall and Purcell, 2008). Appelbaum et al. (2000) suggest that specific HRM practices - referred to in their study as high performance work practices (HPWPs) - play an important role in enhancing employee

abilities, motivation and opportunity to participate. Practices such as recruitment, selection, and training are seen as enhancing employee abilities, whereas pay for performance and high wages are assumed to enhance motivation. Job autonomy and involvement in decision making are regarded as being fundamental in promoting opportunities to participate and contribute discretionary effort (Appelbaum et al., 2000).

The AMO theory is based on the theoretical framework developed by Bailey (1993) (see Figure 2.1).

**Figure 2.1:** Components of HPWPs and Organizational Performance



**Source:** Bailey (1993) in Appelbaum et al. (2000, p. 27)

According to Bailey's (1993) framework, HPWPs that stimulate employee ability, motivation and opportunity to participate (AMO) are believed to contribute to employee discretionary effort. This discretionary effort, in turn, is deemed to constitute the basis for organizational efficiency and effectiveness. Thus, management use of appropriate HRM practices can help positively influence employee attitudes and behaviours, and these attitudes and behaviours, in turn, will have a positive influence on organizational performance (Boselie, 2010).

On the basis of the AMO theory, this study proposes that high performance HR practices are positively related to employee attitudes.

### 2.3.2 Social Exchange Theory

Employment relationships can be conceptualized as consisting of economic and social exchanges (Aryee, Budhwar and Chen, 2002; Snape and Redman, 2010). Economic exchanges are based on contractual arrangements, requiring the performance of specific contractual obligations with no expectation of performance beyond the contract terms. Social exchanges, on the other hand, involve 'imperfectly specified terms' (Snape and Redman,



2010, p. 1224). They are based on the norm of reciprocity (Gouldner, 1960) that proposes that people feel obligated to give back to those who have given to them (Tzafrir, 2005). Accordingly, the social exchange theory (Blau, 1964) suggests that when employees perceive fairness in the way they are treated by their organizations, they will reciprocate in positive ways (Aryee et al., 2002).

High performance HR practices can be viewed as an important input into the social exchange process (Snape and Redman, 2010). Many researchers believe that such practices are the means through which employee perceptions, attitudes and behaviours are shaped (Kuvaas, 2008). The use of high performance HR practices by an organization can help demonstrate that the organization is committed to its employees, is concerned about their wellbeing and development, and wishes to invest in them (Snape and Redman, 2010). Practices such as training and development, performance appraisals for identifying training needs, pay for performance and employee involvement in decision making processes send messages to employees about the extent to which the organization values them. Such practices signal that the organization seeks to build a social exchange relationship with its employees (Snape and Redman, 2010). According to the norm of reciprocity, employees will thereafter reciprocate in positive ways by displaying attitudes and behaviours that benefit the organization (Lee and Bruvold, 2003).

Using social exchange theory, this study proposes that high performance HR practices can positively influence employee attitudes.

### **2.3.3 Self- Determination Theory**

The current study introduces Self-determination theory (SDT) as an alternative theoretical framework through which the relationship between high performance HR practices and employee outcomes could be explained. SDT is a motivational framework that postulates that individuals have an inherent desire for personal growth and development (Deci and Ryan, 2000). According to this theory, the degree of personal growth and development is dependent on the fulfilment of three basic psychological needs: the need for autonomy, the need for competence and the need for relatedness. These needs, according to Deci and Ryan (2000), are essential for ongoing psychological growth, well-being and integrity. The need for *autonomy* involves exercising control over one's own actions and behaviours. It includes a sense of choice and of not being controlled by external constituencies. The need for *competence* involves feeling effective and having mastery over one's work. Finally, the need

for *relatedness* involves feeling connected and associated with others, a sense that one is important to others (Kovjanic et al., 2012). SDT suggests that, within organizational settings, the fulfilment of the three basic psychological needs will lead to high levels of intrinsic motivation and the internalization of external values, which in turn, leads to positive work-related outcomes such as effective performance, positive attitudes and behaviours, and psychological adjustment and well-being (Gagne´ and Deci, 2005).

There is research evidence supporting the view that management practice affects the satisfaction of the basic psychological needs and its associated outcomes (Dysvik and Kuvaas, 2008; Kovjanic et al., 2012; Garcíá-Chas, Neira-Fontela and Castro-Casal, 2013, Marescaux et al., 2013). Dysvik and Kuvaas (2008) found that perceived training opportunities were positively related to intrinsic motivation which in turn led to improved task performance, higher levels of citizenship behaviours and lower levels of turnover intention. Kovjanic et al. (2012) also found that transformational leadership was positively related to the three basic psychological needs, which in turn were positively related to job satisfaction. Marescaux et al. (2013) found that mentoring (i.e. providing guidance, knowledge and support to inexperienced employees) was positively related to the three basic needs, which in turn were positively related with work engagement. Moreover, Garcíá-Chas et al. (2013) recently found that high-performance work systems had a significant positive relationship with intrinsic motivation, which in turn was positively related to job satisfaction.

Based on these findings, it could be argued that high performance HR practices constitute one of the major factors that can help satisfy the basic employee needs in the organizational context through their creation of supportive work environments and their influence on work design and task characteristics (Kovjanic et al., 2012; Marescaux et al., 2013). This in turn is assumed to generate favourable work attitudes and behaviours, and higher levels of well-being (Gagne´ and Deci, 2005; Lynch, Plant and Ryan, 2005; Kovjanic et al., 2012; Marescaux et al., 2013). For example, rigorous recruitment and selection procedures should increase the likelihood of selecting employees who are qualified to perform their jobs which in turn satisfies employees need for competence. Such procedures may also help provide insight into whether a job applicant fits with the culture and climate of the organization, and therefore help employees in developing a sense of relatedness to others within the organization (Iverson and Zatzick, 2007; McClean and Collins, 2011). Training provides employees with the skills and knowledge required to handle the challenging demands of their jobs, thus further satisfying their need for competence. In-house training programmes also

provide opportunities for employees to develop relationships with other organizational members, and thus potentially should fulfil their need for relatedness. Furthermore, practices such as promotion and job security may be perceived by employees as organizational rewards for demonstrating their capabilities and competency, which in turn may increase their feeling of being competent and strengthen their feeling of relatedness to the organization. Work design that enables employees to plan their work schedule and make their own job decisions should satisfy their need for autonomy. Finally, effective communication helps employees understand their tasks, the reasons behind organizational decisions and procedures, and what the organization expects of them. This should satisfy employees' needs for competence and relatedness.

It is not the intention of the current study to test SDT. Instead, this study uses the principles underlying the theory as a lens through which the effects of high performance HR practices on employee outcomes could be predicted. On the basis of self-determination theory, this study proposes that high performance HR practices are positively related to desirable employee attitudes.

It could be argued that the AMO theory, the social exchange theory and SDT are related. An organization's attempt to enhance its employees' abilities, motivation and opportunity to participate conveys messages to employees about the extent to which the organization values them and shows that the organization is seeking to build a social exchange relationship with them. Employees should, in turn, reciprocate by displaying positive attitudes and behaviours. Furthermore, as mentioned above, high performance HR practices can help satisfy the basic employee needs within organizational settings. Thus, stimulating employee ability, motivation and opportunity to participate is likely to satisfy the needs for autonomy, relatedness and competence, which should in turn lead to positive employee outcomes. Organizational efforts to satisfy the basic psychological needs of employees also help demonstrate that the organization is committed to its employees, is concerned about their wellbeing and development, and wishes to build an exchange relationship with them. Thus, the AMO theory, the social exchange theory and SDT are related.

## **2.4 Linking High Performance HR Practices and Employee Attitudes**

The focus in this section is on the specific relationships between high performance HR practices and the employee attitudes of job satisfaction, organizational commitment and intention to quit. In this section, a brief discussion of each attitude is provided and the major

studies that have examined their relationships with high performance HR practices are presented. An evaluation of these studies is presented at the end of this section.

## **2.4.1 High Performance HR Practices and Job Satisfaction**

### **2.4.1.1 Job Satisfaction**

Job satisfaction is one of the most intensively studied work-related outcomes in organizational research (Vilela, González and Ferrín, 2008). It is considered to be the most important employee attitude from the viewpoints of both research and practice (Saari and Judge, 2004). Researchers define job satisfaction in several ways (Mudor and Tooksoon, 2011). The most widely used definition of job satisfaction is provided by Locke (1976, p. 1304), who defines it as ‘a pleasurable or positive emotional state resulting from the appraisal of one’s job or job experience’ (Saari and Judge, 2004). Recently, a similar definition was provided by Judge and Kammeyer-Mueller (2012, p. 347), who define job satisfaction as an ‘evaluative state that expresses contentment with, and positive feelings about one’s job’. Robbins (1998, p. 142) defines job satisfaction as ‘an individual’s general attitude toward his or her job’. Spector (1997, p. 2) also defines it as ‘the extent to which people like or dislike their jobs’. Simply job satisfaction deals with how employees feel about their jobs and its different aspects (Spector, 1997; Park, Mitsuhashi, Fey and Björkman, 2003). Thus, employees with high job satisfaction levels hold positive feelings, whereas dissatisfied employees hold negative feelings (Robbins, 1998).

Two approaches have been used by researchers when studying job satisfaction (Spector, 1997). The first examines job satisfaction from a global perspective, in which the focus is on overall satisfaction with the job, whereas the second emphasizes the different facets of the job such as pay, supervision and co-workers. According to Vandenabeele (2013), the latter perspective makes it very difficult to differentiate between the determinants of job satisfaction and the concept itself. Accordingly and consistent with previous research in the HRM field (e.g. Gould-Williams and Mohamed, 2010; Messersmith et al., 2011), this study will adopt the global view of job satisfaction, as advocated by Locke (1976) and Spector (1997).

Findings of many studies suggest that job satisfaction has positive effects on important work-related variables (e.g. MacKenzie, Podsakoff and Ahearne, 1998; Lambert, Hogan and Barton, 2001; Chiu and Chen, 2005; Kim, 2005; Vilela et al., 2008; Warsi, Fatima and Sahibzada, 2009; Nimalathan and Brabete, 2010). Job satisfaction has been reported to be

positively related to employee performance (Nimalathan and Brabete, 2010), organizational citizenship behaviour (OCB) (MacKenzie et al., 1998; Chiu and Chen, 2005; Kim, 2005; Vilela et al., 2008) and organizational commitment (MacKenzie et al., 1998; Kim, 2005; Warsi et al., 2009). It has also been found to be negatively related to employee turnover intentions (Lambert et al., 2001). Job satisfaction has also been reported to have benefits at the organizational level, where it was found to have positive effects on organizational performance (Kim, 2005).

#### **2.4.1.2 Studies Linking High Performance HR Practices and Job Satisfaction**

The extent of an individual's satisfaction with his job is dependent on a number of factors. These factors have been classified into personal antecedents and environmental antecedents (Spector, 1997). Personal antecedents include factors such as personality traits, gender and motivation. Environmental antecedents, on the other hand, include organizational factors such as supervision, organizational roles and work-life balance. The focus in this subsection is on the influence of high performance HR practices, which are considered a major organizational determinant of job satisfaction (Vandenabeele, 2013).

According to Messersmith et al. (2011), several reasons may help explain why high performance HR practices relate to job satisfaction. The implementation of high performance HR practices should result in employees who have been selected after undergoing a rigorous selection process. As such, employees should be better suited to their posts. Similar effects should also be achieved by training and development initiatives, in that employees are more likely to feel satisfied with their jobs as they are able to undertake their roles more effectively. Additionally, high performance HR practices allow for higher levels of employment security, greater information sharing, and tighter linkages between individual performance and compensation, factors which should enhance employee satisfaction (Messersmith et al., 2011).

The relationship between high performance HR practices and job satisfaction has been examined in many studies (e.g. Guest, 1999; Boselie and Van der Wiele, 2002; Gould-Williams, 2003; Steijn, 2004; Edgar and Geare, 2005; Yang, 2006; Macky and Boxall, 2007; Boon et al., 2011; Innocenti et al., 2011; Mendelson et al., 2011; Messersmith et al., 2011; Ang, Bartram, McNeil, Leggat and Stanton, 2013; Den Hartog et al., 2013; García-Chas et al., 2013; Gould-Williams et al., 2013; Zhang and Morris, 2013; Zhang, Zhu, Dowling and

Bartram, 2013), and the findings of these studies suggest that high performance HR practices are positively related to job satisfaction.

Guest (1999) found that the greater use of HR practices had a significant positive relationship with employee satisfaction in the UK. Using regression analyses, Edgar and Geare (2005) found that HRM practices had a significant positive relationship with the job satisfaction of employees in New Zealand. Gould-Williams (2003) found that HR practices had a significant positive effect on the satisfaction of local government employees in the UK. Yang (2006) also found that HRM practices had significant positive effects on the satisfaction of employees of high-tech companies in Taiwan. Using structural equation modelling, Innocenti et al. (2011) found that HRM practices had a positive effect on the work satisfaction of Italian employees. Den Hartog et al. (2013) found in their study of line managers and employees of a Dutch restaurant chain that manager and employee ratings of HRM practices had significant positive relationships with employee satisfaction.

Boselie and Van der Wiele (2002) examined the effects of employee perceptions of HRM and TQM on the satisfaction of employees in the Netherlands. They found that positive employee perceptions of HRM/TQM had significant positive effects on job satisfaction. Macky and Boxall (2007) examined the relationship between high-performance work system practices and the attitudes of employees in New Zealand. They found that high-performance work system practices had significant positive relationships with job satisfaction. Mendelson et al. (2011) examined the effects of high involvement work systems on the attitudes of employees in Canada. Using structural equation modelling, they found that high involvement work systems had significant positive effects on job satisfaction. In a study of employees and managers in a regional Australian hospital, Ang et al. (2013) found that high-performance work systems had a significant positive relationship with job satisfaction. García-Chas et al. (2013) found that high-performance work systems had a significant positive relationship with the job satisfaction of engineers in Spain. In a study of local government workers in the UK, Gould-Williams et al. (2013) found that high commitment HR practices were positively associated with job satisfaction. They also found that civic duty partially mediated the relationship between high commitment HR practices and job satisfaction. Zhang and Morris (2013) examined the effects of high-performance work systems on the outcomes of employees in China, and found that high-performance work systems had a significant positive effect on job satisfaction. Zhang et al. (2013) found that high-performance work

systems had a significant positive association with the job satisfaction of employees in Chinese hospitals.

In a study of 412 employees in the Netherlands, Boon et al. (2011) found that employee perceptions of HR practices had a significant positive relationship with job satisfaction. They also found that both person-organization fit and person-job fit mediated the relationship between HR practices and job satisfaction. Messersmith et al. (2011) found in their study of Welsh public sector employees that high-performance HR practices had a significant positive relationship with job satisfaction. They also found that job satisfaction mediated the relationship between high-performance HR practices and organizational citizenship behaviours. Steijn (2004) examined the relationship between HRM practices and the job satisfaction of employees in the Dutch public sector. Steijn found that HRM practices had an indirect positive effect on job satisfaction, where job and organizational characteristics mediated the relationship between HRM practices and satisfaction.

The aforementioned studies focused on the effect of a coherent package of high performance work systems on job satisfaction. Several studies have also examined the influence of the individual practices that constitute high performance work systems on job satisfaction (e.g. Appelbaum et al., 2000; Guest, 2002; Gould-Williams, 2004; Schmidt, 2007; Petrescu and Simmons, 2008; Absar, Azim, Balasundaram and Akhter, 2010; Gould-Williams and Gatenby, 2010; Katou and Budhwar, 2010). For instance, Appelbaum et al. (2000) found in their study of workers in the United States that autonomy in decision making, formal training, wage level, pay for performance, fair pay, company help in dealing with work and family issues, and promotion opportunities were significantly and positively related to job satisfaction. In a study of 178 manufacturing organizations in Greece, Katou and Budhwar (2010) found that job evaluation, compensation, promotion, incentives, and benefits had significant positive effects on employee satisfaction.

In a study of UK workers, Guest (2002) found that job design, involvement in decision making, information sharing, equal opportunities, family-friendly practices, and anti-harassment practices had significant positive relationships with work satisfaction. In a study of 206 local government employees in the UK, Gould-Williams (2004) found that training, employees' relationships with their supervisors, and empowerment had significant positive effects on job satisfaction.

Schmidt (2007) found a significant positive relationship between training satisfaction and overall job satisfaction of 301 customer and technical service employees in the United States and Canada. Petrescu and Simmons (2008) found in their study of UK workers that job autonomy, employee involvement, training and learning, and supervision had significant relationships with job satisfaction.

Gould-Williams and Gatenby (2010) found that performance related reward schemes, training and development, and performance appraisals had significant positive effects on the job satisfaction of local government workers in the UK. Absar et al. (2010) examined the impact of HR practices on the job satisfaction of employees in 20 manufacturing organizations in Bangladesh. Using regression analyses, they found that HR planning, and training and development had significant positive effects on job satisfaction.

Table 2.2 below provides a summary of the empirical studies on the relationship between high performance HR practices and job satisfaction. It briefly presents the name(s) of the author(s), the country in which each study was conducted, the high performance HR practices used, the research method, sample size, and the obtained findings.



**Table 2.2:** A Summary of Empirical Studies on the Link between High Performance HR Practices and Job Satisfaction

Author(s)/Year	Country	HRM practices	Research method	Sample size	Findings
Guest (1999)	UK	Training and development, performance-related pay, information sharing, involvement in decision-making processes, job design, anti-harassment practices, reduced status, staff attitude survey, profit sharing, and promotion from within	Quantitative (survey)	-	Use of HR practices had a significant positive relationship with employee satisfaction.
Appelbaum, Bailey, Berg & Kalleberg, (2000)	USA	Autonomy in decision making, self-directed team membership, off-line team membership, communication, formal and informal training, employment security, promotion opportunities, information sharing, company help in work and family issues, wage level, pay for performance, and fair pay	Quantitative (survey)	4374, response rate 68%	Autonomy in decision making, formal training, wage level, pay for performance, fair pay, company help in dealing with work and family issues, and promotion opportunities were significantly and positively related to job satisfaction.
Boselie & Van der Wiele (2002)	Netherlands	Format of information delivery, insight in goals and objectives, secondary work conditions, co-operation within business units, information sharing, leadership, customer focus, co-operation between business units, and salary	Quantitative (survey)	2300, response rate 50%	Positive employee perceptions of HRM/TQM had significant positive effects on job satisfaction.
Guest (2002)	UK	Performance appraisals, performance-related pay, training and development, equal opportunity practices, anti-harassment practices, information sharing, family-friendly practices, job design, involvement in decision-making processes, promotion from within, and policies for avoiding redundancies and layoffs	Quantitative (survey)	2000	Job design, involvement in decision making, information sharing, equal opportunities, family-friendly practices, and anti-harassment practices had significant positive relationships with work satisfaction.
Gould-Williams (2003)	UK	Training, communication, reduced status, job variety, team working, selection, job security, involving staff in decision making processes, performance related pay, and promotion from within	Quantitative (survey)	191, response rate 65.2%	HR practices had a significant positive effect on job satisfaction.
Gould-Williams (2004)	UK	Team working, training, job variety, communication, reduced status, performance-related pay, selection, job security, employees relationship with superior, and involvement in decision making	Quantitative (survey)	206, response rate 64.4%	Training, employees' relationships with their supervisors, and empowerment had significant positive effects on job satisfaction.
Steijn (2004)	Netherlands	Appraisal interviews, personal development plans, career plans, individual coaching, competence management, age-conscious personnel management, and mobility policies	Quantitative (survey)	14212	HRM practices had an indirect positive effect on job satisfaction, where job and organizational characteristics mediated the relationship between HRM practices and satisfaction.

Edgar & Geare (2005)	New Zealand	Good and safe working conditions, training and development, equal employment opportunities, and recruitment and selection	Quantitative (survey)	626, response rate 58%	HRM practices had a significant positive relationship with the job satisfaction.
Yang (2006)	Taiwan	HR planning, recruitment and selection, work design and analysis, training and education, job rotation, leadership development, performance appraisal, incentive compensation, benefits and profit sharing, employee development, employee security and health, and employee relations	Quantitative (survey)	62, response rate 20.66%	HRM practices had significant positive effects on job satisfaction.
Macky & Boxall (2007)	New Zealand	Performance-related pay, teams, employee participation, reduced status, promotion, performance appraisal systems, development appraisal, formal communication programmes, use of employee attitude surveys, job security, training, merit based promotion and job analysis	Quantitative (survey)	Response rate 22.6%	High-performance work system practices had significant positive relationships with job satisfaction.
Schmidt (2007)	USA and Canada	Training	Quantitative (survey)	301, response rate 55%	Significant positive relationship between training satisfaction and overall job satisfaction.
Petrescu & Simmons (2008)	UK	Work organization, supervision, employee involvement, recruitment and selection, training and learning, pay practices, and job autonomy	Qualitative (interviews) and Quantitative (survey)	2 data sets, sample sizes 1518 & 19890	Job autonomy, employee involvement, training and learning, and supervision had significant relationships with job satisfaction.
Absar, Azim, Balasundaram & Akhter (2010)	Bangladesh	HR planning, recruitment and selection, training and development, performance appraisal, compensation, and individual relations	Quantitative (survey)	60	HR planning, and training and development had significant positive effects on job satisfaction.
Gould-Williams & Gatenby (2010)	UK	Performance related reward schemes, training and development, and performance appraisals	Quantitative (survey)	3165	Performance related reward schemes, training and development, and performance appraisals had significant positive effects on job satisfaction.
Katou & Budhwar (2010)	Greece	Recruitment, selection, separation, flexible work arrangements, training and development, monitoring training and development, careers, performance appraisal, job evaluation, compensation, promotion, incentives and benefits, work design, participation, involvement, communication, and health and safety	Quantitative (survey)	178, response rate 30%	Job evaluation, compensation, promotion, incentives, and benefits had significant positive effects on employee satisfaction.

Boon, Den Hartog, Boselie & Paauwe (2011)	Netherlands	30 practices such as: recruitment and selection, training and development, autonomy, job variety, performance appraisal, job security, team working, involving staff in decision-making processes, promotion from within, performance-related pay, and policies that support working parents	Quantitative (survey)	412, response rate 20%	Employee perceptions of HR practices had a significant positive relationship with job satisfaction. Additionally, person-organization fit and person-job fit mediated the relationship between HR practices and job satisfaction.
Innocenti, Pilati & Peluso (2011)	Italy	Job evaluation, training, information sharing, economic rewards, non-economic recognition, job design, and employee survey.	Quantitative (survey)	9166	HRM practices had a significant positive effect on work satisfaction.
Mendelson, Turner & Barling (2011)	Canada	Employment security, selective hiring, extensive training, contingent compensation, teams and decentralized decision making, information sharing, reduced status distinctions, transformational leadership.	Quantitative (survey)	317	High involvement work systems had significant positive effects on job satisfaction.
Messersmith, Patel, Lepak & Gould-Williams (2011)	UK	Recruitment and selection, training, promotion, performance appraisal, skill and group-based pay, communication, team working, use of attitude surveys, employee participatory programs, flexible work arrangements and family-friendly policies.	Quantitative (survey)	1755, response rate 26.5%	High-performance work practices had a significant positive relationship with job satisfaction. Job satisfaction also mediated the relationship between high-performance work practices and organizational citizenship behaviours.
Ang, Bartram, McNeil, Leggat & Stanton (2013)	Australia	Recruitment and selection, performance management, equal employment opportunity, cultural diversity, training and development, and participation in decision making.	Quantitative (survey)	193 employees and 58 managers, response rates 13% and 31% respectively	High-performance work systems had a significant positive relationship with job satisfaction.
Den Hartog, Boon, Verburg & Croon (2013)	Netherlands	Training, development, promotion, performance management, teamwork, autonomy and job design.	Quantitative (survey)	2063 employees and 449 managers, response rate 54%	Manager-rated and employee-rated HRM practices had significant positive relationships with employee satisfaction.
García-Chas, Neira-Fontela, & Castro-Casal (2013)	Spain	Selective staffing, training, internal mobility, employment security, job description, result-oriented appraisal, incentive reward and participation practices.	Quantitative (survey)	155	High-performance work systems had a significant positive effect on job satisfaction.
Gould-Williams, Bottomley, Redman, Snape,	UK	Selection, training and development, job security, promotion, fair rewards, communication, involving staff in decision making processes.	Quantitative (survey)	1755, response rate 27%	High commitment HR practices had a positive association with job satisfaction. Additionally, civic duty partially mediated the relationship between high commitment HR practices and job satisfaction.

Bishop, Limpanitgul & Mostafa (2013)					
Zhang & Morris (2013)	China	Recruitment, training, employee involvement, job analysis, job description, performance appraisal, compensation, promotion and communication.	Quantitative (survey)	168, response rate 20.5%	High-performance work systems had a significant positive effect on job satisfaction.
Zhang, Zhu, Dowling & Bartram (2013)	China	Recruitment, training, compensation, employee participation and job security.	Quantitative (survey)	207, response rate 41%	High-performance work systems had a significant positive association with job satisfaction.

\*All studies are cross-sectional

Overall, the studies presented in Table 2.2 above suggest that the use of high performance HR practices is positively related to job satisfaction. Based on the empirical studies on the relationship between high performance HR practices and job satisfaction, this study proposes the following hypothesis:

*Hypothesis 1a: High performance HR practices will be positively related to employee job satisfaction.*

## **2.4.2 High Performance HR Practices and Organizational Commitment**

### **2.4.2.1 Organizational Commitment**

Commitment is generally defined as ‘a force that binds an individual to a course of action of relevance to one or more targets’ (Meyer and Herscovitch, 2001, p. 301). According to Meyer and Herscovitch (2001), commitment in the workplace can take a number of forms, such as commitment to the organization, the job, the occupation or profession, the supervisor and co-workers. Table 2.3 provides the definitions of the different forms of commitment in the workplace.

**Table 2.3:** Definitions of Different Forms of Workplace Commitment

<b>Form of commitment</b>	<b>Definition</b>
Organizational commitment	The psychological attachment felt by an employee towards an organization (Meyer and Herscovitch, 2001).
Job commitment	The extent to which an individual feels psychologically attached to a particular job (Meyer and Herscovitch, 2001).
Co-worker commitment	The extent to which an individual feels emotionally attached to his or her colleagues (Torka and Schyns, 2010).
Occupational/ career commitment	The extent to which working professionals feel psychologically attached to their particular profession or vocation (Meyer and Herscovitch, 2001).
Supervisory commitment	An employee’s attachment to, and appreciation of his or her supervisor (Vandenberghe, Bentein and Stinglhamber, 2004; Chughtai, 2013).

In the current study, the focus is on organizational commitment because of two main reasons. First, according to Meyer and Allen (1997, p. 2), organizational commitment is the most ‘maturely developed’ form of commitment and therefore, much of what has been learned about organizational commitment can contribute to the understanding of other forms of commitment. Second, this form of commitment is the most valuable predictor of

organizational outcomes and is relevant to many employees within organizations (Yao and Wang, 2006).

Organizational commitment is generally viewed as the level of attachment felt by an employee towards the organization in which he is employed (Bartlett, 2001). It was defined by Mowday, Porter, and Steers (1982, p. 27) as ‘the relative strength of an individual’s identification with and involvement in a particular organization’. Later, Meyer and Allen (1991, p. 67) defined organizational commitment as ‘a psychological state that characterizes the employee’s relationship with the organisation and has implications for the decision to continue or discontinue membership in the organisation’. Recently, Judge and Kammeyer-Mueller (2012, p. 349) defined organizational commitment as ‘an individual’s psychological bond with the organization, as represented by an affective attachment to the organization, internalization of its values and goals, and a behavioural desire to put forth effort to support it’. Employees with strong commitment are believed to be more valuable to an organization than those with weak commitment (Meyer and Allen, 1997).

According to Meyer and Allen (1991), organizational commitment has three components: affective, continuance and normative commitment. *Affective commitment* refers to an employee’s emotional attachment to an organization; *continuance commitment* refers to an employee’s awareness of the costs associated with leaving his organization; and *normative commitment* reflects a perceived obligation to stay with the organization (Meyer and Allen, 1991). Employees with strong affective commitment stay with their organizations because they *want to*, while employees with strong continuance commitment stay because they *need to* and employees with strong normative commitment stay with their organizations because they feel that they *must do so* (Meyer and Allen, 1991). According to Bartlett (2001), an employee’s relationship with his organization may vary across these three components.

Findings of many studies suggest that overall organizational commitment and its components have desirable effects on employee behaviours and work outcomes (e.g. Wong, Wong, Hui and Law, 2001; Chen, Silverthorne and Hung, 2006; Chughtai and Zafar, 2006; Paré and Tremblay, 2007; Vilela et al., 2008; Khan, Ziauddin, Jam and Ramay, 2010; Liu and Cohen, 2010; George and Sabapathy, 2011). Commitment has been found to be positively related to employee job performance (Chen et al., 2006; Chughtai and Zafar, 2006; Khan et al., 2010), job satisfaction (Wong et al., 2001; Vilela et al., 2008), work motivation (George and Sabapathy, 2011), and OCB (Paré and Tremblay, 2007; Liu and Cohen, 2010). It has also

been found to be negatively related to employee turnover intentions (Wong et al., 2001; Chughtai and Zafar, 2006; Paré and Tremblay, 2007).

In the current study, the focus is on the affective component of organizational commitment. According to Meyer and Allen (1997, p. 67), affective commitment is ‘the most desirable form of commitment and the one that organisations are most likely to want to instill in their employees’. Affectively committed employees are believed to have a strong sense of belonging and identification that increases their involvement in the activities of the organization, their willingness to achieve its goals and their desire to remain with it (Rhoades, Eisenberger and Armeli, 2001). Affective commitment has been found to significantly correlate with a wider range of desirable outcomes than both continuance and normative commitment. This, according to Meyer and Herscovitch (2001), is mainly because when commitment is accompanied by a mind-set of desire (as is the case with affective commitment), the behavioural consequences of commitment are perceived to be wider by individuals than when commitment is accompanied by a mind-set of perceived cost or obligation. This means that, when an employee wants to engage in behaviour because of his attachment to and identification with the organization, he will be less sensitive to cues that possibly restrict behaviour. Alternatively, his mind-set directs attention to the intended outcome and consequently allows him to regulate his behaviour to attain that outcome. On the contrary, when an employee pursues a course of action to avoid costs or out of obligation (as is the case with continuance and normative commitment), he will be more sensitive to conditions that define what is expected of him (Meyer and Herscovitch, 2001).

In contrast to the two other components of organizational commitment, affective commitment represents the most reliable and strongly validated dimension, and has the highest content and face validity (Meyer et al., 2002; Solinger, van Olffen, and Roe, 2008). Continuance commitment has been found to correlate marginally negatively or not at all with affective commitment and important work-related outcome variables, such as job satisfaction, job performance and OCBs (e.g. Meyer et al., 2002; Solinger et al., 2008). In a meta-analysis, Meyer et al. (2002) found that continuance commitment yielded correlation coefficients of 0.05 with affective commitment, 0.07 with job satisfaction and job performance, and 0.01 with OCBs. This, according to Solinger et al. (2008, p. 71), ‘casts doubt on the convergent validity of continuance commitment’. Normative commitment has been found to correlate highly with affective commitment (Meyer et al., 2002). Several studies have also suggested that it is difficult to empirically distinguish normative commitment from affective

commitment. This clear lack of discriminant validity has led researchers to view the normative dimension of commitment as redundant, a view that is supported by findings showing that a number of the antecedents of normative commitment correlate equally with affective commitment (Solinger et al., 2008). Accordingly, affective commitment is preferred by researchers as the central concept of organizational commitment and is used as the only indicator of organizational commitment in many recent studies (e.g. Behery, 2009; Boselie, 2010; Kim, 2012; Kehoe and Wright, 2013).

Meyer and Herscovitch (2001) argue that employees with high affective commitment are more likely to consider the best interests of their organisations than employees with high continuance or normative commitment. Moreover, they recommend that managers should, wherever possible, foster affective commitment. Accordingly, as mentioned above, the focus in this study is on affective commitment rather than continuance and normative commitment.

#### **2.4.2.2 Studies Linking High Performance HR Practices and Organizational Commitment**

According to Kehoe and Wright (2013), the effective implementation of high performance HR practices such as training, job security, promotion and communication, will lead to supportive work environments which are likely to cause employees to feel an obligation to the goals of the organization and develop an affective attachment to it.

The relationship between high performance HR practices and organizational commitment has been tested in many studies (e.g. Meyer and Smith, 2000; Agarwala, 2003; Gould-Williams, 2003; Wright, Gardner and Moynihan, 2003; Edgar and Geare, 2005; Kinnie, Hutchinson, Purcell, Rayton and Swart, 2005; Yu and Egri, 2005; Smeenk, Eisinga, Teelken and Doorewaard, 2006; Macky and Boxall, 2007; Sanders et al., 2008; Kwon, Bae and Lawler, 2010; Boon et al., 2011; Farndale, Hope-Hailey and Kelliher, 2011; Innocenti et al., 2011; Mendelson et al., 2011; Messersmith et al., 2011; Yang, 2012; Ang et al., 2013; Gould-Williams et al., 2013; Kehoe and Wright, 2013; Takeuchi and Takeuchi, 2013), and the findings of these studies support the existence of a positive relationship between high performance work systems and organizational commitment.

Gould-Williams (2003) found in a study of 191 local government employees in the UK that HR practices had a significant positive effect on organizational commitment. Likewise, Wright et al. (2003) found a significant positive relationship between HR practices and



organizational commitment. Edgar and Geare (2005) examined the relationship between HRM practices and work-related attitudes of employees in New Zealand. Using regression analyses, they found that HRM practices had a significant positive relationship with organizational commitment. Innocenti et al. (2011) examined the effect of HRM practices on the attitudes of employees in Italy. Using structural equation modelling, they found that HRM practices had a significant positive effect on organizational commitment.

Macky and Boxall (2007) found in their study of employees in New Zealand that high-performance work systems had a significant positive relationship with organizational commitment. Kwon et al. (2010), in a study of managerial and R&D workers in subsidiaries of a multinational conglomerate in East Asia, found that high commitment HR practices had a significant positive relationship with affective organizational commitment. In a study of employees of four large UK organizations, Farndale et al. (2011) found that high commitment performance management has a significant positive relationship with employee commitment. In a study of employees in India, Agarwala (2003) found that the perceived extent of introduction of high commitment HR practices by the organization and the extent to which employees believed that high-commitment HR practices were important for organizational goal achievement had significant positive correlations with organizational commitment. In a study of employees and managers in a regional Australian hospital, Ang et al. (2013) found that employee perceived high-performance work systems had a positive significant impact on affective commitment. They further found that both job satisfaction and employee engagement partially mediated this relationship. In a study of local government workers in the UK, Gould-Williams et al. (2013) found that high commitment HR practices were positively associated with affective commitment. They also found that civic duty partially mediated this relationship.

Boon et al. (2011) collected cross-sectional data from 412 employees in the Netherlands to test the relationship between employee perceptions of HR practices and employee outcomes. Using regression analyses, they found that perceived HR practices had a significant positive relationship with organizational commitment. They also found that person-organization fit mediated the relationship between HR practices and commitment.

Smeenk et al. (2006) examined the effects of HRM practices on the commitment of Dutch university employees. They found that HRM practices had significant effects on organizational commitment and that different configurations of HRM practices are

appropriate for organizations with dissimilar identities. Kinnie et al. (2005) found in their study of UK employees that employee satisfaction with different combinations of HRM practices had significant relationships with employee commitment levels.

Using structural equation modelling, Yang (2012) found that high involvement HR practices had significant positive effects on Taiwanese employees' affective commitment which in turn had significant positive effects on their display of citizenship behaviours. Mendelson et al. (2011) examined the effects of high involvement work systems on the attitudes of employees in Canada. Using structural equation modelling, they found that high involvement work systems had significant positive effects on affective commitment. However, they also found that high involvement work systems had significant negative effects on continuance commitment. Yu and Egri (2005) found in their study of employees in China that HRM practices had significant positive effects on employee affective commitment. They also found that internal consistency and strategic alignment of HRM systems had significant positive relationships with employee affective commitment. Sanders et al. (2008) found in their study of employees in the Netherlands that distinctiveness and consistency in HRM practices had significant positive relationships with employee affective commitment.

Messersmith et al. (2011) found in their study of Welsh public sector employees that high-performance HR practices had a significant positive relationship with employee organizational commitment. They also found that organizational commitment mediated the relationship between high performance HR practices and OCBs. Kehoe and Wright (2013) studied the effects of high-performance HR practices on the attitudes and behaviours of employees in the United States. They found that employee perceptions of high-performance HR practices had significant positive relationships with employee affective commitment. They also found that affective commitment mediated the relationship between employee perceptions of HR practices and employee intentions to stay with the organization and the relationship between employee perceptions of HR practices and OCB.

Meyer and Smith (2000) examined the relationship between HRM practices and the commitment of 281 Canadian employees. Using structural equation modelling, they found that HRM practices are related indirectly to both affective and normative commitment. Meyer and Smith (2000) found that organizational support and procedural justice mediated the relationship between HRM practices and both affective and normative commitment. They also found that affective commitment mediated the relationship between HRM practices and

normative commitment. In a study of healthcare service employees in Japan, Takeuchi and Takeuchi (2013) also found that the relationship between HRM practices and both affective and continuance commitment was indirect. They found that the extent to which employees perceived themselves to fit in with their organizations (i.e. P-O fit) mediated the relationship between HRM practices and both affective and continuance commitment.

The above-mentioned studies focused on the relationship between a coherent set of high performance work systems and organizational commitment. A number of studies have also examined the relationship between the individual HR practices that comprise high performance work systems and organizational commitment (e.g. Appelbaum et al., 2000; Bartlett, 2001; Gould-Williams, 2004; Paul and Anantharaman, 2004; Gould-Williams and Davies, 2005; Paré and Tremblay, 2007; Chew and Chan, 2008; Boselie, 2010; Gould-Williams and Gatenby, 2010; Katou and Budhwar, 2010; Gardner, Wright and Moynihan, 2011; Cantarello, Filippini and Nosella, 2012; Mukhtar, Sial, Imran and Jilani, 2012; Su, Baird and Blair, 2013). For instance, Appelbaum et al. (2000) found in their study in the United States that autonomy in decision making, formal training, employment security, pay for performance, fair pay, company help in dealing with work and family issues, and promotion opportunities had significant positive relationships with organizational commitment. Bartlett (2001) collected cross-sectional data from 337 nurses in the United States and found that access to training, support for training from senior staff and colleagues, perceived benefits of training, and training motivation had significant positive relationships with organizational commitment.

Gould-Williams (2004) examined the impact of high commitment HRM practices on the attitudes of 206 local government employees in the UK. He found that training, team working, involvement in decision making, interpersonal relationships between peers, and interpersonal relationships between workers and supervisors had significant positive effects on worker commitment. He also found that reduced status and communication had significant negative effects on commitment. Paul and Anantharaman (2004) studied the effect of HRM practices on organizational commitment of 370 software engineers in India. Using regression analyses, they found that employee-friendly work environment, career development, development-oriented appraisal, and comprehensive training had significant positive effects on organizational commitment.

In a study of 206 public sector workers in the UK, Gould-Williams and Davies (2005) found that team working had a significant positive effect on commitment. Chew and Chan (2008) examined the impact of HR practices on the commitment of employees in 9 Australian organizations. Using structural equation modelling, they found that P-O fit, remuneration, recognition, and opportunity to undertake challenging assignments had significant positive effects on organizational commitment.

Boselie (2010) examined the impact of high-performance work practices on the commitment of 157 employees in a Dutch general hospital. Using regression analyses, he found that skills training, general training, and coaching had significant positive effects on employee commitment levels. Gould-Williams and Gatenby (2010) found that performance related reward schemes, training and development, and performance appraisals had significant positive effects on the commitment of UK local government workers. Katou and Budhwar (2010) found in their study of 178 manufacturing organizations in Greece that job evaluation, compensation, promotion, incentives, and benefits had significant positive effects on employee commitment. Using structural equation modelling, Cantarello et al. (2012) found that multi-task training, integration, and team working had significant positive relationships with organizational commitment. They also found that job rotation had a significant negative relationship with organizational commitment. Using regression analyses, Mukhtar et al. (2012) found that training and development, empowerment and recognition had significant positive relationships with the organizational commitment of employees of non-government organizations in Pakistan.

In a study of 394 workers in Canada, Paré and Tremblay (2007) found that non-monetary recognition, empowerment, and competence development practices had significant positive relationships with affective commitment. They also found that competence development had a significant positive relationship with continuance commitment. Gardner et al. (2011) found in their study of employees in the United States that formal performance evaluations, merit pay, bonuses, promotion opportunities, complaint processes, cross-department and company communication, and formal participation programs had a significant positive relationship with employee affective commitment. However, Su et al. (2013) found that both training and pay for performance had no significant relationship with employee affective commitment in the Australian public sector.

Table 2.4 below provides a summary of the empirical studies on the link between high performance HR practices and organizational commitment. It briefly presents the name(s) of the author(s), the country in which each study was conducted, the high performance HR practices used, the research method, sample size, and the obtained findings.

**Table 2.4:** A Summary of Empirical Studies on the Link between High Performance HR Practices and Organizational Commitment

Author(s)/Year	Country	HRM practices	Research method	Sample size	Findings
Appelbaum, Bailey, Berg & Kalleberg, (2000)	USA	Autonomy in decision making, self-directed team membership, off-line team membership, communication, formal and informal training, employment security, promotion opportunities, information sharing, company help in work and family issues, wage level, pay for performance, and fair pay	Quantitative (survey)	4374, response rate 68%	Autonomy in decision making, formal training, employment security, pay for performance, fair pay, company help in dealing with work and family issues, and promotion opportunities had significant positive relationships with organizational commitment.
Meyer & Smith (2000)	Canada	Performance appraisal, benefits, training and career development	Quantitative (survey)	281, response rate 40%	HRM practices are related indirectly to both affective and normative commitment. Organizational support and procedural justice mediated the relationship between HRM practices and both affective and normative commitment. Affective commitment also mediated the relationship between HRM practices and normative commitment.
Bartlett (2001)	USA	Training	Quantitative (survey)	337, response rate 22%	Access to training, support for training from senior staff and colleagues, perceived benefits of training, and training motivation had significant positive relationships with organizational commitment.
Agarwala (2003)	India	Employee acquisition strategies, employee retention strategies, compensation and incentives, benefits and services, rewards and recognition, technical training, management development, career planning and development practices, performance appraisals, potential development, succession planning, employee relations with a human face, employee exit and separation management, and adopting responsibility for socially relevant issues	Qualitative (interviews) and Quantitative (survey)	422	Perceived extent of introduction of high-commitment HR practices by the organization and the extent to which employees believed that high-commitment HR practices were important for organizational goal achievement had significant positive correlations with organizational commitment.
Gould-Williams (2003)	UK	Training, communication, reduced status, job variety, team working, selection, job security, involving staff in decision making processes, performance related pay, and promotion from within	Quantitative (survey)	191, response rate 65.2%	HR practices had a significant positive effect on organizational commitment.
Wright, Gardner & Moynihan (2003)	USA and Canada	Selection and staffing, pay for performance, training and participation	Quantitative (survey)	5635	HR practices had a significant positive relationship with organizational commitment.

Gould-Williams (2004)	UK	Team working, training, job variety, communication, reduced status, performance-related pay, selection, job security, employees relationship with superior, and involvement in decision making	Quantitative (survey)	206, response rate 64.4%	Training, team working, involvement in decision making, interpersonal relationships between peers, and interpersonal relationships between workers and supervisors had significant positive effects on worker commitment, whereas reduced status and communication had significant negative effects on commitment.
Paul & Anantharaman (2004)	India	Value-based induction, compensation, career development, employee-friendly work environment, development-oriented appraisal, comprehensive training, value-added incentives, team-based job design, and selection	Quantitative (survey)	370	Employee-friendly work environment, career development, development-oriented appraisal, and comprehensive training had significant positive effects on organizational commitment.
Edgar & Geare (2005)	New Zealand	Good and safe working conditions, training and development, equal opportunity practices, and recruitment and selection	Quantitative (survey)	626, response rate 58%	HRM practices had a significant positive relationship with organizational commitment.
Kinnie, Hutchinson, Purcell, Rayton & Swart (2005)	UK	Training, career opportunities, performance-related pay, performance appraisal, rewards and recognition, team working, involvement, communication, openness, and work-life balance	Qualitative (interviews) and Quantitative (survey)	-	Employee satisfaction with different combinations of HRM practices had significant relationships with employee commitment levels.
Yu & Egri (2005)	China	Selection, performance management, training, recruitment, compensation, working conditions and job security	Quantitative (survey)	113	HRM practices had significant positive effects on employee affective commitment. Internal consistency and strategic alignment of HRM systems also had significant positive relationships with employee affective commitment.
Gould-Williams & Davies (2005)	UK	Training, team working, reduced status, communication, fair rewards, selection, involving staff in decision-making processes and job security	Quantitative (survey)	206, response rate 64.4%	Team working had a significant positive effect on commitment.
Smeenk, Eisinga, Teelken & Doorewaard (2006)	Netherlands	Decentralization, compensation, participation, training and development, employment security, social interactions, management style, communication, and performance appraisal	Quantitative (survey)	136, response rate 33%	HRM practices had significant effects on organizational commitment and different configurations of HRM practices are appropriate for organizations with dissimilar identities.
Macky &	New	Performance-related pay, teams, employee	Quantitative	Response	High-performance work systems had a significant

Boxall (2007)	Zealand	participation, reduced status, promotion, performance appraisal systems, development appraisal, formal communication programmes, use of employee attitude surveys, job security, training, merit based promotion and job analysis	(survey)	rate 22.6%	positive relationship with organizational commitment.
Paré & Tremblay (2007)	Canada	Recognition, empowerment, competence development, fair rewards and information sharing	Quantitative (survey)	134, response rate 17.4%	Non-monetary recognition, empowerment, and competence development practices had significant positive relationships with affective commitment and competence development had a significant positive relationship with continuance commitment.
Chew & Chan (2008)	Australia	P-O fit, remuneration and recognition, opportunities for training and career development, and opportunities to work in challenging assignments	Qualitative (interviews) and Quantitative (survey)	457, response rate 57.1%	P-O fit, remuneration, recognition, and opportunity to undertake challenging assignments had significant positive effects on organizational commitment.
Sanders, Dorenbosch & de Reuver (2008)	Netherlands	–	Quantitative (survey)	671 employees 67%, 67 line managers 98%, 32 HRM consultants 100%	Distinctiveness and consistency in HRM practices had significant positive relationships with employee affective commitment.
Boselie (2010)	Netherlands	Skills training, general training, coaching, autonomy, employee involvement in decision making, high wages, fair pay, and pay for performance	Quantitative (survey)	157, response rate 43%	Skills training, general training, and coaching had significant positive effects on employee affective commitment levels.
Gould-Williams & Gatenby (2010)	UK	Performance related reward schemes, training and development, and performance appraisals	Quantitative (survey)	3165	Performance related reward schemes, training and development, and performance appraisals had significant positive effects on organizational commitment.
Katou & Budhwar (2010)	Greece	Recruitment, selection, separation, flexible work arrangements, training and development, monitoring training and development, careers, performance appraisal, job evaluation, compensation, promotion, incentives and benefits, work design, participation, involvement, communication, and health and safety	Quantitative (survey)	178, response rate 30%	Job evaluation, compensation, promotion, incentives, and benefits had significant positive effects on employee commitment.



Kwon, Bae & Lawler (2010)	East Asia (country not specified)	Job design, participation in decision making, training and development, pay for performance, high level of pay, and performance appraisal	Quantitative (survey)	589, response rate 74%	High commitment HR practices had a significant positive relationship with affective organizational commitment.
Boon, Den Hartog, Boselie & Paauwe (2011)	Netherlands	30 practices such as: recruitment and selection, training and development, autonomy, job variety, performance appraisal, job security, team working, involving staff in decision-making processes, promotion from within, performance-related pay, and policies that support working parents	Quantitative (survey)	412, response rate 20%	Perceived HR practices had a significant positive relationship with organizational commitment.
Farndale, Hope-Hailey & Kelliher (2011)	UK	Appraisal frequency, personal targets set in appraisal, involvement in setting objectives, choice over pay and benefits, and training opportunities.	Quantitative (survey)	524, response rate 63%	High commitment performance management has a significant positive relationship with employee commitment.
Gardner, Wright & Moynihan (2011)	USA	Structured interviews, formal employment tests, formal training, tuition reimbursement, formal performance evaluations, merit pay, individual & group bonuses, company-wide bonuses, promotion opportunities, complaint processes, cross-department & company communication, and formal participation programs.	Quantitative (survey)	1748	Formal performance evaluations, merit pay, individual & group bonuses, company-wide bonuses, promotion opportunities, complaint processes, cross-department & company communication, and formal participation programs had a significant positive relationship with employee affective commitment.
Innocenti, Pilati & Peluso (2011)	Italy	Job evaluation, training, information sharing, economic rewards, non-economic recognition, job design, and employee survey.	Quantitative (survey)	9166	HRM practices had a significant positive effect on organizational commitment.
Mendelson, Turner & Barling (2011)	Canada	Employment security, selective hiring, extensive training, contingent compensation, teams and decentralized decision making, information sharing, reduced status distinctions, transformational leadership.	Quantitative (survey)	317	High involvement work systems had significant positive effects on affective commitment and negative effects on continuance commitment.
Messersmith, Patel, Lepak & Gould-Williams (2011)	UK	Recruitment and selection, training, promotion, performance appraisal, skill and group-based pay, communication, team working, use of attitude surveys, employee participatory programs, flexible work arrangements and family-friendly policies.	Quantitative (survey)	1755, response rate 26.5%	High-performance work practices had a significant positive relationship with employee organizational commitment. Organizational commitment also mediated the relationship between High-performance work practices and organizational citizenship behaviours.
Cantarello, Filippini & Nosella (2012)	Cross-country study covering companies in American, European and Asian countries	Task-related training, multi-task training, integration, team working, and job rotation practices.	Quantitative (survey)	-	Multi-task training, integration, and team working had significant positive relationships with organizational commitment, while job rotation had a significant negative relationship with organizational commitment.

Mukhtar, Sial, Imran & Jilani (2012)	Pakistan	Training and development, empowerment and recognition.	Quantitative (survey)	131	Training and development, empowerment and recognition had significant positive relationships with organizational commitment.
Yang (2012)	Taiwan	Recognition, empowerment, competence development, fair rewards and information sharing	Quantitative (survey)	172, response rate 43%	High involvement HR practices had significant positive effects on employees' affective commitment which in turn had significant positive effects on their display of citizenship behaviours.
Ang, Bartram, McNeil, Leggat & Stanton (2013)	Australia	Recruitment and selection, performance management, equal employment opportunity, cultural diversity, training and development, and participation in decision making.	Quantitative (survey)	193 employees and 58 managers, response rates 13% and 31% respectively	Employee perceived high-performance work systems had a positive significant impact on affective commitment. Furthermore, both job satisfaction and employee engagement partially mediated this relationship.
Gould-Williams, Bottomley, Redman, Snape, Bishop, Limpanitgul & Mostafa (2013)	UK	Selection, training and development, job security, promotion, fair rewards, communication, involving staff in decision making processes.	Quantitative (survey)	1755, response rate 27%	High commitment HR practices had a positive association with affective commitment. Moreover, civic duty partially mediated the relationship between high commitment HR practices and affective commitment.
Kehoe & Wright (2013)	USA	Selection, training, compensation, employee participation, performance evaluation, merit-based promotion and information sharing communication	Quantitative (survey)	-	Employee perceptions of high-performance HR practices had significant positive relationships with employee affective commitment.
Su, Baird & Blair (2013)	Australia	Training and pay for performance	Quantitative (survey)	276, response rate 55.2%	Both training and pay for performance had no significant relationship with employee affective commitment.
Takeuchi & Takeuchi (2013)	Japan	Staffing and recruitment, performance appraisal, training and development and compensation	Quantitative (survey)	1052, response rate 77%	HRM practices are related indirectly to both affective and continuance commitment. P-O fit mediated the relationship between HRM practices and both affective and continuance commitment.

\*All studies are cross-sectional with the exception of Gardner, Wright and Moynihan (2011)

In sum, the studies presented in Table 2.4 suggest that the use of high performance HR practices is positively related to organizational commitment. Based on the empirical findings provided in table 2.4, this study proposes the following hypothesis:

*Hypothesis 1b: High performance HR practices will be positively related to employees' organizational commitment.*

## **2.4.3 High Performance HR Practices and Intention to Quit**

### **2.4.3.1 Intention to Quit**

Intention to quit is the extent to which an employee wants to leave the organization (Chang, Wang, and Huang, 2013). It is also referred to as intent to leave (Price, 2001) or turnover intention (Khatri, Fern and Budhwar, 2001). Intention to quit is considered as one of the best predictors of turnover (Barrick and Zimmerman, 2005) if not the best (Griffeth, Hom and Gaertner, 2000). It is the final cognitive variable having a direct causal influence on turnover behaviour, and as it increases, actual turnover is expected to increase (Lee and Bruvold, 2003).

Turnover intentions are often used in management research rather than actual turnover behaviour (Khatri, Fern and Budhwar, 2001; Lambert and Hogan, 2009). Turnover intentions are easier to measure than actual turnover (Firth, Mellor, Moore, and Loquet, 2004). It is not easy to gain access to individuals who have already quit. Additionally, administrative records are sometimes closed to external researchers or may be inaccurate or incomplete. Actual turnover is also influenced by extraneous factors, such as availability of alternative jobs (Khatri, Fern and Budhwar 2001). Thus, actual turnover may be low even though employee turnover intentions are high. If such is the case, then low labour turnover would conceal the effects of poor management practices. Moreover, according to Lambert and Hogan (2009), turnover intentions are more important from the employer's viewpoint than actual turnover behaviour. If employers can properly understand the precursors of turnover intentions they can possibly introduce changes to reduce these intentions. However, once employees have quit, the employer can do nothing but assume the expense of hiring and training other employees (Lambert and Hogan, 2009).

Quit intentions have a negative effect on organizational effectiveness because workers with unrealized quit intentions are likely to resort to other forms of withdrawal behaviour (Chang et al., 2013). According to Hanisch (2002), quit intentions are usually associated with negative employee behaviours such as absenteeism, tardiness, playing on the computer and

taking frequent breaks. Accordingly, if antecedents of quit intentions could be identified in advance, organizations can prevent unnecessary visible and invisible costs, and develop proper interventions to strengthen their competitive advantage (Chang et al., 2013).

#### **2.4.3.2 Studies Linking High Performance HR Practices and Intention to Quit**

The utilization of high performance HR practices such as training and development, job security, promotion and communication usually results in supportive work environments which are likely to enhance employees' emotional attachment to the organization and its goals. This, in turn, makes it less likely that employees want to quit (Kehoe and Wright, 2013). Many studies have tested the relationship between high performance HR practices and employee intention to quit (e.g. Boselie and Van der Wiele, 2002; Grant and Wagar, 2004; Macky and Boxall, 2007; Boon et al., 2011; Alfes et al., 2012; Alfes et al., 2013; Ang et al., 2013; Baluch, Salge, and Piening, 2013; García-Chas et al., 2013; Gould-Williams et al., 2013; Kehoe and Wright, 2013; Yamamoto, 2013), and most of these studies suggest that high performance HR practices are negatively related to employee quit intentions.

Grant and Wagar (2004) found in their study in Canada that a high-involvement HRM strategy was negatively related to intention to quit. Boselie and Van der Wiele (2002) examined the impact of employee perceptions of HRM/TQM practices on employee intentions to leave their organizations in the Netherlands. Using regression analyses, they found that positive employee perceptions of HRM/TQM were negatively related to intentions to leave the organization. Macky and Boxall (2007) examined the relationship between high-performance work system practices and the attitudes of employees in New Zealand. They found that high-performance work system practices were positively related to employee intentions to remain employed within their organizations. In a study of a UK support services organization employees, Alfes et al. (2012) found that employee perceptions of HRM practices had a significant negative relationship with turnover intentions. In a study of employees in English public hospitals, Baluch et al. (2013) found that perceptions of HR systems had a negative relationship with intention to quit. Using regression analyses, Yamamoto (2013) found that employee perceptions of HRM had significant negative effects on the turnover intentions of Japanese employees.

Kehoe and Wright (2013) examined the impact of high-performance HR practices on employee attitudes and behaviours in the United States. They found that an employee's perception of high-performance HR practices use was positively related to his intention to

remain within the organization. They also found that affective commitment completely mediated the relationship between employees' perceptions of high-performance HR practices and their intent to stay with their organization.

Boon et al. (2011) collected cross-sectional data from 412 employees in the Netherlands to examine the relationship between employee perceptions of HR practices and employee outcomes. Using regression analyses, they found that perceptions of a set of high-performance HR practices were negatively related to intention to leave. They also found that person-job fit mediated the effect of perceived HR practices on employees' intention to leave.

Alfes et al. (2013) examined the link between employee perceptions of HRM practices and the behavioural outcomes of employees in the UK. Using hierarchical multiple regression, they found that employee perceptions of HRM practice were negatively related to turnover intentions. They also found that employee engagement mediated the relationship between employees' perceptions of HRM practices and their turnover intentions.

In a study of employees and managers in a regional Australian hospital, Ang et al. (2013) found that employee perceived high-performance work systems had a negative relationship with intention to leave. Furthermore, they found that both job satisfaction and employee engagement partially mediated this relationship. In a study of engineers in Spain, García-Chas et al. (2013) found that high-performance work systems had a significant negative relationship with intention to leave. They also found that job satisfaction partially mediated this relationship. Gould-Williams et al. (2013) examined the relationship between high commitment HR practices and the attitudes of local government employees in the UK. They found that high commitment HR practices were negatively associated with quit intentions. Gould-Williams et al. (2013) also found that civic duty partially mediated this relationship.

The aforementioned studies focused on the relationship between a coherent bundle of high performance work systems and employee quit intentions. A number of studies have also examined the relationship between the individual practices that constitute high performance work systems and quit intentions (e.g. Batt and Valcour, 2003; Gould-Williams, 2003; Gould-Williams, 2004; Gould-Williams and Davies, 2005; Tessema and Soeters, 2006; Gould-Williams, 2007; Paré and Tremblay, 2007; Chew and Chan, 2008; Gould-Williams and Gatenby, 2010; Katou and Budhwar, 2010; Chang et al., 2013). For instance, Paré and Tremblay (2007) studied the relationship between high-involvement HR practices and turnover intentions of 394 Canadian employees. They found that non-monetary recognition,

competency development, fair rewards, and information sharing practices had a significant negative relationship with employee turnover intentions. They also found that procedural justice, affective and continuance commitment, and citizenship behaviours partially mediated the relationship between high-involvement HR practices and employee turnover intentions.

Batt and Valcour (2003) examined the relationship between HR practices and the outcomes of employees in the United States. They found that flexible scheduling practices, supportive supervisors, job security, and high relative pay were all positively associated with lower turnover intentions. Gould-Williams (2004) collected cross-sectional data from 206 local government employees in the UK to test the impact of high commitment HRM practices on employee attitudes. Using regression analyses, he found that team working and performance related pay had a significant negative relationship with employee intentions to leave the organization, whereas job variety had a significant positive relationship with intention to quit.

Gould-Williams (2007) found in his study of 3165 local government workers in the UK that training and development, and equitable rewards had significant negative effects on employees' intention to quit. Chew and Chan (2008) examined the effects of HR practices on Australian employees' intention to stay in their jobs. Using structural equation modelling, they found that P-O fit, remuneration, recognition, and training and career development had significant positive effects on employee intentions to stay in their jobs. In another study of local government workers in the UK, Gould-Williams and Gatenby (2010) found that training and development had significant negative effects on quit intentions.

In a study of 178 organizations in the Greek manufacturing sector, Katou and Budhwar (2010) found that work design, participation, involvement, communication, and health and safety had a significant positive effect on employee intentions to stay with the organization. Tessema and Soeters (2006) examined the impact of HR practices on the performance of 313 civil servants in Eritrea, which is the youngest and poorest country in Africa. Using regression analyses, they found that recruitment and selection, training, compensation, grievance procedures, and pension or social security programmes had a statistically significant positive effect on employee intentions to stay in the organization. They also found that employee intent to stay with the organization was one of the major factors mediating the relationship between HR practices and employee performance.

In contrast with the above findings, Gould-Williams (2003) found in his study of UK local government employees that HR practices had no significant effects on employees' intention

to remain with the organization. Chang et al. (2013) also examined the relationship between HRM practices and the turnover intentions of Taiwanese employees, and found that compensation was negatively related to turnover intentions. However, they also found that training and development, performance appraisal and communication had no significant relationships with employee turnover intentions. In another study in local government organizations in the UK, Gould-Williams and Davies (2005) found that employees' perceptions of fair rewards had a significant negative effect on their intention to remain with the organization.

Table 2.5 below provides a summary of the empirical studies on the link between high performance HR practices and quit intentions. It briefly presents the name(s) of the author(s), the country in which each study was conducted, the high performance HR practices used, the research method, the sample size, and the obtained findings.

**Table 2.5: A Summary of Empirical Studies on the Link between High Performance HR Practices and Quit Intentions**

Author(s)/Year	Country	HRM practices	Research method	Sample size	Findings
Boselie & Van der Wiele (2002)	Netherlands	Format of information delivery, insight in goals and objectives, secondary work conditions, co-operation within business units, information sharing, leadership, customer focus, co-operation between business units, and salary	Quantitative (survey)	2300, response rate 50%	Employee perceptions of HRM/TQM were negatively related to employee intentions to leave the organization.
Batt & Valcour (2003)	USA	Flexible scheduling practices, supervisor support, high relative pay, employment security, career development opportunities, decision-making autonomy, participation in teams, and the use of flexible technologies.	Quantitative (survey)	557	Flexible scheduling practices, supportive supervisors, employment security, and high relative pay were positively associated with lower turnover intentions.
Gould-Williams (2003)	UK	Training, communication, reduced status, job variety, team working, selection, job security, involving staff in decision making processes, performance related pay, and promotion from within	Quantitative (survey)	191, response rate 65.2%	HR practices had no significant effects on employee intentions to remain with the organization.
Gould-Williams (2004)	UK	Team working, training, job variety, communication, reduced status, performance-related pay, selection, job security, employees relationship with superior, and involvement in decision making	Quantitative (survey)	206, response rate 64.4%	Team working and performance related pay had a significant negative relationship with employee intentions to quit, and job variety had a positive relationship with intention to quit.
Grant & Wagar (2004)	Canada	Training, employee empowerment, selective staffing, and performance based compensation.	Quantitative (survey)	694, response rate 28%	A high-involvement HRM strategy was negatively related to intention to quit.
Gould-Williams & Davies (2005)	UK	Training, team working, reduced status, communication, fair rewards, selection, involving staff in decision-making processes and job security	Quantitative (survey)	206, response rate 64.4%	Fair rewards had significant negative effects on employee intentions to remain with the organization.
Tessema & Soeters (2006)	Eritrea	Recruitment and selection, placement, training, compensation, performance evaluation, promotion, grievance procedures, and pension programmes and social security.	Qualitative (interviews) and Quantitative (survey)	313, response rate 78%	Recruitment and selection, training, compensation, grievance procedures, and pension or social security programmes had significant positive effects on employee intentions to remain with the organization.
Gould-Williams (2007)	UK	Training and development, employee involvement, team working and equitable rewards	Quantitative (survey)	3165	Training and development, and equitable rewards had significant negative relationships with employees intention to quit.
Macky & Boxall (2007)	New Zealand	Performance-related pay, teams, employee participation, reduced status, promotion, performance	Quantitative (survey)	Response rate 22.6%	High performance work system practices were positively related to employee intentions to remain



		appraisal systems, development appraisal, formal communication programmes, use of employee attitude surveys, job security, training, merit based promotion and job analysis			employed within their organizations.
Paré & Tremblay (2007)	Canada	Non-monetary recognition, empowerment, competence development, fair rewards and information sharing	Quantitative (survey)	134, response rate 17.4%	Non-monetary recognition, competency development, fair rewards, and information sharing practices had significant negative relationships with turnover intentions.
Chew & Chan (2008)	Australia	P-O fit, remuneration and recognition, opportunities for training and career development, and opportunities to work in challenging assignments	Qualitative (interviews) and Quantitative (survey)	457, response rate 57.1%	P-O fit, remuneration and recognition, and training and career development had significant positive effects on employee intentions to stay in their jobs.
Gould-Williams & Gatenby (2010)	UK	Performance related reward schemes, training and development, and performance appraisals	Quantitative (survey)	3165	Training and development had significant negative effects on quit intentions.
Katou & Budhwar (2010)	Greece	Recruitment, selection, separation, flexible work arrangements, training and development, monitoring training and development, careers, performance appraisal, job evaluation, compensation, promotion, incentives and benefits, work design, participation, involvement, communication, and health and safety	Quantitative (survey)	178, response rate 30%	Work design, participation, involvement, communication, and health and safety had a significant positive effect on intentions to stay with the organization.
Boon, Den Hartog, Boselie & Paauwe (2011)	Netherlands	30 practices such as: recruitment and selection, training and development, autonomy, job variety, performance appraisal, job security, team working, involving staff in decision-making processes, promotion from within, performance-related pay, and policies that support working parents	Quantitative (survey)	412, response rate 20%	Perceived HR practices had a significant negative relationship with intention to leave.
Alfes, Shantz, & Truss (2012)	UK	Training and development, selection, job security, promotion opportunities, performance related reward schemes, career management, performance appraisal and feedback.	Quantitative (survey)	692, response rate 43%	Employee perceptions of HRM practices had a significant negative relationship with turnover intentions.
Alfes, Shantz, Truss, & Soane (2013)	UK	Training, team working, reduced status, communication, fair rewards, selection, involving staff in decision-making processes, and job security	Quantitative (survey)	328, response rate 61%	Employee perceptions of HRM practice were negatively related to turnover intentions. Additionally, Employee engagement mediated the relationship between employees' perceptions of

					HRM practices and turnover intentions.
Ang, Bartram, McNeil, Leggat & Stanton (2013)	Australia	Recruitment and selection, performance management, equal employment opportunity, cultural diversity, training and development, and participation in decision making.	Quantitative (survey)	193 employees and 58 managers, response rates 13% and 31% respectively	Employee perceived high-performance work systems had a negative relationship with intention to leave. Furthermore, both job satisfaction and employee engagement partially mediated this relationship.
Baluch, Salge, & Piening, (2013)	UK	Involvement and communication, supervisor support, performance appraisal, and personnel development.	Quantitative (survey & archival data)	Response rate 51.96%	Employee perceptions of HR systems had a negative relationship with intention to quit.
Chang, Wang, & Huang (2013)	Taiwan	Training and development, performance appraisal, compensation, and communication	Quantitative (survey)	1149 employees and 144 managers	Compensation was negatively related to turnover intentions. However, training and development, performance appraisal and communication had no significant relationships with employee turnover intentions.
García-Chas, Neira-Fontela, & Castro-Casal (2013)	Spain	Selective staffing, training, internal mobility, employment security, job description, result-oriented appraisal, incentive reward and participation practices.	Quantitative (survey)	155	High-performance work systems had a significant negative relationship with intention to leave. Furthermore, job satisfaction partially mediated this relationship.
Gould-Williams, Bottomley, Redman, Snape, Bishop, Limpanitgul & Mostafa (2013)	UK	Selection, training and development, job security, promotion, fair rewards, communication, involving staff in decision making processes.	Quantitative (survey)	1755, response rate 27%	High commitment HR practices were negatively associated with quit intentions. Furthermore, civic duty partially mediated the relationship between high commitment HR practices and quit intentions.
Kehoe & Wright (2013)	USA	Selection, training, compensation, employee participation, performance evaluation, merit-based promotion, and information sharing communication	Quantitative (survey)	-	Employee perceptions of high-performance HR practices were positively related to intentions to remain within the organization. Additionally, affective commitment completely mediated the relationship between employees' perceptions of high-performance HR practices and their intent to stay with their organization.
Yamamoto (2013)	Japan	Rewards based on fair appraisal, training and development, job security, enrichment of employee benefits, and careful recruitment.	Quantitative (survey)	400	Employee perceptions of HRM had significant negative effects on their turnover intentions.

\*All studies are cross-sectional

In sum, the empirical evidence presented in Table 2.5 suggests that the use of high performance HR practices is negatively related to employee quit intentions. Based on the empirical findings provided in table 2.5, this study proposes the following hypothesis:

*Hypothesis 1c: High performance HR practices will be negatively related to employees' intention to quit.*

#### **2.4.4 Evaluation of Studies Linking High Performance HR practices and Employee Attitudes**

All the studies presented in this section vary in terms of sample characteristics. Additionally, most of the studies are cross-sectional in design. Most of the studies have relied on the quantitative methodology and used surveys to collect data (e.g. Macky and Boxall, 2007; Boselie, 2010; Boon et al., 2011), and very few studies have relied on mixed-methods (used interviews and surveys) (e.g. Agarwala, 2003; Chew and Chan, 2008; Petrescu and Simmons, 2008). Most of the studies have used regression analysis to test the main hypotheses (e.g. Edgar and Geare, 2005; Tessema and Soeters, 2006; Gould-Williams, 2007; Boselie, 2010; Boon et al., 2011; Yamamoto, 2013; Su et al., 2013), whereas a few studies have used structural equation modelling (e.g. Meyer and Smith, 2000; Chew and Chan, 2008; Innocenti et al., 2011; Cantarello et al., 2012; Gould-Williams et al., 2013).

As regards to sector, most of studies linking high performance HR practices and employee attitudes have been conducted in large profit-oriented private sector organizations (e.g. Boselie and Van der Wiele, 2002; Paul and Anantharaman, 2004; Absar et al., 2010; Katou and Budhwar, 2010), while very few studies have been conducted in public sector organizations (e.g. Tessema and Soeters, 2006; Gould-Williams, 2007; Boselie, 2010; Gould-Williams and Mohamed, 2010; Gould-Williams et al., 2013). With regard to location, most of the studies examining the relationship between high performance HR practices and employee attitudes have been conducted in developed countries, whereas a few studies have been conducted in developing countries. The majority of the studies have been conducted in Western countries such as the United States (e.g. Appelbaum et al., 2000), Canada (e.g. Meyer and Smith, 2000), the United Kingdom (e.g. Gould-Williams and Gatenby, 2010), the Netherlands (e.g. Boselie, 2010), Italy (e.g. Innocenti et al., 2011), Australia (e.g. Chew and Chan, 2008) and New Zealand (e.g. Macky and Boxall, 2007). Some studies have also been conducted in non-Western countries in Asia such as China (e.g. Yu and Egri, 2005), Japan (e.g. Yamamoto, 2013; Takeuchi and Takeuchi, 2013), India (e.g. Paul and Anantharaman,

2004) and Bangladesh (e.g. Absar et al., 2010). However, very few studies have been conducted in Africa (e.g. Tessema and Soeters, 2006) and none have been conducted in the Middle East.

Several studies have examined the impact of a bundle or system of HR practices on employee attitudes (e.g. Boon et al., 2011; Alfes et al., 2013; García-Chas et al., 2013; Gould-Williams et al., 2013; Kehoe and Wright, 2013; Yamamoto, 2013), while others have focused on the influence of individual practices (e.g. Chew and Chan, 2008; Gould-Williams and Gatenby, 2010; Katou and Budhwar, 2010; Chang et al., 2013; Su et al., 2013). Regarding the HR practices used, no one fixed set of high performance practices have been used in the different studies linking high performance HR practices and employee attitudes. A wide variety of practices have been used in different studies. However, recruitment and selection, training and development, performance appraisal, and contingent pay and reward schemes were the most widely used practices in the studies linking high performance HR practices and employee attitudes.

## **2.5 Summary**

This chapter has outlined some of the various definitions given to the concept of high performance HR practices. Overall, high performance HR practices can be defined as ‘ a set of HR practices designed to enhance the overall performance and effectiveness of the organization by making better use of employees skills and improving their commitment to the organization’.

This chapter has also discussed the two theories that have dominated the literature on the relationship between high performance HR practices and employee outcomes: the AMO theory and the social exchange theory. The AMO theory assumes that high performance HR practices have an impact on employee ability, motivation and opportunity to participate, and consequently employees can be motivated and developed to employ positive attitudes and behaviour. Social exchange theory, on the other hand, suggests that employees when treated fairly by their organizations will reciprocate in a positive way. Thus, organizational investments in high performance HR practices are expected to be reciprocated back by employees through desirable work attitudes and behaviour. SDT was also proposed as a theory that can explain the link between high performance HR practices and employee outcomes. According to SDT, the satisfaction of the three basic psychological needs (the need for autonomy, competence and relatedness) will lead to high levels of intrinsic

motivation and the internalization of external values, which in turn, leads to positive work-related outcomes. High performance HR practices can be considered as one of the factors that help satisfy the basic psychological needs of employees and, in turn, generate favourable work attitudes and behaviours.

Finally, this chapter presented the major studies that have linked high performance HR practices and employee attitudes. Overall, the studies suggest that high performance HR practices are positively related to employee job satisfaction and organizational commitment, and negatively related to employee turnover intentions. However, most of these studies have been conducted in developed countries, with very few studies conducted in developing countries. Thus, more research is needed on the effects of high performance HR practices on the attitudes of employees in developing countries. This is what the current research aims to explore by examining the effects of high performance HR practices on the attitudes of employees in the Egyptian public sector.

The next chapter discusses the concepts of public service motivation and person-organization fit and demonstrates how they are related to both high performance HR practices and employee attitudes.

## **CHAPTER 3**

# **THE INFLUENCE OF PSM AND P-O FIT ON THE RELATIONSHIP BETWEEN HIGH PERFORMANCE HR PRACTICES AND EMPLOYEE ATTITUDES**

### **3.1 Introduction**

The previous chapter has shown that high performance HR practices are positively related to employee attitudes. However, the mechanisms through which high performance HR practices affect employee attitudes still need more research (Boon et al., 2011; Innocenti et al., 2011). The aim of the present chapter is to shed light on the concepts of public service motivation and person-organization fit, and demonstrate how these two variables may play a role in the relationship between high performance HR practices and employee attitudes. This chapter provides an overview of both variables, discusses the theories that help explain the link between high performance HR practices and both variables, and presents the major studies on the link between these variables and employee attitudes. The mediating and moderating roles of person-organization fit on the relationship between public service motivation and employee attitudes will also be discussed.

### **3.2 High performance HR practices, Public Service Motivation and Employee Outcomes**

This section is divided into four parts. Part one provides an overview of the concept of public service motivation. Part two discusses the main theories that can help explain the link between high performance HR practices and public service motivation. Part three presents the major studies that have examined the link between public service motivation and employee attitudes of job satisfaction, organizational commitment and quit intentions. The final part deals with the mediating role of public service motivation on the relationship between high performance HR practices and employee attitudes.

### 3.2.1 Public Service Motivation

Public service motivation (PSM) has received a great deal of attention from public administration scholars in the last two decades (Perry, Hondeghem and Wise, 2010). In spite of this, and because of the complex nature of the construct, there is no agreed definition of PSM (Mann, 2006; Vandenabeele, 2007). PSM was at first defined by Perry and Wise (1990, p. 368) as ‘an individual predisposition to respond to motives grounded primarily or uniquely in public institutions’. Perry and Hondeghem (2008b, p. 3) define PSM as ‘motives ... in the public domain that are intended to do good for others and shape the well-being of society’. Christensen and Whiting (2009, p. 44) define PSM as ‘a desire to serve the public good through loyalty to the government and public institutions, commitment to social justice, and compassion’.

While all the previous definitions limit PSM to the public sector, other definitions emphasize the applicability of PSM beyond the public sector. For instance, Brewer and Selden (1998, p. 417) defined PSM as ‘the motivational force that induces individuals to perform meaningful public service (i.e., public, community, and social service)’. Associating the concept with altruism, Rainey and Steinbauer (1999, p. 23) define PSM as ‘a general altruistic motivation to serve the interests of a community of people, a state, a nation, or humankind’. Vandenabeele (2008, p. 144) also defines it as the ‘motivation to perform meaningful public service and to unselfishly defend the public interest’. Lately, Kjeldsen and Jacobsen (2013, p. 901) defined PSM as ‘individuals’ prosocial motivation to do good for others and society through the delivery of public services’. Each of these definitions does not constrain the concept of PSM to employees working in the public sector. In other words, employees could display PSM regardless of the sector of work.

In contrast to the above definitions in which PSM was viewed as a form of motivation, Vandenabeele (2007, p. 547) suggested an ‘overarching’ definition of the concept in which PSM is defined as ‘the belief, values and attitudes that go beyond self-interest and organizational interest, that concern the interest of a larger political entity and that motivate individuals to act accordingly whenever appropriate’. Here, Vandenabeele defines PSM as a set of values or attitudes which are distinct from motives. Similar definitions were provided by Hondeghem and Perry (2009, p. 6) who define PSM as ‘an individual’s orientation to delivering service to people with the purpose of doing good for others and society’, and Brewer (2010) who defines PSM as ‘a set of values and attitudes that influence behaviour’ (p.

157). In spite of the inconsistencies in defining PSM, when defining the concept there has always been a focus on attitudes and motives that lead to behaviours intended to do good for society. Accordingly, PSM can be seen as a *set of motives that drive an individual to engage in behaviours that benefit society*.

Several researchers use the terms public service motivation and public service ethos interchangeably. It has been argued that preference for each term depends on the discipline the researcher is coming from, with public service ethos common in the field of public administration, while psychologists and organisational theorists have preferred the term public service motivation (O’Riordan, 2013). The term public service motivation originated and is widely used in the United States. According to Vandenabeele (2008), non-American researchers usually do not use the term public service motivation when discussing public service motivated behaviour. Instead, they use terms such as public service ethos or *‘l’éthique du bien commun’* (the ethic of common interest) (Vandenabeele, 2008, p. 144). O’Riordan (2013) argues that the term of Public service ethos is much older than PSM, where the concept of PSM emerged in a distinct manner only in the 1990s. This is confirmed by Perry and Hondeghem (2008b, p. 9) who state that PSM is ‘a direct descendant of what philosophers and others have called the public service ethos.’

According to Perry and Wise (1990), an individual’s PSM may be attributed to a blend of rational, norm-based and affective motives. The underlying premise of *rational motives* is that an individual makes decisions based on an assessment of the gains and losses that may result from choosing among a number of alternative actions. Rational motives are based on individual utility maximization in which individuals endeavour to optimise personal gains and satisfy their desires for need fulfilment. These motives include a desire to represent some special interest besides the desire for personal gain and need fulfilment. *Normative motives* are based on social values and norms of what is appropriate. They refer to the desire to pursue common good and involve efforts made by individuals to comply with norms. Finally, *affective motives* refer to the willingness to help others. They involve behaviours that are based on individual emotional responses to different social contexts (Perry and Wise, 1990). Individuals with high affective motives direct their efforts towards the needs of others before fulfilling their personal needs.

Kim and Vandenabeele (2010) argue that, even though rational, norm-based and affective motives offer a useful framework for understanding PSM, they also have limitations. For



instance, the theory of PSM is mainly based on altruistic motives that are beyond self-interest. However, rational motives focus on realizing private rather than public interests. Therefore, rational motives are unclear in their relation to PSM (Kim and Vandenabeele, 2010). According to Kim and Vandenabeele (2010), there is also significant overlap between normative and affective motives. Both motives overlap with altruism (i.e. the deliberate search for the interests of others). For instance, commitment to a program because of an honest belief about its social importance in the affective motives is not clearly distinguished from the desire to serve the public interest because of feeling a duty to one's community (Wright and Pandey, 2008).

Based on these motives, Perry (1996) developed a scale of 35 items to measure six hypothesized PSM dimensions: attraction to public-policy formation, commitment to public interest, civic duty, social justice, compassion, and self-sacrifice. Perry (1997) later reduced the scale to 24 items, combining commitment to public interest with civic duty and dropping social justice. The result was a reduction of PSM dimensions or subscales to 4: attraction to public-policy formation, commitment to civic duty and public interest, compassion, and self-sacrifice (Perry, 1997). Attraction to public-policy measures rational motives, while commitment to civic duty and public interest measures normative motives, and both compassion and self-sacrifice measure affective motives (Perry, 2000). However, when measuring PSM, still controversy exists (Vandenabeele, 2008; Wright, Christensen and Pandey, 2013). The dimensions of attraction to public-policy making and self-sacrifice were found to be highly correlated which suggests redundancy (Vandenabeele, 2008; Wright and Pandey, 2008). Furthermore, there is a conceptual similarity and overlap between the dimensions of compassion and self-sacrifice (Moynihan and Pandey, 2007a). As a result of this controversy, when measuring PSM, some researchers have combined or omitted one or more of these 4 dimensions (e.g. Moynihan and Pandey, 2007a; Leisink, and Steijn, 2009; Gould-Williams et al., 2013), while others have attempted to develop additional dimensions beyond these 4 such as democratic governance (Vandenabeele, 2008). In the current study, the focus will be on the 4 dimensions developed by Perry so as to shed light on their applicability to the Egyptian context.

According to Perry and Wise (1990), PSM has significant behavioural implications. First, individuals with high PSM levels are more likely to seek out employment in public sector organizations. Second, PSM is positively related to employee performance in public organizations. Third, public organizations that attract individuals with high PSM levels are

less likely to be reliant on utilitarian incentives to effectively manage employee performance. These implications, as is the case with the definition of PSM provided by Perry and Wise (1990), involve an explicit link to the public sector. This has raised two important questions (Perry and Hondeghem, 2008b): (1) Is PSM limited to the public sector? (2) Are public *service* motivation and public *sector* motivation the same? As regards to the first question, researchers, including Perry himself, argue that PSM is not a sector specific concept – as shown in recent definitions of PSM (e.g. Vandenabeele, 2008; Hondeghem and Perry, 2009) - and can be found among individuals in both public and private sector organizations (Perry and Hondeghem, 2008b; Steen, 2008). Private sector employees may engage in public service motivated behaviours, especially when they perceive the organizational culture underlines values that are socially desirable and coincide with their concern for public good (Steen, 2008). With regards to the second question, researchers assert that public service motivation and public sector motivation are distinct concepts (Perry and Hondeghem, 2008b; Vandenabeele, 2013). Public sector motivation is the aggregate of different motivations which may include intrinsic and extrinsic factors to work in the public sector (Leisink and Steijn, 2008; Vandenabeele, 2013). People might be attracted to work in the public sector because of some strong extrinsic motivators such as career development, power prestige, pension systems, job security and work-life balance. These extrinsic public sector motivators are not included in PSM. Thus, PSM, or a desire to serve the public, is only one of the motivations associated with public *sector* motivation (Perry and Hondeghem, 2008b; Vandenabeele, 2013). Furthermore, as mentioned above, PSM may extend beyond the public sector and apply to employees who desire to serve the public's interest in both the private and non-profit sectors (Perry and Hondeghem, 2008b).

### **3.2.2 Theories that help explain the Link between High Performance HR Practices and PSM**

According to Bellè and Cantarelli (2010, p. 2), there is a 'lack of a generally accepted theoretical framework for the PSM construct'. However, three theories can help explain the relationship between high performance HR practices and PSM: the Process theory of PSM, the Institutional theory of PSM and SDT. The three theories are discussed in this section.

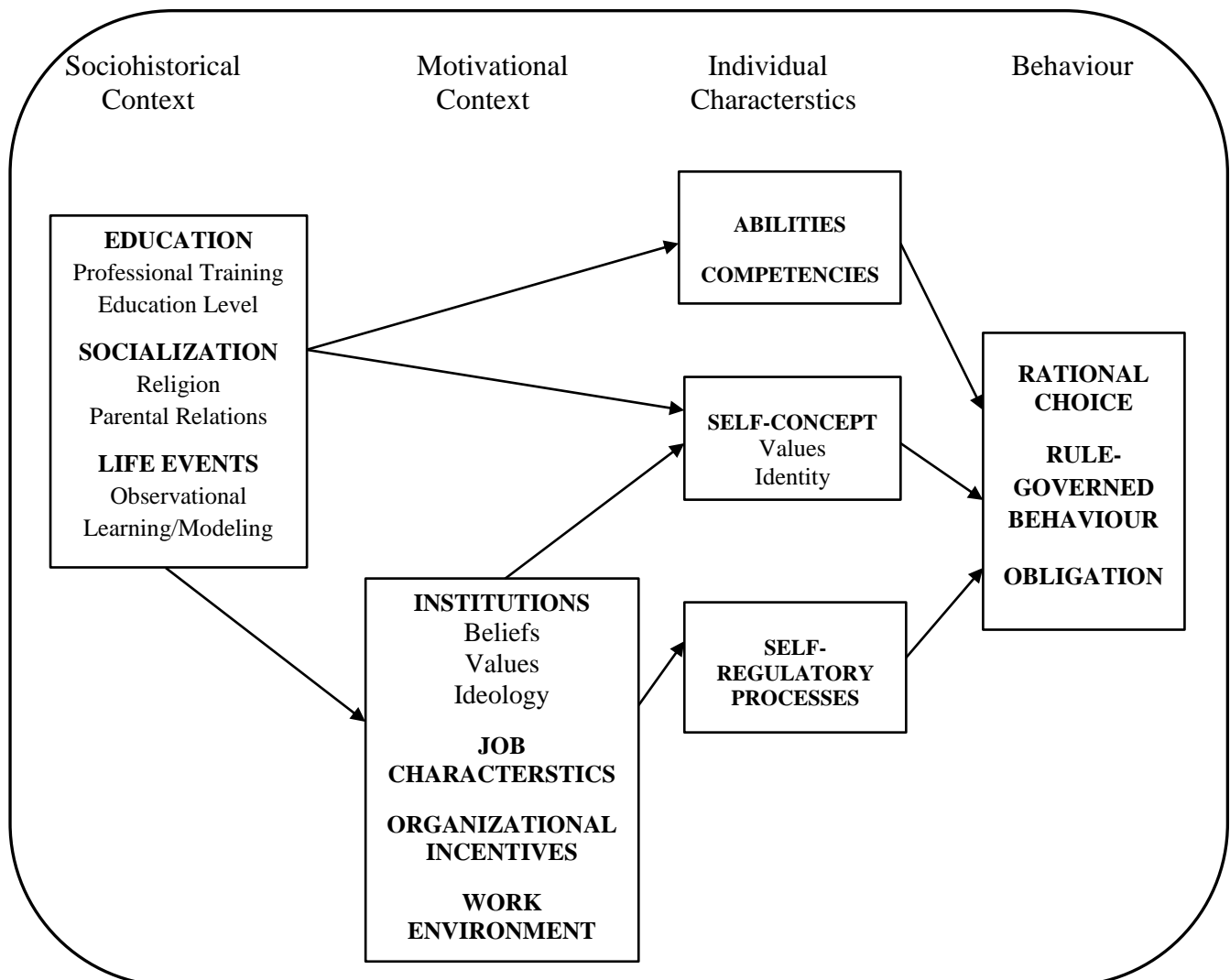
### 3.2.2.1 Process Theory of PSM

The Process theory of PSM is considered the most comprehensive theory of the causes of PSM so far. Yet, more empirical research is needed to test and validate this theory (Camilleri, 2006; Moynihan and Pandey, 2007a). Perry (2000, p. 476) identified four premises that informed the development of ‘an alternative theory of motivation’. First, individual behaviours have several origins including rational choice, normative conformity and affective bonding. Perry (2000) argues that it is not only utility maximization (i.e. rational choice) that motivates individuals, but social norms (i.e. normative conformity) and individual emotional responses to different social contexts (i.e. affective bonding) also have an effect. Second, the identities and values of individuals (i.e. their self-concepts) are important filters through which motivational processes function. According to Perry (2000), self-concept is at the centre of motivation which is based on logic of *appropriateness*. The logic of appropriateness refers to actions motivated by the desire to do the right thing. Here, individuals take a specific course of action because they think it is right, not because of the sanctions or rewards associated with this action. Accordingly, individuals determine the suitability of different actions based on how consistent they are with their internal standards. Third, Perry (2000) asserts that researchers have failed to consider preferences in motivation theories. Preferences are internal standards or values that influence individual behavioural decisions and thus motivation (Perry, 2000). Fourth, according to Perry (2000), preferences (identities and values) are formed through, *inter alia* exposure to social institutions such as schools and religious organizations. On the basis of these premises, Perry (2000) presented a theory in which factors affecting the motivation of public sector employees are outlined (see Figure 3.1).

Perry (2000) divided the critical factors of his theory into 4 domains: (1) sociohistorical context, (2) motivational context, (3) individual characteristics and (4) behaviour. Firstly, the *sociohistorical context* represents the environmental variables that shape the motives and preferences of individuals. These variables include educational level, professional training, religion, parental relations and life events. A number of studies (e.g. Perry, 1997; Moynihan and Pandey, 2007a; Giauque et al., 2010) have found that the sociohistorical context variables do in fact correlate with PSM. Secondly, the *motivational context* involves situational factors that affect the behaviour of individuals in organizations. Examples of these factors include job characteristics, organizational incentives and work environment. Even though researchers have recently started to examine the relationship between the motivational context variables

and PSM (e.g. Camilleri, 2007; Moynihan and Pandey, 2007a), there is still limited evidence regarding the effect of organizational factors on PSM (Perry et al., 2008). Thirdly, *individual characteristics* are conceived as a number of conceptually distinctive elements including individual abilities and competencies, self-concept and self-regulation which represents the self-directive capabilities of an individual. Finally, according to Perry (2000), *individual behaviour* could either be the result of a logic of consequence or logic of appropriateness. The logic of consequence is in line with rational choice and permits individuals to weigh costs and benefits in search of utility maximization. With the logic of appropriateness, individuals determine the suitability of different actions based on how consistent they are with their own internal standards. Perry argues that it is the logic of appropriateness, rather than the more rational logic of consequence, which causes individuals to develop PSM.

**Figure 3.1: Process Theory of PSM**



**Source:** Perry (2000, p. 481)

As mentioned above, according to the Process theory, one of the major factors affecting PSM is the situational factors that affect the behaviour of individuals in organizations (i.e. the motivational context). According to Moynihan and Pandey (2007a, p. 42), ‘PSM may be formed by sociohistorical factors before employees enter the organization, but it will also be influenced by the organizational environment in which employees find themselves’. Moynihan and Pandey (2007a) argue that the way in which employees perceive their organizational environments influences their PSM over time. Chang et al. (2013) assert that high performance HR practices represent one of the major situational factors that have an influence on employee behaviours within organizations. Thus, management adoption of high performance HR practices may help positively influence PSM.

On the basis of Perry’s Process theory of PSM, this study proposes that high performance HR practices are positively related to PSM.

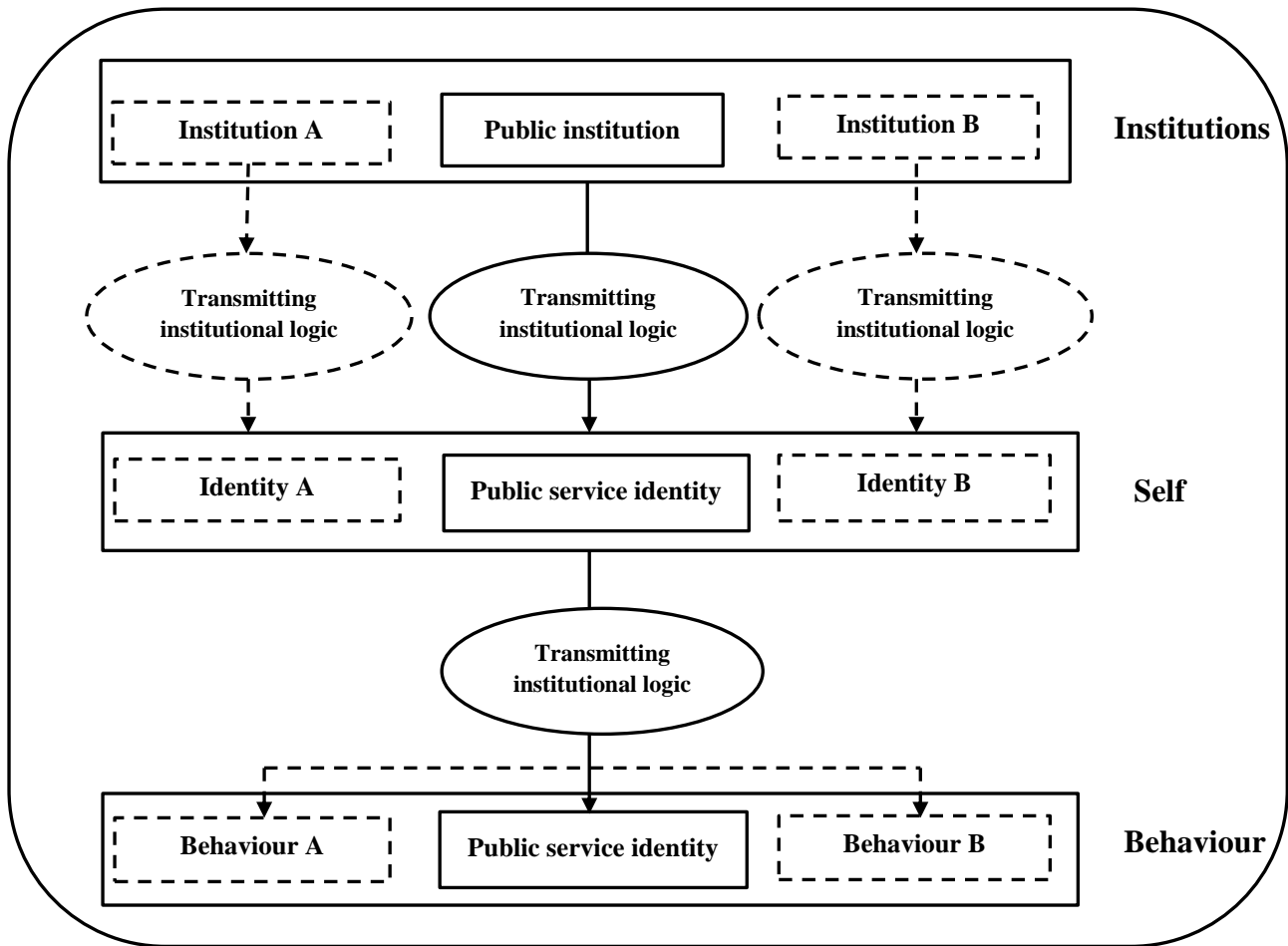
### **3.2.2.2 Institutional Theory of PSM**

Perry and Vandenabeele (2008) developed what can be considered as an *Institutional theory* of PSM (see Figure 3.2) <sup>1</sup>. This theory is based on a three stage process. It starts in public institutions, moves through public service identity and ends with individual public service behaviour (Perry and Vandenabeele, 2008).

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<sup>1</sup>An earlier version of this theory was developed by Vandenabeele (2007).

**Figure 3.2: Institutional Theory of PSM**



**Source:** Perry and Vandenabeele (2008, p. 57)

According to Perry and Vandenabeele (2008), institutions are social constructions infused with values and rules that identify and constrain behaviour, and shape individual preferences. Institutions have an effect on the motives that guide individual behaviour. Perry and Vandenabeele (2008) argue that PSM has its origins in public institutions, where such institutions aim for values which are associated with making contributions to society such as public interest and altruism.

The Institutional theory proposes that public institutional logic (i.e. the logic of appropriateness) is transmitted to the individual level through four distinct, but overlapping mechanisms: socialization, social identification, cultural preferences, and social learning. *Socialization* occurs by identifying with others within the institution and ultimately obtaining a ‘new’ social identity as a member of that institution. In *social identification*, individuals classify themselves in terms of social categories forming identities on this basis. As a result, they become supportive of the institution and internalize its norms and values. *Culture*

represents shared values that legitimate different forms of social practice amongst institutional members. According to Perry and Vandenabeele (2008), individuals will respond to these shared values, which then shape their preferences and identities. Finally, *social learning* involves observational learning, modelling (i.e. imitating the behaviour of others) and other processes through which values and different forms of behaviour are transmitted. According to Perry and Vandenabeele (2008), social learning affects individual behaviour within organizations. For instance, by observing others, a person forms norms which guide his behaviour.

According to the Institutional theory, identity is a critical variable in bridging institutions and individual behaviour. Identity is usually defined ‘in terms of a sense of belonging to a group or to a position in a social structure’ (Perry and Vandenabeele, 2008, p. 65). Identity is an important element of the self (i.e. how an individual looks upon himself). According to Perry and Vandenabeele (2008), the probability that public service motives will direct behaviour is dependent on two factors: (1) the extent to which PSM forms a part of an individual’s identity, and (2) the extent to which an individual views his organization and work as related to his PSM values. For instance, if an individual has high PSM and views his organization and work as a means of satisfying his values, then PSM will be a greater influence on behavioural outcomes such as job satisfaction and performance (Coursey, Yang and Pandey, 2012).

There are several self-regulation theories that provide support for this hypothesis (Perry and Vandenabeele, 2008). *Social-cognitive theory* (Bandura, 1986) posits that an individual bases his actions on how attractive and consistent these actions are with his values. In other words, rather than evaluating different actions according to the resulting consequences, an individual determines the attractiveness of different actions according to how congruent they are to his internal standards. *Self-determination theory* (Deci and Ryan, 2004), also suggests that an individual engages in a behaviour because he is naturally attracted to this behaviour by his interests and values. The theory proposes that if an environment satisfies the basic needs of an individual, the extent of internalization of identities will be higher. *Predisposition-opportunity theory* (Knoke and Wright-Isak, 1982) proposes that the extent to which the incentive systems of an organization match an individual’s motivations is crucial for self-regulated public service motivated behaviour. Such matching can occur between the individual and the organization, job, vocation, supervisor or group. Finally, *Goal-setting theory* (Latham and Locke, 1991) proposes that individuals differ in motivation and

consequently in performance because they tend to have different goals. The theory hypothesizes that an individual's performance will vary as his goals vary. If an individual's goals are not consistent with the values and goals of the organization, then his performance will be undermined due to a lack of support by the organization (Coursey et al., 2012). Each of these theories provide support for the assumption that if an organization provides opportunities for employees to satisfy their values, then individuals high in PSM will display positive attitudes and behaviours.

In line with Perry's (2000) Process theory of PSM, the Institutional theory supports the proposition made regarding the influence of high performance HR practices on PSM. According to Moynihan and Pandey (2007a, p. 42), organizations are 'social institutions in which individuals interact and influence each other in the context of a structured environment'. Moynihan and Pandey (2007a) argue that, within organizational institutions, work-related policies and procedures not only shape the administrative behaviour of public employees, but also influence the basic attitudes that these individuals hold about the value of public service. High performance HR practices can be viewed as one of the main tools that help *organizational institutions* communicate their values and rules to employees and form their identities, which will in turn affect their public service motivated behaviour.

On the basis of the Institutional theory of PSM, this study proposes that high performance HR practices are positively related to PSM.

### **3.2.2.3 Self-Determination Theory (SDT)**

In contrast to general motivation theories, SDT views motivation in terms of an autonomous/controlled continuum rather than an extrinsic/intrinsic dichotomy (Gagne' and Deci, 2005). The continuum captures the extent to which an employee's engagement in an activity is based on whether he or she *wants to* or *has to* (see Figure 3.3). Amotivation is shown at the far left end of the continuum in Figure 3.3. Amotivation is the state in which individuals have no intention to behave, and therefore lack motivation. It simply represents the lack of both intrinsic and extrinsic motivation. Individuals are likely to be amotivated when they are not able to regulate themselves with regard to a behaviour and thus completely lack self-determination (Deci and Ryan, 2000). In the center of Figure 3.3 is extrinsic motivation, whereas at the far right of the figure is intrinsic motivation. Extrinsic motivation involves individuals engaging in an activity to achieve outcomes that are distinct from (extrinsic to) the activity itself, or to satisfy external regulatory procedures. On the other



hand, intrinsic motivation involves people engaging in an activity because it is of interest to them (Gagne' and Deci, 2005). According to SDT, intrinsic motivation represents a form of autonomous motivation, whereas extrinsic motivation varies in the extent to which it is autonomous or controlled, depending on the degree to which the external regulator has been internalized (i.e. accepted by the individual). Within SDT, behaviour is *externally regulated* when it is initiated and maintained by contingencies external to the self. This is the form of extrinsic motivation that is considered when extrinsic motivation is compared with intrinsic motivation.

Other forms of extrinsic motivation occur when the regulation of a behaviour and the values associated with it are internalized. *Internalization* involves individuals taking in values such that the external behavioural regulation is converted to an internal regulation and therefore no longer requires the existence of an external contingency. According to SDT, internalization involves 3 different processes: introjection, identification and integration (Gagne' and Deci, 2005).

*Introjected regulation* is taken in by the individual but is not accepted as his own. In other words, the regulation is controlling the person. With *identified regulation*, a person feels greater freedom and volition because the behaviour is more compatible with his personal goals. Thus, the cause of the behaviour reflects an aspect of himself. With *integrated regulation*, a person has a full sense that the behaviour is a vital part of whom he is, that it originates from his sense of self and thus is self-determined. This is the completest type of internalization, which permits extrinsic motivation to be really autonomous. Integrated regulation shares some qualities with intrinsic motivation. However, it is still considered a form of extrinsic motivation because the activity is instrumentally important for individual goals rather than the individual being interested in the activity. Thus, integrated motivation and intrinsic motivation constitute two different forms of autonomous motivation (Gagne' and Deci, 2005).

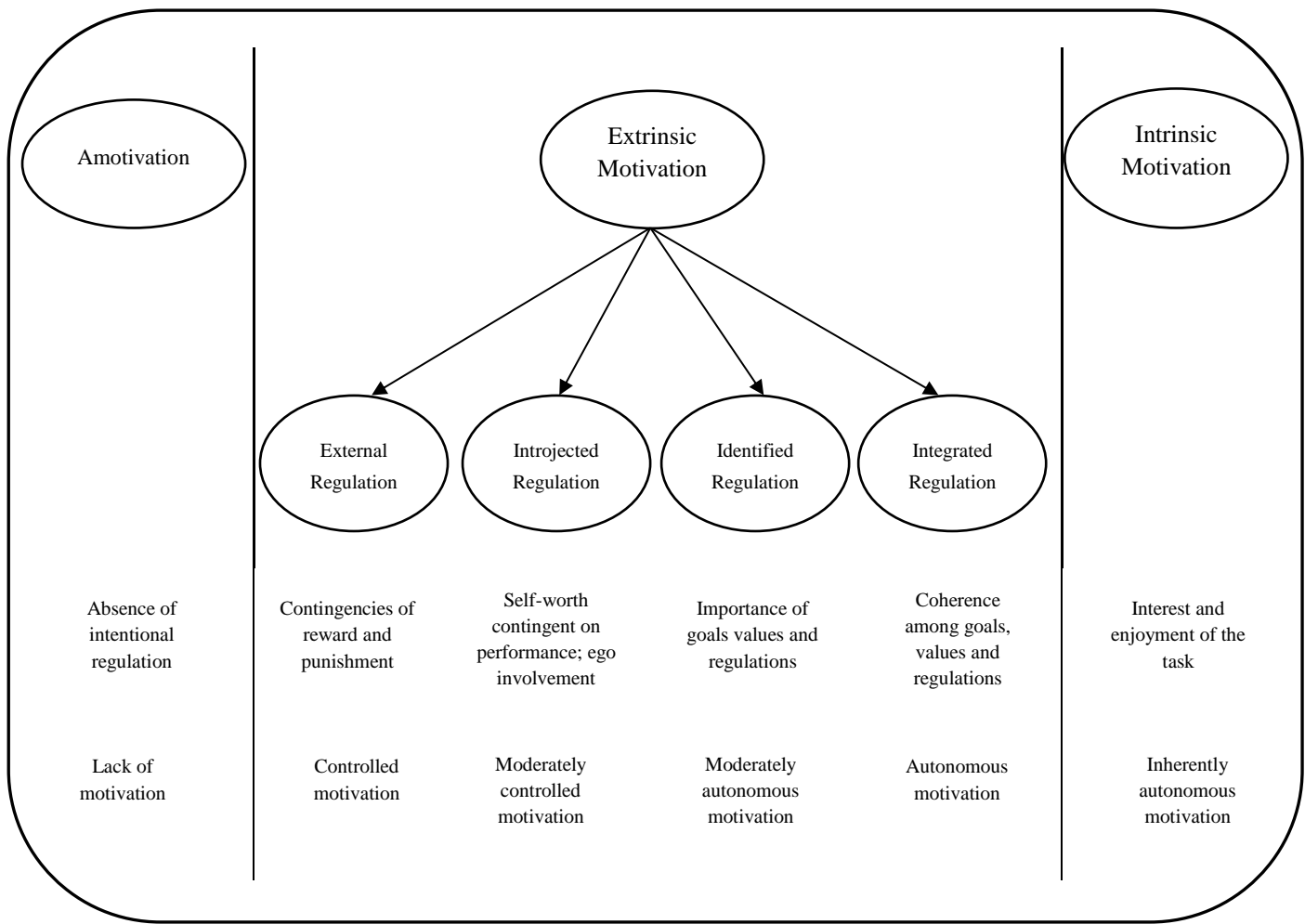
It is argued that the SDT concepts of intrinsic motivation and internalization, both of which constitute autonomous motivation, are of particular relevance to PSM (Vandenabeele, 2007; Park and Rainey, 2008). PSM has been defined as 'individuals' prosocial motivation to do good for others and society through the delivery of public services' (Kjeldsen and Jacobsen, 2013, p. 901). It has also been defined as 'the motivational force that induces individuals to perform meaningful ... public, community, and social service' (Brewer and Selden, 1998, p.

417). According to PSM theory, individuals with higher levels of PSM are less likely to be reliant on extrinsic rewards to perform effectively (Perry and Wise, 1990). Based on SDT, it could be argued that intrinsically motivated individuals are not necessarily the only ones to display PSM, as it is possible for individuals to internalise organizational values through effective management practice. In so doing, they become autonomously motivated – they want to serve the public. This is consistent with PSM theory which proposes that individuals may be persuaded to become more public service minded through work-related policies (Perry, 2000; Moynihan and Pandey, 2007a). Thus, employees may internalize public service values as a consequence of the organization's policies which constitute external regulatory procedures.

As mentioned in Chapter 2, effective implementation of high performance HR practices can result in the satisfaction of the three basic psychological needs, resulting in higher levels of autonomous motivation. Thus, the adoption of high performance HR practices should positively influence PSM.

Using SDT, this study proposes that through the use of high performance HR practices, organizations can positively influence PSM.

**Figure 3.3: The Self-Determination Continuum**



**Source:** Gagne' and Deci (2005, p. 336)

#### 3.2.2.4 Research on the antecedents of PSM

Very few studies have investigated the antecedents of PSM. A number of studies focused on examining the relationship between the sociohistorical context variables and PSM (e.g. Perry, 1997; Perry et al., 2008; Giauque et al., 2010). Perry (1997) was the first to study the influence of these variables and reported that closeness to God, parental modelling, age and education had significant relationships with PSM in the United States. Giauque et al. (2010) also found that gender, age and educational level were strongly related to PSM of employees in the Swiss municipalities. Furthermore, Giauque et al. (2010) found that the practice of religious activities, voluntary service and donation to charity were all characteristics correlated to PSM. Perry et al. (2008) examined the relationship between PSM and antecedents supposed to be important determinants of moral commitment. Using structural equation modelling, they found that both parental upbringing and involvement in religious

activities had direct significant positive relationships with PSM. They also found that gender, educational level and income had an indirect effect on PSM through their effect on volunteering.

In 1997, Perry suggested organizational influences, such as organizational policies and leadership practices, as antecedents of PSM that are worthy of study. In spite of this, very few studies have been conducted to investigate organizational influences on PSM (e.g. Camilleri, 2007; Moynihan and Pandey, 2007a; Park and Rainey, 2008; Wright, Moynihan and Pandey, 2011). Moynihan and Pandey (2007a) studied the role of organizational factors in influencing PSM. They found that the sociohistorical context plays an important role in shaping PSM before employees enter the organization, where PSM was positively related to both educational level and membership in professional organizations. They also found that organizational factors had an influence on PSM, in that both red tape and length of organizational membership were negatively related to PSM, and hierarchal authority and reform efforts were positively related to PSM. Camilleri (2007) examined personal attributes, role states, job characteristics, employee leader relations and employee perceptions of the organization as antecedents of PSM. Camilleri (2007) found that the motivational context variables are the main predictors of PSM of Maltese public sector employees. Park and Rainey (2008) examined the influence of leadership on PSM in federal agencies in the United States. They found that the use of transformation-oriented leadership (i.e. leadership that is supportive and emphasizes high standards) was associated with higher levels of public-service oriented motivation. Wright et al. (2011) also found that transformational leadership increased employee PSM in the United States.

While recognizing the contribution of the studies mentioned above, there remains a need for more research on the effect of organizational factors on the development of PSM (Perry et al., 2008). In particular, it has been pointed out that there is a need for research on the effect of HRM practices on the development of PSM (Giauque et al., 2010; Perry, 2012). Recently, Giauque, Anderfuhren-Biget and Varone (2013) examined the effect of HRM practices on PSM in Switzerland. They found that job enrichment, participation in decision making, professional development and equality of treatment had significant positive associations with PSM. Gould-Williams et al. (2013) also examined the impact of high commitment HR practices on civic duty in the UK. They found that more supportive HR practices were associated with higher levels of employee civic mindedness. Accordingly, and based on the

Process theory of PSM, the Institutional theory of PSM, and SDT, this study proposes the following hypothesis:

*Hypothesis 2: High performance HR practices will be positively related to employees' public service motivation.*

The next section will focus on the link between PSM and employee attitudes.

### **3.2.3 PSM and Employee Attitudes**

According to Gould-Williams et al. (2013, p. 3), PSM differs from employee outcomes (e.g. job satisfaction, organizational commitment and quit intentions) in 'subtle, but theoretically important ways'. PSM is different in its focus, proximity, and stability (Gould-Williams et al., 2013). As a concept, the main focus of PSM is on an employee's attitude to the public or community at large, whereas employee outcomes relate to the organization. Therefore, it is possible for employees to be dissatisfied with their working environment, but their desire to serve the public may stay unchanged (Brewer, Selden, and Facer II, 2000). Nevertheless, both PSM and employee outcomes affect organizational performance in the public sector (Kim, 2005). As regards to proximity, theorists postulate that PSM should result in desirable employee outcomes and thus, PSM has been considered an antecedent of job satisfaction, organizational commitment and quit intentions (Bright, 2008; Leisink and Steijn, 2009; Kim, 2012; Gould-Williams et al., 2013). Furthermore, PSM is a relatively stable trait-like variable, whereas employee outcomes are more fluid, dynamic, and state-like, changing according to daily work experiences. Accordingly, it would be reasonable to expect that high performance HR practices would have a differential effect on PSM and employee attitudes (Gould-Williams et al., 2013).

If public sector organizations provide opportunities for employees to satisfy their altruistic motives, then public employees with high PSM are more likely to identify themselves with their organisation and display positive work-related attitudes and behaviours such as feeling more satisfied with their jobs, more committed to their organizations and less inclined to quit their jobs (Naff and Crum, 1999; Perry and Wise, 1990).

This section presents the major studies that have examined the relationship between PSM and employee attitudes of job satisfaction, organizational commitment and intention to quit. An evaluation of these studies is presented at the end of this section.

### **3.2.3.1 Studies Linking PSM and Job Satisfaction**

It is argued that ‘public service employment may serve as a unique source of satisfaction for public sector employees’ (Pandey and Stazyk, 2008, p. 111). Based on this argument, Perry and Wise (1990) assert that job satisfaction is an important correlate of PSM (Pandey and Stazyk, 2008). The relationship between PSM and job satisfaction has been examined in a number of studies (e.g. Brewer and Selden, 1998; Naff and Crum, 1999; Kim, 2005; Moynihan and Pandey, 2007b; Park and Rainey, 2007; Taylor, 2007; Bright, 2008; Liu, Tang and Zhu, 2008; Park and Rainey, 2008; Steijn, 2008; Taylor, 2008; Wright and Pandey, 2008; Xiaohua, 2008; Cerase and Farinella, 2009; Vandenabeele, 2009; Liu and Tang, 2011; Taylor and Westover, 2011; Kim, 2012; Andersen and Kjeldsen, 2013; Gould-Williams et al., 2013; Kjeldsen and Andersen, 2013; Taylor, 2013; Wright et al., 2013), and the findings of these studies support the existence of a positive relationship between PSM and job satisfaction.

Brewer and Selden (1998) found that PSM was positively related to the job satisfaction of 2188 federal government employees in the United States. Naff and Crum (1999) examined the relationship between PSM and work outcomes of 9710 federal employees in the United States. They found that PSM had a significant positive relationship with job satisfaction. Moynihan and Pandey (2007b) found that PSM was positively related to the job satisfaction of state government managers in the United States. Liu and Tang (2011) found in their study of public sector professionals in China that PSM had a significant positive relationship with job satisfaction. In a study of 203 Australian public sector employees, Taylor (2007) investigated the relationship between PSM and work outcomes. She found that employees with higher levels of PSM had higher levels of job satisfaction. Steijn (2008) examined the effect of PSM on Dutch workers outcomes. Steijn found that PSM had a significant positive effect on workers job satisfaction.

Liu et al. (2008) found that PSM had a significant positive effect on the job satisfaction of public sector employees in China. Taylor (2008) also found a significant positive relationship between PSM and job satisfaction in her study of 2274 Australian public and private sector employees. Xiaohua (2008) examined the relationship between PSM and the performance of government employees in China. Xiaohua (2008) found that PSM had a significant positive influence on employee job satisfaction. Taylor and Westover (2011) found that PSM was positively related to the job satisfaction of 4595 public sector workers in 7 different industrialized countries. Kim (2012) found that PSM was positively related to the job

satisfaction of Korean civil servants. Andersen and Kjeldsen (2013) found in their study of Danish employees that PSM had a significant positive association with job satisfaction. In a study of Australian local government workers, Taylor (2013) found that PSM was positively related to job satisfaction. Using different data sets to compare frequently used global measures of PSM, Wright et al. (2013) also found that PSM was positively related to job satisfaction.

In their study of over 6900 federal employees in the United States, Park and Rainey (2007, 2008) found that public service oriented motivation (PSOM) was positively related to job satisfaction. Cerase and Farinella (2009) studied the relationship between perception of change, PSM and employee outcomes for 1258 employees in the Italian revenue agency. They found that high levels of PSM and a positive perception of change helped in increasing job satisfaction levels.

Vandenabeele (2009) examined the relationship between PSM and the performance of 3506 Belgian civil servants. He found that PSM was significantly correlated with job satisfaction and that the relationship between PSM and employee performance was mediated by job satisfaction. In a study of 205 employees in the United States public sector, Bright (2008) found that the relationship between PSM and job satisfaction was mediated by P-O fit. In a similar study in the United States, Wright and Pandey (2008) also found that the relationship between PSM and job satisfaction is an indirect relationship that is mediated by employee-organization value congruence. Kjeldsen and Andersen (2013) found that PSM was only positively related to job satisfaction if employees perceive that they can contribute to the society and do good for others through their jobs.

Kim (2005) studied the effects of individual level factors on the performance of public sector organizations in the Republic of Korea. Kim found that PSM and job satisfaction were positively correlated and that both together with OCB and affective commitment significantly affected organizational performance. In a study of 1755 local government workers in the UK, Gould-Williams et al. (2013) found that civic duty (a component of PSM) had a positive association with job satisfaction.

Table 3.1 below provides a summary of the empirical studies on the relationship between PSM and job satisfaction. It briefly presents the name(s) of the author(s), the country and the sector (public/private) in which the study was conducted, the research method used, the sample size, and the findings that were obtained.

**Table 3.1:** Studies on the Relationship between PSM and Job Satisfaction

Author(s)/Year	Country	Sector (public/private)	Research method	Sample size	Response rate	Findings
Brewer & Selden (1998)	USA	Public	Quantitative (survey)	2188	-	PSM was positively related to job satisfaction.
Naff & Crum (1999)	USA	Public	Quantitative (survey)	9710	53%	Higher levels of PSM were associated with higher levels of job satisfaction.
Kim (2005)	Korea	Public	Quantitative (survey)	1739	87%	PSM was positively correlated with job satisfaction. Both were also positively correlated with OCB and affective commitment. Together, these four variables significantly affected organizational performance
Moynihan & Pandey (2007b)	USA	Public	Quantitative (survey)	274	53%	PSM was positively related to job satisfaction.
Park & Rainey (2007)	USA	Public	Quantitative (survey)	6957	-	Public service oriented motivation (PSOM) positively influenced employee job satisfaction.
Taylor (2007)	Australia	Public	Quantitative (survey)	203	43%	Employees with higher levels of PSM were more likely to show significantly higher job satisfaction levels.
Bright (2008)	USA	Public	Quantitative (survey)	205	35%	Person-organization fit completely mediated the relationship between PSM and job satisfaction.
Liu, Tang & Zhu, (2008)	China	Public	Quantitative (survey)	191	-	PSM had a significant positive effect on job satisfaction.
Park & Rainey (2008)	USA	Public	Quantitative (survey)	6957	-	Public service oriented motivation (PSOM) was positively related to job satisfaction.
Steijn (2008)	Netherlands	Public & Private	Quantitative (survey)	6449	-	PSM fit was positively associated with job satisfaction.
Taylor (2008)	Australia	Public & Private	Quantitative (survey)	2274	43%	PSM was positively associated with job satisfaction.
Wright & Pandey (2008)	USA	Public	Quantitative (survey)	206	62.2%	PSM had an indirect positive influence on job satisfaction. The relationship between PSM and job satisfaction was mediated by employee-organization value congruence.
Xiaohua (2008)	China	Public	Quantitative (survey)	319	86.2%	PSM had a positive effect on employee job satisfaction.



Cerese & Farinella (2009)	Italy	Public	Quantitative (survey)	1258	34.2%	Higher levels of PSM together with a positive perception of change resulted in higher levels of job satisfaction.
Vandenabeele (2009)	Belgium	Public	Quantitative (survey)	3506	-	PSM was significantly correlated with job satisfaction. The relationship between PSM and employee performance was mediated by job satisfaction.
Liu and Tang (2011)	China	Public	Quantitative (survey)	167	-	PSM had a positive relationship with job satisfaction.
Taylor & Westover (2011)	USA, Canada, UK, Germany, France, Denmark, and Norway	Public	Quantitative (survey)	4595	-	PSM was positively related to job satisfaction.
Kim (2012)	Korea	Public	Quantitative (survey)	814	67.8%	PSM was positively related to job satisfaction.
Andersen & Kjeldsen (2013)	Denmark	Public & Private	Quantitative (survey)	2811	-	PSM had a significant positive association with job satisfaction.
Gould-Williams, Bottomley, Redman, Snape, Bishop, Limpanitgul & Mostafa (2013)	UK	Public	Quantitative (survey)	1755	27%	Civic duty had a positive association with job satisfaction.
Kjeldsen & Andersen (2013)	A study in 14 countries including Australia, Canada, the USA and 11 countries from Europe	Public & Private	Quantitative (survey)	19373	-	PSM was only positively related to job satisfaction if employees perceive that they can contribute to the society and do good for others through their jobs.
Taylor (2013)	Australia	Public	Quantitative (survey)	233	30%	PSM was positively related to job satisfaction.
Wright, Christensen & Pandey (2013)	USA	Public	Quantitative (survey)	Different data sets where sample sizes ranged between 173 and 449	Ranged between 44% and 62%	PSM had a positive relationship with job satisfaction.

\*All studies are cross-sectional with the exception of Taylor and Westover (2011)

Overall, the studies presented in Table 3.1 above suggest that PSM is positively related to job satisfaction. Based on the empirical studies on the relationship between PSM and job satisfaction, this study proposes the following hypothesis:

*Hypothesis 3a: Public service motivation will be positively related to employee job satisfaction.*

### **3.2.3.2 Studies Linking PSM and Organizational Commitment**

It is argued that the development of organizational commitment is more likely to be experienced by employees who are service oriented (Taylor, 2007). If public organizations provide opportunities for employees to satisfy their altruistic motives, then public sector employees with high PSM are more likely to identify themselves with their organisation, feel an obligation to its goals and develop an affective attachment to it (Perry and Wise, 1990). According to Taylor (2007, p. 936), the close relationship between PSM and organizational commitment has led some researchers to 'regard PSM itself as a form of commitment'. However, while this may be the case, PSM differs from organizational commitment in that it captures employees' commitment to the public rather than the organization. Therefore, it is possible for individuals to be highly committed to the public but not necessarily to the organization. This may occur when organizations do not provide opportunities for employees to serve the public. On this basis, it can be argued that PSM is a distinct construct from organizational commitment.

Several studies have examined the relationship between PSM and organizational commitment (e.g. Crewson, 1997; Brewer and Selden, 1998; Kim, 2005; Camilleri, 2006; Castaing, 2006; Moynihan and Pandey, 2007b; Park and Rainey, 2007; Taylor, 2007; Taylor, 2008; Xiaohua, 2008; Cerase and Farinella, 2009; Leisink and Steijn, 2009; Vandenabeele, 2009; Kim, 2012; Gould-Williams et al., 2013). These studies support the existence of a positive relationship between PSM and organizational commitment.

Crewson (1997) found that PSM in the United States public sector was positively related to organizational commitment. Brewer and Selden (1998) also found a positive association between PSM and the organizational commitment of federal government employees in the United States.

In a study of 203 Australian public sector employees, Taylor (2007) examined the relationship between PSM and work outcomes, and found that PSM was positively associated

with organizational commitment. Moynihan and Pandey (2007b) found that PSM was positively related to the organizational commitment of health and human service managers in the United States. Xiaohua (2008) examined the relationship between PSM and the performance of 319 government employees in China, and found that PSM had a positive effect on organizational commitment. Taylor (2008) also found a significant positive relationship between PSM and organizational commitment of 2274 Australian employees.

Leisink and Steijn (2009) studied the effect of PSM on the work outcomes of Dutch public sector employees. They found that PSM had a positive effect on employee commitment. In a study of 1258 employees in the Italian Revenue Agency, Cerase and Farinella (2009) investigated the relationship between perception of change, PSM and employee outcomes. They found that high levels of PSM and a positive perception of change were positively associated with organizational commitment. Kim (2012) found that PSM had a significant positive effect on the affective commitment of civil servants in Korea.

In a study of 754 French civil servants, Castaing (2006) found that PSM strongly influenced both affective and normative commitment of employees. Camilleri (2006) examined the relationship between organizational commitment and PSM within the Maltese public service. Camilleri (2006) found that PSM was strengthened by organizational commitment and that affective organizational commitment in particular had a direct effect on all PSM dimensions.

Vandenabeele (2009) examined the relationship between PSM and the performance of 3506 Belgian civil servants. He found that PSM was significantly correlated with organizational commitment and that the relationship between PSM and employee performance was mediated by organizational commitment. In a study of 1739 public sector employees in the Republic of Korea, Kim (2005) found that PSM and affective commitment were positively correlated and that both PSM and affective commitment together with OCB and job satisfaction significantly affected organizational performance. In a study of local government workers in the UK, Gould-Williams et al. (2013) found that civic duty (i.e. commitment to public interest) had a positive association with affective commitment.

Table 3.2 below provides a summary of the empirical studies on the link between PSM and organizational commitment. It briefly presents the name(s) of the author(s), the country and the sector (public/private) in which the study was conducted, the research method, sample size, and the findings that were obtained.

**Table 3.2: Studies on the Relationship between PSM and Organizational Commitment**

<b>Author(s)/Year</b>	<b>Country</b>	<b>Sector (public/private)</b>	<b>Research method</b>	<b>Sample size</b>	<b>Response rate</b>	<b>Findings</b>
Crewson (1997)	USA	Public	Quantitative (survey)	-	-	PSM was positively related to organizational commitment.
Brewer & Selden (1998)	USA	Public	Quantitative (survey)	2188	-	PSM was positively related to organizational commitment.
Kim (2005)	Korea	Public	Quantitative (survey)	1739	87%	PSM was positively correlated with affective commitment. Both were also positively correlated with OCB and job satisfaction. Together, these four variables significantly affected organizational performance
Camilleri (2006)	Malta	Public	Quantitative (survey)	2135	71.5%	Organizational commitment had a positive effect on PSM.
Castaing (2006)	France	Public	Quantitative (survey)	754	34.2%	PSM was significantly associated with both affective and normative commitment.
Moynihan and Pandey (2007b)	USA	Public	Quantitative (survey)	274	53%	PSM was positively related to organizational commitment.
Park & Rainey (2007)	USA	Public	Quantitative (survey)	6957	-	Public service oriented motivation (PSOM) positively influenced organizational commitment.
Taylor (2007)	Australia	Public	Quantitative (survey)	203	43%	Employees with higher levels of PSM were more likely to show significantly higher organizational commitment levels.
Taylor (2008)	Australia	Public & Private	Quantitative (survey)	2274	43%	PSM was positively associated with organizational commitment.
Xiaohua (2008)	China	Public	Quantitative (survey)	319	86.2%	PSM had a positive effect on organizational commitment.
Cerese & Farinella (2009)	Italy	Public	Quantitative (survey)	1258	34.2%	Higher levels of PSM together with a positive perception of change resulted in higher levels of organizational commitment.
Leisink & Steijn (2009)	Netherlands	Public	Quantitative (survey)	4130	44%	Higher levels of PSM were associated with higher levels of organizational commitment.
Vandenabeele (2009)	Belgium	Public	Quantitative (survey)	3506	-	PSM was significantly correlated with organizational commitment. The relationship between PSM and employee performance was mediated by organizational commitment.
Kim (2012)	Korea	Public	Quantitative (survey)	814	67.8%	PSM had a significant positive effect on affective commitment.

Gould-Williams, Bottomley, Redman, Snape, Bishop, Limpanitgul & Mostafa (2013)	UK	Public	Quantitative (survey)	1755	27%	Civic duty had a positive association with affective commitment.
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\*All studies are cross-sectional

Overall, the studies presented in Table 3.2 suggest that PSM is positively related to organizational commitment. Based on the empirical findings provided in table 3.2, this study proposes the following hypothesis:

*Hypothesis 3b: Public service motivation will be positively related to employee organizational commitment.*

### **3.2.3.3 Studies Linking PSM and Intention to Quit**

If public sector organizations provide opportunities for employees to satisfy their altruistic motives, then public employees with high PSM are more likely to identify themselves with their organisation. In turn, they will develop a strong emotional attachment to their organization, be more willing to work towards the achievement of its goals and less likely to quit. Very few studies have tested the relationship between PSM and employee quit intentions (e.g. Naff and Crum, 1999; Bright, 2008; Park and Rainey, 2008; Steijn, 2008; Gould-Williams et al., 2013). These studies suggest that PSM is negatively related to employee quit intentions.

Naff and Crum (1999) collected cross-sectional data from 9710 federal employees in the United States to examine the impact of PSM on worker outcomes. They found that PSM had a significant negative relationship with employee intent to leave government jobs.

Steijn (2008) studied the effect of PSM on Dutch civil servants intention to leave the job and the organization they work for. Steijn (2008) found that a PSM fit was associated with a greater inclination to stay in the job and the organization. Park and Rainey (2008) examined the impact of PSM on work outcomes by collecting data from over 6900 federal employees in the United States. Using regression analyses, they found that public service oriented motivation (PSOM) was negatively related to intent to turnover.

In a study of 205 public sector employees in the United States, Bright (2008) found that the relationship between PSM and employee turnover intentions was mediated by P-O fit. However, Gould-Williams et al. (2013) found that commitment to public interest had no significant relationship with the quit intentions of local government employees in the UK.

In sum, most of the empirical evidence presented in this section suggests that PSM is negatively related to employee quit intentions. Based on the empirical studies on the

relationship between PSM and employees intention to quit, this study proposes the following hypothesis:

*Hypothesis 3c: Public service motivation will be negatively related to employees' intention to quit.*

#### **3.2.3.4 Evaluation of Studies Linking PSM and Employee Attitudes**

Apart from one study (Taylor and Westover, 2011) which employed a longitudinal design, all the studies presented in this section are cross-sectional in design. Additionally, all studies are quantitative and used self-report questionnaires. Most of the studies used regression analysis to test the main hypotheses (e.g. Castaing, 2006; Moynihan and Pandey, 2007b; Taylor, 2007; Liu et al., 2008), whereas a few studies used structural equation modelling (e.g. Kim, 2006; Pandey et al., 2008; Gould-Williams et al., 2013).

As regards to location, most of the studies have been conducted in Western countries such as the United States (e.g. Park and Rainey, 2007), the UK (e.g. Gould-Williams et al., 2013), the Netherlands (e.g. Leisink and Steijn, 2009), France (e.g. Castaing, 2006), Italy (e.g. Cerase and Farinella, 2009), Belgium (e.g. Vandenabeele, 2009) and Australia (e.g. Taylor, 2008). Some studies have also been conducted in non-Western countries in Asia such as Korea (e.g. Kim, 2005) and China (e.g. Liu and Tang, 2011). However, no studies have been conducted in Africa or the Middle East. As the current study focuses on Egyptian public sector workers, it will help determine the generalizability of these findings in a predominantly Muslim, collectivistic context.

With regard to sector, most of the studies have examined the link between PSM and outcomes of employees in the public sector (e.g. Taylor, 2007; Xiaohua, 2008; Vandenabeele, 2009). Very few studies have examined this relationship in both the public and private sectors (e.g. Steijn, 2008; Taylor, 2008; Kjeldsen and Andersen, 2013).

Regarding the measure of PSM, multiple measures of PSM have been employed by the different studies presented in this section. Some studies measured PSM using all the four dimensions of PSM identified by Perry (1997) (e.g. Taylor, 2007; Liu et al., 2008), others measured PSM using three of the four dimensions (e.g. Moynihan and Pandey, 2007a; Pandey et al., 2008; Wright and Pandey, 2008), while some measured PSM using only one of the four dimensions (e.g. Castaing, 2006; Moynihan and Pandey, 2007b; Gould-Williams et al., 2013). The current study will measure PSM using the four dimensions developed by

Perry. In doing so, the construct validity of the four dimensions will be tested in the Egyptian context.

### **3.2.4 The Mediating Role of PSM on the Relationship between High Performance HR practices and Employee Outcomes**

Based on Perry's (2000) Process theory of PSM and related theories as highlighted above in section 3.2.2 and also based on the empirical studies on the relationship between PSM and employee attitudes, this study assumes that high performance HR practices can affect employee attitudes through PSM. In other words, the effect of high performance HR practices on employee attitudes might be mediated by PSM. Accordingly, this study proposes the following hypotheses:

*Hypothesis 4a: Public service motivation will mediate the relationship between high performance HR practices and employee job satisfaction.*

*Hypothesis 4b: Public service motivation will mediate the relationship between high performance HR practices and employee organizational commitment.*

*Hypothesis 4c: Public service motivation will mediate the relationship between high performance HR practices and employee intention to quit.*

## **3.3 High Performance HR practices, Person-Organization Fit and Employee Attitudes**

This section is divided into four parts. Part one provides an overview of the concept of person-organization fit. Part two presents the Attraction-Selection-Attrition (ASA) framework as the main theory that can help explain the link between high performance HR practices and person-organization fit. Part three presents the major studies that have examined the link between person-organization fit and employee attitudes of job satisfaction, organizational commitment and quit intentions. The final part deals with the mediating role of person-organization fit on the relationship between high performance HR practices and employee attitudes.

### **3.3.1 Person-Organization Fit**

Person-organization (P-O) fit is one of the most widely studied topics in the fields of organizational behaviour and general management (Bright, 2008). In spite of this, the



definition of P-O fit has been subject to much confusion (Kristof, 1996). P-O fit is defined broadly as ‘the compatibility between individuals and organizations’ (Kristof, 1996, p. 3). More specifically, Kristof (1996, p. 4) defines P-O fit as ‘the compatibility between people and organizations that occurs when: (a) at least one entity provides what the other needs or (b) they share similar fundamental characteristics or (c) both’. Chatman (1991, p. 459) also defines P-O fit as ‘the congruence between patterns of organizational values and patterns of individual values, defined here as what an individual values in an organization, such as being team-oriented or innovative’. Bright (2007, p. 363) provides a somewhat similar definition of P-O fit where he defines it as ‘the congruence between the characteristics of individuals (i.e., goals, skills and values) and the characteristics of organizations (i.e., goals, values, resources and culture)’.

According to Muchinsky and Monahan (1987), there are two main types of P-O fit: supplementary fit and complementary fit. *Supplementary fit* is achieved when an individual possess characteristics that are similar to other individuals in an organization (Muchinsky and Monahan, 1987), (i.e. when both the individual and the organization are similar) (Kristof-Brown, Zimmerman and Johnson, 2005). *Complementary fit*, on the other hand, is achieved when an individual’s characteristics add something that is missing to the organization (Muchinsky and Monahan, 1987). Taking into consideration the perspectives of the employee and the employer, Kristof (1996) refined complementary fit into two forms: needs-supplies fit and demands-abilities fit. *Needs-supplies fit* is achieved when an individual’s needs are satisfied by the organization (i.e. when an individual’s needs are met by organizational supplies), whereas *demands-abilities fit* is achieved when an individual’s abilities meet organizational demands (i.e. when organizational needs are met by an individual’s skills) (Kristof, 1996). Thus, complementary fit is achieved when an individual’s characteristics fill a gap in the organization or vice versa, in order to make each other complete (Kristof-Brown et al., 2005). Since the current study considers the extent of congruence between organizational and employee values and goals in achieving desirable employee outcomes, the definition of ‘fit’ in this study is more akin to ‘supplementary fit’.

Although the current study focuses on P-O fit, it should be noted that there are other types of fit which come under the general classification of Person–Environment (P-E) fit. P-E fit refers to the degree of compatibility or congruence between an employee and his work environment (Kristof-Brown et al., 2005). According to Kristof-Brown et al. (2005), besides P-O fit, P-E fit also includes person-job (P-J) fit, person-vocation (P-V) fit, person-supervisor

(P-S) fit and person-group (P-G) fit. Of all the types of fit, P-O fit has been viewed as the most important because of its significance in maintaining a flexible and committed workforce (Tak, 2011; Jung and Takeuchi, 2013). For instance, Tak (2011) argues that if an employee does not have a good fit with his job or supervisor, it is possible for him to get a different job with a new supervisor in the same organization. However, if an employee does not have a good fit with the organization, then he is likely to search for employment elsewhere, which would then result in the loss of a potentially skilled and experienced employee.

### **3.3.2 Attraction-Selection-Attrition Framework**

Schneider's (1987) Attraction-Selection-Attrition (ASA) framework helps explain the means by which high performance HR practices affect fit between employees and their organizations (Boon et al., 2011). This framework is one of the most influential models in the P-O fit literature. The main idea of the ASA framework is that organizations attract, select and retain people whose personal characteristics suit or fit the organization (Schneider, Smith, Taylor and Fleenor, 1998). According to the ASA framework, people are attracted to different kinds of organizations based on their pre-entry beliefs of the organization's principal values and goals. Thereafter, organizations choose, through formal and informal selection strategies, people who fit their values and goals. Finally, the theory proposes that where individuals do not fit the organization's core values and goals, they will tend to leave. This, in part reflects errors of judgment, both on the part of the persons who do not fit, and/or the organization which selected them in the first place (Schneider, 1987). It may also reflect unfulfilled expectations on the part of the employee.

High performance HR practices are believed to be one of the major factors that help match employees with their organizations (i.e. achieving P-O fit). High performance HR practices such as selection, reward systems, promotion, and training and development consistently communicate organizational values and expectations to employees, which in turn should facilitate greater P-O fit (Boon et al., 2011).

A number of studies have examined the propositions underlying the ASA framework, and their findings support the notion that high performance HR practices have an influence on P-O fit (e.g. Bretz and Judge, 1994; Cable and Judge, 1997; Cable and Parsons, 2001; Cooper-Thomas, van Vianen and Anderson, 2004; Autry and Wheeler, 2005; Carless, 2005). For instance, Carless (2005) found that applicants' P-O fit perceptions, positively affected the attractiveness of the organization as a future employer. Similarly, Bretz and Judge (1994)

found that both pay level and promotional opportunities offered by the organization were amongst the most important pre-entry factors affecting applicant job choice. Further, Carless (2005) reported that during the selection process, applicants' perceptions of fit between their goals and values and those of the organization, positively predicted the desirability of the organization. From an organizational perspective, Cable and Judge (1997) found that interviewers' assessments of P-O fit affected their hiring decisions when selecting new recruits. It should be noted that these studies use responses from pre-entry candidates rather than existing employees. On entering the organization, Autry and Wheeler (2005) reported that induction training was positively related to P-O fit. Other studies have also found that socialization practices positively influenced newcomers P-O fit perceptions (Cable and Parsons, 2001; Cooper-Thomas et al., 2004).

Although these studies provide useful insights into the effects of HR practices on P-O fit, they focus on *individual* HR practices rather than a coherent package of high performance work systems. Therefore, their results may overstate the effects of each of these practices on fit, as individual practices have been found to act as proxy measures for overall packages of high performance HR practices (Gould-Williams and Gatenby, 2010). Two recent studies considered the relationship between a set of complementary HR practices and P-O fit (Boon et al., 2011; Takeuchi and Takeuchi, 2013). Consistent with the research findings above, they reported that employee perceptions of high performance HR practices were positively related to P-O fit. The current study adopts a similar approach, by testing a package of high performance HR practices on P-O fit.

Based on the ASA framework and the empirical studies on the relationship between high performance HR practices and P-O fit, this study proposes the following hypothesis:

*Hypothesis 5: High performance HR practices will be positively related to person-organization fit.*

### **3.3.3 P-O Fit and Employee Attitudes**

High P-O fit indicates that there is a correspondence between organizational and employee characteristics (Kristof, 1996; Kristof-Brown et al., 2005). This correspondence is likely to result in positive outcomes such as employees feeling more satisfied with their jobs, more committed to their organizations and less inclined to leave their jobs (Edwards and Cooper, 1990).

This section discusses the major studies that have examined the relationship between P-O fit and employee attitudes of job satisfaction, organizational commitment and intention to quit. An evaluation of these studies is presented at the end of this section.

### **3.3.3.1 Studies Linking P-O Fit and Job Satisfaction**

High levels of P-O fit indicate congruence between organizational and employee goals, values and expectations. This congruence makes it easier for employees to work and communicate with other organizational employees and receive their support with regards to work, which in turn is likely to result in employees feeling more satisfied with their jobs (Kristof, 1996; Kristof-Brown et al., 2005).

Several studies have examined the relationship between P-O fit and job satisfaction (e.g. Lauver and Kristof-Brown, 2001; Tepeci and Bartlett, 2002; Silverthorne, 2004; Westerman and Cyr, 2004; Bright, 2008; Vilela et al., 2008; Narayanan and Sekar, 2009; Liu, Liu and Hu, 2010; Iplik, Kilic and Yalcin, 2011; Leung and Chaturvedi, 2011; Jung and Takeuchi, 2013; Kim, Aryee, Loi and Kim, 2013; Maden and Kabasakal, 2013), and the findings of these studies support the existence of a positive relationship between P-O fit and job satisfaction.

Lauver and Kristof-Brown (2001) found in their study of a trucking company in the United States that P-O fit had a positive effect on job satisfaction. Tepeci and Bartlett (2002) also found that P-O fit was positively related to job satisfaction. Silverthorne (2004) studied the impact of P-O fit on the job satisfaction of employees in Taiwan and found that P-O fit had a significant positive effect on job satisfaction. Using regression analyses, Westerman and Cyr (2004) found that P-O fit had a significant positive relationship with the job satisfaction of employees in the United States.

In a study of 205 public sector employees in the United States, Bright (2008) found that P-O fit was positively related to job satisfaction. Vilela et al. (2008) found in their study of Spanish employees that perceptions of P-O fit had a significant positive effect on job satisfaction. Narayanan and Sekar (2009) found in their study of teachers of Indian educational institutions that P-O fit had a significant positive effect on job satisfaction. Liu et al. (2010) found that P-O fit had a significant positive effect on the job satisfaction of public sector employees in China. Iplik et al. (2011) examined the effect of P-O fit on the job attitudes of five star hotel managers in Turkey and found that P-O fit was positively related to

job satisfaction. In a study of employees of high-tech ventures in Singapore, Leung and Chaturvedi (2011) found that P-O fit had a significant positive relationship with job satisfaction. Kim et al. (2013) found that P-O fit had a significant positive relationship with the job satisfaction of employees in South Korea. Maden and Kabasakal (2013) examined the relationship between P-O fit and employee attitudes in Turkey, and found that P-O fit had a significant positive relationship with job satisfaction. Jung and Takeuchi (2013) also found that P-O fit had a significant positive relationship with job satisfaction in both Japan and Korea. Based on the empirical findings discussed in this section, this study proposes the following hypothesis:

*Hypothesis 6a: Person-organization fit will be positively related to employee job satisfaction.*

### **3.3.3.2 Studies Linking P-O Fit and Organizational Commitment**

When employees perceive their values to match their organization's values and the values of other employees, they are more likely to identify with the organization and feel involved with its broader mission. This, in turn, is more likely to increase the level of employee attachment and commitment to the organization (Cable and DeRue, 2002).

The relationship between P-O fit and organizational commitment has been examined in a number of studies (e.g. Silverthorne, 2004; Westerman and Cyr, 2004; Huang, Cheng and Chou, 2005; Vilela et al., 2008; Behery, 2009; Iplik et al., 2011; Leung and Chaturvedi, 2011; Saleem, Adnan and Ambreen, 2011; Jung and Takeuchi, 2013; Kim et al., 2013; Maden and Kabasakal, 2013; Takeuchi and Takeuchi, 2013), and the findings of these studies suggest that P-O fit is positively related to organizational commitment.

Silverthorne (2004) found in a study of employees in Taiwan that P-O fit had a significant positive effect on organizational commitment. In a study of employees in the United States, Westerman and Cyr (2004) found that P-O fit had a significant positive relationship with organizational commitment. Huang et al. (2005) found that P-O fit had a significant positive effect on organizational commitment of employees in Taiwan.

Vilela et al. (2008) found in their study of employees in Spain that employee perceptions of P-O fit had a significant positive effect on organizational commitment. Iplik et al. (2011) found in their study of 299 five star hotel managers in Turkey that P-O fit had a significant positive relationship with organizational commitment. Saleem et al. (2011) found in a study of academic staff in Pakistan that P-O fit had a significant positive relationship with

organizational commitment. Behery (2009) also found that P-O fit was positively related to the affective commitment of employees in the UAE. In a study of employees of high-tech ventures in Singapore, Leung and Chaturvedi (2011) found that P-O fit had a significant positive relationship with organizational commitment. Jung and Takeuchi (2013) found that P-O fit had a significant positive relationship with affective commitment in both Japan and Korea. In a study of employees in South Korea, Kim et al. (2013) found that P-O fit had a significant positive relationship with affective organizational commitment. Maden and Kabasakal (2013) examined the relationship between P-O fit and employee attitudes in Turkey, and found that P-O fit had a significant positive relationship with affective commitment. Takeuchi and Takeuchi (2013) also found that P-O fit had a significant positive effect on both affective and continuance commitment of employees in Japan.

Based on the empirical findings discussed in this section, this study proposes the following hypothesis:

*Hypothesis 6b: Person-organization fit will be positively related to employee organizational commitment.*

### **3.3.3.3 Studies Linking P-O Fit and Intention to Quit**

Employees' with high perceptions of P-O fit are more likely to consider that organizational values, along with those of their working colleagues, reflect their own identities. Essentially, the organization becomes an extension of themselves. For instance, Saks and Ashforth (1997, p. 402) state that a good fit between the organization and employee will, to some extent, result in employees defining themselves 'in terms of their organization'. This has been found to increase the bond between employees and their organization making it more difficult for employees to leave even if better prospects are offered elsewhere (Jackson, Brett, Sessa, Cooper, Julin, and Peyronnin, 1991). Similarly, where employees share the values of their work colleagues, they are more likely to communicate openly with them, thus strengthening bonds between workers, making it less likely that they want to leave. These views are also consistent with Schneider's (1987) ASA theory.

The relationship between P-O fit and intention to quit has been examined in a number of studies (e.g. Lauver and Kristof-Brown, 2001; Cable and DeRue, 2002; Tepeci and Bartlett, 2002; Westerman and Cyr, 2004; Bright, 2008; Moynihan and Pandey, 2008; Narayanan and

Sekar, 2009; Liu et al., 2010; Hassan, Akram, and Naz, 2012), and the findings of these studies suggest that P-O fit is negatively related to intention to quit.

Lauver and Kristof-Brown (2001) found in their study of the employees of a United States trucking company that P-O fit had a negative effect on employee quit intentions. Cable and DeRue (2002) also found in their study of employees in the United States that P-O fit was positively related to employee intentions to remain with their organizations. Using regression analyses, Tepeci and Bartlett (2002) found that P-O fit was related to intent to quit.

Westerman and Cyr (2004) found in their study of employees in the United States that P-O fit had a significant positive effect on employee intentions to remain with their organizations. They also found that this relationship is mediated by job satisfaction and organizational commitment. Moynihan and Pandey (2008) also found in their study of employees of public and private organizations in north eastern United States that P-O value fit had a statistically significant negative effect on long-term turnover intentions. Bright (2008) found in his study of public sector employees in the United States that P-O fit was negatively related to turnover intentions. Narayanan and Sekar (2009) studied the impact of P-O fit on the quit intentions of teachers of educational institutions in India, and found that P-O fit had a significant positive effect on employee intentions to remain with the organization. In a study of public sector employees in China, Liu et al. (2010) found that P-O fit had a significant negative effect on employee quit intentions. Hassan et al., (2012) found that P-O fit had a significant negative effect on turnover intentions of employees of commercial banks in Pakistan.

Based on the empirical studies on the relationship between P-O fit and employees' intention to quit, this study proposes the following hypothesis:

*Hypothesis 6c: Person-organization fit will be negatively related to employee intentions to quit.*

#### **3.3.3.4 Evaluation of Studies Linking P-O Fit and Employee Attitudes**

All the studies presented in this section are cross-sectional in design. Additionally, all studies relied on the quantitative survey method to collect data. Most of the studies have used regression analysis to test the main hypotheses (e.g. Tepeci and Bartlett, 2002; Westerman and Cyr, 2004; Huang et al., 2005), while a few studies have used structural equation modelling (e.g. Cable and DeRue, 2002; Vilela et al., 2008).

As regards to location, most of the studies have been conducted in the United States (e.g. Cable and DeRue, 2002; Westerman and Cyr, 2004; Bright, 2008). A few studies have been conducted in some European countries such as Spain (e.g. Vilela et al., 2008) and Turkey (e.g. Iplik et al., 2011) and some Asian countries such as India (e.g. Narayanan and Sekar, 2009), Pakistan (e.g. Saleem, et al., 2011; Hassan et al., 2012) and Taiwan (e.g. Silverthorne, 2004). However, no studies have been conducted in Africa.

### **3.3.4 The Mediating Role of P-O Fit on the Relationship between High Performance HR Practices and Employee Attitudes**

Based on the ASA framework and the empirical studies on the relationship between P-O fit and employee attitudes, it is assumed that the effects of high performance HR practices on employee attitudes can occur through P-O fit. According to Boon et al. (2011), the main aims of HRM practices are to both fulfil the needs of employees, and match employees' values and goals with their employing organizations. If a good fit is achieved, then employees will respond by demonstrating positive attitudes and behaviours. Thus, it is predicted that the relationship between high performance HR practices and employee attitudes of job satisfaction, organizational commitment and quit intentions will be mediated by P-O fit. In fact, Boon et al. (2011) found that P-O fit mediated the relationship between HRM practices and organizational commitment in the Netherlands. Takeuchi and Takeuchi (2013) also found that P-O fit mediated the relationship between HRM practices and both affective and continuance commitment in Japan. Accordingly, this study proposes the following hypotheses:

*Hypothesis 7a: Person-organization fit will mediate the relationship between high performance HR practices and employee job satisfaction.*

*Hypothesis 7b: Person-organization fit will mediate the relationship between high performance HR practices and employee organizational commitment.*

*Hypothesis 7c: Person-organization fit will mediate the relationship between high performance HR practices and employee intention to quit.*



### 3.4 PSM, P-O Fit and Employee Attitudes

Public sector organizations are charged with promoting the general social welfare and protection of society members. It is anticipated that the public sector workforce will comprise of individuals who are seeking opportunities to satisfy their altruistic motives to serve the public (Wright, 2007). This has been attributed to the missions of public sector organizations being congruent with public-minded employees' service values. According to Christensen and Wright, (2011, p. 725), findings of recent studies (e.g. Bright, 2008; Wright and Pandey, 2008) provide "considerable support" for this assumption in that employees with high PSM are more likely to select public sector employment. As such, Christensen and Wright (2011, p. 726) argue that the "employment sector [as a whole] can serve as a proxy for organizational values". If such is the case, then it could be argued that there will be a positive association between PSM and P-O fit, as public-minded employees will be attracted to public organizations due to the congruence between organizational and personal values.

Recently, several studies have examined the influence of PSM on P-O fit. Bright (2008) found that PSM had a significant positive relationship with P-O fit in the United States. Wright and Pandey (2008) also found that PSM had a significant positive relationship with employee-organization value congruence. In a study of Korean civil servants, Kim (2012) found that PSM was positively related to P-O fit. Using different data sets to compare frequently used global measures of PSM, Wright et al. (2013) also found that PSM was positively related to employee-organization value congruence in the United States. Accordingly, this study proposes the following hypotheses:

*Hypothesis 8: Public service motivation will be positively related to person-organization fit.*

According to Wright and Pandey (2008), public organizations can provide opportunities for employees to satisfy their motives for public service, but this does not necessarily mean that public sector organizations will *actually* provide these opportunities for their employees. Wright and Pandey (2008) argue that PSM's relationship with employee outcomes could be more complicated than assumed. Employees with strong PSM are more likely to work harder, perform better, be satisfied with their jobs and committed to their organizations if they see a link between their PSM goals and values and those of their employing organizations. Thus, P-O fit may serve as a mediating variable between PSM and desirable employee outcomes (Wright and Pandey, 2008). The more an employee agrees with the

mission and objectives of his organization, the more likely he is to work harder, perform better and be satisfied with the tasks assigned to him by the organization.

Recently, a number of studies have examined the mediating effect of P-O fit on the relationship between PSM and employee outcomes (e.g. Bright, 2007; Bright, 2008; Wright and Pandey, 2008; Kim, 2012). Bright (2007) found that PSM was positively related to P-O fit, and that P-O fit fully mediated the relationship between PSM and the job performance of public employees in the United States. Bright (2008) also found that PSM was positively related to P-O fit, and that P-O fit fully mediated the relationship between PSM and both job satisfaction and turnover intentions of public employees in the United States. In another study in the United States, Wright and Pandey (2008) found that P-O fit fully mediated the relationship between PSM and job satisfaction of public sector employees. Kim (2012) found that P-O fit partially mediated the relationship between PSM and both job satisfaction and commitment of Korean civil servants (i.e. PSM had both direct and indirect effects on employee attitudes). Accordingly, this study proposes the following hypotheses:

*Hypothesis 9a: Person-organization fit will mediate the relationship between public service motivation and employee job satisfaction.*

*Hypothesis 9b: Person-organization fit will mediate the relationship between public service motivation and employee commitment.*

*Hypothesis 9c: Person-organization fit will mediate the relationship between public service motivation and employee intention to quit.*

Findings of other studies also suggest that P-O fit moderates the effect of PSM on employees' job satisfaction, organizational commitment and quit intentions (e.g. Steijn, 2008; Taylor, 2008). In other words, the interaction between PSM and P-O fit affects employee attitudes. Steijn (2008) found in his study of Dutch public sector workers that those workers whose needs for PSM were met by their organization had greater job satisfaction and lower turnover intentions than those whose PSM needs were not met. Taylor (2008) also found that PSM-fit, defined as 'the compatibility between the needs of individuals to serve the public interest and the environmental conditions in their organization which affect the fulfilment of these altruistic motives' (Taylor, 2008, p. 72), had significant positive effects on both job

satisfaction and organizational commitment. Recently, Kjeldsen and Andersen (2013) also found that person-job (P-J) fit, the compatibility between an employee and his job (Kristof-Brown et al., 2005), moderates the relationship between PSM and job satisfaction. More specifically, they found that PSM was only positively related to job satisfaction if employees perceive that they can contribute to the society and do good for others through their jobs. Accordingly, this study proposes the following hypotheses:

*Hypothesis 10a: Person-organization fit will moderate the relationship between public service motivation and employee job satisfaction.*

*Hypothesis 10b: Person-organization fit will moderate the relationship between public service motivation and employee commitment.*

*Hypothesis 10c: Person-organization fit will moderate the relationship between public service motivation and employee intention to quit.*

### **3.5 Summary**

This chapter has outlined some of the various definitions given to the concepts of PSM and P-O fit. Overall, PSM can be defined as ‘set of motives that drive an individual to engage in behaviours that benefit society’, whereas P-O fit can be defined as the ‘congruence between the values and goals of an individual and those of his organization’.

This chapter has also discussed the theories that can help explain the link between high performance HR practices and both PSM and P-O fit. Three main theories can help explain the link between high performance HR practices and PSM: the Process theory of PSM, the Institutional theory of PSM and SDT. According to the Process theory, there are four factors that can cause PSM. These factors are the sociohistorical context, the motivational context, individual characteristics and individual behaviour. The motivational context involves factors that affect individual behaviour in organizations such as high performance HR practices. The Institutional theory of PSM follows a logic model initiating in public institutions, flowing through public service identities, and ending as public service behaviours. High performance HR practices can be viewed as one of the tools that help organizational institutions communicate their values and rules to employees and form their identities, which will in turn affect their public service motivated behaviour. According to SDT, the satisfaction of the

three basic needs will result in high levels of autonomous motivation. PSM is viewed as a form of autonomous motivation, and high performance HR practices are seen as an important means of satisfying the basic psychological needs. Therefore, the adoption of high performance HR practices should positively influence PSM.

The link between high performance HR practices and P-O fit can be explained by the ASA framework. According to this framework, organizations attract, select and retain employees whose personal characteristics fit an organization's design. High performance HR practices are believed to be one of the major factors that can help achieve this fit.

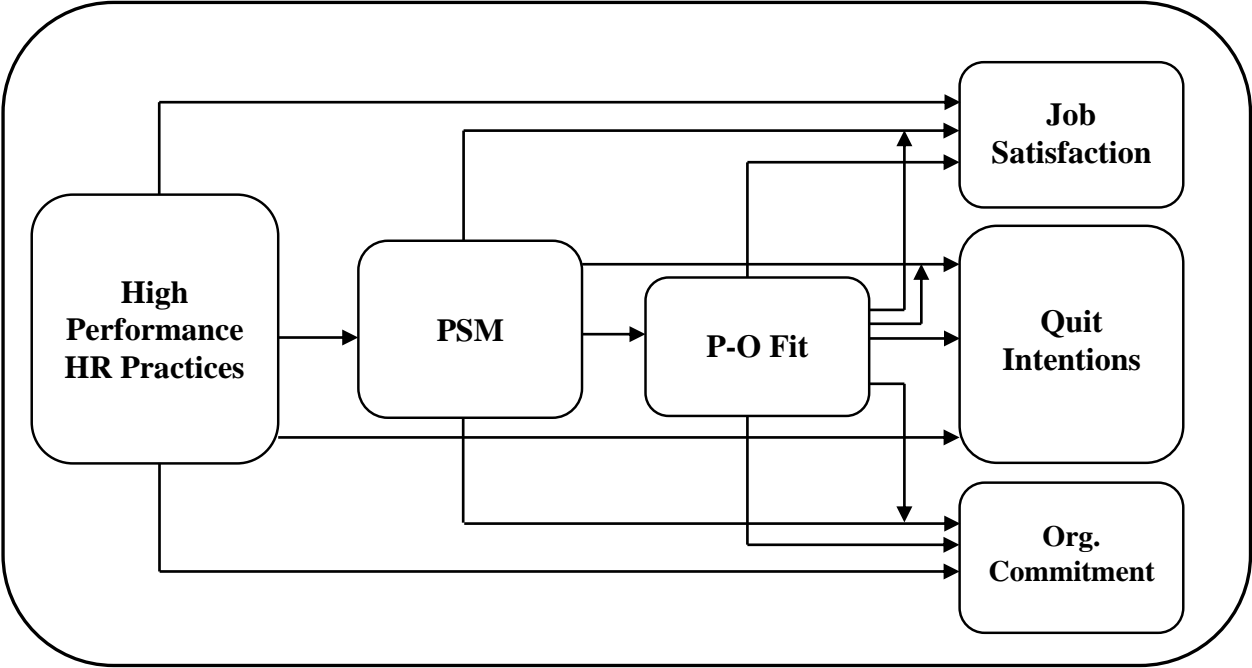
The literature review reported that a positive relationship exists between both PSM and P-O fit, and employee outcomes. However, there has been very little research that has attempted to test these relationships in developing countries. This is what the current research aims to explore by examining the effects of both PSM and P-O fit on the attitudes of public sector employees in Egypt.

The review also reported that the relationship between high performance HR practices and employee attitudes might be mediated by both PSM and P-O fit. However, there has been very little research that has attempted to test the impact of PSM and P-O fit on the relationship between high performance HR practices and employee attitudes. Therefore, this study aims to extend the existing literature on the relationship between high performance HR practices and employee outcomes by testing the mediating effects of both PSM and P-O fit on the link between high performance HR practices and employee attitudes.

It was also reported that the relationship between PSM and employee attitudes might be mediated and moderated by P-O fit. However, there is little empirical research in which the mediating and moderating effects of P-O fit on the relationship between PSM and employee outcomes has been tested. This also the current research will try to explore.

Figure 3.4 presents the hypothesized model for the current study and Table 3.3 summarizes the hypotheses proposed in this study. The next chapter provides an overview of the methodology used to test the hypotheses proposed in the current research.

**Figure 3.4:** Hypothesized Model



**Table 3.3:** Summary of Research Hypotheses

<b>Hypothesis</b>	<b>Description</b>
1a	High performance HR practices will be positively related to employee job satisfaction
1b	High performance HR practices will be positively related to employee organizational commitment
1c	High performance HR practices will be negatively related to employee intention to quit
2	High performance HR practices will be positively related to employees' public service motivation
3a	Public service motivation will be positively related to employee job satisfaction
3b	Public service motivation will be positively related to employee organizational commitment
3c	Public service motivation will be negatively related to employee intention to quit
4a	Public service motivation will mediate the relationship between high performance HR practices and employee job satisfaction
4b	Public service motivation will mediate the relationship between high performance HR practices and employee organizational commitment
4c	Public service motivation will mediate the relationship between high performance HR practices and employee intention to quit
5	High performance HR practices will be positively related to person-organization fit
6a	Person-organization fit will be positively related to employee job satisfaction
6b	Person-organization fit will be positively related to employee organizational commitment
6c	Person-organization fit will be negatively related to employee intention to quit
7a	Person-organization fit will mediate the relationship between high performance HR practices and employee job satisfaction
7b	Person-organization fit will mediate the relationship between high performance HR practices and employee organizational commitment
7c	Person-organization fit will mediate the relationship between high performance HR practices and employee intention to quit
8	Public service motivation will be positively related to person-organization fit
9a	Person-organization fit will mediate the relationship between public service motivation and employee job satisfaction
9b	Person-organization fit will mediate the relationship between public service motivation and employee organizational commitment
9c	Person-organization fit will mediate the relationship between public service motivation and employee intention to quit
10a	Person-organization fit will moderate the relationship between public service motivation and employee job satisfaction
10b	Person-organization fit will moderate the relationship between public service motivation and employee organizational commitment
10c	Person-organization fit will moderate the relationship between public service motivation and employee intention to quit

## **CHAPTER 4**

### **METHODOLOGY AND RESEARCH DESIGN**

#### **4.1 Introduction**

This chapter outlines the methodology used to collect and analyse the data for exploring the study's hypotheses. It aims to link the conceptual framework developed for this research with the empirical results presented in the next three chapters. This chapter is organized around six main topics of methodology: the research paradigm, research design, research context, data collection method, research sampling, and data analysis technique.

#### **4.2 Research Paradigm**

A research paradigm refers to a set of practices and beliefs linked to a specific style of research. It captures the idea that research is mainly conducted in accordance with a particular philosophy and world-view, and that those who function within the research paradigm share those views (Denscombe, 2010).

Ontology, epistemology, and methodology are the three main components of a research paradigm (Grix, 2002). According to Grix (2002), the starting point of all social science research is ontology, after which comes a researcher's epistemological and methodological positions. Ontology is the 'science or study of being' (Blaikie, 2003, p. 8). Specifically, it refers to the 'claims or assumptions that are made about the nature of social reality, claims about what exists, what it looks like, what units make it up and how these units interact with each other' (Blaikie, 2003, p. 8). Thus, ontological assumptions are concerned with what we consider initiates social reality (Blaikie, 2003).

Epistemology is 'the theory or science of the method or grounds of knowledge' (Blaikie, 2003, p. 8). It refers to the claims made about potential means of acquiring knowledge of social reality, whatever it is assumed to be (Blaikie, 2003). Thus, epistemology is concerned with claims about the ways in which what is presumed to be existent may be known (Blaikie, 2003). Finally, methodology refers to the ways of determining knowledge or reality (Guba, 1990), and is concerned with the ways of generating and justifying knowledge (Blaikie, 2003).

According to Bryman and Bell (2007), the major point of orientation in ontology is the question of whether a social entity should be considered an objective entity (referred to as objectivism), or whether it should be considered a social construction made up from the perceptions and actions of social actors (referred to as constructionism). The ontological position of the current study is objectivism. Objectivism claims that social phenomena and their meanings exist independently of social actors; it suggests that social phenomena and the categories used in everyday discourse have an independent or separate existence from actors (Bryman, 2008).

As regards to epistemology, two main epistemological orientations have dominated in the social sciences (Thomas, 2004): positivism and constructionism (also known as interpretivism). Table 4.1 summarizes the major differences between both epistemologies.

**Table 4.1:** Main Differences between Positivism and Constructionism

<i>Epistemology/theory of knowledge</i>	<i>Positivism</i>	<i>Constructionism</i>
<i>Preferred conceptions of:</i>		
The human world	Set of natural objects	Set of human meanings
Analytical approach	Variable analysis	Cultural analysis
Theory of human behaviour/action	Behaviourism	Symbolic interactionism
Relation between structure and action	Explain actions in terms of structures	Explain structures in terms of actions
Knowledge	General, nomothetic, universal	Particular, ideographic, contextual
Data	Given, found	Constructed
Method of securing data	Data collection via observation	Data construction via interpretation
Description	Quantitative measurements	Qualitative descriptions
Explanation	Statistical relations	Narrative accounts
Causal emphasis	External to internal	Internal to external
Prediction	Based on statistical forecasts	Based on understanding of typical behaviour in typical situations
<i>Preferred research approach:</i>		
Research strategies	Experiment, quasi-experiment, survey	Case study, ethnography, action research
Research methods	Self-completion questionnaire, structured interview, structured observation, psychological tests	Unstructured interview, participant observation, personal documents (diaries, letters, etc.)
Analytical method	Multivariate statistical analysis	Hermeneutics
<i>Methodological problems</i>	Internal validity, contextualization	Generalization, replication
<i>Symbol/image</i>	Hard, science, physics, variable net	Soft, humanities, anthropology, cultures

**Source:** Thomas (2004, p. 127)



A further epistemological orientation, which is relatively new to the field of management research, is critical realism (Thomas, 2004). Critical realism is seen as a “middle ground” between positivism and constructionism, and has elements of both (Krauss, 2005, p. 767). It shares with positivism the idea that there is an outside world that is present independent of our knowledge of it. However, it is also like constructionism in that it assumes that the world is not essentially meaningful but is made meaningful by people’s interpretation of it (Thomas, 2004). Thus, according to critical realism, there is a difference between reality and the perception of reality by people (Bisman, 2002). Critical realism differs from both positivism and constructionism in the issue of causes and explanations. It seeks to explain what can be observed in terms of basic structural mechanisms. Thus, a causal claim is ‘about what an object is like and what it can do and only derivatively what it will do in any particular situation’ (Sayer, 1992, p. 105). Within critical realism different methods such as case studies, unstructured or semi-structured in-depth interviews as well as different methods of statistical analyses are considered reasonable and suitable (Bisman, 2002).

Most of the research on the relationship between HRM practices and both organizational performance and individual performance (including employee outcomes) is based on positivism (e.g. Guest, Michie, Conway and Sheehan, 2003; Wright, Gardner and Moynihan, 2003), with very few interpretivist (e.g. Sheppeck and Militello, 2000) and critical realist studies (e.g. Bacon and Blyton, 2001; Truss, 2001). The heavy reliance on the positivistic approach in the HRM-performance research has been criticized by many researchers (e.g. Legge, 2001; Fleetwood and Hesketh, 2008). According to Legge (2001, p. 31), the dependence on positivistic research designs has led research on this area to be ‘at best confused and, at worst, conceptually and methodologically deeply flawed’. Also, according to Fleetwood and Hesketh (2008, p. 126), research on this relation is ‘under-theorised’ and ‘lacks explanatory power’, because using a positivistic approach in studying the HRM-performance relation helps in providing predictions with no explanations at all. According to Fleetwood and Hesketh (2008), researchers applying positivistic research designs claim to predict increased performance following the application of HR practices, but this doesn’t explain the improved performance. Thus, by applying positivistic research designs, the question of why HRM practices are linked to performance is not answered (Fleetwood and Hesketh, 2008).

Critical realism has been suggested by some researchers (e.g. Fleetwood and Hesketh, 2008) as an appropriate alternative to positivism in studying the HRM-performance relation.

According to critical realism, the goal of social science is explanation not prediction (Harney, 2009). Thus, it is believed that critical realism can help in filling the explanatory gap from which the HRM-performance research area is suffering (Fleetwood and Hesketh, 2008), through its support to the use of multiple methods, such as the use of case studies or unstructured interviews along with different methods of statistical analyses (Harney, 2009).

The researcher is aware that no methodology is without weaknesses or critics who will question its validity and reliability in the social science. The researcher also believes that a positivist approach is suitable to the study since it is suitable in the area of business and management studies and is linked with variable analysis and quantification (Thomas, 2004). Positivism has a number of strengths (Kim, 2003). First, the positivistic mode of inquiry facilitates the attempt to gain more output for a researcher's input since it seeks to determine how change in one variable will cause change in another (causal relationships). Second, empirically grounded techniques in the positivist paradigm decrease researchers' biases and values that may contaminate the research process. Thus, positivism offers a self-corrective tool that checks data credibility and reduces the distorting influence of personal subjectivity on the production of knowledge. Third, employing the positivistic approach helps produce knowledge that is externally valid. Thus, the findings of positivist research can be generalized and applied beyond the situation in which the study was originally conducted. Finally, researchers using the positivistic mode of inquiry might capture the discrepancy between the existent theories and the hypotheses they developed, and as a result, challenge previously accepted ideas to resolve inconsistencies. Thus, positivism facilitates the refinement of existent theories by questioning them for more polished applications instead of dwelling on the antecedents of past research.

As regards to methodology, researchers distinguish between quantitative and qualitative research. Table 4.2 presents the differences between these two methodological approaches.

**Table 4.2:** Differences between Quantitative and Qualitative Research

	<b>Quantitative</b>	<b>Qualitative</b>
Ontological orientation	Objectivism	Constructionism
Epistemological orientation	Natural science model, in particular positivism	Interpretivism
Data collection	Pre-coded surveys or other formulaic techniques	Direct, fluid, observational techniques
Data analysis	Statistical analysis aimed at highlighting universal cause and effect relationships	Analysis focused on context-specific meanings and social practices
The role of conceptual framework	Separates theory from methods	Views theory and methods as inseparable

**Source:** Based on Marvasti (2004) and Bryman and Bell (2007)

In the current study, focus has been placed on the quantitative methodology. The quantitative methodology gives emphasis to quantification in both data collection and analysis (Bryman, 2008). It is used by most of the empirical studies conducted within the managerial and behavioural sciences (Baruch and Holtom, 2008). Quantitative research enables testing and validating already constructed theories about how phenomena occur. Here, both data collection and analysis are relatively quick and not time consuming (Johnson and Onwuegbuzie, 2004). In quantitative research, the samples used are much larger in size than those used in qualitative research (Sale, Lohfeld and Brazil, 2002), and therefore, when the data are based on random samples of sufficient size, quantitative research findings can be generalized (Johnson and Onwuegbuzie, 2004).

### **4.3 Research Design**

The general plan for linking the conceptual research problem to pertinent and feasible empirical research is known as research design. It is simply the framework for a study that guides data collection and analysis (Churchill and Iacobucci, 2002). The strategic choice of the research design must come up with an approach that permits answering the research problem in the best way possible within the constraints put on the researcher such as time and budget (Ghauri and Grønhaug, 2002).

When deciding on the research design, two important factors must be taken into consideration: the choice between theory testing and theory building; and the types of research questions (De Vaus, 2001).

The first factor related to research design is concerned with the relation between theory and research. Researchers here choose between deduction and induction. The following table provides a summary of the differences between these two approaches.

**Table 4.3:** Main Differences between Deductive and Inductive Approaches to Research

Deductive emphasises	Inductive emphasises
<ul style="list-style-type: none"> <li>• Scientific principles</li> <li>• Moving from theory to data</li> <li>• The need to explain causal relationships between variables</li> <li>• The collection of quantitative data</li> <li>• The application of controls to ensure validity of data</li> <li>• The operationalization of concepts to ensure clarity of definition</li> <li>• A highly structured approach</li> <li>• Researcher independence of what is being researched</li> <li>• The necessity to select samples of sufficient size in order to generalise conclusions</li> </ul>	<ul style="list-style-type: none"> <li>• Gaining an understanding of the meanings humans attach to events</li> <li>• A close understanding of the research context</li> <li>• The collection of qualitative data</li> <li>• A more flexible structure to permit changes of research emphasis as the research progresses</li> <li>• A realisation that the researcher is part of the research process</li> <li>• Less concern with need to generalise</li> </ul>

**Source:** Saunders, Lewis and Thornhill (2009, p. 127)

*Deduction* is a form of reasoning in which conclusions are validly inferred from some premises and need to be true if those premises are true (Malhorta and Birks, 2007). In deduction, researchers are concerned with theory consequences (Ghauri and Grønhaug, 2002). Research here is conducted with regard to hypotheses, and ideas are deduced from theory (Bryman, 2008). Facts are gathered to affirm or refute hypothesized relations between variables, and conclusions are based on rational thinking (Ghauri and Grønhaug, 2002). *Induction*, on the other hand, is the opposite of deduction (Bryman, 2008). It is a form of reasoning which ‘involves the inference that an instance or repeated combination of events may be universally generalized’ (Malhorta and Birks, 2007, p. 161). In induction, research engenders theory. Facts here are observed to engender theory and conclusions are based on empirical evidence (Ghauri and Grønhaug, 2002).

The current study will adopt a deductive approach. This is due to the existence of sufficient literature that can help in developing research hypotheses and developing a research model (as shown in Chapters 2 and 3).

The second factor related to research design is the type of research. Based on the research problem, we may distinguish between three types of research: exploratory, descriptive and

explanatory. *Exploratory research* is particularly suitable for the clarification of our understanding of a research problem (Saunders et al., 2009). It mainly aims at discovering ideas and insights (Churchill and Iacobucci, 2002). Exploratory research is mainly used when the research problems are unstructured and are badly understood (Ghauri and Grønhaug, 2002). *Descriptive research* is used to provide a precise profile of persons, events or situations (Saunders et al., 2009). It is mainly concerned with identifying the frequency with which something occurs or the relationships between variables. Descriptive research is guided by one or more specific hypotheses (Churchill and Iacobucci, 2002). Here, the research problem is structured and properly understood (Ghauri and Grønhaug, 2002). *Explanatory research*, which is also referred to as causal research, is used when researchers are confronted with problems of cause and effect (Ghauri and Grønhaug, 2002). It usually takes the form of experiments (Churchill and Iacobucci, 2002). As is the case with descriptive research, explanatory research is used when the research problem is structured (Ghauri and Grønhaug, 2002).

Based on the nature of the research questions, the current research can be classified as descriptive research. Descriptive studies can be classified as either longitudinal or cross-sectional (Churchill and Iacobucci, 2002). In *longitudinal studies*, a ‘fixed sample of population elements is measured repeatedly’ (Malhorta and Birks, 2007). Longitudinal studies involve panel data. A *panel* is simply a fixed sample of elements. These elements may be individuals or other entities from whom repeated measurements are taken. Panels are of two types: true and omnibus. *True panels* are those in which similar measurements are taken in each period of measurement. *Omnibus panels*, on the other hand, are those in which dissimilar measurements are taken in each period of time (Churchill and Iacobucci, 2002).

*Cross-sectional studies* (also referred to as sample surveys) involve the collection of information from a specified sample of population elements merely once (Churchill and Iacobucci, 2002; Malhorta and Birks, 2007). The current study will adopt a cross-sectional research design. Cross-sectional research is the most frequently used type of descriptive design (Churchill and Iacobucci, 2002; Malhorta and Birks, 2007). It is also considered by some researchers as the most important type of descriptive research (Churchill and Iacobucci, 2002). Cross-sectional data is more representative of the general population than longitudinal data (Malhorta and Birks, 2007). Additionally, cross-sectional research is relatively inexpensive and takes little time to conduct (Levin, 2006).

#### **4.4 Research Context: Implications of Culture and Religion on HRM, PSM and Employee Attitudes in Egypt**

According to Leat and El-Kot (2007), Hofstede's (1980) cultural dimensions have important implications for HRM in Egypt. The Egyptian culture is classified as being collectivistic in context with high power distance, strong uncertainty avoidance and moderate levels of masculinity (Parnell and Hatem, 1999; Beekun et al., 2007; Leat and El-Kot, 2007). In Egypt, loyalty to the group takes priority over the job task requirements. Friendship has a significant influence on both selection and promotion practices and nepotism is very common (Hatem, 1999). In many Egyptian organizations, employment is long term and rewards are based on seniority. Performance related rewards are also usually group or relationship based (Leat and El-Kot, 2007). Because of the high power distance, employees in Egypt rarely disagree with their managers or supervisors who are usually seen as autocratic (Hatem, 1999). Additionally, job duties and responsibilities are not clearly defined in many Egyptian organizations. This enables managers and supervisors to exercise authority in a personal manner (Leat and El-Kot, 2007). As in many developing countries, many Egyptian managers believe that the human potential and capabilities are very limited and somewhat fixed. This makes career planning, and training and development within Egyptian organizations very limited (Leat and El-Kot, 2007).

However, during recent years, organizations, managers and employees in Egypt have been exposed to more international influences. It is believed that such influences have impacted work-related values as well as the HRM practices employed by organizations. For many Egyptian organizations, improving organizational effectiveness has become a major concern, with a focus on both increasing productivity and reducing cost (Leat and El-Kot, 2007).

As mentioned in the introductory chapter of this thesis, Islam is the dominant religion in Egypt. Islam has been found to shape the cultural values and beliefs of Egyptians (Keenan, 2003; Ali, 2010), and is assumed to have an effect on employee work-related values and expectations along with management practice (Leat and El-Kot, 2007). The Islamic work ethic places much emphasis on self-discipline, industriousness, dedication to work, workplace generosity, teamwork, consultation in decision making and serving society (Yousef, 2001; Branine and Pollard, 2010; Gould-Williams and Mohamed, 2010). Moreover, the Islamic work ethic has been found to influence employees' attitudes and behaviours, where employees supporting the Islamic work ethic were found to be highly committed to

their organizations, satisfied with their jobs and willing to display citizenship behaviours (Yousef, 2001; Alhyasat, 2012). On this basis, it could be anticipated that both public and private sector workers in Egypt will display high levels of PSM and positive work-related attitudes and behaviours. However, it's beyond the scope of this study to test these assumptions.

As regards to management practice, it is argued that there is a difference between what is expected according to Islamic principles and what is actually practiced by Egyptian and Arab managers (Branine and Pollard, 2010). Islamic management principles mainly seek to link organizational interests to those of society (Ali, 2010). However, because of economic pressures and attempts to reduce costs, very few organizations in the Arab world, including Egypt, have incorporated Islamic management principles in employment policies and practice (Ali, 2010; Branine and Pollard, 2010). As mentioned above, during recent years, organizations in Egypt have been exposed to more international influences and it is believed that such influences have impacted the HRM practices used by Egyptian organizations (Leat and El-Kot, 2007). This study assesses the influence of Western management practices (high performance HR practices) on employee outcomes in the Egyptian public sector.

Historically, employment in the Egyptian public sector was highly desirable as it offered high levels of job security and status. However, over the last decade, increasing numbers of public sector services are provided by private sector organizations who offer employees better working conditions and salaries. As such, working in the public sector has, to a large extent, lost its appeal, with recruitment becoming increasingly difficult (Holmes, 2008; Ma, Fouly, Li and D'Antonio, 2012). Furthermore, public sector employees often work simultaneously across the public/private sectors to enhance their standard of living. This again suggests that, in the Egyptian context, PSM is not sector specific as employees will have the same values whether they work in the public or private sectors. This proposition is in line with recent research in which PSM was associated with the *nature of work* itself rather than the *sector* in which the work is undertaken (Lyons, Duxbury, and Higgins, 2006; Kjeldsen and Jacobsen, 2013).

Consistent with public organizations in other countries, Egyptian public organizations have the following characteristics: Decision-making is highly centralized with a strict chain of command and formalization; the laws and regulations that govern the work in this sector are vague, complex and sometimes contradictory; high levels of red tape constrain and regulate

employee activities in this sector. These characteristics are thought to have a negative effect on employees and their delivery of public services (Moynihan and Pandey, 2007a; Giaque, Anderfuhren-Biget, and Varone, 2012). However, the current study does not attempt to evaluate their impact on workers in our study.

## 4.5 Data Collection Method

The questionnaire survey was used as the data collection tool in the current study. According to Yin (2009), there are three major factors that need to be considered when selecting a research method (see Table 4.4 for a summary):

1. *Types of research questions being asked.* According to Yin (2009), this is the most important question for differentiating between the different research methods. As shown in Table 4.4, ‘who’, ‘what’, ‘how much’, and ‘to what extent’ questions are appropriate for questionnaire surveys. In the current study, the nature of the research questions being investigated, for example ‘what is the relationship between high performance HR practices and employee attitudes?’ is appropriate for the use of surveys.
2. *Extent of researcher control over behavioural events.* The questionnaire survey is the preferred research method when the researcher has little or no control over behavioural events (Yin, 2009), as is the case with the current study.
3. *The extent of focus on contemporary as opposed to historical events.* When the focus is on investigating contemporary events, the questionnaire survey is the appropriate research method (Yin, 2009). The current research focuses on the on-going contemporary issues of high performance HR practices, PSM and P-O fit.

**Table 4.4:** Situations for Different Research Methods

Method	Form of Research Question	Requires Control of Behavioural Events?	Focuses on Contemporary Events?
<i>Experiment</i>	How, why	Yes	Yes
<i>Survey</i>	Who, what, where, how many, how much	No	Yes
<i>Archival analysis</i>	Who, what, where, how many, how much	No	Yes/no
<i>History</i>	How, why	No	No
<i>Case study</i>	How, why	No	Yes

**Source:** Yin (2009, p. 8)

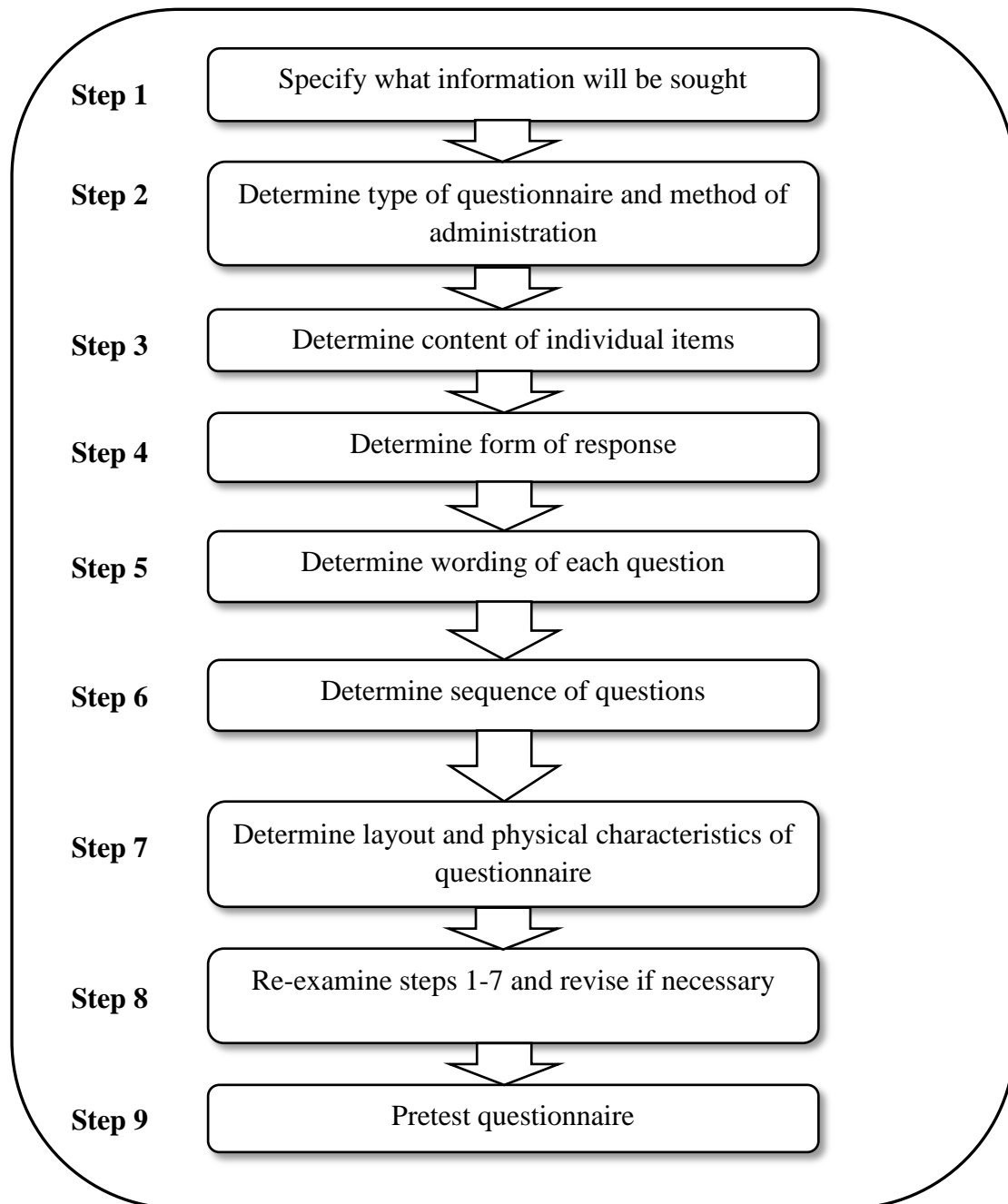


According to Baruch and Holtom (2008), questionnaires are the most frequently used tools in acquiring information within the managerial and behavioural sciences. Questionnaires have a number of advantages. They are relatively inexpensive and have the ability of describing large population characteristics and eliminating observer subjectivity by presenting all study subjects with standardized stimulus which helps in turn in obtaining higher reliability (Palmquist, 2011). Questionnaires also can help provide insight into the attitudes and perceptions of individuals in addition to organizational practices and policies (Baruch and Holtom, 2008). They are also usually used to examine relationships between variables, explain these relationships and generate models of these relationships (Saunders et al., 2009). The questionnaire development process is discussed in the following subsection.

#### **4.5.1 Questionnaire Development Process**

This section describes the step-by-step procedure followed by the researcher in developing the questionnaire for the present study (see Figure 4.1). This procedure was suggested by Churchill and Iacobucci (2002).

**Figure 4.1:** Questionnaire Development Process



**Source:** Churchill and Iacobucci (2002, p. 315)

**Step 1: Specify Information Sought**

The specification of the required information for the present study depended mainly on the hypothesized relationships documented in the conceptual framework. More specifically, the measurement instrument was designed to solicit responses for the constructs mentioned in the

conceptual framework. Demographic questions were also incorporated into the questionnaire to gain a better understanding of the respondents' general profile.

### **Step 2: *Type of Questionnaire and Method of Administration***

Structured questionnaires were used to collect data in the current study. Questionnaires could be either self-administered or investigator-administered (Mitchell and Jolley, 2010). Self-administered questionnaires are filled out by respondents in the absence of the researcher. Investigator-administered questionnaires, on the other hand, are filled out in the researcher's presence. According to Mitchell and Jolley (2010), both self-administered and investigator-administered questionnaires allow many respondents to be surveyed at the same time. However, self-administered questionnaires usually allow respondent anonymity while investigator-administered questionnaires usually decrease perceived anonymity. Allowing respondent anonymity usually helps in gaining honest answers to highly personal or sensitive questions (Mitchell and Jolley, 2010). Accordingly, the researcher relied on the use of self-administered questionnaires. The questionnaire was presented to respondents by the researcher and the purpose of the study was explained. The respondents were then left alone to fill out the questionnaire, which was collected later. This approach, according to Oppenheim (2005), ensures a minimum of interviewer bias, high response rates and accurate sampling.

### **Step 3: *Determine Content of Individual Questions***

The first two steps largely influence the content of individual questions. In this step, the researcher needs to identify what and how many questions should be included in the questionnaire (Churchill and Iacobucci, 2002). The main objective here is to ensure content validity (for definition of content validity see section 4.9.1).

All the study constructs were measured using items validated in previous research. The following paragraphs explain the operationalization of the constructs of this study besides a number of issues related to the measurement of high performance HR practices, PSM, P-O fit and employee attitudes.

***High performance HR practices.*** Kinnie, Hutchinson, Purcell, Rayton and Swart (2005) distinguished between espoused or intended HRM policies, actual HRM practices, and employee perceived HRM practices. Such a distinction was because employee attitudes and behaviours are mainly influenced by the way HRM practices are actually implemented by managers or supervisors and perceived by employees, not by the way these practices are

intended to operate (Kinnie et al., 2005). Additionally, studies on intended HRM practices have been criticized for being exposed to high subjectivity levels from respondents. Respondents in these studies were usually HR or other top-level managers (Kazlauskaite, Buciuniene and Turauskas, 2012). Moreover, according to Kehoe and Wright (2013), employees' perceptions of HRM practices are likely to be more predictive of employee attitudinal and behavioural outcomes than are the ratings of HRM practices that are provided by managers. Thus, empirical studies on the relationship between HRM and performance should be conducted using employee responses (Kehoe and Wright, 2013). Accordingly, high performance HR practices in the current study were measured as employee perceived HR practices rather than intended HR practices.

According to Kehoe and Wright (2013), coherent systems of HR practices that reinforce each other are more likely to support sustainable performance outcomes than individual practices. Sun, Aryee and Law (2007) also assert that it is the system of HR practices that provides the organization with a strategic asset and therefore, the effects of HR practices should be considered from a systems rather than an individual perspective. Accordingly, in the current study, the systems approach is adopted in the analysis.

There is no agreement on which HRM practices should be included in high performance work systems. However, according to Kehoe and Wright (2013), all the practices in high performance HRM systems focus on promoting employee ability, motivation, and opportunity (see Appelbaum et al., 2000). Accordingly, six HRM practices reflecting the high performance approach and widely recognized as crucial for enhancing worker abilities, motivation and opportunity (Appelbaum et al., 2000) were used in the current study. These practices are the most widely used practices in the public and government sector studies on the link between HRM practices and employee outcomes (e.g. Tessema and Soeters, 2006; Gould-Williams, 2007; Boselie, 2010; Gould-Williams and Mohamed, 2010), and are used by Egyptian organizations (Sadler-Smith, El-Kot and Leat, 2003; Leat and El-Kot, 2007).

Consistent with recent recommendations by Jiang, Lepak, Hu and Baer (2012), the HRM practices included in the current study were divided into ability-enhancing HRM practices which are selection, and training and development, motivation-enhancing HRM practices which are job security and promotion, and opportunity-enhancing HRM practices which are autonomy and communication. Even though private sector studies include performance related pay as a high performance practice, it was not included in the current study because

the findings of a number of studies suggest that financial incentives are likely to undermine PSM (Forest, 2008; Perry and Hondeghem, 2008). This is explained by motivation crowding theory, which postulates that external interventions (such as performance related pay) decrease intrinsic motivation (Frey and Jegen, 2001)<sup>2</sup>. Holding socially useful jobs, serving certain ethical goals or helping others are more important for employees with high levels of PSM than financial rewards. Thus, linking the pay of employees who have high levels of PSM to their performance would prove to be counterproductive (Forest, 2008).

Twenty four items were used to measure employee perceptions of high performance HR practices. These items were taken from previous research (Gould-Williams, 2003; Yu and Egri, 2005; Morgeson and Humphrey, 2006; Macky and Boxall, 2007; Sun et al., 2007; Zhang, Wan and Jia, 2008; Boselie, 2010; Gould-Williams and Gatenby, 2010; Kehoe and Wright, 2013). The 24 items were measured using a seven-point Likert scale ranging from 'strongly disagree' (1) to 'strongly agree' (7).

- (1) My organization's hiring policy and process is fair
- (2) Considerable importance is placed on the hiring process by my organization
- (3) Very extensive efforts are made by my organization in the selection of new workers/employees
- (4) The organization hires only the very best people for this job
- (5) My organization offers opportunities for training and development
- (6) In my opinion, the number of training programs provided for employees by my organization is sufficient
- (7) When my job involves new tasks, I am properly trained
- (8) My organization provides excellent opportunities for personal skills development
- (9) Employees in this job can be expected to stay with this organization for as long as they wish
- (10) Job security is almost guaranteed to employees in this organization
- (11) If the organization was facing economic problems, employees would be the last to get downsized.
- (12) I am certain of keeping my job
- (13) I have good opportunities of being promoted within this organization
- (14) The promotion process used by my organization is fair for all employees

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<sup>2</sup> Results from a recent study by Jacobsen, Hvitved and Andersen (2013) suggest that motivation crowding out is relevant for autonomous motivation rather than just intrinsic motivation.

- (15) Employees who desire promotion in this organization have more than one potential position they could be promoted to
- (16) Qualified employees in this job have the opportunity to be promoted to positions of greater pay and/or responsibility within the organization
- (17) My organization allows me to plan how I do my work
- (18) My organization allows me to make a lot of job decisions on my own
- (19) My organization allows me to decide on my own how to go about doing my work
- (20) My organization gives me considerable opportunity for independence and freedom in how I do the work
- (21) Management keeps me well informed of how well the organization is doing
- (22) The communication between me and other employees at work is good
- (23) The communication between me and the managers/supervisors at work is good
- (24) Employees in my organization regularly receive formal communication regarding organizational goals and objectives

**PSM** refers to a '*set of motives that drive an individual to engage in behaviours that benefit society*'. The measurement of PSM is 'plagued' with several issues (Vandenabeele, 2009, p. 17). According to Kim (2011, p. 522), the development of an instrument to measure PSM is an 'evolutionary process', which requires repeated iterations of this instrument. Different studies on PSM have shown that the measures of PSM differ culturally (Giauque, Ritz, Varone, Anderfuhren-Biget, and Waldner, 2011). This leads to the need for a 'contextualization of PSM' (Giauque et al., 2011, p. 232). Contextualization means that the items used to measure PSM need to be modified to fit different local contexts (Giauque et al., 2011).

Different measures of PSM have been used by different studies. Some studies measured PSM using all the four dimensions of PSM identified by Perry (1997) (attraction to policy making, commitment to public interest, compassion, and self-sacrifice) (e.g. Taylor, 2007; Liu et al., 2008; Anderfuhren-Biget, Varone, Giauque and Ritz, 2010). Other studies measured PSM using three of the four dimensions (e.g. Pandey et al., 2008; Wright and Pandey, 2008), while some measured PSM using only one of the four dimensions (e.g. Castaing, 2006; Moynihan and Pandey, 2007b). However, according to Kim and Vandenabeele (2010), the 4 dimensions that form PSM must be included in any study of PSM. They argue that each of these dimensions must be treated as an important component of the PSM construct. Kim and Vandenabeele (2010) argue that each PSM dimension provides a unique contribution to the

PSM construct. They also argue that if only two or three dimensions of PSM are measured in a study, then the study may not be regarded fully as a study on PSM. Accordingly, 13 items measuring the 4 dimensions of the PSM construct have been used in the current study. These items are appropriate for the Egyptian context<sup>3</sup>. They were developed by Perry (1996) and Giaque et al. (2011), and were measured on a seven-point Likert scale ranging from ‘strongly disagree’ (1) to ‘strongly agree’ (7).

- (1) I am prepared to make enormous sacrifices for the good of the society
- (2) Serving citizens would give me a good feeling even if no one paid me for it
- (3) It is definitely more important to me to do good deeds than doing well financially
- (4) Making a difference in society means more to me than personal achievements
- (5) It is difficult for me to contain my feelings when I see people in distress
- (6) I am often moved by the plight of the underprivileged
- (7) I am often reminded by daily events about how dependent we are on one another
- (8) I am very interested in what is happening in my society
- (9) I would prefer seeing public officials do what is best for the society even if it harmed my interest
- (10) I unselfishly contribute to my society
- (11) I am very interested in politics
- (12) I like to discuss political issues with others
- (13) I don't care much for politicians

**P-O fit** refers to the ‘*compatibility between the values and goals of an employee and those of the organization in which he or she works*’. P-O fit can be assessed by using either direct or indirect measures (Kristof, 1996). Direct measures of fit involve asking respondents explicitly for their perceptions of fit in their organization. Such measures are beneficial if the objective is to assess *perceived* fit. Indirect measures of fit, on the other hand, involve an explicit comparison between separate assessments of respondent and organizational characteristics. These measures are used to assess *actual* fit (Kristof, 1996). Direct measures of fit have been found to be stronger than indirect measures. They have also been found to be better predictors of employee outcomes in organizations (Bright, 2007). Accordingly, direct measures have been used in the current study to assess the fit between an employee and his

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<sup>3</sup> The 24 items of the PSM scale developed by Perry (1996) and the items of the *attraction to policy making* scale of Giaque et al. (2011) were translated by the researcher and presented to 3 Egyptian public sector professionals. These professionals then selected together the items that they found were most appropriate for the Egyptian context.

organization. P-O fit was measured using the items developed by Cable and Judge (1996), Bright (2007) and Park, Monnot, Jacob and Wagner (2011). These items were measured on a seven-point Likert scale ranging from ‘strongly disagree’ (1) to ‘strongly agree’ (7).

- (1) My values match or fit the values of my organization
- (2) My goals are very similar to the goals of my organization
- (3) My values match those of current employees in this organization
- (4) Overall, I think I fit well with my organization

**Job satisfaction** refers to ‘*an employee’s general attitude toward his job*’. Job satisfaction was measured using a 3 item measure of overall job satisfaction developed by Seashore, Lawler, Mirvis, and Camman (1982). This ‘global’ scale is the preferred measure of job satisfaction (Wanous, Reichers and Hudy, 1997). It focuses on employees’ perceptions of their job, rather than different aspects of their work (such as pay, supervision and co-workers), which in turn is more likely to result in fewer methodological concerns (Wanous et al., 1997). These items were measured using a seven-point Likert scale ranging from strongly disagree (1) to strongly agree (7).

- (1) In general, I like working here
- (2) In general, I don’t like my job (R)
- (3) Overall, I am satisfied with my job

**Organizational commitment** is ‘*the level of an employee’s attachment to his or her organization*’. As mentioned in Chapter 2, Organizational commitment in the current study was regarded as affective commitment. Compared to continuous and normative commitment, affective commitment has been found to have the strongest and most favourable associations with both employee and organization-relevant outcomes such as work stress and performance (Meyer et al., 2002). Furthermore, according to Kim (2012), affective commitment is of higher importance in public sector organizations than both continuous and normative commitment. Affective commitment was measured using 3 items from the scale developed by Meyer, Allen and Smith (1993). These items were measured on a seven-point Likert scale ranging from ‘strongly disagree’ (1) to ‘strongly agree’ (7).

- (1) I feel emotionally attached to this organization
- (2) I really feel as if this organization’s problems are my own
- (3) I feel a strong sense of belonging to my organization



**Intention to quit** is the ‘*extent to which an employee plans not to continue membership with his organization*’. Intention to quit was measured using the items developed by O’Reilly, Chatman, and Caldwell (1991). These items were measured on a seven-point Likert scale ranging from ‘strongly disagree’ (1) to ‘strongly agree’ (7).

- (1) I would prefer another more ideal job to the one I have now
- (2) If I have my way, I won’t be working for this organization a year from now
- (3) I have seriously thought about leaving this organization
- (4) I don’t intend to remain with this organization for long

#### **Step 4: Determine Form of Response to Questions**

Mainly, questions are of two forms: open-ended and closed-ended. Open-ended questions are those questions for which no response categories are specified. Closed-ended questions, on the other hand, require respondents to choose from a set of listed alternatives (Morrow, Jackson, Disch and Mood, 2011). The questions used in the current study’s questionnaire were closed-ended with predetermined response types accompanying each question. Closed-ended questions are easy to analyse and code. They also result in higher response rates than open-ended questions since they are easier for respondents to answer (Morrow et al., 2011).

To ensure uniformity, a seven-point Likert scale was applied to all questionnaire items. Seven-point Likert scales help yield data that is amenable to advanced parametric and multivariate statistical analysis (Sierles, 2003). Personal information was gained through a combination of dichotomous and multichotomous questions.

#### **Step 5: Determine Wording of Each Question**

According to Churchill and Iacobucci (2002), the phrasing of each question is a critical task. Poor question phrasing could either result in respondents refusing to answer the question (referred to as item nonresponse), or answering incorrectly which in turn results in measurement error.

To ensure that the questions were properly worded, the researcher followed some general principles suggested by Churchill and Iacobucci (2002). First, ambiguous words were avoided and simple words were used. Second, questions framed in a way that give respondents a clue about how they should answer (referred to as leading questions) were avoided. Third, double-barrelled questions (questions that call for two responses) were avoided. Finally, the questions used were as clear and specific as possible.

**Step 6: *Determine Sequence of Questions***

The question sequence is of vital importance to the success of the research effort (Churchill and Iacobucci, 2002). Poor question sequencing may confuse respondents, bias responses and negatively influence the response rate (Rea and Parker, 2005).

Question sequencing in the study questionnaire was mainly based on the guidelines proposed by Churchill and Iacobucci (2002) and Synodinos (2003). First, the opening questions were simple to comprehend and easy to answer so as to build respondent confidence and maintain respondent cooperation and involvement throughout the questionnaire. Second, similar questions were grouped together and items were arranged topically. Finally, the questions pertaining to respondent demographic characteristics were placed in the last section of the questionnaire since such questions are regarded as sensitive.

**Step 7: *Determine Layout and Physical Characteristics of the Questionnaire***

The layout and the physical characteristics of a questionnaire are of vital importance since they can influence respondent cooperation and the ease with which responses can be processed (Churchill and Iacobucci, 2002). The study questionnaire was designed in a way so as to have a professional appearance. It was printed on good quality paper and consisted of 3 pages. The length of the questionnaire is important. Short questionnaires are preferred over long ones because they appear easy and require less time to complete, which in turn results in high response rates (Churchill and Iacobucci, 2002). Moreover, the questions were numbered in order to facilitate handling and promote respondent cooperation. The numbering of questions makes the editing, coding and tabulation of responses easier (Churchill and Iacobucci, 2002).

Finally, a cover letter was attached to each questionnaire. The letter outlined the purpose of the study and provided assurance of confidentiality. It also included the researcher's name and contact details. Cover letters are very important in convincing respondents to cooperate (Churchill and Iacobucci, 2002).

**Step 8: *Re-examine and Revise if Necessary***

Re-examination and revision are essential in questionnaire development (Churchill and Iacobucci, 2002). Accordingly, each question was reviewed to ensure that it was not confusing, ambiguous, bias inducing or difficult to answer.

### **Step 9: Questionnaire Pretesting**

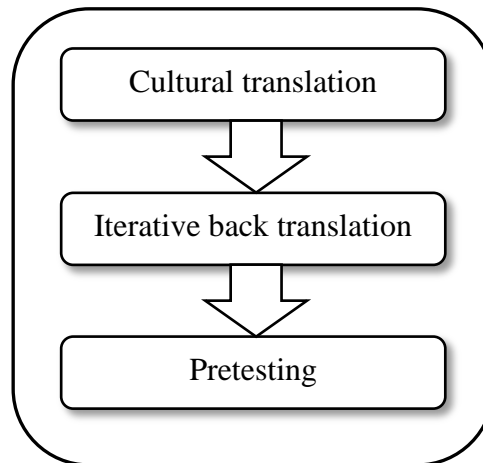
According to Churchill and Iacobucci (2002), data collection should never start without an adequate pretest of the questionnaire. Pretesting helps in refining the questionnaire (Synodinos, 2003). It helps in discovering poor question wording or sequencing as well as errors in the questionnaire layout and instructions (Nelson, 1985). The study questionnaire was first translated and then pretested. This will be discussed in the following subsection.

#### **4.5.2 Questionnaire Translation**

According to Cha, Kim and Erlen (2007), the use of previously developed instruments with good psychometric properties may help save both time and effort. However, in order to be valid, these instruments must be properly translated and culturally acceptable. Consequently, the translation process is an essential part of cross-cultural research (Cha et al., 2007). Several translation techniques exist in cross-cultural research including direct translation, back translation and parallel translation. However, Brislin's (1970) back translation is the most widely used technique to check for translation accuracy in survey research (Douglas and Craig, 2007). In this technique, a bilingual translator blindly translates a questionnaire from the original language (known as the source language) to the target language. A second bilingual translator then back-translates the questionnaire from the target language to the original language. Both the original and back-translated versions of the questionnaire are then compared for concept equivalence. The target translation will be considered accurate if the back-translated version of the questionnaire is similar to the source.

Back translation has been described by many researchers as one of the most effective and adequate questionnaire translation techniques (McGorry, 2000). When using this technique, questionnaires go through several filters produced by researchers' independently which in turn help identify any translation errors. However, the use of back translation does not eliminate the problems that originate from cultural or linguistic differences (Su and Parham, 2002). To overcome these problems, the present study adopted the translation procedures suggested by Su and Parham (2002). These procedures help generate a valid translation of a questionnaire (Su and Parham, 2002). Figure 4.2 outlines the translation procedures adopted in this research.

**Figure 4.2:** Translation Procedure



**Step 1:** *Cultural Translation*

The first step to generate a valid questionnaire is to conduct a cultural translation. In cultural translation, the source version of the questionnaire is revised so as to accommodate to cultural and language differences between the target and source cultures (Su and Parham, 2002). Two bilingual Egyptians were involved in this step. They were native speakers of Arabic and were competent in the English language. The project was explained to both of them and the questionnaire was sent to them for comments regarding the cultural relevance of the items. Their feedback was then collected and all the comments and suggestions were discussed with each one of them. When a consensus was reached and each agreed with the revision, the source version of the questionnaire was ready for the translation process.

**Step 2:** *Iterative Back Translation Process*

To start the back translation process, the researcher translated the source version of the questionnaire (culturally revised version of the questionnaire resulting from the first step) into Arabic. The researcher's goal here was to recast the meaning of the source version in the target language rather than literally translate the words of the source version. The resulting Arabic version was then back-translated into English by two bilingual translators who had not seen the source version of the questionnaire. Both translators were citizens of Egypt, native speakers of Arabic, and were competent in the English language. After both back-translators finished their translations independently, they reviewed each other's translation and reached a consensus on the back-translated instrument.

After the back translation process, both the source version of the questionnaire and the back-translated version were taken to a monolingual reviewer. This reviewer spoke English as his native language. The reviewer compared each item of the back-translated version of the questionnaire and the source version so as to identify any errors that might make differences in the meaning people would infer. These guidelines were made in keeping with the cross-cultural translation literature, which puts emphasis on equivalence of meaning as the main factor in producing valid translation (Brislin, 1970). After some discussion, some items of the source version were reworded for easier translation. After this process, the Arabic version of the questionnaire was ready for pretesting.

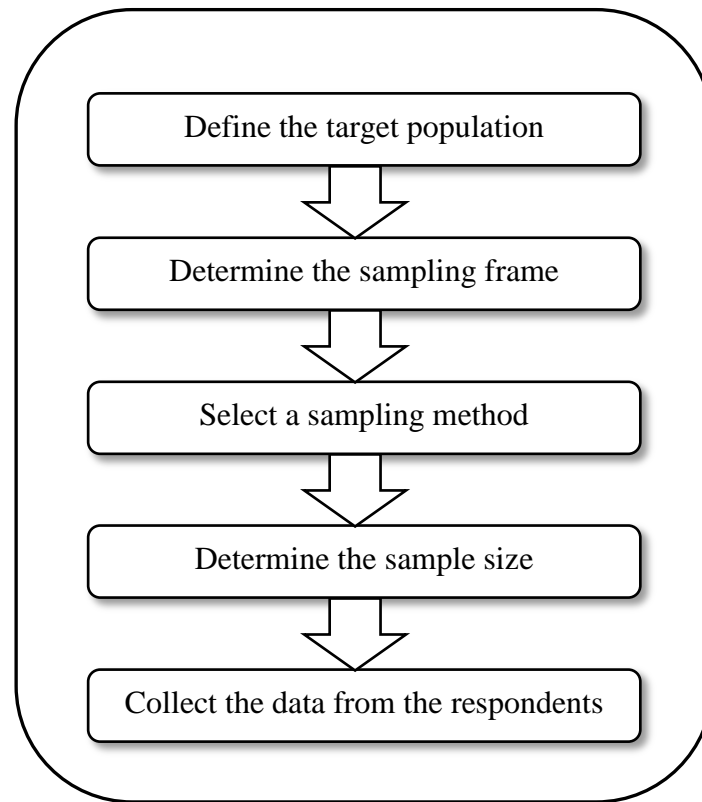
### **Step 3: *Pretesting***

In a pretest, a small pilot study is conducted to determine how a questionnaire can be improved so as to reduce response errors (Bolton, 1993). Here, individuals representative of the population for whom the questionnaire is directed fill out the questionnaire and then give feedback to the researchers who developed this questionnaire (Su and Parham, 2002). The main aim of the pretest was to refine the translation. Six individuals employed in both the health and the higher education sectors were involved in this step. After completing the questionnaire, they were asked if there were any problems with the meanings of the instructions and if there were any items that were confusing or difficult to understand. Based on their suggestions, a few minor changes were made to the questionnaire such as replacing the word ‘organization’ in all items by the word ‘institution’.

## **4.6 Sampling design**

In survey research, it is usually uncommon to survey the entire population due to both time and cost constraints. Instead, researchers usually prefer the use of sampling (McDonnell, Lavelle, Gunnigle and Collings, 2007). Sampling is the process of selecting a small number of units from a larger group selected for participation in a study (Malhorta and Birks, 2007). The present study followed a five-step procedure for drawing a sample based on the suggestions of Churchill and Iacobucci (2002) and Malhorta and Birks (2007). Figure 4.3 illustrates the sample drawing procedure adopted in the current research.

**Figure 4.3:** A Five-Step Procedure for Drawing a Sample



**Source:** Based on Churchill and Iacobucci (2002) and Malhorta and Birks (2007)

**Step 1:** *Define the Target Population*

The target population is the group of individuals that possess the information required by the researcher and about which inferences are to be made (Malhorta and Birks, 2007). The most important thing in defining the target population is the precise specification of who should and who should not be included in the sample (Churchill and Iacobucci, 2002; Malhorta and Birks, 2007).

The target population for this study consists of professionals in the Egyptian health and higher education sectors. Both the health and higher education sectors are responsible for providing basic public services (Whitfield, 2001). Including employees from these two sectors with different professions and performing different tasks will ensure the robustness of the results regarding their applicability to different professions and tasks (Andersen and Pedersen, 2012).

Professionals in the health and higher education sectors are among the most highly educated in the Egyptian society, and as suggested by Pandey and Stazyk (2008, p. 103), higher education is expected to have a positive relationship with PSM because of ‘the key

socializing role education plays in shaping individual beliefs'. This assumption is supported by the findings of previous studies (Perry, 1997; Moynihan and Pandey, 2007a). The level of professionalism is also expected to affect the level of PSM (Perry and Hondeghe, 2008). Moynihan and Pandey (2007a) found that membership in professional societies had a significant positive effect on PSM. Accordingly, professionals constituting the study population are expected to be high on PSM. The major characteristics of the Egyptian health and higher education sectors are discussed in the following subsections.

### **Egyptian Health Sector**

The Egyptian healthcare system is highly complex and pluralistic, with many public and private providers (Salah, 2007). Although most of the Egyptian healthcare industry is dominated by the public sector (about 60% of the hospitals in Egypt are owned by the government), the private health industry is also rapidly growing. The health system in Egypt has a strong infrastructure of physicians, hospitals and clinics, medical devices and pharmaceuticals. There is also excellent physical access to health care in Egypt where about 95% of Egyptians live within five kilometres of a medical facility (Salah, 2007).

The most powerful professional group in the Egyptian health sector is physicians. Employment security is guaranteed for all public sector physicians, but their training is usually inadequate. Because of their low salaries, physicians are allowed to work concurrently for both the government and the private sector, and more than 80% of physicians in Egypt conduct private clinics besides their public employment (Salah, 2007).

As much as physicians are needed in the Egyptian health sector, nurses are also important. Nurses are considered the 'backbone' of the healthcare system in any country (Ma et al., 2012, p. 127). Nowadays, Egypt suffers from a severe shortage of nurses, especially qualified nurses. The physician to nurse ratio in Egypt is estimated to be 1.7 physicians to 1 nurse, while the average ratio in other countries in the world is 1 physician to 2.98 nurses. This shortage may be attributed to the low salaries of nurses in Egypt, where the best educated nurses migrate to the Gulf nations so as to improve their living standard (Ma et al., 2011).

Besides physicians and nurses, pharmacists are also believed to be important to the health care sector, especially in developing countries like Egypt (Azhar, Hassali, Ibrahim, Ahmad, Masood and Shafie, 2009). In Egypt, the roles of pharmacists vary from preparing and supplying medicines to sharing pharmaceutical expertise with physicians, nurses and patients. The density of pharmacists in Egypt is above the Middle East and North African average

(USAID, 2011). However, like physicians and nurses, the salaries of pharmacists in Egypt are low. This has forced many of them to migrate to the Gulf states in order to improve their standard of living.

### **Egyptian Higher Education Sector**

Egypt has one of the largest higher education systems in North Africa and the Middle East. The Egyptian higher education sector is composed of both public and private universities besides technical and professional training institutions (Abdellah and Taher, 2008). The focus in the current study will be on public universities, where the majority of Egyptian students are enrolled in public universities (Holmes, 2008). In Egypt, as in many other countries in Africa and the Arab world, public universities suffer from a number of problems such as insufficient funding, limited academic freedom and low research quality (Al-Rashdan, 2007; Holmes, 2008). However, recently Egyptian governments have recognized the need to reform public universities and have invited donors such as the World Bank to evaluate the current system and implement recommendations. The Higher Education Enhancement program applied by the World Bank is now working to establish accreditation standards for Egyptian public universities based upon the British educational model (Holmes, 2008).

In Egyptian public universities, professors and lecturers are paid low salaries and are not graded for their performance. This usually results in a brain drain of top Egyptian intellectuals, where more than 50,000 Egyptian instructors have taken jobs in the Arab Gulf states. This led the Egyptian ministry of education to recently start implementing incentives to university instructors so as to keep them motivated and committed to teaching in Egypt. Such incentives include providing monetary bonuses, increasing pensions of retirees and providing health care funds (Holmes, 2008).

### **Step 2: *Identify the Sampling Frame***

A sampling frame is the listing of the elements of the target population from which the sample will be drawn (Churchill and Iacobucci, 2002). The sampling frame for the current research is based on professionals from public universities and hospitals in Egypt. The sampling units consist of Egyptian public hospitals physicians (consultant, specialist and intern physicians), nurses and pharmacists, and Egyptian public universities teaching staff (professors, assistant professors, lecturers, assistant lecturers and demonstrators).



### **Step 3: Select a Sampling Technique**

In Egypt, data collection is very difficult (Hatem, 1994; Leat and El-Kot, 2007). Egyptians are not used to filling in questionnaires and returning them. Incompleteness of responses and lack of respondent cooperation usually complicate the process of data collection in Egypt (Hatem, 1994). This results in problems regarding both the validity and reliability of responses. Accordingly, when gathering primary data in Egypt, convenience sampling is believed to be the most appropriate form of sampling. Other sampling methods would be unlikely to generate the desired responses (Hatem, 1994; Leat and El-Kot, 2007). Therefore, the current study employed a convenience sample.

A convenience sample is a type of non-probability sample in which subjects are selected based on their accessibility or convenience to the researcher (Ross, 2005). This type of sample is also sometimes called *accidental sample* as the elements composing the sample may be drawn into the sample simply because they just happen to be located where the researcher is collecting the study data (Churchill and Iacobucci, 2002; Ross, 2005). Convenience samples are very common in social research and are widely used in organization studies since they help save time, effort and money (Bryman, 2008).

### **Step 4: Determine the Sample Size**

The sample size in the study was mainly driven by the data analysis method used. Structural equation modelling (SEM) was the main method of data analysis used in this study. Different opinions exist regarding the recommended sample size for SEM (Hoe, 2008). Some suggest a minimum ratio of at least 5 respondents per parameter, while others consider that a ratio of 10 respondents for each estimated parameter is more appropriate (Hair, Anderson, Tatham and Black, 1998). According to other researchers (e.g. Garver and Mentzer, 1999), 200 is the critical sample size for SEM, and as a rule of thumb, any number above 200 is believed to offer enough statistical power for data analysis (Hoe, 2008). However, according to Iacobucci (2009, p. 92), this rule of thumb is both 'conservative' and 'simplistic'. Iacobucci (2009) argues that even with small samples of 50 to 100 participants, SEM models can perform well.

According to Hair, Black, Babin and Anderson (2010), a number of factors affect the sample size requirements for SEM such as model complexity, missing data and multivariate normality. Simple models with complete and normally distributed data usually require samples of smaller size than those models that are complex and contain missing or non-normally distributed data (Hair et al., 2010). Following the examination of the relevant

literature and given the complexity of the proposed conceptual model, a sample size of 750 was considered appropriate for the current study.

#### **Step 5: Data Collection**

The final step in the sample selection process is the actual collection of data from the designated respondents. The researcher distributed 1000 questionnaires (500 to higher education professionals and 500 to health care professionals). From the questionnaires distributed, a total of 689 completed questionnaires were returned to the researcher (340 from higher education professionals and 349 from health care professionals). Of these, 671 were useable for analysis, giving an effective response rate of 67 %.

### **4.7 Managing Common Method Bias**

Common method bias, also referred to as common method variance (Spector, 2006), refers to the statistical variance caused by the method of measurement rather than the constructs the measure represents (Podsakoff, MacKenzie, Lee, and Podsakoff, 2003). There is a general agreement among researchers that common method bias is a serious problem in organizational and behavioural research (Podsakoff, MacKenzie, and Podsakoff, 2012). It is one of the major sources of measurement error which threatens the validity of conclusions regarding the relationships between measures (Podsakoff et al., 2003).

Ideally, common method bias could be controlled by collecting the measures of the study variables from more than one source (Podsakoff et al., 2003; Podsakoff et al., 2012). However, since this was not possible in the present study, a number of procedural remedies were followed in the design of the study questionnaire so as to reduce common method bias (Podsakoff et al., 2003; Podsakoff et al., 2012). First, study variables were measured with psychological separation. The questions measuring high performance HR practices, employee attitudes, PSM, and P-O fit were located in different parts of the questionnaire and with different sets of instructions so as to make it appear that the measures of the variables are not connected with or related to each other. Second, efforts were made to guarantee respondent anonymity and reduce respondent apprehension. Respondents were assured that their responses would be kept anonymous and were informed that there were no right or wrong answers. Finally, as discussed above in section 4.5, careful attention was paid to the construction of the scale items. Vague concepts, unfamiliar items and double-barrelled questions were avoided. Additionally, a pilot study was conducted so as to reduce item ambiguity and keep questions precise.

Statistical techniques were used besides the above procedural remedies to confirm that common method bias was controlled. A number of statistical techniques have been used by researchers to detect and control common method bias. However, the two most widely used techniques are the Harman's one-factor test and the unmeasured latent method factor technique (Podsakoff et al., 2003; Podsakoff et al., 2012), and both were used in the current study. Traditionally, the Harman's single-factor test involves conducting an exploratory factor analysis on all the study variables and examining the unrotated solution to determine the number of factors that account for the variance in the variables. The main assumption of this test is that if common method bias exists, either one factor will emerge from the analysis or one factor will account for most of the covariance among measures. Recently, researchers started conducting the Harman's test using confirmatory factor analysis, which is believed to be a more sophisticated means of testing the hypothesis that one factor can account for most of the variance in the data (Podsakoff et al., 2003). Accordingly, confirmatory factor analysis will be used in the current study to perform the Harman's single-factor test.

According to Podsakoff et al. (2003), the Harman's test is an insensitive test in that it is unlikely that a single factor model will fit the data. Accordingly, another statistical technique was used to check for common method bias: the unmeasured latent method factor. This technique involves allowing the study items to load on their theoretical constructs in addition to a latent common methods factor. The significance of the structural parameters is then examined with and without the latent common methods factor in the model. One of the major advantages of this approach is that it models the influence of the method factor at the measurement rather than the construct level. It also does not require the identification and measurement of the factor responsible for the method effect (Podsakoff et al., 2003; Podsakoff et al., 2012). The results of the assessment of common method bias are presented in Chapter 6.

#### **4.8 Data Analysis Method**

The empirical analysis for the present study aimed at examining the interrelationships between multiple independent and dependent variables (high performance HR practices and employee attitudes) and the mediating effects of PSM and P-O fit on these relationships. For this type of analysis, SEM has been recommended as the most appropriate analytical strategy (Byrne, 2010; Hair et al., 2010). SEM (also referred to as latent variable analysis or covariance structure analysis) is a statistical technique used for specifying and estimating

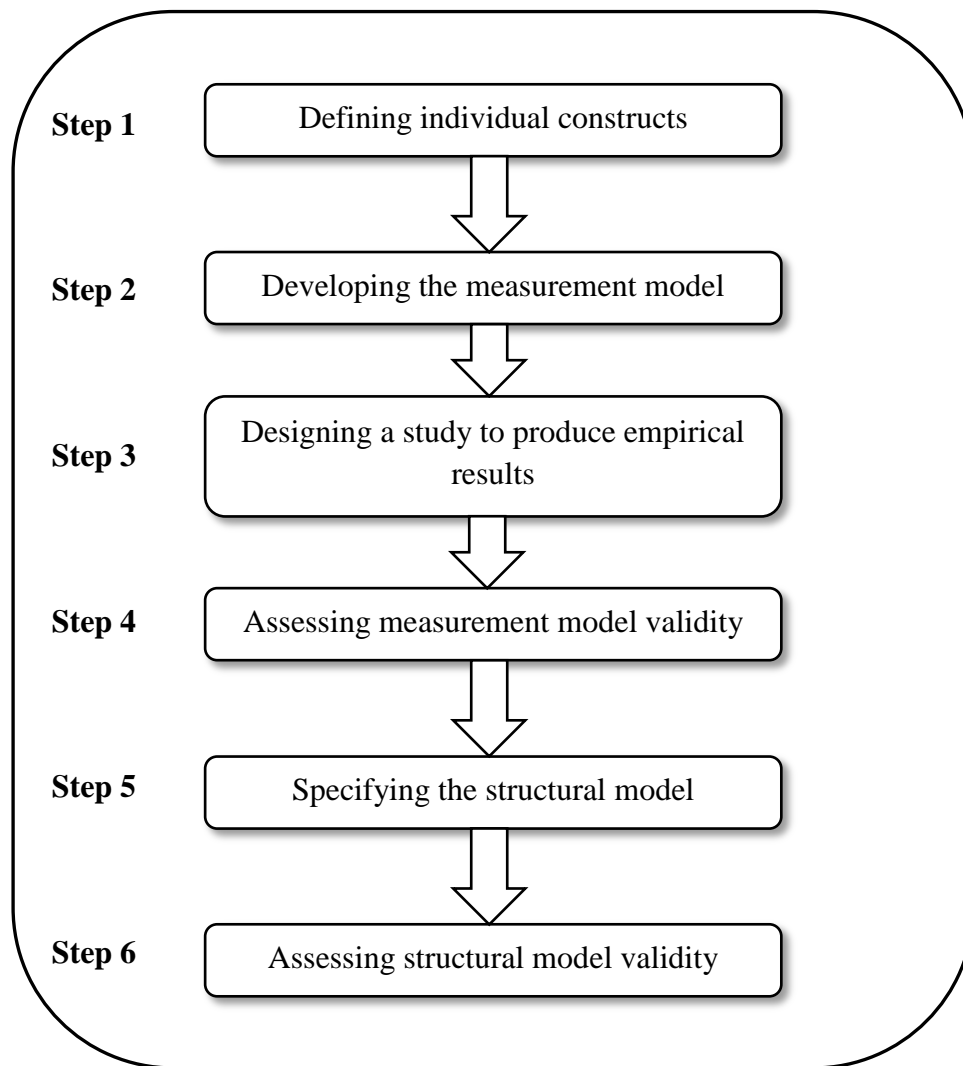
models of linear relationships between variables (MacCallum and Austin, 2000). It is a flexible and powerful tool that combines aspects of both multiple regression and factor analysis (Hair et al., 2010). SEM is especially valuable in the analysis of inferential data and the testing of hypotheses where the pattern of interrelationships between the constructs of the study are specified *a priori* and grounded in established theory (Hoe, 2008). SEM is usually used to test causal relationships between variables. It allows the measurement of a number of variables and their interrelationships simultaneously (Hoe, 2008).

SEM differs from other multivariate techniques in a number of ways. First, it takes a confirmatory approach to the analysis of data rather than an exploratory approach. Unlike exploratory analysis, confirmatory data analysis requires the hypothesized causal relationships to be specified *a priori*. Then the model is tested, and based on a number of fit indices is either accepted or rejected. Second, unlike other multivariate techniques that are based only on observed measurements, SEM can include both observed (i.e. manifest) and unobserved (i.e. latent) variables. Third, while traditional multivariate techniques are incapable of either measuring or correcting for measurement error, SEM estimates measurement error and permits the incorporation of errors within the model (Hair et al., 2010). Finally, unlike other multivariate methods, SEM offers an effective way of dealing with multicollinearity (Bacon, 1997). Because of all these desirable characteristics, SEM was employed in the current study as the main method of data analysis.

#### **4.8.1 SEM Analysis Procedures**

The real value of SEM originates from the benefits of using the structural and measurement models at the same time, with each playing distinct roles in the total analysis (Hair et al., 2010). To guarantee that both models are properly specified and the results are valid, a six-step process suggested by Hair et al. (2010) has been applied in the current study (see Figure 4.4).

**Figure 4.4:** A Seven-Step Process for Structural Equation Modelling



**Source:** Based on Hair et al. (2010)

**Step 1: *Defining Individual Constructs***

A good measurement theory is an essential condition to gain useful results from SEM. This is achieved through a good theoretical definition of constructs. This definition provides the foundation for selecting individual indicator items (Hair et al., 2010). Scale items could come from previous studies or could be developed. In both cases, a researcher's selection of the items measuring each construct sets the base for the whole remainder of the SEM analysis. In the current research, established scales from previous studies were used. Nowadays, this approach is the most commonly used by researchers in academic studies (Hair et al., 2010).

**Step 2: *Developing the Overall Measurement Model***

In this step, the latent constructs to be included in the model are identified and the measured indicator variables (i.e. items) are assigned to each latent construct. Thus, this stage can be

thought of as ‘assigning individual variables to constructs’ (Hair et al., 2010, p. 657). The major elements in the specification of the measurement model are: (a) measurement relationships between items and constructs, (b) correlational relationships between constructs, and (c) items error terms (Hair et al., 2010).

### **Step 3: *Designing a Study to Produce Empirical Results***

In this step, issues related to both research design and model estimation are considered. Research design involves three major issues (Hair et al., 2010): (1) the type of data to be analysed; (2) impact of sample size; and (3) missing data impact and remedies. The first two issues have been discussed in previous sections of this chapter (see sections 4.5 and 4.6). Missing data is a problem that usually occurs in survey data and faces researchers who use SEM (Enders and Bandalos, 2001; De Leeuw, Hox and Huisman, 2003). There are four major approaches for solving missing data problems (Hair et al., 2010): (a) listwise deletion, whereby observations with any missing values are discarded and only cases that are complete on all variables are used (Enders and Bandalos, 2001); (b) pairwise deletion, whereby all available data are used and cases are discarded on a variable by variable basis (Enders and Bandalos, 2001); (c) imputation methods (e.g. mean and median imputation); and (d) model-based approaches. Any of these four approaches could be used if less than 10 % of observations are missing and data are missing at random (Hair et al., 2010). Missing data in the current study will be discussed in more detail in Chapter 6.

Regarding model estimation, maximum likelihood estimation (MLE), which is the most widely used SEM estimation method, has been used. MLE is a flexible approach to parameter estimation and has proven to be quite robust against violations of the multivariate normality assumption (Iacobucci, 2009; Hair et al., 2010). The AMOS (Analysis of Moment Structures) software program has been chosen to conduct the SEM analysis and test the proposed model. AMOS has been particularly designed to make SEM easier (Bacon, 1997). It has a unique and user-friendly graphical interface with drag-and-drop drawing tools that permit path diagram construction and quick model specification (Bacon, 1997; Steiger, 2001). It also presents the analysis results in a visual framework that is easy to understand. According to (Steiger, 2001, p. 333), the availability and ease of use of AMOS have enhanced the general view that SEM is a ‘natural mode of thought’.

#### **Step 4: Assessing Measurement Model Validity**

Assessing the validity of the measurement model is the most fundamental step in SEM testing. According to Hair et al (2010), the validity of the measurement model depends on (a) establishing acceptable goodness-of-fit levels for the measurement model, and (b) finding proof of construct validity. The assessment of the overall model goodness-of-fit is discussed in the following paragraphs while the investigation of construct validity is discussed in section 4.9.1.

Goodness-of-fit (GOF) measures the degree of correspondence between the actual or observed covariance matrix and the one predicted by the estimated or proposed model. GOF measures are classified into three groups: absolute fit measures, incremental fit measures and parsimony fit measures (Hair et al., 2010). *Absolute fit indices* measure the extent to which the proposed model reproduces the observed data. They only assess the overall fit of the model (both the structural and measurement models together) without comparing it with any other model. Absolute fit measures include the Chi-square ( $\chi^2$ ) statistic, the goodness-of-fit index (GFI), the root mean square error of approximation (RMSEA) and the standardized root mean residual (SRMR). *Incremental fit indices* compare the proposed model to some alternative baseline model which is usually referred to as null model. This measure includes indices such as the normed fit index (NFI), the Tucker-Lewis index (TLI), the comparative fit index (CFI) and the relative non-centrality index (RNI). *Parsimony fit indices* provide information about which model amongst a set of competing models is best, taking into account its fit relative to its complexity. They are helpful in comparing the fit of two models, one more simple than the other. The most widely used parsimony fit measures include the adjusted goodness-of-fit index (AGFI) and the parsimony normed fit index (PNFI). Table 4.5 presents the description and acceptable fit levels of each index.

There is much debate on what constitutes an adequate or good fit. According to Hair et al (2010), two main questions need to be answered when selecting a measure of model fit: first, what are the best fit indices to reflect a model's fit objectively? Second, what are the objective cut-off values that suggest good model fit for a given fit index? It is suggested that the use of three to four indices helps provide adequate model fit evidence and that at least, besides the  $\chi^2$  value, one absolute fit index and one incremental index should be reported (Hair et al., 2010). Accordingly, the GFI and RMSEA were employed in the current study as absolute fit indices, and the CFI and TLI were used as incremental fit indices.

**Table 4.5:** Summary of Goodness-of-fit Indices

Fit Index	Description	Acceptable fit
<b>Absolute fit measures</b>		
Chi-square ( $\chi^2$ )	Test of null hypothesis that the estimated variance-covariance matrix deviates from the sample. Significantly affected by sample size. The larger the sample, the more likely it is that the $p$ -value will imply a significant difference between model and data.	Non-significant with a $p$ -value of at least 0.05 ( $p > 0.05$ ).
Normed Fit Chi-square ( $\chi^2/\text{df}$ )	Chi-square statistics are only meaningful taking into account the degrees of freedom. It is also regarded as a measure of absolute fit and parsimony.	Values less than 2 and as high as 5 indicate a reasonable fit.
Root Mean Square Error of Approximation ( <b>RMSEA</b> )	Representing how well the fitted model approximates per degree of freedom.	Values between 0.05 & 0.08 indicate adequate fit.
Goodness-of-Fit Index ( <b>GFI</b> )	Representing a comparison of the square residuals for the degree of freedom.	Values $> 0.95$ indicate good fit; values between 0.90 & 0.95 indicate adequate fit.
Standardised root mean residual ( <b>SRMR</b> )	Representing a standardised summary of the average covariance residuals. Covariance residuals are the difference between observed and model-implied covariances.	Values $< 0.05$ indicate good fit; values between 0.01 & 0.05 indicate adequate fit.
<b>Incremental fit measures</b>		
Buntler-Bonett Normed Fit Index ( <b>NFI</b> )	Representing a comparative index between the proposed and more restricted, nested baseline model (null model) not adjusted for degree of freedom, thus the effects of sample size are strong.	Values $> 0.95$ indicate good fit; values between 0.90 & 0.95 indicate adequate fit.
Tucker-Lewis Index ( <b>TLI</b> ) - also known as Buntler-Bonett Non Normed Fit Index ( <b>NNFI</b> )	Comparative index between proposed and null models adjusted for degrees of freedom. Can avoid extreme underestimation and overestimation and is robust against sample size. Highly recommended as fit index of choice.	Values $> 0.95$ indicate good fit; values between 0.90 & 0.95 indicate adequate fit.
Comparative Fit Index ( <b>CFI</b> ) - identical to Relative Non-centrality Index ( <b>RNI</b> )	Comparative index between proposed null models adjusted for degrees of freedom. Interpreted similarly as NFI but may be less affected by sample size. Highly recommended as the index of choice.	Values $> 0.95$ indicate good fit; values between 0.90 & 0.95 indicate adequate fit.
<b>Parsimony fit measures</b>		
Adjusted Goodness-of-Fit Index ( <b>AGFI</b> )	Goodness-of-fit adjusted for the degrees of freedom. Less often used due to not performing well in some applications.	Values $> 0.95$ indicate good fit; values between 0.90 & 0.95 indicate adequate fit.
Parsimony Normed Fit Index ( <b>PNFI</b> )	This index takes into account both the model being evaluated and the baseline model.	Higher values indicate better fit.

**Source:** Adapted from Kline (2005); Byrne (2010); Hair et al. (2010)



#### **Step 5: Specifying Structural Model**

This step involves the specification of the structural model through assigning relationships from one construct to another according to the proposed theoretical model. Although the emphasis in this step is on the structural model, the measurement specifications should also be included for the estimation of the SEM model. The path diagram, in this way, represents the measurement part together with the structural part of SEM in one model (Hair et al., 2010). By the end of this step the model should be ready for estimation. This will be the test of the overall theory, comprising both the measurement relationships of indicators to constructs and the hypothesized structural relationships between constructs (Hair et al., 2010).

#### **Step 6: Assessing Structural Model Validity**

The final step of SEM is to test the validity of the complete structural model besides its corresponding hypothesized relationships. It should be noted that only when the measurement model has achieved acceptable fit, attention could be turned to testing the structural relationships. If acceptable fit is not achieved for the measurement model, model fit will not improve when the structural relationships are specified (Hair et al., 2010).

The general guidelines outlined in step 4 are also followed for establishing the validity of the structural model. However, good model fit alone is not enough to support a proposed structural theory. Individual parameter estimates representing each hypothesis should also be examined. The structural model is only considered acceptable when it shows acceptable model fit and the path estimates representing the hypotheses are statistically significant and in the predicted direction (Hair et al., 2010).

### **4.9 Validity and Reliability of Measures**

Validity and reliability are two main criteria for social research evaluation (Bryman, 2008). Validity and reliability are related where validity assumes reliability and a measure that is not reliable cannot be valid (Malhorta and Birks, 2007; Bryman, 2008). Both are believed to be tools of an essentially positivistic epistemology and consequently are relevant to quantitative research but not to qualitative research (Altheide and Johnson, 1998). This section outlines the procedures used to assess the validity and reliability of the research instruments.

### **4.9.1 Validity**

Validity refers to the extent to which a measurement instrument is accurate and really measuring what it is aimed to measure (Mason, 2002). Validity is not a property of a measure, but an indication of the degree to which an assessment measures a specific construct in a specific context. Thus, a measure may have a high degree of validity for one purpose but not for another (Herman, Osmundson and Dietel, 2010). Researchers usually assess content validity and construct validity.

#### **4.9.1.1 Content Validity**

Content validity (also known as face validity) is a subjective assessment of the extent of correspondence between the items constituting a scale and its theoretical definition (Malhorta and Birks, 2007; Hair et al., 2010). It is the degree to which the scale items capture the key facets of a construct (Rungtusanatham, 1998). Content validity is usually established through expert or researcher judgement (Malhorta and Birks, 2007; Hair et al., 2010). The current study assessed content validity through the use of expert judges (academic members of staff) who examined whether the scale items cover the full domain of the constructs being measured. Content validity is not a sufficient measure of scale validity but it helps in a ‘common-sense’ interpretation of the scores of a scale (Malhorta and Birks, 2007, p. 358). A more formal evaluation of scale validity can be achieved by examining construct validity.

#### **4.9.1.2 Construct Validity**

Construct validity refers to the extent to which a measurement instrument measures the theoretical construct it is designed to measure (Hair et al., 2010). It is the most difficult form of validity to establish (Malhorta and Birks, 2007). Construct validity includes convergent validity and divergent validity.

Convergent validity is the degree to which a construct’s items are correlated with each other. High convergent validity occurs when the scale’s items are highly correlated (Malhorta and Birks, 2007). In the present study, convergent validity was established by examining statistically significant factor loadings on each construct. Standardized loading estimates of 0.5 or higher indicate convergent validity (Hair et al., 2010). Convergent validity was also assessed by examining the average variance extracted (AVE) from the measures. An AVE of 0.5 or more indicates adequate convergent validity (Hair et al., 2010). Convergent validity results are presented in Chapter 6.

Divergent validity (also referred to as discriminant validity) is the degree to which a construct is truly different from other constructs (Hair et al., 2010). This type of validity involves demonstrating a lack of or low correlations between different constructs (Malhorta and Birks, 2007). Thus, high divergent validity delivers evidence that a construct captures some phenomena other measures do not (Hair et al., 2010). In the present study, divergent validity was assessed by comparing the square root of the AVE values with the correlation estimate between constructs. Evidence of divergent validity is provided if the square root of the AVE for a construct is higher than the correlation estimate between that construct and all other constructs. In other words, divergent validity is achieved if the AVE of a construct is higher than the squared correlation between that construct and other constructs (Hair et al., 2010). The results of divergent validity are presented in Chapter 6.

#### **4.9.2 Reliability**

Reliability refers to the extent to which a measure is consistent, stable and produces replicable results overtime (Malhorta and Birks, 2007; Bryman, 2008). Coefficient alpha (also known as Cronbach's alpha) is the most popular reliability measure used by researchers (Malhorta and Birks, 2007; Hair et al., 2010). According to Kline (1999), coefficient alpha values between 0.7 and 0.8 are usually acceptable. However, when dealing with psychological constructs, values less than 0.7 (but more than 0.6) are acceptable because of the diversity of the measured constructs (Kline, 1999).

A major problem with coefficient alpha is its positive relationship with the number of scale items. Increasing the number of the scale items will increase the value of coefficient alpha. Thus, Cronbach's alpha may be inappropriately inflated by including several redundant items (Malhorta and Birks, 2007; Hair et al., 2010). To overcome this problem, reliability measures derived from confirmatory factor analysis (CFA) were suggested (Hair et al., 2010). These measures include the composite reliability and the AVE, and both measures are believed to provide more rigorous results (Hair et al., 2010). Accordingly, the reliability of the study constructs was assessed using Cronbach's alpha, the composite reliability and the AVE.

Composite reliability refers to the extent to which a set of indicators share in their measurement of a construct (Koufteros, 1999). It is a measure of the homogeneity and internal consistency of the items that comprise a scale. Constructs that are highly reliable are those in which the indicators are intercorrelated highly and thus indicating that they are all measuring the same latent construct. Composite reliability values of 0.6 or more are generally

considered acceptable (Bagozzi and Yi, 1988). However, values of 0.8 or more are preferable (Koufteros, 1999). Composite reliability is calculated as follows:

$$\text{Composite Reliability} = \frac{(\sum \text{Standardized Loading})^2}{(\sum \text{Standardized Loading})^2 + \sum \varepsilon_j}$$

In the above equation  $\varepsilon_j$  is the measurement error of each indicator and can be calculated as  $1 - (\text{Standardized loading})^2$ .

A supplementary measure to composite reliability is the AVE (Hair et al., 1998; Koufteros, 1999). The AVE is a measure of the overall amount of variance in the indicators accounted for by the latent construct (Koufteros, 1999). Higher values of variance extracted occur when the indicators are really representative of the latent construct. The recommended level of extracted variance is 0.5 or more (Bagozzi and Yi, 1988). The AVE is calculated as follows:

$$\text{Average Variance Extracted} = \frac{\sum \text{Standardized Loading}^2}{\sum \text{Standardized Loading}^2 + \sum \varepsilon_j}$$

The results of scale reliability are presented in Chapter 6.

#### 4.10 Unidimensionality

Unidimensionality refers to the existence of one latent construct underlying a set of items (Steenkamp and van Trijp, 1991; Koufteros, 1999). A number of traditional methods such as exploratory factor analysis, item-total correlations and Cronbach's alpha can be used to test for unidimensionality (Steenkamp and van Trijp, 1991). However, some researchers argue that these techniques are suitable for assessing reliability but cannot be used to assess unidimensionality (Koufteros, 1999). A better way to test for unidimensionality is to perform a CFA and assess overall measurement model fit using goodness-of-fit indices together with other diagnostic tools such as standardized residuals and modification indices (Koufteros, 1999). The  $\chi^2$  statistic could also be used to evaluate the overall fit of the hypothesized model. However, this statistic is sensitive to sample size (i.e. as the sample size increases, the probability of model rejection also increases). Accordingly, the normed Chi-square ( $\chi^2/\text{df}$ ; df is the degree of freedom) was used in the current study since it was suggested by a number of researchers as a better fit metric (Hooper, Coughlan and Mullen, 2008). More details on the normed Chi-square statistic and other fit indices can be found in section 4.8 above. The results of unidimensionality are presented in Chapter 6.

#### **4.11 Summary**

This chapter has provided a detailed explanation of the methodological approach used in the current study. The present study is positioned within the positivist research paradigm and accordingly, research strategies related to quantitative research have been discussed. The present study is a descriptive cross-sectional study based on a deductive approach. The questionnaire survey was used as the main data collection method, and its development and translation followed the rigorous procedures recommended by Churchill and Iacobucci (2002) and Su and Parham (2002), respectively. SEM was used to test the proposed research model and hypotheses, and its steps were discussed. A brief discussion of issues of validity, reliability and unidimensionality was presented in the final part of this chapter. The following chapter will present the results of descriptive data analysis.

## **CHAPTER 5**

### **DESCRIPTIVE ANALYSIS**

#### **5.1 Introduction**

This chapter focuses on the descriptive analysis of the final data collected from the survey and summarizes the basic statistics related to the respondents' demographic profile and the constructs of the study. The Statistical Package for Social Sciences (SPSS) version 14.0 was used for the descriptive analysis of the data.

The chapter is structured into three sections. The first section deals with the response rate and non-response bias. The second section presents the demographic profile of the survey respondents. The final section of the chapter deals with the descriptive analysis of responses to the questionnaire items.

#### **5.2 Response Rate and Non-Response Bias**

The researcher distributed 1000 questionnaires to professionals in the higher education and health sectors. From the questionnaires distributed, a total of 689 completed questionnaires were returned to the researcher. Of these, 671 were useable for analysis, giving an effective response rate of 67 %. This response rate is considered to be satisfactory, where according to Baruch and Holtom (2008), the average response rate for surveys in management and behavioural science research is 52.7%.

Non-response bias, also known as non-response error, occurs when respondents of a survey differ significantly from non-respondents on the variables of interest in a study (Dooley and Lindner, 2003; Coderre, Mathieu and St-Laurent, 2004). According to Dooley and Lindner (2003), when non-response bias occurs, the conclusions drawn and recommendations made in a study are not valid. To check for non-response bias, responses of early respondents to the survey were compared to the responses of late respondents, where late respondents were used as a proxy for non-respondents (Armstrong and Overton, 1977). The first 10 percent of returned questionnaires were considered as early respondents and the last 10 percent were considered as late respondents. Independent sample t-tests were conducted to determine whether significant differences existed between the two groups of respondents. The results

showed that there were no significant differences in most of the response patterns of early and late respondents, suggesting that non-response bias is not a problem in the present study.

### 5.3 Overall Demographic Profile of the Sample

The demographic profile of the survey respondents is presented in Table 5.1. Of the total respondents, 46.5% were female and 53.5% were male. As for the age of respondents, more than half of the respondents (51%) were between 20 and 30 in age, 22% were between 31 and 40 and the rest were above 40. As to educational level, 30.8% of the respondents had a PhD degree, 20.7% had a Masters degree, 41.7% had a bachelor's degree and the remainder had intermediate vocational education. In total, 340 respondents (50.7%) were employed in the health sector and 331 (49.3%) were employed in higher education.

**Table 5.1:** Overall Demographic Profile of Survey Respondents

Demographic Variable	Category	Research Sample (n = 671)	
		Frequency	Percentage (%)
Gender	Male	359	53.5%
	Female	312	46.5%
Age	20 to 30	341	50.8%
	31 to 40	148	22.1%
	41 to 50	54	8%
	51 to 60	66	9.8%
	More than 60	62	9.2%
Highest educational qualification	Bachelor	280	41.7%
	Masters	139	20.7%
	PhD	207	30.8%
	Other	45	6.8%
Sector	Health	340	50.7%
	Higher education	331	49.3%

The demographic profile of the health sector and higher education respondents is presented in the following subsections.

#### 5.3.1 Demographic Profile of Health Sector Respondents

The demographic profile of the health sector respondents is presented in Table 5.2.

**Table 5.2:** Demographic Profile of Health Sector Respondents

Demographic Variable	Category	Sample (n = 340)	
		Frequency	Percentage (%)
Gender	Male	130	38.2%
	Female	210	61.8%
Age	20 to 30	225	66.2%
	31 to 40	88	25.9%
	41 to 50	16	4.7%
	51 to 60	10	2.9%
	More than 60	1	0.3%
Highest educational qualification	Bachelor	207	60.9%
	Masters	83	24.4%
	PhD	5	1.5%
	Other	45	13.2%
Current job	Consultant physician	8	2.4%
	Specialist physician	76	22.4%
	Intern physician	141	41.4%
	Nurse	47	13.8%
	Pharmacist	68	20%
Length of service in current institution	Under 5 years	171	50.3%
	5 to 10 years	113	33.2%
	11 to 15 years	27	8%
	More than 15 years	29	8.5%

As shown in Table 5.2, 61.8% of the health sector respondents were female and 38.2% were male. As for the age of respondents, more than half of the respondents (66.2%) were between 20 and 30 in age, 25.9% were between 31 and 40, and the rest were above 40. As to educational level, more than half of the respondents (60.9%) had a bachelor's degree, 24.4% had a Masters degree, 13.2% had intermediate vocational education, and only 5 respondents (1.5%) had a PhD degree. The occupational distribution of the respondents varied widely. The largest group of the respondents was intern physicians (41.5%) followed by specialist physicians (22.4%), pharmacists (20%), nurses (13.9%), and finally, consultant physicians (2.4%). Regarding the length of service in their current institution, more than half of the respondents (50.3%) served in their current institutions for less than 5 years, 33.2% served for between 5 and 10 years, and the remainder served in their current institutions for more than 10 years.



### 5.3.2 Demographic Profile of Higher Education Respondents

The demographic profile of the higher education respondents is presented in Table 5.3.

**Table 5.3:** Demographic Profile of Higher Education Respondents

Demographic Variable	Category	Sample (n = 331)	
		Frequency	Percentage (%)
Gender	Male	229	69.2%
	Female	102	30.8%
Age	20 to 30	116	35%
	31 to 40	60	18.1%
	41 to 50	38	11.5%
	51 to 60	56	16.9%
	More than 60	61	18.4%
Highest educational qualification	Bachelor	73	22.1%
	Masters	56	16.9%
	PhD	202	61%
	Other	-	-
Current job	Professor	100	30.2%
	Assistant professor	41	12.4%
	Lecturer	60	18.1%
	Assistant lecturer	50	15.1%
	Demonstrator	80	24.2%
Length of service in current institution	Under 5 years	74	22.4%
	5 to 10 years	54	16.3%
	11 to 15 years	36	10.9%
	More than 15 years	167	50.4%

As shown in Table 5.3, 30.8% of the higher education respondents were female and 69.2% were male. As for the age of respondents, 35% of the respondents were between 20 and 30 in age, 18.1% were between 31 and 40, 11.5% were between 41 and 50, and the rest were above 50. As to educational level, more than half of the respondents (61%) had a PhD degree, 16.9% had a Masters degree, and the remainder had a bachelor's degree. The occupational distribution of the respondents varied widely. The largest group of the respondents was professors (30.2%) followed by demonstrators (24.2%), lecturers (18.1%), assistant lecturers (15.1%), and finally, assistant professors (12.4%). Regarding the length of service in their current institution, more than half of the respondents (50.4%) served in their current

institutions for more than 15 years, 22.4% served for less than 5 years, 16.3% served for between 5 and 10 years and the remainder served in their current institutions for between 11 and 15 years.

#### **5.4 Descriptive Analysis of Measurement Scales**

This section focuses on how the respondents answered the survey questions related to the constructs of the research model (high performance HR practices, PSM, P-O fit and work attitudes). Table 5.4 presents the questionnaire items associated with all the measures of the study and their mean and standard deviation (SD). Responses to all the items were on a seven-point Likert scale in which 1 = “Strongly disagree” and 7 = “Strongly agree”.

**Table 5.4:** Questionnaire Items and Descriptive statistics

<b>Construct</b>	<b>Items</b>	<b>Description</b>	<b>Mean</b>	<b>SD</b>
<b>High Performance Practices</b>				
<i>Selection</i>	Select1	My institution's hiring policy and process is fair	3.94	1.84
	Select2	Considerable importance is placed on the hiring process by my institution	3.97	1.71
	Select3	Very extensive efforts are made by my institution in the selection of new workers/employees	3.52	1.79
	Select4	The institution hires only the very best people for this job	3.60	1.99
<i>Training and Development</i>	TrDev1	My institution offers opportunities for training and development	3.64	2.00
	TrDev2	In my opinion, the number of training programs provided for employees by my institution are sufficient	3.15	1.81
	TrDev3	When my job involves new tasks, I am properly trained	3.32	1.82
	TrDev4	My institution provides excellent opportunities for personal skills development	3.18	1.84
<i>Job Security</i>	JobSec1	Employees in this job can be expected to stay with this institution for as long as they wish	4.81	1.77
	JobSec2	Job security is almost guaranteed to employees in this institution	4.64	1.96
	JobSec3	If the company was facing economic problems, employees would be the last to get downsized.	4.73	1.80
	JobSec4	I am certain of keeping my job	5.17	1.72
<i>Promotion</i>	Promot1	I have good opportunities of being promoted within this institution	4.41	1.97
	Promot2	The promotion process used by my institution is fair for all employees	4.00	1.99
	Promot3	Employees who desire promotion in this institution have more than one potential position they could be promoted to	3.53	1.82
	Promot4	Qualified employees in this job have the opportunity to be promoted to positions of greater pay and/or responsibility within the institution	3.79	1.87
<i>Autonomy</i>	Auton1	My institution allows me to plan how I do my work	3.31	1.92
	Auton2	My institution allows me to make a lot of job decisions on my own	3.31	1.94
	Auton3	My institution allows me to decide on my own how to go about doing my work.	3.56	1.97
	Auton4	My institution gives me considerable opportunity for independence and freedom in how I do the work.	4.07	1.94

<i>Communication</i>	Commun1	Management keeps me well informed of how well the institution is doing	3.57	1.82
	Commun2	The communication between me and other employees at work is good	5.49	1.25
	Commun3	The communication between me and the managers/supervisors at work is good	5.11	1.56
	Commun4	Employees in my institution regularly receive formal communication regarding company goals and objectives	3.88	1.76
<b>PSM</b>				
<i>Self-Sacrifice</i>	PSMss1	I am prepared to make enormous sacrifices for the good of the society	5.76	1.12
	PSMss2	Serving citizens would give me a good feeling even if no one paid me for it	6.04	1.12
	PSMss3	It is definitely more important to me to do good deeds than gaining money	5.93	1.17
	PSMss4	Making a difference in society means more to me than personal achievement	5.81	1.23
<i>Compassion</i>	PSMcomp1	It is difficult for me to contain my feelings when I see people in distress	5.78	1.30
	PSMcomp2	I usually feel bad for the difficulty of the poor and the needy	6.24	.83
	PSMcomp3	Daily events remind me of how dependent we are on one another	5.86	1.02
<i>Commitment to Public Interest</i>	PSMcommit1	I am very interested in what is happening in my society	6.08	.98
	PSMcommit2	I would prefer seeing public officials do what is best for the society even if it harmed my interest	5.72	1.33
	PSMcommit3	I unselfishly contribute to my society	5.93	.95
<i>Public Policy Making</i>	PSMpp1	I am very interested in politics	5.15	1.54
	PSMpp2	I like to discuss political issues with others	5.19	1.54
	PSMpp3	I don't care much for what politicians say or do (R)	4.71	1.83
<b>P-O Fit</b>				
	POfit1	My personal values match or fit the values of my institution	4.78	1.90
	POfit2	My personal goals are very similar to the goals of my institution	4.46	1.94
	POfit3	My personal values match those of current employees in this institution	4.44	1.64
	POfit4	Overall, I think I fit well with my institution	4.60	1.69
<b>Attitudes</b>				

<i>Job Satisfaction</i>	JobSat1	In general, I like working in my institution	5.56	1.53
	JobSat2	In general, I don't like my job (R)	5.90	1.49
	JobSat3	Overall, I am satisfied with my job	5.52	1.49
<i>Organizational Commitment</i>	Commit1	I feel emotionally attached to this institution	4.82	1.77
	Commit2	I really feel as if this institution's problems are my own	5.10	1.76
	Commit3	I feel a strong sense of belonging to my institution	4.77	1.90
<i>Quit Intent</i>	Quit1	I would prefer another more ideal job to the one I have now	2.93	2.05
	Quit2	If I have my way, I won't be working for this institution a year from now	2.98	2.05
	Quit3	I have seriously thought about leaving this institution	2.90	2.03
	Quit4	I don't intend to remain with this institution for long	2.78	1.94

Note: N = 671, SD = Standard Deviation, (R) = reverse scored

Table 5.4 shows that employee perceptions of high performance HR practices varied across practices. For instance, the means of the items measuring selection and training and development were less than the midpoint of the scale (i.e. 4). This indicates that, on average, the respondents did not have positive perceptions of their organizations selection processes and the training and development opportunities they offered to them. However, the respondents had positive perceptions of their job security, where the means of the job security items were above the scale midpoint. As regards to promotion, autonomy and communication, Table 5.4 shows that the scores of the items measuring these practices were mixed. The means of some of the items were above the scale average whereas the means of others were less than the average. This suggests that the respondents had positive perceptions with some aspects of these practices and negative perceptions with other aspects. The standard deviations also show that there are variations in the answers to all the items measuring high performance HR practices, where almost all the items have standard deviation values of more than 1.50.

The findings in Table 5.4 reveal that the respondents had moderately high levels of PSM. The means of the items measuring self-sacrifice, compassion and commitment to public interest were above 5.5. This indicates that, on average, self-sacrifice, compassion, and commitment to public interest were important for the participants. As regards to public policy making, the means of three items (including the reversed) were above the midpoint of the scale (i.e. 4), which indicates that, in comparison to the other PSM dimensions, the respondents had less interest in attraction to public policy making. Almost all the items measuring PSM have standard deviations of more than 1. This indicates that there are some variations in the respondents' answers to these questions.

As shown in Table 5.4, the average scores on the 4 items of P-O fit are above 4. This indicates that, on average, the respondents fit well with their organizations and other employees. However, the standard deviations show that there are variations in the answers to the 4 items measuring P-O fit, where all the items have standard deviation values of above 1.6.

Finally, the findings in Table 5.4 show that the means of all the items measuring both job satisfaction and organizational commitment were above the midpoint of the scale (i.e. 4). This indicates that, on average, the respondents were satisfied with their jobs and committed to their organizations. The findings also show that the means of the intention to quit items

were less than the average point, which indicates that, on average, respondents were less inclined to quit their jobs in their current organizations. However, the standard deviations show that there are variations in the answers to all the items measuring employee attitudes, where all the items have standard deviation values of almost 1.50 or above.

## **5.5 Summary**

In the first part of this chapter, the response rate and non-response bias were evaluated. The survey achieved an effective response rate of 67% and the results suggested that non-response bias is unlikely to be a problem in the study. In the second part, the profile of the study respondents was presented. A total of 671 responses were useable for analysis. Of the total respondents, 340 were employed in the health sector and 331 were employed in higher education. More than half of the respondents were male and had a higher degree.

In the final part of the chapter, the results of the descriptive analysis of the measurement scales were presented. The mean scores showed that employee perceptions of high performance HR practices varied across practices. The means also revealed that respondents had moderately high levels of PSM and had good fit with their organizations. Furthermore, the respondents, on average, were satisfied with their jobs, committed to their organizations and were less inclined to quit their jobs.

The data preparation and screening procedures are presented in the next chapter together with the results of the evaluation of the measurement model.

## **CHAPTER 6**

### **MEASUREMENT MODEL EVALUATION**

#### **6.1 Introduction**

This chapter aims to assess the reliability and the validity of the data. The chapter is structured into four sections. In the first section, the data preparation and screening procedures including the treatment of missing data, detection of outliers, and normality are discussed and presented. In the second section of the chapter, the measurement model is validated through confirmatory factor analysis. In the third section, multi-group invariance is tested for in order to validate the measurement instrument across professionals in the health and higher education sectors. Finally, the presence of common method bias is examined using the Harman's single factor test and the unmeasured latent method factor technique.

#### **6.2 Data Preparation and Screening**

Data preparation and screening is a crucial consideration when applying SEM (Kline, 2005). Although time consuming, proper preparation and screening of the data can help reduce bias and nonsignificance in the results (Kline, 2005; Hair et al., 2010). Accordingly, prior to the SEM analysis, the study data was prepared and screened for missing data, outliers and normality. The results are discussed in the following subsections.

##### **6.2.1 Missing Data**

Missing data is one of the common problems in quantitative research (Peugh and Enders, 2004). According to De Leeuw et al. (2003), whenever questionnaires are used to collect data, missing data will occur. Data can be missing in a number of ways. It can be: (1) missing completely at random, (2) missing at random, or (3) not missing at random (De Leeuw et al., 2003). Data is called *missing completely at random* (MCAR) if the missingness of a response to a question is not related to its unknown value and is also not related to the values of other questions responses. The data is considered to be *missing at random* (MAR) if the missingness is related to the observed data value but not to the value of the question itself. Finally, the data is *not missing at random* (NMAR) if the missingness is related to the answer to the question itself (De Leeuw et al., 2003).



Missing data usually cause two major problems: (1) they reduce statistical power (i.e. an analytical technique's ability to detect significant effects in a dataset), and (2) they negatively affect the accuracy of estimating parameters (Tsiriktsis, 2005). Missing data can result from several reasons such as data entry errors, respondents' refusal to answer certain questions, or when respondents don't have enough knowledge to answer a question. This problem cannot be prevented totally, but it can be considerably reduced (De Leeuw et al., 2003). To reduce missing data, De Leeuw et al. (2003) recommended that researchers use self-administered questionnaires that are well designed and extensively pretested. The researcher followed these suggestions (see section 4.5.1, Chapter 4), and this resulted in a substantial decline in the amount of missing data in the current study, where only 11 questionnaires had missing data (1.6 percent of the total questionnaires received).

As discussed in Chapter 4, there are four major approaches for handling missing data problems, which are listwise deletion, pairwise deletion, imputation techniques and model-based approaches. Missing data in the current study was treated using listwise deletion. Listwise deletion (also referred to as case deletion or complete-case analysis) is the most common approach used to handle missing data in many areas of the behavioural and social sciences (Peugh and Enders, 2004). This approach is simple and is perfectly appropriate if the number of deleted incomplete cases is small. Moreover, listwise deletion leads to unbiased parameter estimates if the data are missing completely at random (Peugh and Enders, 2004). According to Hair et al. (2010), for SEM, listwise deletion is considered the most appropriate missing data handling approach. As stated above, only 11 questionnaires had missing data and as a result were discarded. Although the deletion of these cases resulted in a decrease in sample size, this had no significant influence on the richness of the data and the number of remaining cases was more than adequate for the analysis.

### **6.2.2 Outliers**

Outliers are data points that deviate significantly from other data points in a sample (Osborne and Overbay, 2004). According to Garson (2012), outliers could be either univariate or multivariate. *Univariate outliers* are data points with extreme values with regard to a single variable, whereas *multivariate outliers* are data points with extreme values with regard to multiple variables (Garson, 2012). Outliers can result from several reasons, such as errors in data collection or entry, errors in sampling, respondent intentional or motivated misreporting, or legitimately from the correct population being sampled (Osborne and Overbay, 2004).

In the current study, univariate outliers were irrelevant since all the study variables were measured using a seven-point Likert scale ranging from ‘strongly disagree’ to ‘strongly agree’. The response options of ‘strongly disagree’ or ‘strongly agree’ could become outliers as they are the extreme points of the scale. However, this is not of a big concern because respondents may have different and extreme opinions with regard to an issue.

Multivariate outliers were detected in the current study using the Mahalanobis  $D^2$  measure. The Mahalanobis  $D^2$  measures the distance of each observation from the mean centre of all observations on a set of variables, providing a single value for each variable no matter the number of variables considered (Hair et al., 2010). Researchers usually consider observations as multivariate outliers if the probabilities associated with the  $D^2$  are 0.001 or less (Hair et al., 2010). However, according to Stoimenova, Mateev, and Dobрева (2006), observations with  $D^2$  probabilities of 0.001 are not necessarily outliers and could still belong to the data distribution. Kline (2005) recommends a more conservative level of statistical significance for this test with  $D^2$  probabilities of less than 0.001, and this level will be applied in the current study. Using AMOS, Mahalanobis  $D^2$  was measured and a number of extreme observations were found (see Appendix C).

Some researchers believe that the best way to deal with outliers is to delete them (Osborne and Overbay, 2004). However, according to Hair et al. (2010), deleting outliers might improve the multivariate analysis but at the risk of limiting generalizability. Hair et al. (2010) argue that, to ensure generalizability to the entire population, outliers should be retained if they depict a representative segment of the population. Furthermore, according to Kline (2005), the presence of a few outliers within a large sample is not a big concern. Accordingly, the researcher decided to retain all the cases.

### **6.2.3 Normality**

The most important assumption underlying multivariate analysis is the normality of data. Normality *refers to the extent* to which the distribution of the sample data corresponds to the normal distribution (Hair et al., 2010). Testing multivariate normality is both difficult and impractical since it involves the examination of an infinite number of linear combinations (Jayaram and Baker, 2008; Weston, Gore, Chan and Catalano, 2008). Screening the data for univariate normality is a common approach that can help inform whether multivariate normality may be a problem (Weston et al., 2008; Hair et al., 2010). If variables can be

shown to be univariate normal, then multivariate normality can be assumed (Jayaram and Baker, 2008; Weston et al., 2008).

Normality can be assessed by looking at 2 measures: skewness and kurtosis. *Skewness* refers to the degree of symmetry of a distribution around the mean. In a positively skewed distribution, the long tail of the distribution is to the right (towards the higher values in the horizontal axis). When the distribution has a positive skew, the mean is larger than the median, which is larger than the mode. Conversely, a negatively skewed distribution has the long tail on the left side (towards the low values on the horizontal axis). The mean here is less than the median, which is less than the mode (De Vaus, 2002). *Kurtosis*, on the other hand, refers to the flatness or peakedness of a distribution compared to the normal distribution (Hair et al., 2010). A positive kurtosis indicates that the distribution is more peaked than the normal distribution, whereas a negative kurtosis indicates that the distribution is less peaked than the normal distribution (Weston et al., 2008). According to Curran, West, and Finch (1996), skewness values of less than 2 and kurtosis values of less than 7 suggest that there are no serious violations of the normality assumption.

Table 6.1 shows the skewness and kurtosis for the study items. The results show that all the items in the current study do not have extreme skewness or kurtosis values, where all the items show skewness values of less than 2, and kurtosis values of less than 4. Therefore, overall multivariate normality can be assumed. Additionally, according to Hair et al. (2010) and De Vaus (2002), the negative effects of non-normality decrease with larger sample sizes. Thus, when sample sizes exceed 200, significant departures from normality may be negligible and have no severe impact on results (De Vaus, 2002; Hair et al., 2010). Moreover, the estimation method employed in the current study is the maximum likelihood estimation (MLE), which is quite robust against violations of the multivariate normality assumption (Iacobucci, 2009; Hair et al., 2010; Garson, 2012)<sup>4</sup>. Accordingly, no further treatments of the data were considered.

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<sup>4</sup> The study model was also estimated with bootstrapped standard errors based on 1000 re-samplings. Bootstrapping is a resampling method that treats the sample data as a population estimate (Byrne, 2010). The *t*-values of the re-estimated bootstrap model were highly consistent with the *t*-values of the MLE estimated model. This confirms that the study data does not seriously violate the normality assumption. This also suggests that the non-normality of the data is not having a serious impact on the results.

**Table 6.1:** Assessment of Normality

	Items	Skewness	Kurtosis
<b>Selection</b>	Select1	-.209	-1.129
	Select2	-.242	-1.044
	Select3	.139	-1.075
	Select4	.146	-1.270
<b>Training and Development</b>	TrDev1	-.004	-1.426
	TrDev2	.370	-1.125
	TrDev3	.205	-1.240
	TrDev4	.368	-1.166
<b>Job Security</b>	JobSec1	-.718	-.433
	JobSec2	-.598	-.892
	JobSec3	-.547	-.571
	JobSec4	-.915	.088
<b>Promotion</b>	Promot1	-.437	-1.058
	Promot2	-.144	-1.227
	Promot3	.135	-1.052
	Promot4	-.091	-1.143
<b>Autonomy</b>	Auton1	.283	-1.252
	Auton2	.243	-1.326
	Auton3	.095	-1.364
	Auton4	-.238	-1.287
<b>Communication</b>	Commun1	.061	-1.262
	Commun2	-1.466	2.726
	Commun3	-1.086	.529
	Commun4	-.207	-1.040

	Items	Skewness	Kurtosis
<b>(PSM) Self-Sacrifice</b>	PSMss1	-1.086	1.540
	PSMss2	-1.660	3.490
	PSMss3	-1.449	2.544
	PSMss4	-1.327	2.004
<b>(PSM) Compassion</b>	PSMcomp1	-1.405	2.018
	PSMcomp2	-1.351	3.141
	PSMcomp3	-1.059	1.666
<b>(PSM) Commitment</b>	PSMcommit1	-1.454	3.295
	PSMcommit2	-1.333	1.783
	PSMcommit3	-.793	.744
<b>(PSM) Public Policy Making</b>	PSMpp1	-.864	.242
	PSMpp2	-.936	.346
	PSMpp3	-.451	-.991
<b>P-O fit</b>	POfit1	-.638	-.801
	POfit2	-.406	-1.116
	POfit3	-.490	-.592
	POfit4	-.587	-.486
<b>Job Satisfaction</b>	JobSat1	-1.235	1.093
	JobSat2	-1.561	1.949
	JobSat3	-1.244	1.065
<b>Commitment</b>	Commit1	-.717	-.539
	Commit2	-.898	-.160
	Commit3	-.622	-.785
<b>Quit Intent</b>	Quit1	.739	-.867
	Quit2	.697	-.940
	Quit3	.790	-.746
	Quit4	.895	-.417

## **6.3 Measurement Model Evaluation**

In the current study, the data analysis followed Anderson and Gerbing's (1988) two-step procedure, which involves estimating the measurement model before estimating the proposed structural model.

This section focuses on the evaluation of the measurement model and employs confirmatory factor analysis (CFA) to assess the validity, reliability and unidimensionality of the measures used in the study. CFA is a statistical procedure that is most appropriately employed when the researcher has some background knowledge of the underlying latent variable structure (Byrne, 2010). Based on theory and empirical research, the researcher suggests relationships between the observed measures and the underlying factors a priori and then statistically tests this hypothesized structure (Byrne, 2010). Thus, CFA is used when a researcher has a well-developed theory underlying the measurement model.

According to Hair et al. (2010), it is recommended that when assessing the fit of a measurement model, researchers should report one absolute fit index and one incremental index besides the Chi-square value and the degrees of freedom (see section 4.8.1, Table 4.5, Chapter 4). Accordingly, in the current study, besides the normed Chi-square ( $\chi^2/\text{df}$ ), the GFI and RMSEA were reported as absolute fit indices, and the CFI and TLI were reported as incremental fit indices.

In the current study, the evaluation of the measurement model was conducted in two stages. First, CFA was conducted for each individual construct. Second, CFA was conducted for the overall measurement model in which all the latent constructs were correlated with each other.

Prior to conducting the CFA, item parcelling has been used for the items comprising both the high performance HR practices and PSM constructs. The results of item parcelling are presented in the following subsection.

### **6.3.1 Item Parcelling**

Item parcelling is a measurement practice that is widely used for latent variable analysis. It involves summing or averaging item scores from two items or more and using these parcel scores instead of the item scores in the SEM analysis (Bandalos, 2002).

Item parcelling has a number of benefits (Bandalos, 2002; Little, Cunningham, Shahar, and Widaman, 2002; Hagtvet and Nasser, 2004). It results in the estimation of less model

parameters and will thus result in the improvement of the variable to sample size ratio and the stabilization of parameter estimates. Parcels also have higher reliability and communality than single item indicators, and their distributions approximate normality more closely than single items. Additionally, parcelled solutions usually result in better model fit than item level solutions. Accordingly, and based on the large number of items in the survey instrument, and given that the main research interest is in the relationship among latent constructs rather than the relationship among individual items, item parcelling has been used for the items comprising both the high performance HR practices and PSM constructs.

According to Little et al. (2002), there are two parcelling approaches for dealing with multidimensional item sets: the internal-consistency approach and the domain-representative approach. The *internal-consistency approach* creates parcels that use the facets as the grouping criteria. Thus, items from each facet are combined to form the parcels. The *domain-representative approach*, on the other hand, creates parcels by joining items from different facets into item sets (i.e. items from across facets are combined to form the parcels).

The current study employed the internal-consistency approach to item parcelling. This approach helps keep explicit the multidimensional nature of the construct, maximize the internal consistency of parcels and allows the unique component of a facet to relate to other constructs in the model (Little et al., 2002). The internal-consistency approach to item parcelling has also been used in a number of HRM (e.g. Rogg, Schmidt, Shull, and Schmitt, 2001) and PSM (e.g. Bright, 2007) studies. Accordingly, the items measuring each high performance practice were combined to form six components that were treated as indicators of the high performance HR practices construct in the analysis. Additionally, the items measuring each of the four PSM dimensions were combined and treated as indicators of a general PSM construct.

According to Kishton and Widaman (1994), when using the internal-consistency approach to item parcelling, once the parcels are formed, the internal consistency of each of the parcels should be estimated and if all the parcels meet the minimum standards for reliability and dimensionality then the parcels may be entered into CFA. Accordingly, the internal consistency reliability of each of the parcels was estimated using Cronbach's alpha, and dimensionality was assessed using Exploratory Factor Analysis (EFA) (Kishton and Widaman, 1994). Table 6.2 shows the internal consistency estimates of reliability (Cronbach's alpha) and the EFA results of the parcels.

**Table 6.2:** Internal Consistency Estimates and EFA Results of Parcels

Parcel	Number of items	Internal consistency reliability (Cronbach's alpha)	Number of extracted components	Percentage of variance explained
<i>High Performance HR Practices</i>				
Selection	4	0.859	1	70.468
Training and Development	4	0.924	1	81.693
Job Security	4	0.798	1	62.463
Promotion	4	0.861	1	70.739
Autonomy	4	0.888	1	75.053
Communication	4	0.774	1	60.250
<i>PSM</i>				
Self-sacrifice	4	0.821	1	65.172
Compassion	3	0.657	1	61.628
Commitment to public interest	3	0.725	1	66.125
Attraction to policy making	3	0.647	1	63.855

As shown in Table 6.2, the Cronbach's alpha values ranged between 0.725 and 0.924, with the exception of compassion and commitment to public interest which had Cronbach's alpha values of 0.657 and 0.647 respectively, which are also acceptable (Kline, 1999; Hair et al., 2010). The EFA results also support the unidimensionality of all the items within each parcel where only one component was extracted for each parcel and the percentage of variance explained for all parcels was more than 60 %. Accordingly, all the parcels were entered into CFA.

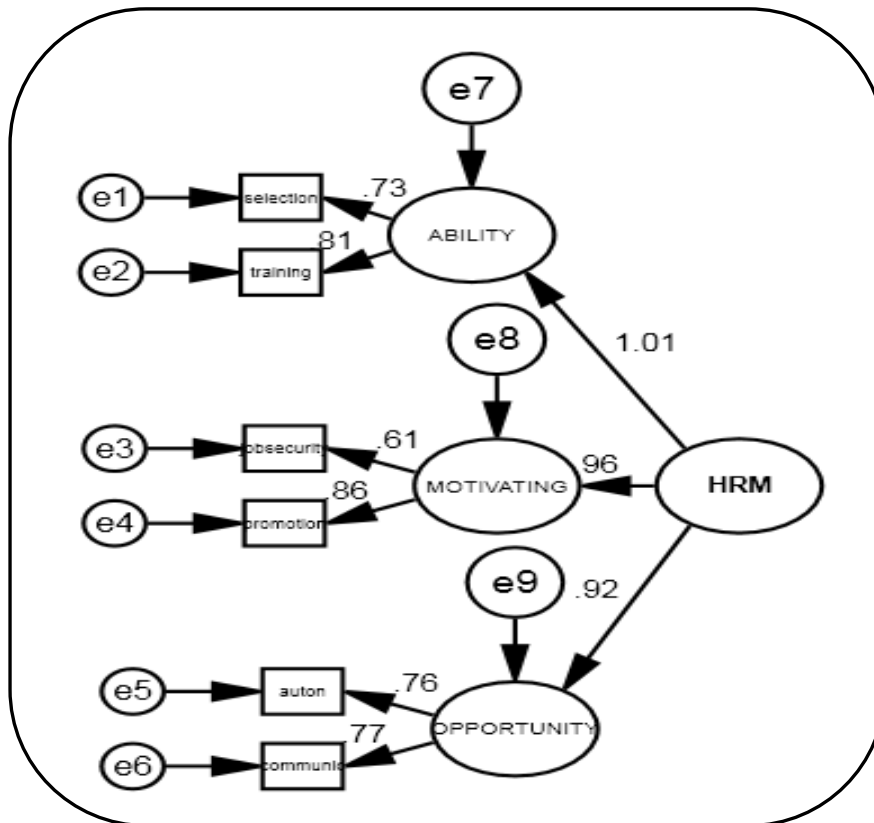
### 6.3.2 CFA Results for Individual Constructs

In this section, results of the CFAs of individual constructs (high performance HR practices, PSM, P-O fit, job satisfaction, organizational commitment and quit intentions) are discussed and presented. These results will then be used as the basis for constructing the overall measurement model.

### 6.3.2.1 CFA Results for High Performance HR Practices

According to Jiang et al. (2012), it is better to divide measures of HRM systems into ability-enhancing, motivation-enhancing and opportunity-enhancing HRM practices. Failure to do so may compromise the overall effect of HRM systems on outcomes or lead to inaccurate results (Jiang et al., 2012). Accordingly, a second-order measurement model of high performance HR practices (indicated by the latent factors ability enhancing practices, motivation enhancing practices and opportunity enhancing practices) was tested. Two manifest indicators, consisting of item parcels (i.e. individual HR practices), were used for each primary factor. These indicators were created as explained above in section 6.3.1. Figure 6.1 presents the second-order measurement model of high performance HR practices.

**Figure 6.1:** CFA Results for High Performance HR Practices



The second-order factor model of high performance HR practices was compared with a first-order factor model in which the six HRM item parcels were reflective of one latent variable (i.e. high performance HR practices). Consistent with the findings of recent research (e.g. Jiang et al., 2012), the CFA results showed that the second-order model provided a better fit to the data than the first-order model. Accordingly, the second-order factor model was used in



subsequent analysis. Table 6.3 summarizes the CFA results of the second-order measurement model.

**Table 6.3:** CFA Results for High Performance HR practices

Construct	Parcels (First-order factors)	Std. Factor Loading	t-value		
<b>HR practices</b>	Selection	<b>0.735</b>	<b>20.155</b>		
	Training	<b>0.815</b>	-----*		
	Job security	<b>0.609</b>	<b>15.849</b>		
	Promotion	<b>0.857</b>	-----*		
	Autonomy	<b>0.759</b>	<b>18.498</b>		
	Communication	<b>0.769</b>	-----*		
	<b>Second-order factor</b>	<b>Std. Factor Loading</b>	<b>t-value</b>	<b>Composite Reliability</b>	<b>AVE</b>
	Ability	<b>1.01<sup>5</sup></b>	<b>24.127</b>		
	Motivation	<b>0.960</b>	<b>24.426</b>	<b>0.976</b>	<b>0.932</b>
	Opportunity	<b>0.924</b>	<b>19.964</b>		
<b><math>\chi^2/df = 5.6</math>   GFI = 0.984   CFI = 0.958   TLI = 0.962   RMSEA = 0.08</b>					

Note: \* fixed parameter

The fit indices indicate that the measurement model achieved a good fit with the data ( $\chi^2/df = 5.6$ , CFI = 0.985, GFI = 0.984, TLI = 0.962, RMSEA = 0.08). All of the parcels have statistically significant relationships with their factors ( $p < 0.001$ ). With 0.61, only job security shows a factor loading below 0.7, whereas all other factor loadings were above this value, ranging from 0.735 for selection to 0.857 for promotion. The loadings of the three first-order factors to the second-order factor are all above 0.924 and the  $t$ -values are substantive and statistically significant. This indicates the existence of a very strong relationship between the three first-order factors and the second-order factor, thus demonstrating the convergent validity of the postulated second-order model (Koufteros, Babbar and Kaighobadi, 2009).

<sup>5</sup> Standardized regression coefficients can exceed one and this does not essentially mean that anything is wrong (Deegan, 1978; Jöreskog, 1999; Wang and Wang, 2012). In the current case, this indicates the existence of a very strong relationship between the first-order factor and the second-order factor (Li, Pickles and Savage, 2005; Koufteros, Babbar and Kaighobadi, 2009). The first-order constructs (ability-enhancing practices, motivation-enhancing practices and opportunity-enhancing practices) are treated as reflective indicators of the second-order factor (HR practices) and therefore, they are expected to be highly correlated (Koufteros, et al., 2009).

### 6.3.2.2 CFA Results for PSM

Four item parcels were used as indicators of the latent construct PSM. These parcels were labelled psmss (representing self-sacrifice), psmpp (representing attraction to policy making), psmcommit (representing commitment to public interest) and psmcomp (representing compassion), and were created as discussed in section 6.3.1 above. The standardized factor loading of the psmpp parcel did not meet the minimum requirement of 0.5. The low loading of this parcel is consistent with what was found by other studies (e.g. Kim, 2009), and provides support for the argument made by other researchers regarding the lack of content validity of the items of the attraction to policy making dimension (Ritz, 2011). Accordingly, the psmpp parcel was dropped and the remaining three indicators were introduced in the CFA again. The final results are shown in Table 6.4.

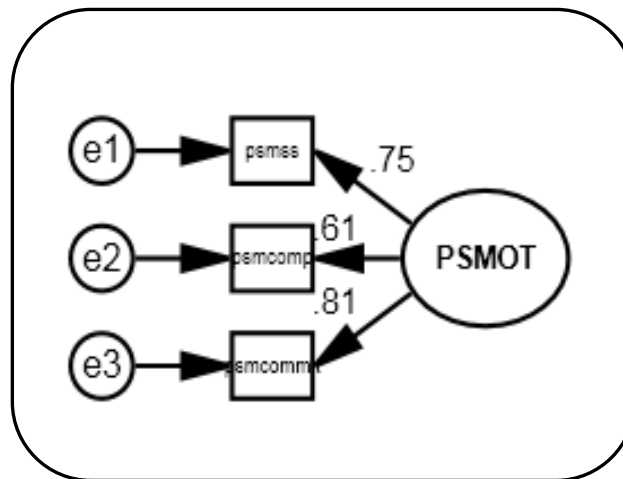
**Table 6.4: CFA Results for PSM**

Construct	Parcels	Std. Factor Loading	t-value	Composite Reliability	AVE
PSM	psmss	0.754	13.955		
	psmcomp	0.611	13.145	0.771	0.532
	psmcommit	0.809	-----*		
The model is saturated. The fit is perfect.					

Note: \* fixed parameter

Because of the number of indicators, the model was just identified where the number of data variances and covariances equalled the number of parameters to be estimated (Byrne, 2010). The three indicators had high *t*-values significant at  $p < 0.001$ , and the standardized factor loadings ranged from 0.611 to 0.809. These results suggest that the indicators converge on the latent construct and that they are reliable in capturing PSM. Additionally, the AVE for PSM was 0.532 and the composite reliability was 0.771. Figure 6.2 illustrates the final CFA model of PSM.

**Figure 6.2:** CFA Results for PSM



### 6.3.2.3 CFA Results for P-O Fit

P-O fit was measured using four items. All the standardized factor loadings of the initial measurement model were above 0.66 and all the  $t$ -values were significant at  $p < 0.001$ . Most of the goodness-of-fit indices suggested an acceptable fit (CFI = 0.988, GFI = 0.983, TLI = 0.964). However, the  $\chi^2/df$  was 10.929 and the RMSEA was 0.122 which is above the cut-off value of 0.08. Thus, the initial measurement model required further modification in order to better fit the data. The modification indices were therefore examined.

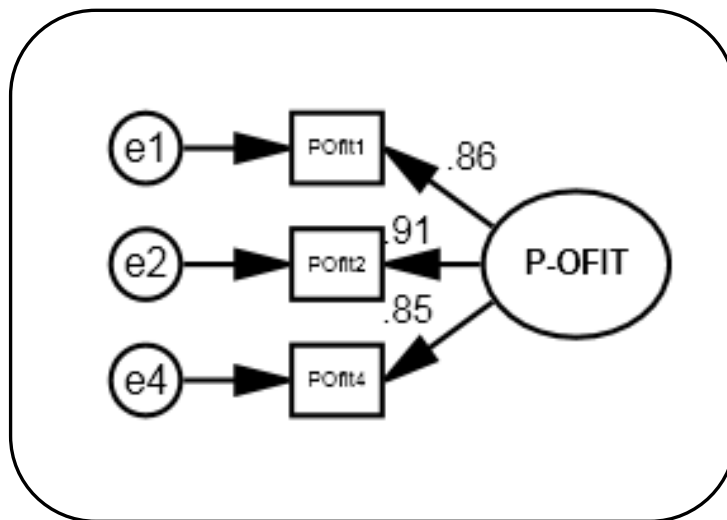
The largest modification index was 17.34 and was associated with the covariance between the error term for POfit3 and the error term for POfit4. However, the modification index associated with the covariance between the error term for POfit3 and the error term for POfit2 was also high. Additionally, the factor loading of POfit3 (0.661) was lower than that of POfit4 (0.864), implying that POfit3 was statistically a poorer fit than POfit4. In fact, POfit3 focused on employees fit with other employees rather than the organization. Accordingly, POfit3 was deleted and the CFA was run again. Table 6.5 presents the final CFA results of P-O fit.

**Table 6.5: CFA Results for P-O fit**

Construct	Items	Std. Factor Loading	t-value	Composite Reliability	AVE	Cronbach's Alpha
<b>P-O fit</b>	P-Ofit1	<b>0.860</b>	<b>27.139</b>			
	P-Ofit2	<b>0.906</b>	<b>28.422</b>	<b>0.904</b>	<b>0.759</b>	<b>0.903</b>
	P-Ofit4	<b>0.846</b>	-----*			
<b>The model is saturated. The fit is perfect.</b>						

Note: \* fixed parameter

The model was just identified because of the number of indicators in the model. However, both the internal consistency of the scale and the convergent validity were high, where the composite reliability and Cronbach's alpha were above 0.9, and the AVE was 0.759. Figure 6.3 illustrates the final CFA model of P-O fit.

**Figure 6.3: CFA Results for P-O fit**

#### 6.3.2.4 CFA Results for Job Satisfaction

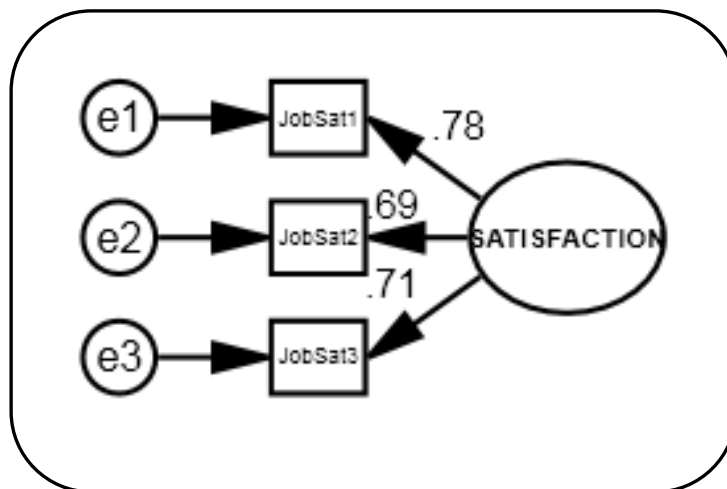
Table 6.6 presents the CFA results of job satisfaction. Job satisfaction was measured using three items. The model was just identified because of the number of indicators in the model. The standardized factor loadings of the indicators ranged from 0.69 to 0.781 and the *t*-values were significant at  $p < 0.001$ .

**Table 6.6: CFA Results for Job Satisfaction**

Construct	Items	Std. Factor Loading	t-value	Composite Reliability	AVE	Cronbach's Alpha
Job Satisfaction	JobSat1	0.781	14.064			
	JobSat2	0.690	14.037	0.772	0.531	0.771
	JobSat3	0.712	-----*			
The model is saturated. The fit is perfect.						

Note: \* fixed parameter

The job satisfaction scale had high internal consistency where Cronbach's alpha for the scale and the composite reliability were above 0.7. The scale also had acceptable convergent validity where the AVE was 0.531. The three-indicator model of job satisfaction is illustrated in Figure 6.4.

**Figure 6.4: CFA Results for Job Satisfaction**

### 6.3.2.5 CFA Results for Organizational Commitment

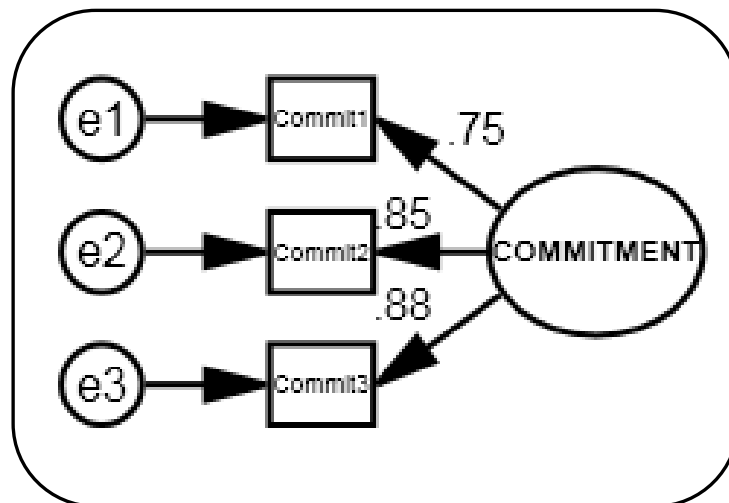
Table 6.7 presents the CFA results of organizational commitment. As mentioned before, organizational commitment in the current study was regarded as affective commitment and was measured using three items. The model was just identified because of the number of indicators in the model. The standardized factor loadings of the indicators ranged from 0.75 to 0.89 and the *t*-values were significant at  $p < 0.001$ .

**Table 6.7: CFA Results for Affective Commitment**

Construct	Items	Std. Factor Loading	t-value	Composite reliability	AVE	Cronbach's Alpha
Commitment	Commit1	0.751	21.398			
	Commit2	0.851	23.779	0.868	0.688	0.866
	Commit3	0.881	-----*			
The model is saturated. The fit is perfect.						

Note: \* fixed parameter

The affective commitment scale had high internal consistency where Cronbach's alpha for the scale and the composite reliability were above 0.8. The scale also had acceptable convergent validity where the AVE was 0.688. The three-indicator model of organizational commitment is illustrated in Figure 6.5.

**Figure 6.5: CFA Results for Organizational Commitment**

### 6.3.2.6 CFA Results for Quit Intentions

Four items were used to measure employee intention to quit. All the standardized factor loadings of the initial CFA model were above 0.648 and all the *t*-values were significant at  $p < 0.001$ . Most of the goodness-of-fit indices suggested an acceptable fit (CFI = 0.972, GFI = 0.963, TLI = 0.917). However, the  $\chi^2/df$  and the RMSEA were inadequate for this model (24.272 and 0.186 respectively). Thus, the initial measurement model required further modification so as to better fit the data. The modification indices were therefore examined.

The largest modification index was 37.69 and was associated with the covariance between the error term for Quit1 and the error term for Quit2. However, the modification index associated

with the covariance between the error term for Quit1 and the error term for Quit3 was also high. Additionally, the factor loading of Quit1 (0.648) was lower than that of Quit2 (0.887), implying that Quit1 was statistically a poorer fit than Quit2. Accordingly, Quit1 was deleted and the CFA was run again. Table 6.8 presents the final CFA results of quit intentions.

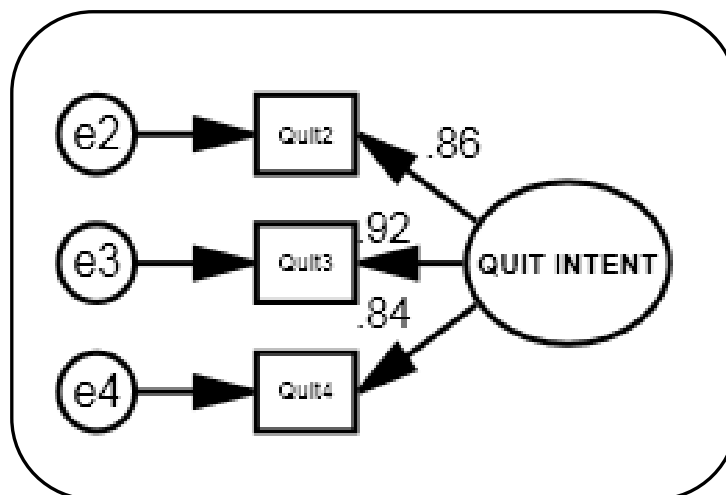
**Table 6.8:** CFA Results for Quit Intentions

Construct	Items	Std. Factor Loading	t-value	Composite reliability	AVE	Cronbach's Alpha
Quit Intentions	Quit2	0.858	26.917			
	Quit3	0.923	28.591	0.906	0.763	0.905
	Quit4	0.837	-----*			
The model is saturated. The fit is perfect.						

Note: \* fixed parameter

The model was just identified because of the number of indicators in the model. However, both the internal consistency of the scale and the convergent validity were high, where the composite reliability and Cronbach's alpha were above 0.9, and the AVE was 0.763. Figure 6.6 illustrates the final CFA model of quit intentions.

**Figure 6.6:** CFA Results for Quit Intentions



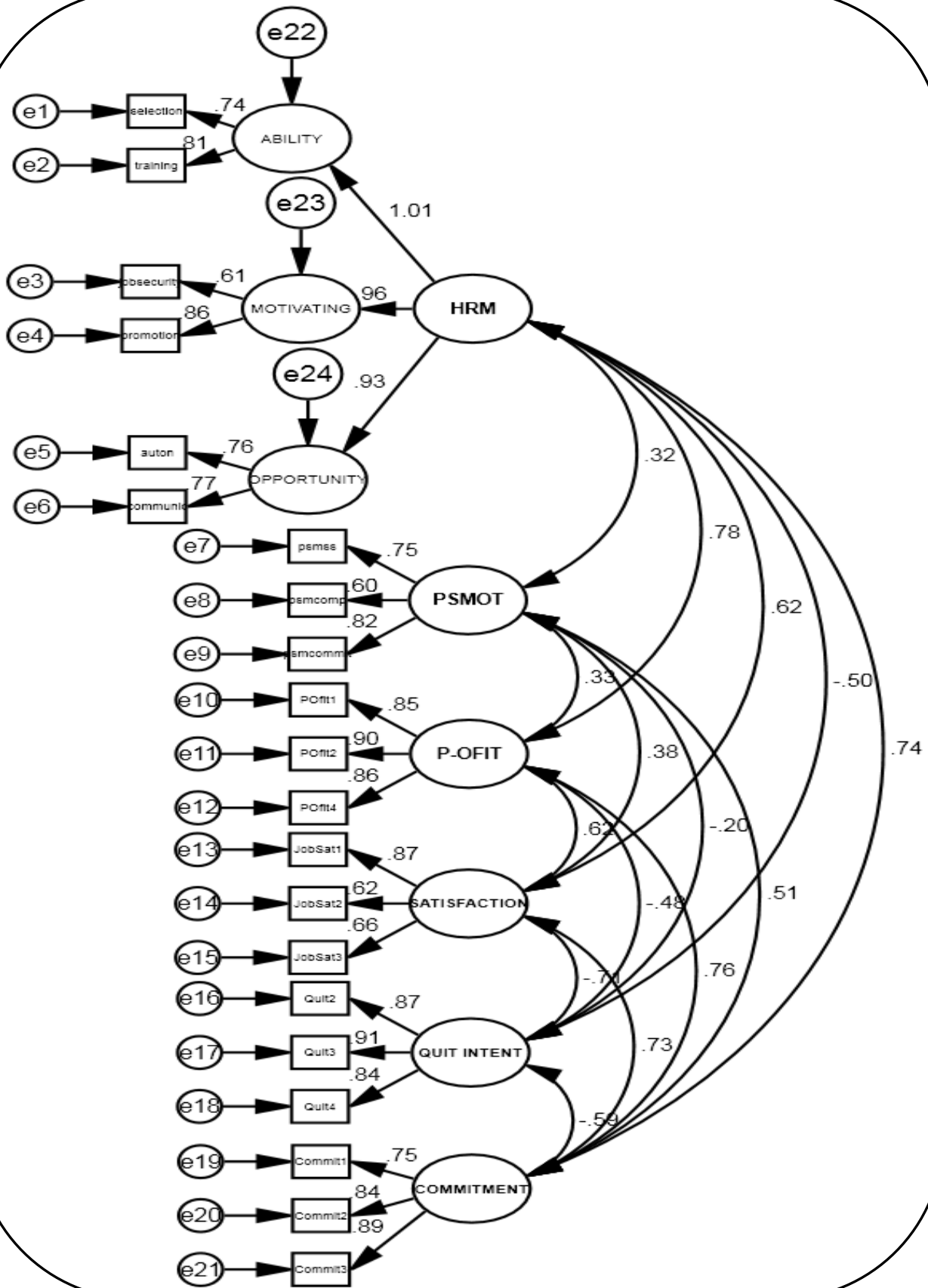
### 6.3.3 CFA Results for the Overall Measurement Model

The above results of the CFAs of individual constructs were used as the basis for constructing the overall measurement model. Specifically, the indicators retained from the individual constructs CFAs with regard to high performance HR practices, PSM, P-O fit, job

satisfaction, affective commitment and quit intentions were used to construct the overall measurement model. Figure 6.7 presents the CFA results of the overall measurement model.



**Figure 6.7: CFA Results for the Overall Measurement Model**



As shown in Figure 6.7, the CFA results indicated that all the standardized factor loadings were above 0.60. All the  $t$ -values were significant at  $p < 0.001$ . In addition, the overall measurement model provided a good fit to the data ( $\chi^2/df = 2.076$ , CFI = 0.978, GFI = 0.953, TLI = 0.973, and RMSEA = 0.040). Together, these results provide evidence of unidimensionality, convergent validity, and reliability of the study constructs.

The results of the assessment of divergent validity are presented in the following section.

### 6.3.4 Assessing Divergent Validity

To assess divergent validity, the square root of the AVE of each construct was compared with the correlation estimates between constructs. The square root of the AVE for each construct should be higher than the correlation estimate between that construct and all other constructs (Hair et al., 2010). Table 6.9 compares the square root of the AVE with the inter-construct correlations for all constructs.

**Table 6.9:** Inter-Construct Correlations and the Square Root of AVE

Construct	1	2	3	4	5	6
1.HR practices	<b>0.97</b>					
2.Public service motivation	0.32	<b>0.73</b>				
3.Person-Organizaton fit	0.78	0.33	<b>0.87</b>			
4.Job satisfaction	0.62	0.38	0.62	<b>0.74</b>		
5.Commitment	0.74	0.51	0.76	0.73	<b>0.83</b>	
6.Quit intentions	- 0.50	- 0.20	- 0.48	- 0.71	- 0.59	<b>0.87</b>

*Diagonal entries (in bold) are the square root of AVE; sub-diagonal entries are the latent construct inter-correlations.*

As shown in Table 6.9, the square root of the AVE for each construct was higher than the correlation between that construct and other constructs. Moreover, the correlation coefficients among the study constructs do not exceed 0.85 (Kline, 2005). Thus, all the constructs in the study represent different concepts and there are no problems with divergent validity.

### 6.4 Assessment of Multigroup Invariance

Since the study data were collected from professionals in two different sectors (health and higher education), multi-group invariance was tested for so as to validate the measurement

instrument across both groups of professionals. In the current study, two types of measurement invariance were tested for: configural and metric invariance. According to Williams, Vandenberg and Edwards (2009, p. 562), both are considered to be the ‘most critical’ measurement invariance tests. Moreover, both configural and metric invariance are considered to be pre-conditions for pooling across what might initially appear two different groups (Williams et al., 2009; Steenkamp and Baumgartner, 1998). Configural invariance - also known as weak factorial invariance (Horn and McArdle, 1992) - refers to factorial structure equivalence of a measure (the same pattern of factors and factor loadings) across different groups. If this type of invariance is not supported, then this means that one or more of the sets of items represent different constructs between the different groups (Williams et al., 2009). Accordingly, this test is used in the current study to address whether members in both the health and higher education groups use similar conceptual frames of reference to respond to the items that represent the latent constructs in the study (Williams et al., 2009). Configural invariance can be tested for by running a multi-group model in which the loadings and error variances are allowed to vary across the two groups. If the results for the fit indices of this model are favourable, then it could be concluded that the items are interpreted and responded to using similar constructs in both groups. However, if the fit of this model is not favourable, then it cannot be assumed that items are interpreted in the two groups using similar constructs (Williams et al., 2009). The fit of the configural model in the current study was good ( $\chi^2/df = 1.813$ , CFI = 0.957, GFI = 0.919, TLI = 0.948, and RMSEA = 0.035), indicating that configural invariance was achieved (i.e. the model had the same factor structure for both groups).

Metric invariance refers to whether the relationship between items and factors (i.e. factor loadings) are equivalent between groups (Kim et al., 2013). Using a model specification similar to that of configural invariance, metric invariance is tested for by constraining all the factor loadings so as to be equal between the two groups. If the results for the fit indices of this model are favourable and the difference in CFI ( $\Delta CFI$ ) between this model and the configural invariance model is less than 0.01 and the difference in RMSEA ( $\Delta RMSEA$ ) is less than 0.015, then metric invariance is supported (Cheung and Rensvold, 2002; Chen, 2007; Williams et al., 2009). In the current study, the fit of the metric invariance model was good ( $\chi^2/df = 1.871$ , CFI = 0.953, GFI = 0.915, TLI = 0.944, and RMSEA = 0.036). The  $\Delta CFI$  value between the metric model and the configural model was 0.004, and the  $\Delta RMSEA$  was 0.001, indicating that metric invariance was achieved (i.e. the relation between each

latent variable and associated items was invariant over groups). Accordingly, pooling the study data was considered appropriate since the constructs have the same meaning for the two groups of professionals<sup>6</sup>.

## 6.5 Assessment of Common Method Bias

As discussed in Chapter 4, since all the study variables were measured using the same source, the effects of common method bias need to be examined. In the current study, two statistical tests were used to check for the presence of common method bias. First, the Harman's single-factor test was conducted with the use of CFA. A measurement model was tested in which all the indicators were loaded onto a single factor representing a common influence. This model had an extremely poor fit ( $\chi^2/\text{df} = 9.549$ , CFI = 0.503, GFI = 0.482, TLI = 0.483, and RMSEA = 0.113), suggesting that common method bias is unlikely to be a concern in the current study.

Because the Harman's one-factor test is not without limitations, common method bias was also checked by the unmeasured latent method factor technique. This technique allows estimating the potential increase in model fit when taking into account the common methods factor, as well as determining the variance extracted by this factor (Dulac, Coyle-Shapiro, Henderson, and Wayne, 2008; Cole, Bedeian, and Bruch 2011). The technique involves estimating a latent variable model in which items are allowed to load on their theoretical constructs and a latent common methods factor. The results showed that the model with the common method factor had an adequate fit to the data ( $\chi^2/\text{df} = 2.088$ , CFI = 0.987, GFI = 0.965, TLI = 0.982, and RMSEA = 0.033), and the fit of this model was better than the fit of the model without the common method factor ( $\chi^2$  difference = 96.388,  $\text{df} = 21$ ,  $p < 0.001$ ).

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<sup>6</sup> A multigroup invariance test was also performed individually for a second-order measurement model of PSM, in which the dimensions of PSM were treated as first-order factors and the items of the dimensions were the observed indicators. The fit of the configural model was good ( $\chi^2/\text{df} = 2.700$ , CFI = 0.939, GFI = 0.931, TLI = 0.922, and RMSEA = 0.050), indicating that configural invariance was achieved. The fit of the metric model was also good ( $\chi^2/\text{df} = 2.761$ , CFI = 0.933, GFI = 0.925, TLI = 0.920, and RMSEA = 0.051), and the  $\Delta\text{CFI}$  between the metric model and the configural model was 0.006, and the  $\Delta\text{RMSEA}$  was 0.001, indicating that metric invariance was also achieved. Furthermore, a multigroup invariance test was performed for a second-order measurement model of high performance HR practices, in which the individual HR practices were treated as first-order factors and the items of the practices were the observed indicators. The fit of this model was adequate ( $\chi^2/\text{df} = 4.408$ , CFI = 0.917, GFI = 0.883, TLI = 0.907, and RMSEA = 0.071). The fit of the configural model was also adequate ( $\chi^2/\text{df} = 2.748$ , CFI = 0.893, GFI = 0.856, TLI = 0.880, and RMSEA = 0.051), indicating that configural invariance was achieved. Moreover, the fit of the metric model was adequate ( $\chi^2/\text{df} = 2.760$ , CFI = 0.891, GFI = 0.854, TLI = 0.879, and RMSEA = 0.051), and the  $\Delta\text{CFI}$  between the metric model and the configural model was 0.002, and the  $\Delta\text{RMSEA}$  was 0.000, indicating that metric invariance was also achieved.

Yet, the variance extracted by the common method factor was only 0.26, falling below the 0.50 threshold that has been suggested as indicating the presence of common method bias (Dulac et al., 2008; Cole et al., 2011). These results help confirm that common method bias is unlikely to be a serious problem in this study.

## **6.6 Summary**

In the first part of this chapter, the data preparation and screening procedures including the treatment of missing data, detection of outliers, and normality were presented. The amount of missing data was very small and was treated using listwise deletion. A few outliers were detected but were retained since there was insufficient evidence that they are not part of the population. The results of the normality test revealed that all the skewness values were less than 2 and the kurtosis values were less than 4 and thus, there was no serious violation of the normality assumption.

In the second part, both the latent constructs and observed measures were validated using CFA. All the constructs had good internal consistency and convergent validity, where all the composite reliability and Cronbach's alpha values were above the threshold of 0.70, and the AVE values exceeded 0.50. Divergent validity was also established, where the square root of the AVE for each construct was higher than the correlation between that construct and other constructs. Thus, the criteria for unidimensionality, reliability and construct validity were satisfied by all measurement models.

In the third part of the chapter, multi-group invariance was tested for in order to validate the measurement instrument across professionals in the health and higher education sectors. Both configural and metric invariance were achieved, suggesting that the constructs have the same meaning for professionals in both groups. Therefore, pooling the study data was considered appropriate. Finally, common method bias was checked and the results suggested that it is unlikely to be a concern in the current study.

The basic structural model of the current study can now be examined. The next chapter will use SEM to explore the hypothesized relationships between the study constructs.

## **CHAPTER 7**

### **STRUCTURAL EQUATION MODEL**

#### **7.1 Introduction**

As mentioned in the previous chapter, the data analysis in the current study followed Anderson and Gerbing's (1988) two-step procedure, which involves estimating the measurement model prior to estimating the proposed structural model. The previous chapter evaluated and purified the measurement models of the study constructs. The final results revealed that all the measurement models satisfied the requirements of unidimensionality, reliability, and validity. Accordingly, these measurement scales will be used to assess the hypothesized relationships among the study constructs. Using AMOS 18 software program with maximum likelihood estimation, the present chapter will examine the relationships between the constructs of interest. The chapter is organized into five sections. In the first section, the overall fit of the proposed model will be evaluated. In the second section, the hypotheses regarding the direct relationships between the constructs are estimated. In the third section, the mediating effects of PSM and P-O fit on the relationship between high performance HR practices and employee attitudes, and the mediating effects of P-O fit on the relationship between PSM and employee attitudes are examined. In the fourth section of the chapter, the moderating effects of P-O fit on the relationship between PSM and employee attitudes are investigated. The results of testing the effects of control variables on employee attitudes are presented in the final section of this chapter.

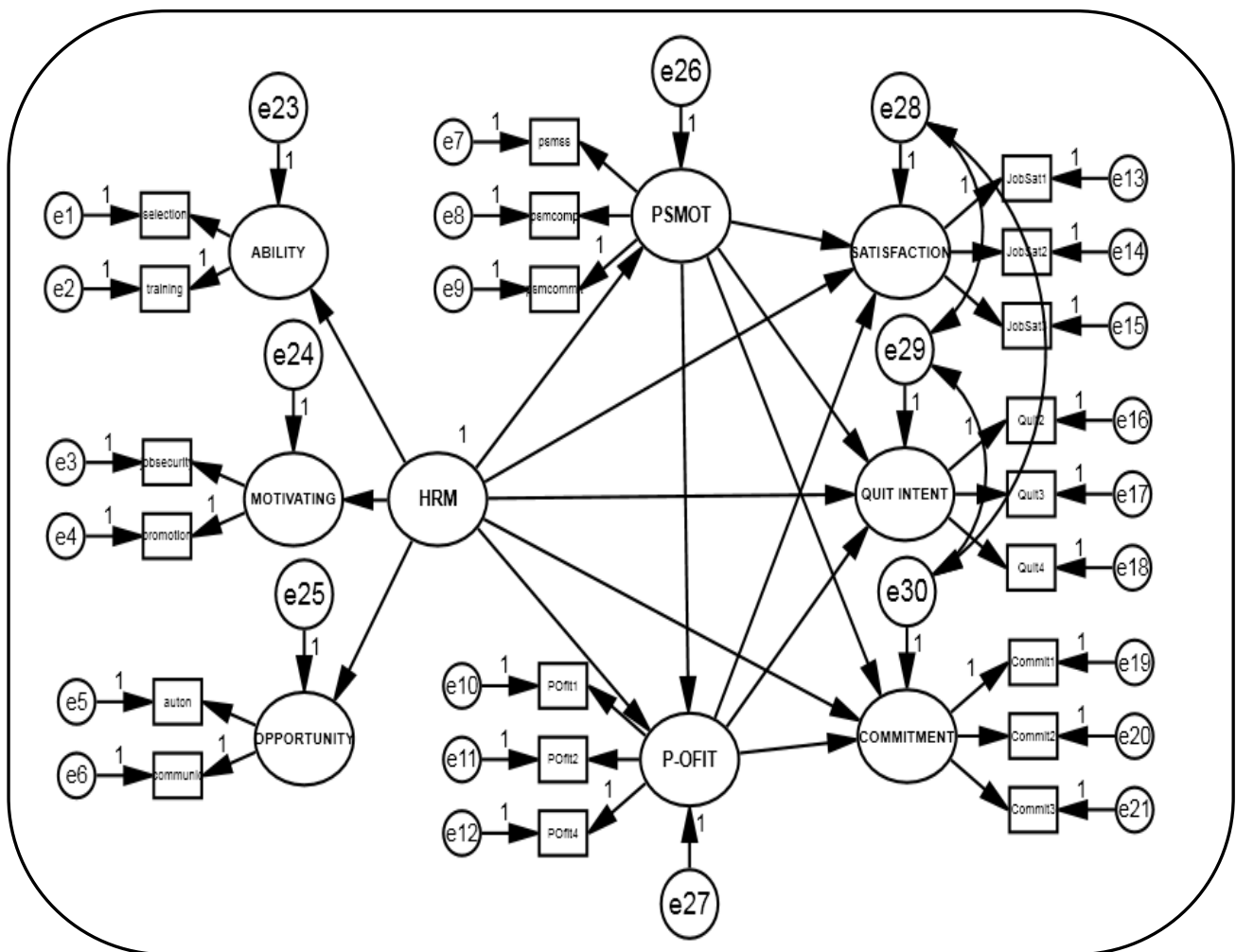
#### **7.2 Structural Model**

In SEM, the structural model defines the relationships among the latent (unobserved) constructs (Byrne, 2010). Thus, the structural model helps specify the manner by which specific latent constructs directly or indirectly affect changes in the values of other latent constructs in the model (Byrne, 2010).

In the current study, the proposed structural model is composed of six major latent constructs, of which one is exogenous (high performance HR practices) and five are endogenous (PSM, P-O fit, job satisfaction, organizational commitment, and quit intentions). Figure 7.1 presents the structural model and the proposed relationships among the constructs. The findings of a

number of studies suggest that job satisfaction, organizational commitment and quit intentions are correlated (e.g. Westerman and Cyr, 2004; Kim, 2005; Paré and Tremblay, 2007; Vilela et al., 2008). Accordingly, the assumption of independence between the latent constructs residual errors was relaxed for the three variables (i.e. the latent errors of job satisfaction, organizational commitment and quit intentions were correlated) (Im and Workman, 2004).

**Figure 7.1:** Proposed Structural Model



Prior to discussing the results of the hypotheses proposed by the current study, the overall fit of the structural model was assessed so as to evaluate the extent to which the proposed causal relationships between the latent constructs fit the research data. As mentioned before, it is recommended that a study reports one absolute fit index and one incremental index besides the Chi-square value and the degrees of freedom (Hair et al., 2010). Accordingly, besides the normed Chi-square ( $\chi^2/df$ ), the GFI and RMSEA were reported as absolute fit indices, and

the CFI and TLI were reported as incremental fit indices. Thus, the overall fit of the structural model was assessed with the same set of fit indices as those of the measurement models.

The fit indices indicated that the structural model had a good fit with the data ( $\chi^2/df = 2.076$ , CFI = 0.978, GFI = 0.953, TLI = 0.973, RMSEA = 0.040), thus supporting the basic theoretical model of the study. In this model, high performance HR practices, PSM and P-O fit explain 46 percent of the variance in job satisfaction ( $R^2 = 0.460$ ), 69.8 percent of the variance in organizational commitment ( $R^2 = 0.698$ ), and 26.9 percent of the variance in quit intentions ( $R^2 = 0.269$ ). Moreover, high performance HR practices and PSM account for 62.2 percent of the variance of P-O fit ( $R^2 = 0.622$ ). High performance HR practices also account for 10.3 percent of the variance in PSM ( $R^2 = 0.103$ ).

It should be noted that the fit of this model ( $\chi^2 = 355.012$ ,  $df = 171$ ) was compared with the fit of another model in which the latent errors of job satisfaction, organizational commitment and quit intentions were not correlated ( $\chi^2 = 559.071$ ,  $df = 174$ ). The  $\chi^2$  difference test showed that the model with correlated errors had a significantly better fit to the data than the model without correlated errors ( $\chi^2$  difference = 204.059,  $df = 3$ ,  $p < 0.001$ ).

The causal research hypotheses underlying the proposed model will be examined in the following sections. Three sets of relationships will be examined: direct, mediating, and moderating relationships. The results of testing the hypothesized direct relationships are presented first.

### **7.3 Hypotheses Testing: Direct Relationships**

Table 7.1 presents the results of testing the hypothesized direct relationships. The table also includes the standardized path coefficients,  $t$ -values, and the corresponding significance levels.



**Table 7.1:** Hypotheses Test Results for the Proposed Structural Model

Hypothesis	Hypothesized relationship	Standardized Coefficient	t-value	Result
H1a	HPHRP → Job satisfaction	0.308	4.493***	Supported
H1b	HPHRP → Commitment	0.346	6.250***	Supported
H1c	HPHRP → Quit intentions	- 0.324	- 4.535***	Supported
H2	HPHRP → PSM	0.320	6.991***	Supported
H3a	PSM → Job satisfaction	0.177	4.189***	Supported
H3b	PSM → Commitment	0.268	7.563***	Supported
H3c	PSM → Quit intentions	- 0.023	- 0.523	Not Supported
H5	HPHRP → P-O fit	0.754	18.605***	Supported
H6a	P-O fit → Job satisfaction	0.323	4.724***	Supported
H6b	P-O fit → Commitment	0.399	7.159***	Supported
H6c	P-O fit → Quit intentions	- 0.216	- 3.056**	Supported
H8	PSM → P-O fit	0.093	2.649**	Supported

\*\*\*  $p < 0.001$ , \*\*  $p < 0.01$

### 7.3.1 High Performance HR Practices and Employee Attitudes

Hypothesis 1 investigated the relationship between high performance HR practices and employee attitudes of job satisfaction, organizational commitment and intention to quit. It was hypothesized that there would be a positive relationship between high performance HR practices and both employee job satisfaction and organizational commitment, and a negative relationship between high performance HR practices and quit intentions. The results, demonstrated positive and significant paths from high performance HR practices to job satisfaction ( $\beta = 0.308$ ,  $p < 0.001$ ) and organizational commitment ( $\beta = 0.346$ ,  $p < 0.001$ ), and a negative and significant path from high performance HR practices to quit intentions ( $\beta = - 0.324$ ,  $p < 0.001$ )<sup>7</sup>. Thus, hypotheses 1a, 1b, and 1c were supported.

<sup>7</sup> Jiang et al. (2012) argue that the three dimensions of high performance HR systems (i.e. ability-enhancing practices, motivation-enhancing practices and opportunity-enhancing practices) have differential relationships with employee outcomes. However, the high loadings of the three first-order factors to the second-order factor (the three are above 0.92) indicate that the three dimensions, to a large extent, function in a similar pattern. This is confirmed by the findings presented in Appendix D.

### **7.3.2 High Performance HR Practices and PSM**

Hypothesis 2 tested the relationship between high performance HR practices and PSM. It was hypothesized that there would be a positive relationship between high performance HR practices and PSM. The results suggested that the relationship between high performance HR practices and PSM was positive and statistically significant ( $\beta = 0.320$ ,  $p < 0.001$ ). Thus, hypothesis 2 was supported<sup>8</sup>.

### **7.3.3 PSM and Employee Attitudes**

Hypothesis 3 investigated the relationship between PSM and employee job satisfaction, organizational commitment and intention to quit. It was hypothesized that there would be a positive relationship between PSM and both employee job satisfaction and organizational commitment, and a negative relationship between PSM and quit intentions. The results revealed that the relationship between PSM and both job satisfaction and organizational commitment was positive and statistically significant ( $\beta = 0.177$ ,  $p < 0.001$  and  $\beta = 0.268$ ,  $p < 0.001$  respectively), while the relationship between PSM and quit intentions was not significant. Hence, hypotheses 3a and 3b were supported, whereas hypothesis 3c was not supported.

### **7.3.4 High Performance HR Practices and P-O Fit**

Hypothesis 5 tested the relationship between high performance HR practices and P-O fit. It was hypothesized that there would be a positive relationship between high performance HR practices and P-O fit. The results revealed that the relationship between high performance HR practices and P-O fit was positive and statistically significant ( $\beta = 0.754$ ,  $p < 0.001$ ). Thus, hypothesis 5 was supported.

### **7.3.5 P-O Fit and Employee Attitudes**

Hypothesis 6 investigated the relationship between P-O fit and employee job satisfaction, organizational commitment and intention to quit. It was hypothesized that there would be a positive relationship between P-O fit and both job satisfaction and organizational commitment, and a negative relationship between P-O fit and employee quit intentions. The

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<sup>8</sup> The relationship between high performance HR practices and the four dimensions of PSM was also tested. The results revealed that, consistent with overall PSM, high performance HR practices had a significant positive relationship with the four PSM dimensions. The detailed results of testing the relationship between high performance HR practices and the dimensions of PSM are presented in Appendix E.

results revealed that the relationship between P-O fit and both job satisfaction and organizational commitment was positive and statistically significant ( $\beta = 0.323$ ,  $p < 0.001$  and  $\beta = 0.399$ ,  $p < 0.001$  respectively), while the relationship between P-O fit and quit intentions was negative and statistically significant ( $\beta = -0.216$ ,  $p < 0.01$ ). Hence, hypotheses 6a, 6b and 6c were supported.

### **7.3.6 PSM and P-O Fit**

Hypothesis 8 tested the relationship between PSM and P-O fit. It was hypothesized that there would be a positive relationship between PSM and P-O fit. The results revealed that the relationship between PSM and P-O fit was positive and statistically significant ( $\beta = 0.093$ ,  $p < 0.01$ ). Thus, hypothesis 8 was supported<sup>9</sup>.

Findings regarding mediating relationships are presented in the following section.

## **7.4 Hypotheses Testing: Mediating Relationships**

It is argued that the use of more than one method for assessing mediating effects helps add to the robustness of mediation tests (MacKinnon, Lockwood, Hoffman, West, and Sheets, 2002; Messersmith et al., 2011). Accordingly, two methods of testing mediation were used in the current study: the nested models approach and the Sobel test with boot-strapped standard errors.

### **7.4.1 The Nested Models Approach**

The nested models approach involves comparing the partially mediated model with the most likely competing models nested within it. This approach to testing mediation is consistent with previous studies that have examined mediation hypotheses with the use of SEM (e.g. Brown, Mowen, Donavan and Licata, 2002; Yen and Gwinner, 2003; Camelo-Ordaz, García-Cruz, Sousa-Ginel and Valle-Cabrera, 2011; Cantarello et al., 2012).

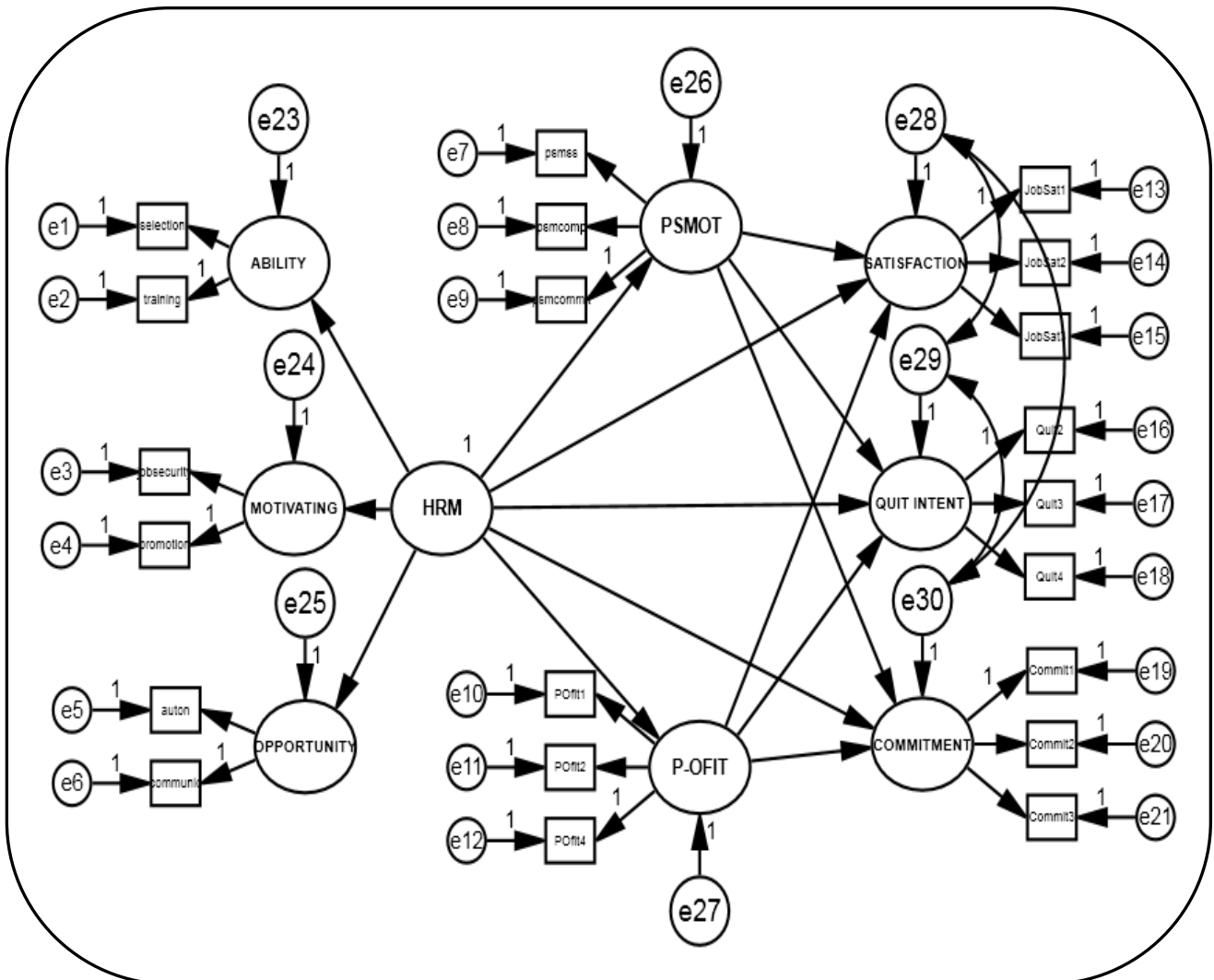
To test the mediation effect of both PSM and P-O fit on the relationship between high performance HR practices and employee attitudes, a partially mediated model which allows for both direct and indirect effects (mediated through PSM and P-O fit) of high performance

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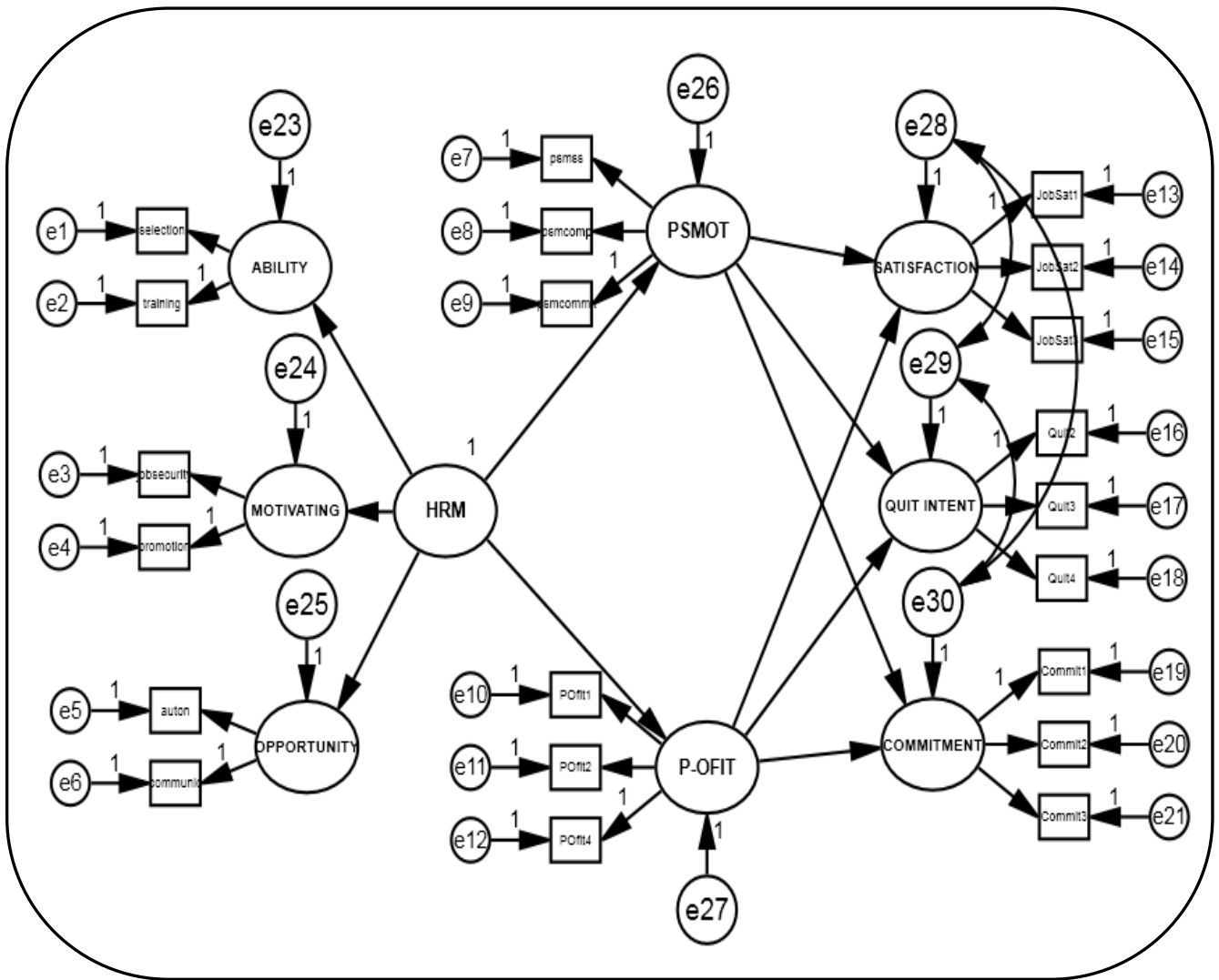
<sup>9</sup> The relationships between the four dimensions of PSM and P-O fit were also tested. The results revealed that the four dimensions of PSM had significant positive relationships with P-O fit. The detailed results of testing the relationship between the dimensions of PSM and P-O fit are presented in Appendix F.

HR practices on employee attitudes (see Figure 7.2) was compared with two other models. The first of these models positions PSM and P-O fit in a fully mediating role between HR practices and employee attitudes (see Figure 7.3). The second model is a direct effects model which includes only direct effects of high performance HR practices, PSM and P-O fit on employee attitudes.

**Figure 7.2:** PSM and P-O Fit Partially Mediating the Relationship between High Performance HR Practices and Employee Attitudes



**Figure 7.3: PSM and P-O Fit Fully Mediating the Relationship between High Performance HR Practices and Employee Attitudes**



Since the second and third models are nested within the first, a  $\chi^2$  difference test can be performed to determine whether PSM and P-O fit fully mediate or only partially mediate the effect of high performance HR practices on employee attitudes. Table 7.2 compares the fit indices of the three models.

**Table 7.2: Comparison of Models Fit Indices**

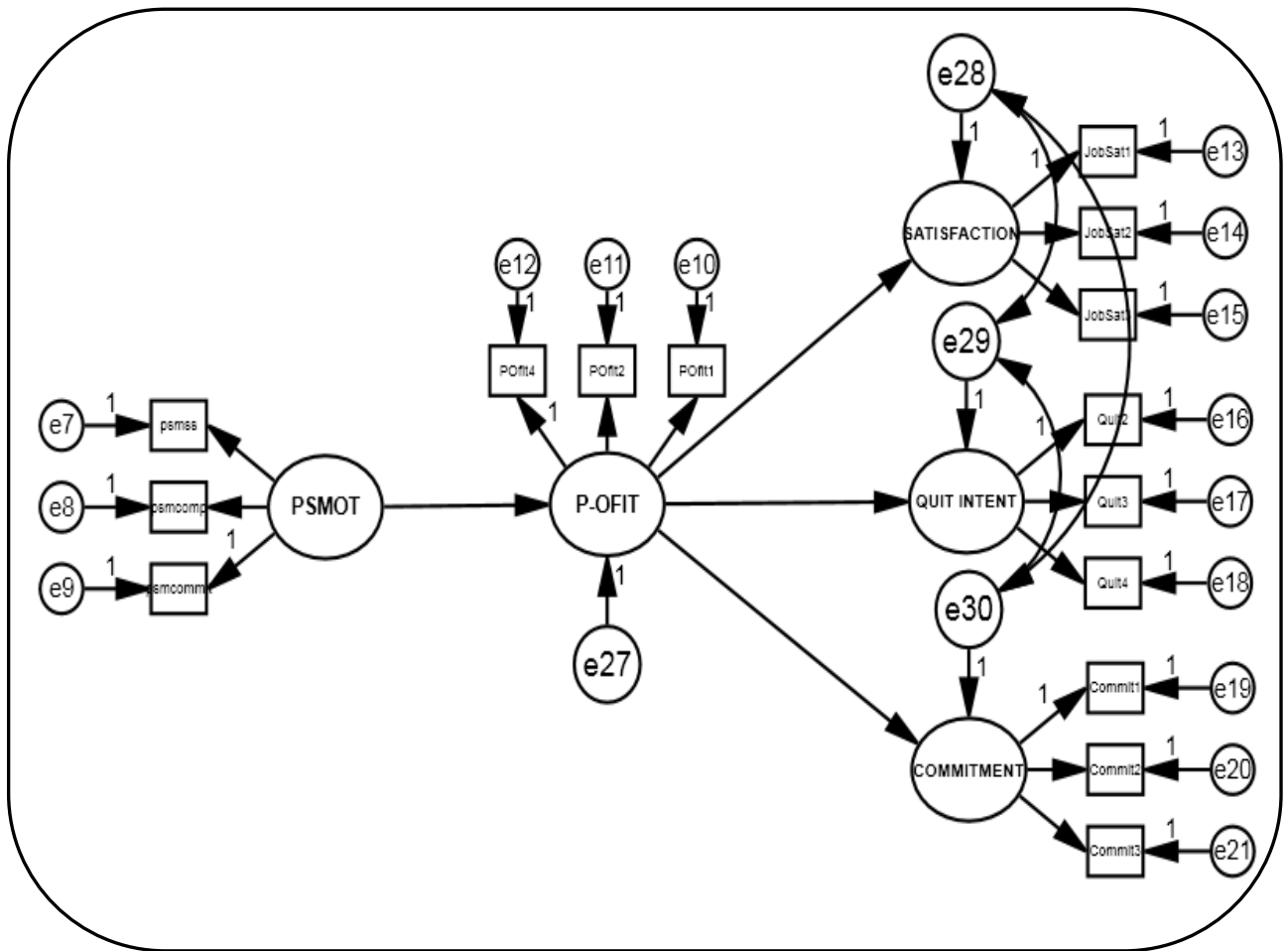
Model	$\chi^2/df$	CFI	GFI	TLI	RMSEA
First	2.105	0.978	0.952	0.973	0.041
Second	2.321	0.973	0.946	0.967	0.044
Third	5.008	0.918	0.900	0.901	0.077

As shown in Table 7.2, the three structural models fit the data well. However, the fit indices of the first model (the partial mediation model) are better than the fit indices of the two other models. Moreover, the  $\chi^2$  difference test comparing the partially mediated model against the fully mediated model is statistically significant ( $\chi^2$  difference = 44.220,  $df = 3$ ,  $p < 0.001$ ). The  $\chi^2$  difference test comparing the partially mediated model and the direct effects model is also significant ( $\chi^2$  difference = 509.439,  $df = 2$ ,  $p < 0.001$ ), suggesting that the partially mediated model provides the best fit for the data.

These results suggest that PSM mediates the relationship between high performance HR practices and both job satisfaction and organizational commitment, thus providing support for Hypotheses 4a and 4b. However, PSM had no significant relationship with quit intentions, thus indicating no mediation effect of PSM on the relationship between high performance HR practices and quit intentions. The results also reveal that P-O fit mediates the relationship between high performance HR practices and job satisfaction, organizational commitment and quit intentions. Therefore, Hypotheses 7a, 7b and 7c are supported. Thus, it could be argued that high performance HR practices have both direct and indirect effects on employee attitudes.

To test the mediation effect of P-O fit on the relationship between PSM and employee attitudes, a partially mediated model which allows for both direct and indirect effects (mediated through P-O fit) of PSM on employee attitudes was compared with another model which positions P-O fit in a fully mediating role between PSM and employee attitudes (see Figure 7.4).

**Figure 7.4:** P-O Fit Fully Mediating the Relationship between PSM and Employee Attitudes



The fit of the partially mediated model was good ( $\chi^2/df = 2.124$ , CFI = 0.985, GFI = 0.968, TLI = 0.981, and RMSEA = 0.041). In this model, PSM and P-O fit explain 42.5 percent of the variance in job satisfaction ( $R^2 = 0.425$ ), 62.5 percent of the variance in organizational commitment ( $R^2 = 0.625$ ), and 21.1 percent of the variance in quit intentions ( $R^2 = 0.211$ ). Moreover, PSM accounts for 11.2 percent of the variance of P-O fit ( $R^2 = 0.112$ ).

The fit of the fully mediated model was also good ( $\chi^2/df = 2.874$ , CFI = 0.975, GFI = 0.955, TLI = 0.968, and RMSEA = 0.053). However, the  $\chi^2$  difference test comparing the partially mediated model against the fully mediated model is statistically significant ( $\chi^2$  difference = 68.650,  $df = 3$ ,  $p < 0.001$ ), suggesting that the partially mediated model provides the best fit for the data. These results show that P-O fit partially mediates the relationship between PSM and both job satisfaction and organizational commitment, and fully mediates the relationship between PSM and quit intentions. Hence, Hypotheses 9a, 9b and 9c are supported.

### **7.4.2 The Sobel Test with Bootstrapped Standard Errors**

As suggested by MacKinnon et al. (2002), using more than one mediation test adds to the robustness of indirect effects tests. Accordingly, besides using the nested models approach to test for mediation in the current study, the Sobel test with bootstrapped standard errors was also used. Bootstrapping is used to produce an approximation of the sampling distribution so as to attain confidence intervals that are more accurate than confidence intervals resulting from using standard techniques while making no assumptions of any kind about the shape of the sampling distribution (Hayes and Preacher, 2010). It is only essential to assume that observations are identically and independently distributed, and that the measured variables sample distribution be similar to the population distribution (Hayes and Preacher, 2010).

Relative to other mediation testing techniques, Sobel tests with bootstrapped standard errors have a number of benefits (Hayes and Preacher, 2010). The major advantage of this approach is that it does not require the researcher to make the distributional assumptions necessary for parametric procedures. Second, the results of simulation studies (e.g. MacKinnon, Lockwood and Williams, 2004) comparing this approach with other mediation testing techniques show that Sobel tests with bootstrapped standard errors usually perform better than parametric techniques in small to moderate samples in terms of Type 1 error rates and statistical power. Finally, unlike intervals resulting from techniques that assume normality of the sampling distribution of the statistic of interest, bootstrap confidence intervals are likely to be asymmetric, more closely resembling the real sampling distribution of products of normal random variables.

A Sobel test with boot-strapped standard errors based on 1000 resampling was conducted. The results of this test are presented in Table 7.3.



**Table 7.3: Sobel Test Results**

Indirect Effects	Sobel Test	Standard Error	Mediating Effect
HPHRP → PSM → Job satisfaction	2.92	0.026**	Partial
HPHRP → PSM → Commitment	4.53	0.025***	Partial
HPHRP → PSM → Quit intentions	-0.47	0.027	None
HPHRP → P-O fit → Job satisfaction	3.70	0.087***	Partial
HPHRP → P-O fit → Commitment	5.66	0.070***	Partial
HPHRP → P-O fit → Quit intentions	-2.45	0.119*	Partial
PSM → P-O fit → Job satisfaction	2.05	0.026*	Partial
PSM → P-O fit → Commitment	2.26	0.030*	Partial
PSM → P-O fit → Quit intentions	-1.74	0.028 <sup>m.s.</sup>	Full

\*\*\*  $p < 0.001$ , \*\*  $p < 0.01$ , \*  $p < 0.05$ , <sup>m.s.</sup>  $p < 0.1$

As shown in Table 7.3, the results confirm that PSM had a mediating effect on the relationship between high performance HR practices and both job satisfaction (Sobel test = 2.92,  $p < 0.01$ ) and organizational commitment (Sobel test = 4.53,  $p < 0.001$ ). High performance HR practices had significant positive relationships with job satisfaction and organizational commitment (see table 7.1 in section 7.3). Accordingly, PSM had a partial mediating effect on these relationships. However, PSM had no mediation effect on the relationship between high performance HR practices and quit intentions (Sobel test = -0.47,  $p > 0.1$ )<sup>10</sup>. The results also confirm that P-O fit had a mediating effect on the relationship between high performance HR practices and job satisfaction (Sobel test = 3.70,  $p < 0.001$ ), organizational commitment (Sobel test = 5.66,  $p < 0.001$ ) and quit intentions (Sobel test = -2.45,  $p < 0.05$ ). The significant direct relationships between high performance HR practices and employee attitudes indicate that P-O fit had a partial mediating effect on the HR practices-employee attitudes link. Furthermore, the findings in Table 7.3 confirm that P-O fit had a mediating effect on the relationship between PSM and job satisfaction (Sobel test = 2.05,  $p < 0.05$ ), organizational commitment (Sobel test = 2.26,  $p < 0.05$ ), and quit intentions (Sobel test = -1.74,  $p < 0.1$ ). PSM had significant direct relationships with both job satisfaction and organizational commitment, but had no direct significant relationship with quit intentions. Accordingly, the mediating effect of P-O fit on the relationship between PSM and both job satisfaction and organizational commitment was partial, whereas the mediating

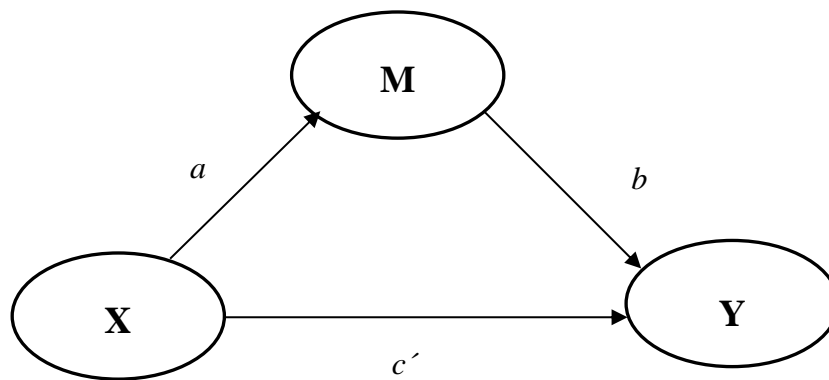
<sup>10</sup> The mediating effects of the four dimensions of PSM on the relationship between high performance HR practices and employee attitudes were also tested. To a large extent, the results were consistent with the overall PSM hypothesis. The detailed results of testing the mediating effects of the dimensions of PSM on the relationship between HR practices and employee attitudes are presented in Appendix E.

effect of P-O fit on the relationship between PSM and quit intentions was full or complete (Iacobucci, Saldanha, and Deng, 2007)<sup>11</sup>.

### 7.4.3 Proportion of Mediation

Figure 7.5 depicts a simple mediation model. In this figure, X is the independent variable, M is the mediator and Y is the dependent variable. In the figure,  $a$  represents the standardized path coefficient from the independent variable to the mediator,  $b$  represents the standardized path coefficient from the mediator to the dependent variable and  $c'$  represents the standardized path coefficient from the independent to the dependent variable. If both  $a$  and  $b$  are significant there is *prima facie* evidence of mediation.

**Figure 7.5:** Mediation Model



$$\text{Proportion of Mediation} = \frac{a \times b}{(a \times b) + c'}$$

The following sections present the results of testing for the proportion of mediation in the current study.

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<sup>11</sup> The mediating effects of P-O fit on the relationship between the four PSM dimensions and employee attitudes were also tested and the results, to a large extent, were consistent with the overall PSM hypothesis. The detailed results of testing the mediating effects of P-O fit on the relationship between the dimensions of PSM and employee attitudes are presented in Appendix F.

#### 7.4.3.1 Proportion of Mediation of PSM on HPHRP-Employee Attitudes Relationship

Table 7.4 shows the values of the standardized path coefficient from high performance HR practices to PSM, the standardized path coefficients from PSM to employee attitudes and the standardized path coefficients from high performance HR practices to employee attitudes. The table also shows the ratios of indirect-to-total effects.

**Table 7.4:** Results of Testing Proportion of Mediation of PSM on HPHRP-Attitudes Link

1 Indirect Effects	2 HPHRP → PSM ( <i>a</i> )	3 PSM → Attitude ( <i>b</i> )	4 HPHRP → Attitude ( <i>c'</i> )	5 Ratio of Indirect-to- Total Effects <sup>a</sup>
HPHRP → PSM → Job satisfaction	0.320***	0.177***	0.308***	0.156
HPHRP → PSM → Commitment	0.320***	0.268***	0.346***	0.199
HPHRP → PSM → Quit intentions	0.320***	- 0.023	- 0.324***	0.022

\*\*\* $p < 0.001$

<sup>a</sup>Ratio of direct-to-total effects = 1 - column 5

As shown in Table 7.4, the standardized path coefficients from high performance HR practices to PSM and from PSM to job satisfaction are significant. The coefficient associated with the indirect path of high performance HR practices via PSM to job satisfaction equalled 0.057 [ $0.320 \times 0.177$ ], and (as shown in Table 7.3) was significantly different from zero (Sobel test = 2.92,  $p < 0.01$ ). Table 7.4 also shows that the ratio of indirect to total effect equalled 0.156 [ $0.057 / (0.057 + 0.308)$ ]. This indicates that 15.5 percent of the job satisfaction variance explained by both high performance HR practices and PSM was accounted for by the indirect path via PSM, whereas the rest of the job satisfaction variance explained by both high performance HR practices and PSM was accounted for by the direct path. Thus, there was partial mediation, but the direct path predominated. This suggests that there are other important mediators of the relationship between high performance HR practices and job satisfaction that are still awaiting discovery.

Table 7.4 shows that the standardized path coefficient from high performance HR practices to PSM and the standardized path coefficient from PSM to organizational commitment are significant. The coefficient associated with the indirect path of high performance HR practices via PSM to organizational commitment equalled 0.086 [ $0.320 \times 0.268$ ], and (as shown in Table 7.3) was significantly different from zero (Sobel test = 4.53,  $p < 0.001$ ). Table 7.4 also shows that the ratio of indirect to total effect equalled 0.199 [ $0.086 / (0.086 + 0.346)$ ]. This indicates that 19.9 percent of the organizational commitment variance explained

by both high performance HR practices and PSM was accounted for by the indirect path via PSM, whereas the rest of the organizational commitment variance explained by both high performance HR practices and PSM was accounted for by the direct path. Thus, there was partial mediation, but the direct path predominated. Again, this suggests that there are other important mediator variables awaiting discovery.

As shown in Table 7.4, the standardized path coefficient from high performance HR practices to PSM was significant. However, the standardized path coefficient from PSM to intention to quit was not significant. Furthermore, the coefficient associated with the indirect path of high performance HR practices via PSM to quit intentions was not significant. This confirms that PSM had no mediation effect on the relationship between high performance HR practices and intention to quit.

#### 7.4.3.2 Proportion of Mediation of P-O Fit on HPHRP-Employee Attitudes Relationship

Table 7.5 shows the values of the standardized path coefficient from high performance HR practices to P-O fit, the standardized path coefficients from P-O fit to employee attitudes and the standardized path coefficients from high performance HR practices to employee attitudes. The table also shows the ratios of indirect-to-total effects.

**Table 7.5:** Results of Testing Proportion of Mediation of P-O Fit on HPHRP-Attitudes Link

1 Indirect Effects	2 HPHRP → P-O fit ( <i>a</i> )	3 P-O fit → Attitude ( <i>b</i> )	4 HPHRP → Attitude ( <i>c'</i> )	5 Ratio of Indirect-to- Total Effects <sup>a</sup>
HPHRP → P-O fit → Job satisfaction	0.754***	0.323***	0.308***	0.442
HPHRP → P-O fit → Commitment	0.754***	0.399***	0.346***	0.465
HPHRP → P-O fit → Quit intentions	0.754***	- 0.216**	-0.324***	0.335

\*\*\* $p < 0.001$ , \*\* $p < 0.01$

<sup>a</sup>Ratio of direct-to-total effects = 1 - column 5

As shown in Table 7.5, the standardized path coefficient from high performance HR practices to P-O fit and the standardized path coefficient from P-O fit to job satisfaction are significant. The coefficient associated with the indirect path of high performance HR practices via P-O fit to job satisfaction equalled 0.244 [ $0.754 \times 0.323$ ], and (as shown in Table 7.3) was significantly different from zero (Sobel test = 3.70,  $p < 0.001$ ). Table 7.5 also shows that the ratio of indirect to total effect equalled 0.442 [ $0.244 / (0.244 + 0.308)$ ]. This indicates that 44.2 percent of the job satisfaction variance explained by both high performance HR

practices and P-O fit was accounted for by the indirect path via P-O fit, whereas the rest of the job satisfaction variance explained by both high performance HR practices and P-O fit was accounted for by the direct path. Thus, there was partial mediation, but the direct path predominated. This suggests that there are other mediator variables awaiting discovery.

Table 7.5 shows that the standardized path coefficient from high performance HR practices to P-O fit and the standardized path coefficient from P-O fit to organizational commitment are significant. The coefficient associated with the indirect path of high performance HR practices via P-O fit to organizational commitment equalled 0.301 [ $0.754 \times 0.399$ ], and (as Table 7.3 shows) was significantly different from zero (Sobel test = 5.66,  $p < 0.001$ ). Table 7.5 also shows that the ratio of indirect to total effect equalled 0.465 [ $0.301 / (0.301 + 0.346)$ ]. This indicates that 46.5 percent of the organizational commitment variance explained by both high performance HR practices and P-O fit was accounted for by the indirect path via P-O fit, whereas the rest of the organizational commitment variance explained by both high performance HR practices and P-O fit was accounted for by the direct path. Thus, there was partial mediation, and the direct path almost predominated.

As shown in Table 7.5, the standardized path coefficient from high performance HR practices to P-O fit and the standardized path coefficient from P-O fit to quit intentions are significant. The coefficient associated with the indirect path of high performance HR practices via P-O fit to quit intentions equalled -0.163 [ $0.754 \times -0.216$ ], and (as shown in Table 7.3) was significantly different from zero (Sobel test = -2.45,  $p < 0.05$ ). Table 7.5 also shows that the ratio of indirect to total effect equalled 0.335 [ $-0.163 / (-0.163 - 0.324)$ ]. This indicates that 33.5 percent of the intention to quit variance explained by both high performance HR practices and P-O fit was accounted for by the indirect path via P-O fit, whereas the rest of the intention to quit variance explained by both high performance HR practices and P-O fit was accounted for by the direct path. Thus, there was partial mediation, but the direct path predominated. This suggests the existence of other mediators of the relationship between high performance HR practices and quit intentions that still require discovery.

#### **7.4.3.3 Proportion of Mediation of P-O Fit on PSM-Employee Attitudes Relationship**

Table 7.6 shows the values of the standardized path coefficient from PSM to P-O fit, the standardized path coefficients from P-O fit to employee attitudes and the standardized path coefficients from PSM to employee attitudes. The table also shows the ratios of indirect-to-total effects.

**Table 7.6:** Results of Testing Proportion of Mediation of P-O Fit on PSM-Attitudes Link

1 Indirect Effects	2 PSM → P-O fit ( <i>a</i> )	3 P-O fit → Attitude ( <i>b</i> )	4 PSM → Attitude ( <i>c'</i> )	5 Ratio of Indirect-to- Total Effects <sup>a</sup>
PSM → P-O fit → Job satisfaction	0.093**	0.323***	0.177***	0.145
PSM → P-O fit → Commitment	0.093**	0.399***	0.268***	0.121
PSM → P-O fit → Quit intentions	0.093**	- 0.216**	- 0.023	0.465

\*\*\* $p < 0.001$ , \*\* $p < 0.01$

<sup>a</sup>Ratio of direct-to-total effects = 1 - column 5

Table 7.6 shows that the standardized path coefficient from PSM to P-O fit and the standardized path coefficient from P-O fit to job satisfaction are significant. The coefficient associated with the indirect path of PSM via P-O fit to job satisfaction equalled 0.030 [ $0.093 \times 0.323$ ], and (as shown in Table 7.3) was significantly different from zero (Sobel test = 2.054,  $p < 0.05$ ). Table 7.6 also shows that the ratio of indirect to total effect equalled 0.145 [ $0.030 / (0.030 + 0.177)$ ]. This indicates that 14.4 percent of the job satisfaction variance explained by both PSM and P-O fit was accounted for by the indirect path via P-O fit, whereas the rest of the job satisfaction variance explained by both PSM and P-O fit was accounted for by the direct path. Thus, there was partial mediation, but the direct path predominated. This suggests that there are other important mediators of the relationship between PSM and job satisfaction that are still awaiting discovery.

As shown in Table 7.6, the standardized path coefficients from PSM to P-O fit and from P-O fit to organizational commitment are significant. The coefficient associated with the indirect path of PSM via P-O fit to organizational commitment equalled 0.037 [ $0.093 \times 0.399$ ], and (as Table 7.3 shows) was significantly different from zero (Sobel test = 2.263,  $p < 0.05$ ). Table 7.6 also shows that the ratio of indirect to total effect equalled 0.121 [ $0.037 / (0.037 + 0.268)$ ]. This indicates that 12.2 percent of the organizational commitment variance explained by both PSM and P-O fit was accounted for by the indirect path via P-O fit, whereas the rest of the organizational commitment variance explained by both PSM and P-O fit was accounted for by the direct path. Thus, there was partial mediation, but the direct path predominated. This suggests that there are other important mediators of the relationship between PSM and organizational commitment that still require further exploration.

Table 7.6 shows that the standardized path coefficients from PSM to P-O fit and from P-O fit to quit intentions are significant. The coefficient associated with the indirect path of PSM via

P-O fit to quit intentions equalled  $-0.020 [0.093 \times -0.216]$ , and (as shown in Table 7.3) was significantly different from zero (Sobel test =  $-1.737, p < 0.1$ ). Table 7.6 also shows that the ratio of indirect to total effect equalled  $0.465 [-0.020 / (-0.020 - 0.023)]$ . This indicates that 46.6 percent of the intention to quit variance explained by both PSM and P-O fit was accounted for by the indirect path via P-O fit, whereas the rest of the intention to quit variance explained by both PSM and P-O fit was accounted for by the direct path. Thus, there was full mediation, and the indirect path almost predominated.

## 7.5 Hypotheses Testing: Moderating Effects

According to Song, Droge, Hanvanich, and Calentone (2005, p. 260), the analysis of construct interaction effects is still in its ‘infancy’. A major problem with the traditional methods of analysis of interaction effects, such as moderated regression with observed variables, is that they suffer from low power because they do not control for explanatory variables measurement errors. Accordingly, latent interaction modelling with SEM has been proposed by researchers as a better alternative (Little, Bovaird, and Widaman, 2006; Steinmetz, Davidov and Schmidt, 2011). A major benefit of using latent variables and SEM is the ability to control for different types of random and non-random measurement errors. This, in turn, will result in parameter estimates which are more accurate (Little et al., 2006; Steinmetz et al., 2011).

To examine the moderating role of P-O fit on the relationship between PSM and employee attitudes with the use of SEM, the *orthogonalizing approach* suggested by Little et al. (2006) was used. There is a lack of consensus on how to estimate interactive effects properly, especially when performing SEM (Little et al., 2006). However, the orthogonalizing approach has been recommended for a number of reasons (Little et al., 2006; Henseler and Chin, 2010). First, this approach helps eliminate nonessential multicollinearity between interaction and main effect (first-order) terms. It also does not require any constraints to be placed on estimated parameters and does not require any recalculations of parameters. Furthermore, this method could be implemented using any SEM software (Little et al., 2006). Finally, the results of simulation studies have shown that this approach has performed well in comparison to other methods of analysis of latent interaction effects (Henseler and Chin, 2010).

The orthogonalizing approach involves first creating indicators of the interaction term by multiplying the indicators of the first-order constructs. Each product indicator is then

regressed on the first-order indicators used to form each product term (i.e. all the first-order indicators of the constructs). The residuals from these regressions are kept as indicators of an interaction latent variable which is totally orthogonal to the first-order latent variables. The following section will describe in detail how the orthogonalized indicators and the interaction latent variable were formed in the current study.

### 7.5.1 Orthogonalized Indicators and the Interaction Latent Variable

Nine product terms were formed from 2 sets of indicators for PSM and P-O fit. Specifically, there are 3 indicators of PSM (psmss, psmcomp, and psmcommit), and 3 indicators of P-O fit (POfit1, POfit2, and POfit4). Accordingly, the following 9 product terms were created:

$$\begin{aligned}
 \text{psmssPOfit1} &= \text{psmss} * \text{POfit1} \\
 \text{psmssPOfit2} &= \text{psmss} * \text{POfit2} \\
 \text{psmssPOfit4} &= \text{psmss} * \text{POfit4} \\
 \text{psmcompPOfit1} &= \text{psmcomp} * \text{POfit1} \\
 \text{psmcompPOfit2} &= \text{psmcomp} * \text{POfit2} \\
 \text{psmcompPOfit4} &= \text{psmcomp} * \text{POfit4} \\
 \text{psmcommitPOfit1} &= \text{psmcommit} * \text{POfit1} \\
 \text{psmcommitPOfit2} &= \text{psmcommit} * \text{POfit2} \\
 \text{psmcommitPOfit4} &= \text{psmcommit} * \text{POfit4}
 \end{aligned}$$

All the resulting 9 uncentered product terms were then individually regressed onto the first-order effect indicators of the constructs. For example,

$$\text{psmssPOfit1} = b_0 + b_1\text{psmss} + b_2\text{psmcomp} + b_3\text{psmcommit} + b_4\text{POfit1} + b_5\text{POfit2} + b_6\text{POfit4}$$

Where psmss, psmcomp, and psmcommit represent the first-order indicators for the PSM construct, and POfit1, POfit2, and POfit4 represent the first-order indicators for the P-O fit construct. The residual for this regression was then saved and used as an indicator of the interaction construct. This procedure was repeated for each one of the 9 uncentered product terms.

The 9 orthogonalized product terms were then included as indicators of a single latent interaction construct. It should be noted that a unique variance is common to the 9 indicators, depending on which first-order effect indicators were used to form them. Consequently,



correlations among the residual variances of the interaction indicators were specified, such that the indicators psmssPOfit1, psmssPOfit2, and psmssPOfit4 had correlated residuals, where each contains the uniqueness of psmss. Likewise, the indicators labelled psmcompPOfit1, psmcompPOfit2, and psmcompPOfit4 should have correlated residuals, where each has the uniqueness of psmcomp. The same pattern of residual correlation was for psmcommitPOfit1, psmcommitPOfit2, and psmcommitPOfit4, which share psmcommit; psmssPOfit1, psmcompPOfit1, and psmcommitPOfit1, which share POfit1; and psmssPOfit2, psmcompPOfit2, and psmcommitPOfit2, which share POfit2; and psmssPOfit4, psmcompPOfit4, and psmcommitPOfit4 which share POfit4. The following section presents the results of testing the moderation hypotheses.

### **7.5.2 Moderating Effect of P-O Fit on the Relationship between PSM and Employee Attitudes**

To examine the moderational role of P-O fit on the relationship between PSM and employee attitudes, 3 models were tested. In the 3 models, both PSM and P-O fit were modelled as latent constructs with 3 indicators (psmss, psmcommit, and psmcomp for PSM, and POfit1, POfit2, and POfit4 for P-O fit). Each employee attitude (job satisfaction, organizational commitment, and quit intentions) was the outcome variable in each one of the 3 models and was modelled as a latent construct with 3 indicators for each variable. The moderator variable is the interaction of PSM and P-O fit and was created as explained above in section 7.5.1. It should be noted that the latent interaction term is not allowed to correlate with the 2 main effect latent variables PSM and P-O fit (Little et al., 2006).

Figure 7.6 presents the effect of PSM on job satisfaction moderated by P-O fit. The results showed that the moderator model had a good fit to the data ( $\chi^2/df = 1.098$ , CFI = 0.999, GFI = 0.980, TLI = 0.998, and RMSEA = 0.012). The paths from both PSM and P-O fit to job satisfaction were positive and statistically significant ( $\beta = 0.198$ ,  $p < 0.001$  and  $\beta = 0.557$ ,  $p < 0.001$  respectively). However, the path from the interaction effect to job satisfaction was not statistically significant, indicating that P-O fit did not moderate the relationship between PSM and job satisfaction. Thus, hypothesis 10a was not supported.

**Figure 7.6:** Effect of PSM on Job Satisfaction Moderated by P-O fit

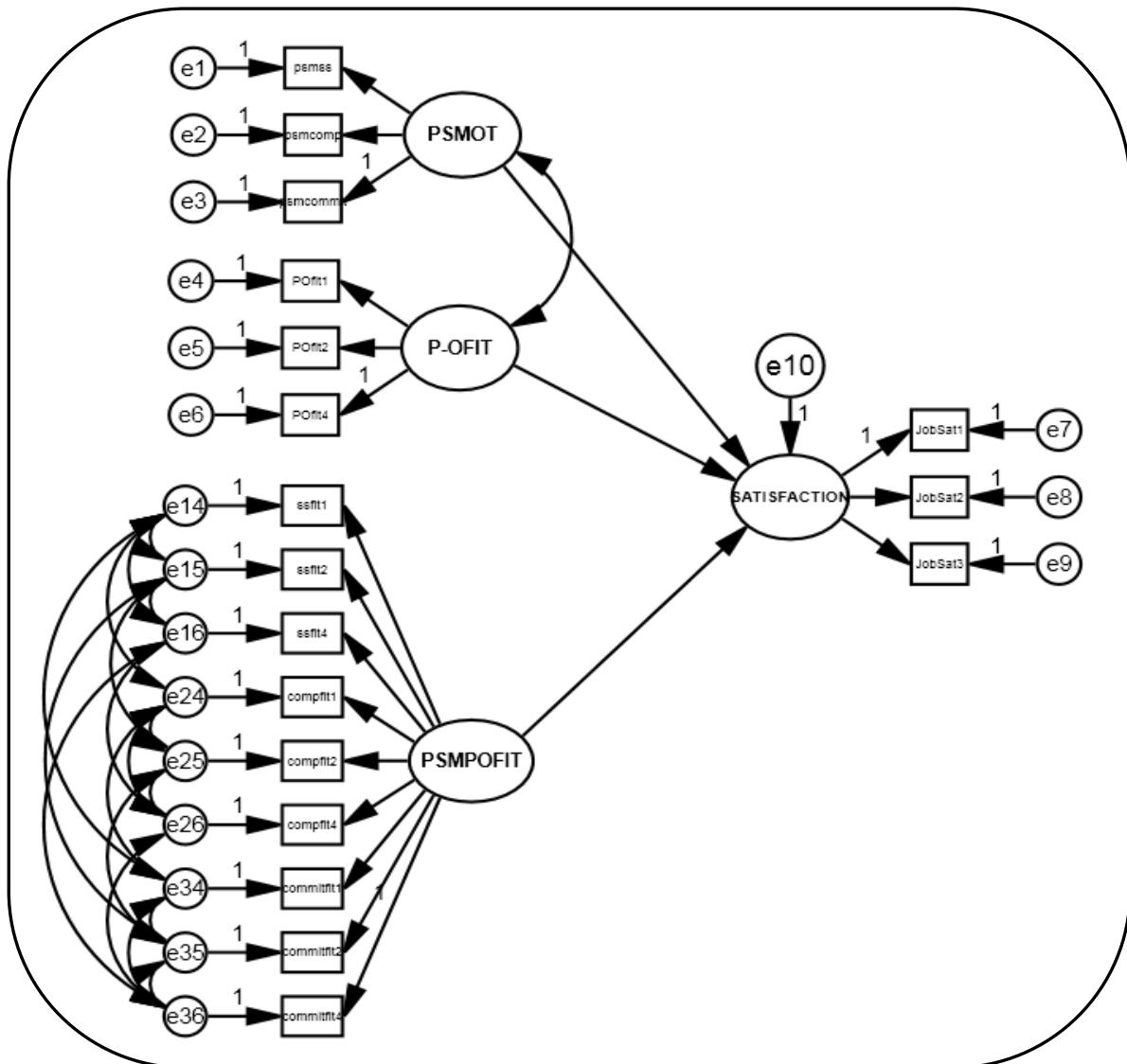


Figure 7.7 presents the effect of PSM on organizational commitment moderated by P-O fit. The results showed that the moderator model had a good fit to the data ( $\chi^2/df = 1.193$ , CFI = 0.997, GFI = 0.978, TLI = 0.997, and RMSEA = 0.017). The paths from both PSM and P-O fit to commitment were positive and statistically significant ( $\beta = 0.291$ ,  $p < 0.001$  and  $\beta = 0.662$ ,  $p < 0.001$  respectively). However, the path from the interaction effect to commitment was not statistically significant, indicating no moderation effect of P-O fit on the relationship between PSM and organizational commitment. Thus, hypothesis 10b was not supported.

**Figure 7.7:** Effect of PSM on Organizational Commitment Moderated by P-O fit

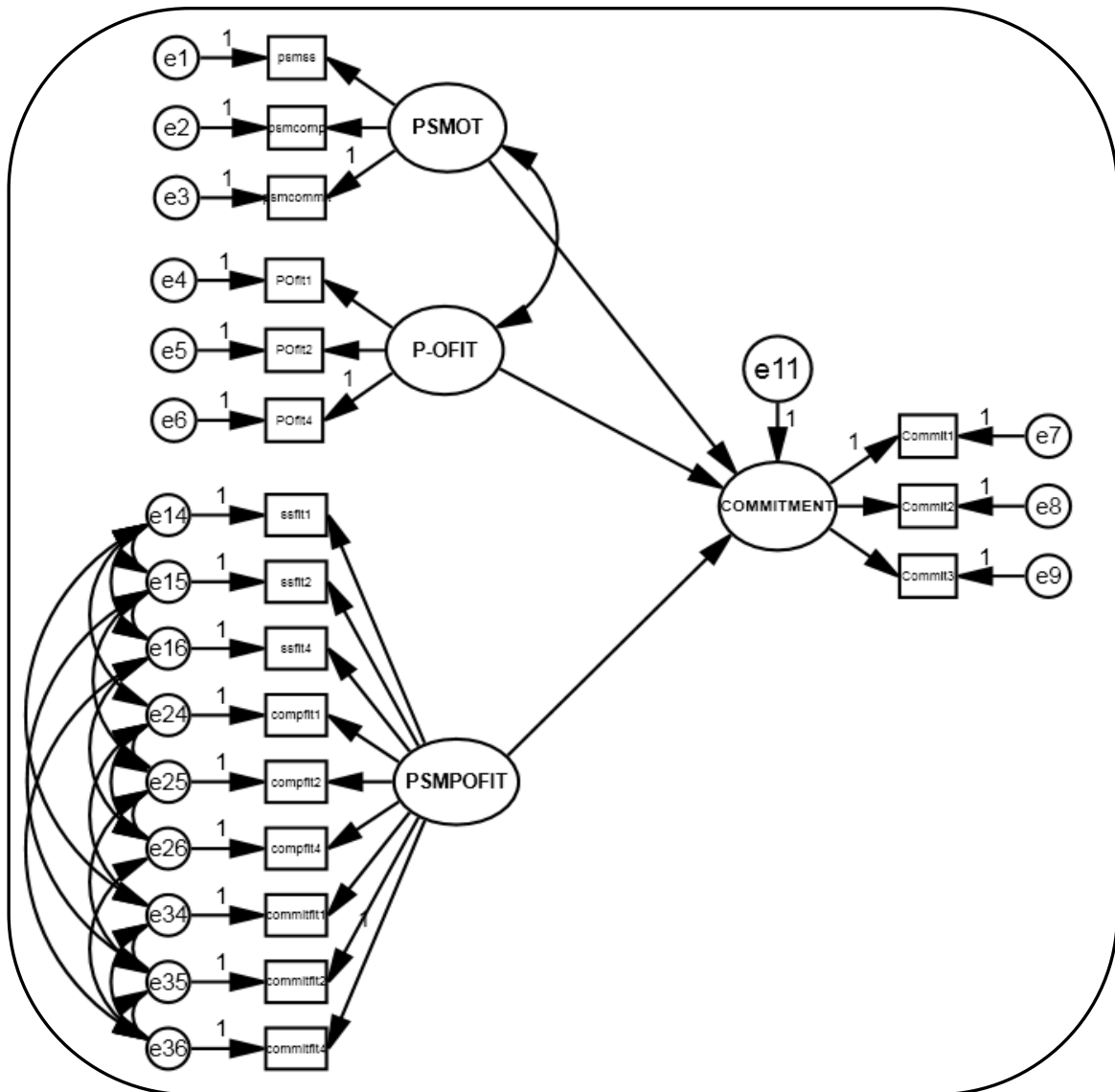
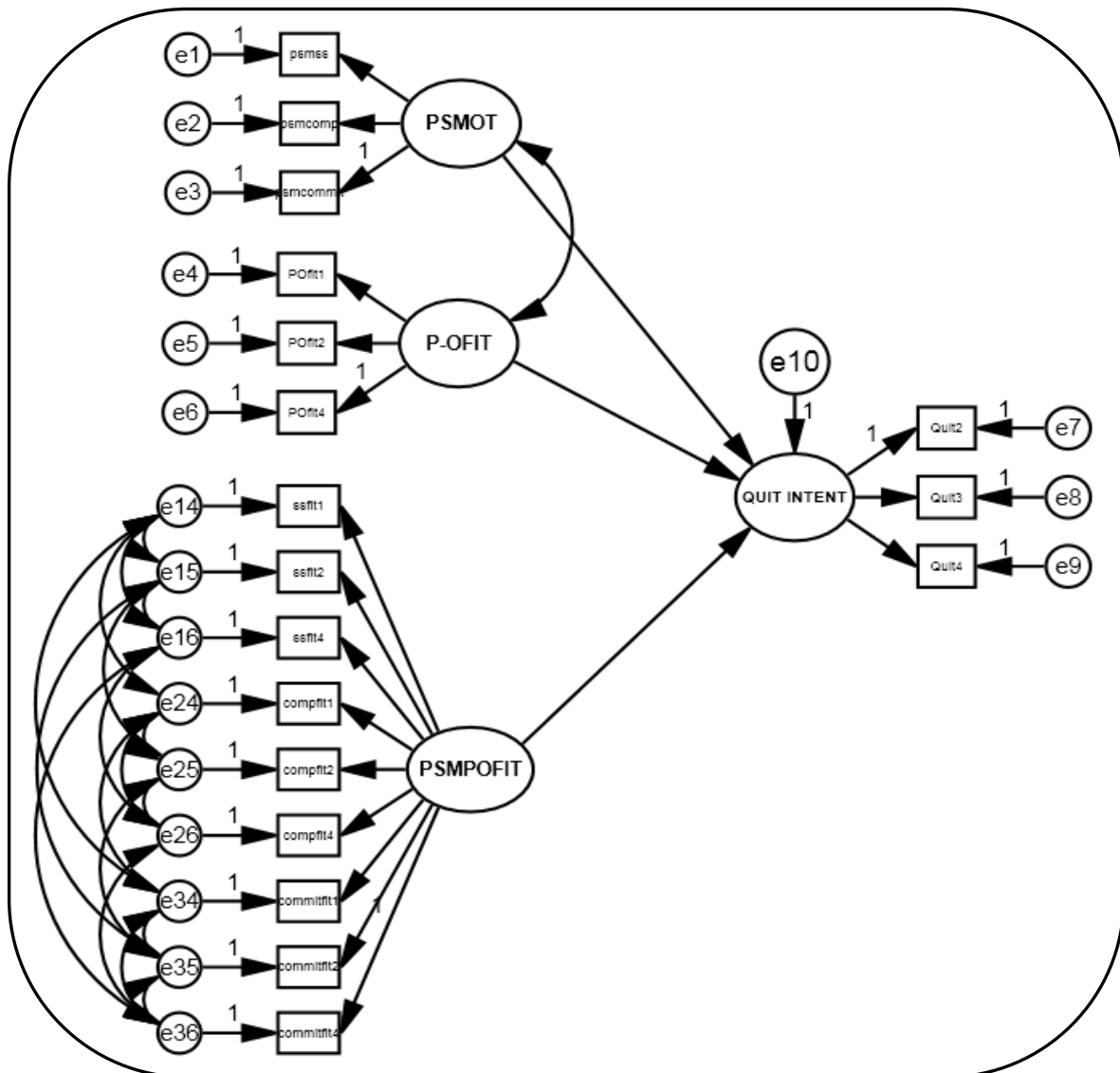


Figure 7.8 presents the effect of PSM on quit intentions moderated by P-O fit. The results showed that the moderator model had a good fit to the data ( $\chi^2/df = 0.782$ , CFI = 1.000, GFI = 0.986, TLI = 1.000, and RMSEA = 0.000). The path from P-O fit to quit intentions was negative and statistically significant ( $\beta = -0.457$ ,  $p < 0.001$ ). However, the paths from both PSM and the interaction effect to quit intentions were not statistically significant, indicating no moderation effect of P-O fit on the relationship between PSM and quit intentions. Thus, hypothesis10c was not supported<sup>12</sup>.

<sup>12</sup> The interaction effects were also tested using moderated multiple regression using SPSS (Shieh, 2009). Both, the PSM and P-O fit constructs were first mean-centered so as to minimize multicollinearity (Kromrey and Foster-Johnson, 1998). Then, an interaction term was created by multiplying the mean-centered variables. Three models were then tested in which the mean-centered versions of both PSM and P-O fit were included together with the interaction term as independent variables and each employee attitude was the dependent variable in

**Figure 7.8:** Effect of PSM on Quit Intentions Moderated by P-O fit



## 7.6 Controls

Previous research has demonstrated that employees' age, gender, education and tenure are related to job satisfaction (e.g. Igbaria and Greenhans, 1992; Sarker, Crossman and Chinmeteeptuck, 2003), organizational commitment (e.g. Meyer et al., 2002) and quit intentions (e.g. Samad, 2006; Kabungaidze, Mahlatshana and Ngirande, 2013). Accordingly, these variables were controlled for in the current study so as to rule out potential alternative explanations for the findings (Dulac et al., 2008). Table 7.7 shows the results of testing the effects of control variable on employee attitudes.

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each model. In the three models, the interaction term was not significant; confirming that P-O fit had no moderation effect on the relationship between PSM and employee attitudes.

**Table 7.7:** Effects of Control Variables on Employee Attitudes

Control Variable Effect	Standardized Coefficient	t-value	Relationship
Age → Job satisfaction	0.120	3.407***	Positive
Age → Commitment	- 0.011	-0.386	None
Age → Quit intentions	- 0.073	- 2.018*	Negative
Gender → Job satisfaction	0.022	0.633	None
Gender → Commitment	- 0.024	-0.862	None
Gender → Quit intentions	- 0.092	-2.561**	Negative
Education → Job satisfaction	- 0.022	-0.637	None
Education → Commitment	- 0.137	-4.780***	Negative
Education → Quit intentions	0.117	3.255***	Positive
Tenure → Job satisfaction	0.012	0.329	None
Tenure → Commitment	0.012	2.024*	Positive
Tenure → Quit intentions	0.057	0.347	None

\*\*\*  $p < 0.001$ , \*\*  $p < 0.01$ , \* $p < 0.05$

### 7.6.1 Age

Findings of previous studies suggest that age has a significant positive relationship with organizational commitment (Meyer et al., 2002), and a significant negative relationship with turnover intentions (Samad, 2006; Kabungaidze et al., 2013). However, as regards to job satisfaction, the findings are mixed. For instance, some researchers (e.g. Nestor and Leary, 2000) have reported a significant positive relationship between age and job satisfaction, while others (e.g. Sarker et al., 2003; Scott, Swortzel and Taylor, 2005) have found no significant relationship between them.

The results of the present study revealed that age had a significant positive relationship with job satisfaction ( $p < 0.001$ ), a significant negative relationship with quit intentions ( $p < 0.05$ ), and no significant relationship with organizational commitment. Thus, older public sector workers were more satisfied with their jobs and less inclined to quit their organizations.

### 7.6.2 Gender

Research findings on gender differences towards job attitudes have been mixed (Haar and O'Driscoll, 2005). For instance, Singh, Finn, and Goulet (2004) found that female workers are more committed to their organizations than male workers. The opposite was found by Graddick and Farr (1983), whereas Moncrief, Babakus, Cravens and Johnson (2000) found that there were no gender differences in organizational commitment. As regards to job

satisfaction, Voydanoff (1980) found that women have lower job satisfaction than men, while other researchers (e.g. Smith, Smits and Hoy, 1998; Moncrief et al., 2000; Singh et al., 2004) have found no gender differences towards job satisfaction. Some studies have also reported that women have higher levels of turnover intentions than men (e.g. Moncrief et al., 2000), while others have found no differences between men and women in intentions to leave the organization (e.g. Weisberg and Kirschenbaum, 1993; Ucho, Mkavga and Onyishi, 2012).

The results of the current study revealed that female respondents were less inclined to quit their organizations than male respondents ( $p < 0.01$ ). However, gender had no significant relationship with both job satisfaction and organizational commitment.

### **7.6.3 Education**

There are mixed findings on the relationship between education and employee work attitudes. For instance, Gurbuz (2007) reported a significant positive relationship between education and job satisfaction. However, Igbaria and Greenhans (1992) found a significant negative relationship between education and job satisfaction, whereas Scott et al. (2005) reported no significant relationship between educational level and job satisfaction. As regards to organizational commitment, some studies (e.g. Bakan, Büyükbeşe and Erşahan, 2011) have reported a significant negative relationship between educational level and affective commitment, while others (e.g. Igbaria and Greenhans, 1992; Chen and Francesco, 2000) found no significant relationship between education and organizational commitment. Regarding quit intentions, some researchers (e.g. Igbaria and Greenhans, 1992; Beecroft, Dorey and Wenten, 2008) found that higher levels of education were positively related to quit intentions, whereas others (e.g. Chen and Francesco, 2000) found that education had a significant negative relationship with intention to quit.

The study results revealed that educational level had a significant negative relationship with organizational commitment ( $p < 0.001$ ), a significant positive relationship with quit intentions ( $p < 0.001$ ), and no significant relationship with job satisfaction. Thus, employees with higher levels of education were less committed to their organizations and more likely to quit their jobs.

### **7.6.4 Tenure**

Findings of past research suggest that tenure has a significant positive relationship with job satisfaction (Igbaria and Greenhans, 1992; Oshagbemi, 2000; Sarke et al., 2003) and

organizational commitment (Igbaria and Greenhans, 1992; Meyer et al., 2002), and a significant negative relationship with turnover intentions (Samad, 2006; Kabungaidze et al., 2013).

The results of the current study showed that tenure had a significant positive relationship with organizational commitment ( $p < 0.05$ ), but had no significant relationship with both job satisfaction and quit intentions. Thus, longer-tenured public sector workers reported that they were more committed to their organizations.

## **7.7 Summary**

In this chapter the hypothesized relationships between the study constructs were tested using SEM. The results revealed that both high performance HR practices and P-O fit had significant positive relationships with job satisfaction and organizational commitment, and significant negative relationships with quit intentions. PSM also had significant positive relationships with job satisfaction and organizational commitment. However, it had no significant relationship with quit intentions. Regarding mediation effects, the results revealed that PSM partially mediated the relationship between high performance HR practices and both job satisfaction and organizational commitment, but had no mediation effect on the relationship between high performance HR practices and quit intentions. Additionally, it was found that P-O fit partially mediated the relationship between high performance HR practices and job satisfaction, organizational commitment and quit intentions. P-O fit also partially mediated the relationship between PSM and both job satisfaction and organizational commitment, and fully mediated the relationship between PSM and quit intentions. Regarding moderation effects, the results suggested that P-O fit had no moderation effect on the relationship between PSM and employee attitudes. Table 7.8 summarizes the results of hypotheses testing. The next chapter will present the discussion of the hypotheses testing results.

**Table 7.8:** Summary of Hypotheses Testing Results

Hypothesis	Hypothesized Relationship	Result
H1a	HPHRP → Job satisfaction	Supported
H1b	HPHRP → Organizational commitment	Supported
H1c	HPHRP → Quit intentions	Supported
H2	HPHRP → PSM	Supported
H3a	PSM → Job satisfaction	Supported
H3b	PSM → Organizational commitment	Supported
H3c	PSM → Quit intentions	Not Supported
H4a	HPHRP → PSM → Job satisfaction	Supported
H4b	HPHRP → PSM → Organizational commitment	Supported
H4c	HPHRP → PSM → Quit intentions	Not Supported
H5	HPHRP → P-O fit	Supported
H6a	P-O fit → Job satisfaction	Supported
H6b	P-O fit → Organizational commitment	Supported
H6c	P-O fit → Quit intentions	Supported
H7a	HPHRP → P-O fit → Job satisfaction	Supported
H7b	HPHRP → P-O fit → Organizational commitment	Supported
H7c	HPHRP → P-O fit → Quit intentions	Supported
H8	PSM → P-O fit	Supported
H9a	PSM → P-O fit → Job satisfaction	Supported
H9b	PSM → P-O fit → Organizational commitment	Supported
H9c	PSM → P-O fit → Quit intentions	Supported
H10a	PSM*P-O fit → Job satisfaction	Not Supported
H10b	PSM*P-O fit → Organizational commitment	Not Supported
H10c	PSM*P-O fit → Quit intentions	Not Supported



## **CHAPTER 8**

### **DISCUSSION AND CONCLUSION**

#### **8.1 Introduction**

This chapter discusses the results of the current study and the implications for theory and practice. The chapter is divided into four sections. The first section discusses the findings relating to the research questions outlined in Chapter 1. Then, the practical implications and the contributions of the present research are presented. This will be followed by a discussion of the limitations of the current study. The final section of the chapter outlines directions for future research.

#### **8.2 Discussion**

The discussion of the study results is organized around the research questions addressed in this thesis.

##### ***8.2.1 What is the relationship between employee perceptions of high performance HR practices and their work attitudes in the Egyptian public sector?***

The first research question addressed the relationship between employees' perceptions of high performance HR practices and their work attitudes. The results in Chapter 7 showed that high performance HR practices were associated with improved employee attitudes. Specifically, high performance HR practices that enhance the abilities and motivation of employees, and create for them opportunities to use their skills within the workplace, were associated with increased levels of job satisfaction and organizational commitment, and reduced levels of quit intentions. Thus, high performance HR practices have positive effects on employees when applied in Egyptian public sector organizations. These findings are consistent with the rationale of AMO theory, the social exchange theory and SDT theory. These findings are also consistent with the findings of previous research in Western contexts, and research undertaken in public and private sector organizations (e.g. Boselie, 2010; Gould-Williams and Gatenby, 2010; Katou and Budhwar, 2010; Boon et al., 2011; Innocenti et al., 2011; Mendelson et al., 2011; Messersmith et al., 2011; Den Hartog et al., 2013; Kehoe and Wright, 2013). Thus, the present study's findings add weight to the argument that the effects of high performance HR practices are not confined to Anglo-Saxon countries, or

private sector organizations, but are evident across different cultures and labour markets (Gould-Williams and Mohamed 2010).

### ***8.2.2 What is the relationship between employee perceptions of high performance HR practices and their motives to serve the public?***

The second research question addressed the relationship between employees' perceptions of high performance HR practices and PSM. The results of this study revealed that high performance HR practices have a significant, positive relationship with PSM. Thus, high performance HR practices that enhance the abilities of employees, incentivise them to work and provide them with opportunities to express themselves in the workplace, are important in enhancing employee motives to serve the public.

This finding is consistent with recent research (Giauque et al., 2013; Gould-Williams et al., 2013). This finding also provides support for both the Process theory of PSM and the Institutional theory of PSM which postulate that organizational factors will shape employees' desire to serve the public. This finding is also consistent with the assumptions of SDT in which the satisfaction of the basic psychological needs is predicted to enhance employees' autonomous motivation (PSM). However, it is worth noting that the effect size of high performance HR practices is relatively small ( $r^2 = 0.09$ ), but consistent with other studies examining organizational influences on PSM, such as transformational leadership and job design (Camilleri, 2007; Park and Rainey, 2008; Wright et al., 2011). Accordingly, it could be anticipated that there are other organizational factors that are worthy of consideration such as perceived organizational support and organizational climate. While the current study focuses on the effects of intra-organizational factors on PSM, it is also possible for extra-organizational factors, such as socio-historical characteristics, to have an influence too (Perry, 2000). However, the evidence presented so far suggests that such characteristics also have limited effects on PSM (Moynihan and Pandey, 2007a). Although in isolation the effects of each individual antecedent on PSM maybe small, taken in combination these findings provide support for Perry's (2000) Process theory of PSM and propose interesting avenues for future research. In fact, researchers may wish to consider the additive effects of extra- and intra-organizational factors on PSM.

### ***8.2.3 What is the relationship between employee perceptions of high performance HR practices and their fit with their organizations?***

The third research question addressed the relationship between employees' perceptions of high performance HR practices and P-O fit. Consistent with the rationale of the ASA framework and evidence from previous research (e.g. Boon et al., 2011; Takeuchi and Takeuchi, 2013), the findings of the current study revealed that employee perceptions of high performance HR practices had a significant positive relationship with P-O fit. Thus, high performance HR practices that enhance the abilities and motivation of employees, and create for them opportunities to use their skills within the workplace are important in influencing the compatibility of employees with their organizations. This confirms that high performance work systems communicate organizational values, goals and expectations to employees which, in turn, facilitate greater congruence between employees and organizations (Boon et al., 2011).

The findings of this study further revealed that high performance HR practices accounted for the majority of the variance in P-O fit ( $r^2 = 0.608$ ). Boon et al. (2011) reported that high performance HR practices explained 29% of variance in P-O fit in the Netherlands, whereas Takeuchi and Takeuchi (2013) reported that high performance HR practices explained 28% of variance in P-O fit in Japan. Thus, the results presented in the current study suggest that high performance HR practices are especially critical in shaping the values and goals of employees in the Egyptian context, as they explained twice the amount of variance in P-O fit in comparison to workers in both the Netherlands and Japan.

### ***8.2.4 What is the relationship between PSM and employee attitudes?***

The fourth research question addressed the relationship between PSM and employee attitudes. Consistent with the findings of previous research (e.g. Park and Rainey, 2007; Taylor, 2008; Xiaohua, 2008; Cerase and Farinella, 2009; Leisink and Steijn, 2009; Vandenabeele, 2009; Taylor and Westover, 2011; Kim, 2012), the results of this study revealed that PSM had a significant positive relationship with both job satisfaction and organizational commitment. Thus, employee motives to serve the public are important predictors of the job satisfaction and commitment of public sector employees to their organizations.

However, contrary to the findings of other studies (e.g. Park and Rainey, 2008), the study results showed that PSM had no direct significant relationship with quit intentions. Thus, even though PSM may have a positive direct relationship with a number of employee outcomes, this *direct* relationship is not certain with all outcomes.

As noted earlier, the Egyptian culture is highly collectivistic, with Islamic work values playing a significant role in society. Since many of these values are similar to those of PSM, it is possible that Islamic work values also impacted the respondents' attitudes. However, the current study did not test this assumption. Future studies should disentangle the unique contributions of PSM *vis-à-vis* collectivism which appears to have synergistic effects in the Egyptian public sector. Also, it is possible for respondents to differ in the extent to which they endorse collectivistic values, in that even though they work in a culture dominated by collectivistic values, they may not as individual respondents embrace such values. This in turn may affect the strength of the relationships in the current study's model. Hofstede's (1980) cultural dimensions framework could prove a useful lens through which to view these issues.

#### **8.2.5 What is the relationship between P-O fit and employee attitudes?**

The fifth research question addressed the relationship between employees' perceptions of P-O fit and employee attitudes. The results in Chapter 7 revealed that P-O fit had a significant positive relationship with both job satisfaction and organizational commitment, and a significant negative relationship with quit intentions. These findings are consistent with those of prior research (e.g. Westerman and Cyr, 2004; Vilela et al., 2008; Narayanan and Sekar, 2009; Liu et al., 2010; Iplik et al., 2011; Takeuchi and Takeuchi, 2013). Thus, the current study supports the proposition that achieving congruence between the values and goals of individuals and their organizations (i.e. P-O fit), is an important factor in determining employee attitudes (Bright, 2008; Moynihan and Pandey, 2008; Vilela et al., 2008; Behery, 2009; Narayanan and Sekar, 2009; Iplik et al., 2011; Leung and Chaturvedi, 2011; Takeuchi and Takeuchi, 2013). In other words, when employees feel that there is a close fit between their values and goals and those of their organization, they will be more satisfied with their jobs, committed to their organizations and less inclined to quit their jobs.

It is worth noting that P-O fit explained a larger proportion of variance in organizational commitment (58 percent) than job satisfaction (38 percent). This finding suggests that P-O fit had a differential effect on employee attitudes. This is consistent with the argument made by

Kristof-Brown et al. (2005) who state that different types of fit will have differential effects depending on the referent. On this basis, measuring fit at the organizational level will have stronger associations with organizational-related outcomes (i.e. organizational commitment), whereas job level measures of fit will have stronger associations with job-related outcomes (i.e. job satisfaction).

It is also worth noting that P-O fit explained twice the amount of variance for both job satisfaction and organizational commitment than PSM. The effect sizes reported here suggest that congruence between organizational and employee values has more of an impact on employee attitudes than does their personal desire to serve the public. These findings should be of no surprise in that PSM can be viewed as just one of several components of P-O fit. As mentioned earlier, P-O fit represents congruence between an employee's *set of values* and those of his organization. PSM is defined as a value that motivates individuals to participate in behaviours that benefit society (Brewer, 2010). Therefore, in public organizations, PSM is just one of the many values within the P-O fit construct. Accordingly, the current study's finding that PSM has a smaller impact on employee attitudes is consistent with this view.

#### **8.2.6 What is the relationship between PSM and P-O fit?**

The sixth research question addressed the relationship between employees' PSM and P-O fit. The findings of the current study revealed that PSM had a significant positive relationship with P-O fit. Thus, enhanced levels of PSM will lead to greater congruence between public sector employees and their organizations. This is consistent with the findings of previous studies (e.g. Bright 2008; Wright and Pandey, 2008; Kim, 2012). This finding also provides support for the view that individuals with high levels of PSM are attracted to public sector organizations because they are more compatible with the missions, values and goals of these organizations (Bright, 2007).

Consistent with past research (Bright, 2007; Bright 2008; Wright and Pandey, 2008; Kim, 2012), the study findings also showed that the impact of PSM on P-O fit is modest ( $r^2 = 0.11$ ). Thus, even though PSM is a significant predictor of P-O fit, the low  $r^2$  value shows that it is by no means the main predictor. It is worth noting that high performance HR practices explained 61 percent of variance in P-O fit, whereas PSM only explained 11 percent of variance. These results are also in line with previous research (Bright, 2008; Wright and Pandey, 2008; Boon et al., 2011; Kim, 2012) in that high performance HR practices were found to be an important predictor of P-O fit, whereas PSM, although a significant predictor,

was of less importance. Thus, management practice appears to have a stronger influence on the congruence between employees and organizations than individual characteristics.

### ***8.2.7 Do PSM and P-O fit mediate the relationship between high performance HR practices and employee attitudes?***

The seventh research question addressed the mediating effects of PSM and P-O fit on the relationship between employees' perceptions of high performance HR practices and work attitudes. Consistent with the findings of recent research (Gould-Williams et al., 2013), the findings of the current study showed that PSM had a partial mediating effect on the relationship between high performance work systems and both job satisfaction and organizational commitment. However, PSM had no mediating effect on the relationship between high performance work systems and intention to quit. This demonstrates that high performance HR practices enhance employee motives to serve the public which in turn positively influence their job satisfaction and commitment to the organization. This finding provides support for the assumptions underlying SDT which postulates that the satisfaction of the basic psychological needs (through high performance HR practices) will lead to higher levels of autonomous motivation (PSM), which in turn will result in positive employee outcomes (job satisfaction and organizational commitment).

Consistent with the findings of recent studies (Boon et al., 2011; Takeuchi and Takeuchi, 2013), the results also revealed that P-O fit had a partial mediating effect on the relationship between employee perceptions of high performance HR practices, job satisfaction, organizational commitment and quit intentions. This demonstrates that high performance HR practices help orient employees towards organizational values and goals, which in turn positively influences their satisfaction, commitment and desire to stay in the organization.

Together, these results suggest that high performance HR practices not only have direct effects on employee attitudes, but they also have indirect effects through their influence on employee motives to serve the public and their compatibility with their organizations. However, it is worth noting that, even though the mediation effect of P-O fit was stronger, the results of the proportion of mediation test revealed that all the indirect paths of high performance HR practices to employee attitudes via both PSM and P-O fit accounted for less than 50 percent of the variance explained in employee attitudes by high performance HR practices, PSM and P-O fit. This suggests that there are other mediating variables of the

relationship between high performance HR practices and employee attitudes that are still awaiting discovery.

#### ***8.2.8 Does P-O fit mediate the relationship between PSM and employee attitudes? / Does P-O fit moderate the relationship between PSM and employee attitudes?***

The eighth and ninth research questions addressed the mediating and moderating effect of P-O fit on the relationship between PSM and employee attitudes. The results in Chapter 7 showed that P-O fit partially mediated the relationship between PSM, job satisfaction and organizational commitment, and fully mediated the relationship between PSM and quit intentions. Contrary to what was proposed by a number of researchers (e.g. Steijn, 2008; Taylor, 2008; Kjeldsen and Andersen, 2013), the findings of this study also revealed that P-O fit had no moderating effect on the link between PSM and employee attitudes.

Thus, PSM positively affects employee attitudes through its positive influence on the degree of congruence between employees' values and goals, and those of the organization. This means that PSM is an important contributor to P-O fit in public sector organizations and consequently an important indirect contributor to positive employee attitudes (Bright, 2007). However, as shown in Chapter 7, the results of the proportion of mediation test revealed that the indirect paths of PSM via P-O fit to employee attitudes accounted for less than 50 percent of the variance explained in these variables by both PSM and P-O fit. Thus, given the smaller proportion of explained variance by the indirect route, future research may wish to consider other mediating variables such as person-job fit (P-J fit). This suggestion is based on the argument proposed by Christensen and Wright (2011) who state that even if employees share public organizations' mission, they may sometimes feel that their jobs do not satisfy their public service values, therefore undermine their performance.

### **8.3 Conclusion**

The findings of this research project show that high performance HR practices not only have a direct effect on employee job satisfaction, organizational commitment and quit intentions, but also have an indirect effect via both PSM and P-O fit. The study results also revealed that the mediating effect of P-O fit was stronger than that of PSM. Furthermore, PSM was found to have both a direct and indirect effect on employee attitudes via P-O fit. Thus, high performance HR practices, PSM and P-O fit can be viewed as independent but interrelated predictors of employee attitudes in public sector organizations. Therefore, public sector

managers should endeavour to adopt high performance HR practices that enhance the abilities and motivation of their workforce, and create for them opportunities to use their skills within the workplace. This, according to the current study, should enhance employees' desire to serve the public and to a greater extent facilitate fit between employees and organizational values and goals. Also, higher PSM should contribute to increasing employees' levels of fit with their organizations. In combination, these paths will benefit organizations through greater employee satisfaction and commitment, and decreased levels of quit intentions.

## **8.4 Practical Implications**

The results of the current study have several important implications for managers in public sector organizations. If public organizations are desirous of improving employees' experience at work, then achieving congruence between employees' and organizational values is important. This recommendation is supported by Bowen, Ledford and Nathan (1991), who found that hiring employees to fit the characteristics of the organization, not just the requirements of the job, is the best selection model for successful organizations. However, Leat and El-Kot (2007) found that, when hiring employees, Egyptian managers give preference for candidates who possess the required job skills rather than those who fit with the organization. To address this issue, public sector organizations should pay more attention to labour market communication and work on producing an image of 'serving the public interest' (Leisink and Steijn, 2008, p. 128). This is more likely to attract individuals whose identities revolve around public service values. Managers should also use the organization's mission as a basis on which to select suitable candidates. This will help increase the likelihood of newly recruited employees internalizing the values and goals of the public sector (Bright, 2007). Moreover, to facilitate 'fit' on entry to the organization, public sector managers should provide job seekers with opportunities to learn about the culture and values of their organization in order for them to assess whether the organization is likely to fit well with their own personal values (Kim, 2012). This could be achieved through employment interviews (face-to-face interviews, personality tests interviews and past-oriented interviews) and realistic job previews (Paarlberg, Perry, and Hondeghem, 2008).

Managers should also ensure that employees are provided with sufficient on-going training opportunities to reinforce their identification with the organization's culture. Such training should be consistent with the organization's missions and objectives. Training programmes should also be designed in a way that helps enhance employees' job related skills and



promote their career development. However, this recommendation may be particularly challenging in the Egyptian context, where it has been noted that training provision in some public sector organizations is inadequate (Holmes, 2008).

Moreover, managers should communicate and reinforce desired organizational values to employees on a regular basis and through meaningful channels, which may include group meetings, informal feedback sessions and emails. Managers should endeavour to explain to employees the rationale for setting specific goals, work-related priorities and thereafter, the progress made towards their achievement. Managers should also communicate the reasons behind organizational decisions and procedures, and what the organization expects of employees. This should help employees see the relevance of their tasks and duties, even when they are not in direct contact with the public, to the attainment of high standards of public service and fit with the organization.

Employees should also be provided with greater autonomy and opportunities to participate in strategic planning and goal setting, which in turn should increase the alignment of their goals and those of the organization. Managers should provide employees with opportunities to plan their work schedule even if this can only be achieved to a limited extent. This may involve managers setting work objectives for their employees and then providing them with the freedom to decide how to achieve these objectives; giving employees the option of working together in teams, and empowering teams with decision-making responsibilities. Where this is achieved, employees will be able to see how their roles contribute to both the team and the organization's success. Consistent with the high performance systems approach, such actions should be accompanied by supportive training and individual feedback sessions to help guide and reassure employees that they are on the 'right track'. In other words, employees will know that they are working towards the achievement of organizational objectives. This will increase their alignment with the organization's goals and improve their contributions to society.

## **8.5 Contributions**

This study has examined the effects of high performance HR practices, PSM, and P-O fit on employee attitudes of job satisfaction, organizational commitment and intention to quit. The study also examined the mediating effects of PSM and P-O fit on the relationship between high performance HR practices and employee attitudes, besides examining the mediating and moderating effect of P-O fit on the relationship between PSM and employee attitudes.

Overall, this study has provided support for a number of unique relationships and therefore, has made important contributions to the literature.

First, it has been argued that more research is needed on the mechanisms linking high performance HR practices and employee outcomes (Boon et al., 2011; Innocenti et al., 2011; Alfes et al., 2012). Existing research on the HR practices-employee outcomes link has failed to adequately examine the mechanisms through which high performance HR practices affect employee outcomes. From a theoretical perspective, the current study has contributed to the HRM literature by examining the impact of both PSM and P-O fit on the relationship between high performance HR practices and employee attitudes. The findings of the current study revealed that both PSM and P-O fit partially mediate the relationship between high performance HR practices, job satisfaction, organizational commitment, and quit intentions.

Second, the current study introduced SDT as an alternative theoretical lens through which the relationship between high performance HR practices and employee outcomes could be explained. Since PSM is viewed as a self-directed motive (Park and Rainey 2008; Vandenabeele, 2007), and high performance HR practices are a means of satisfying employee needs within organizations (Marescaux et al., 2013), the study model also *indirectly* addressed calls for more field work to be conducted using the SDT framework in organizational settings (Gagné and Deci, 2005). The study findings provide support for the assumptions underlying SDT which postulates that the satisfaction of the basic psychological needs (through high performance HR practices) will lead to higher levels of autonomous motivation (PSM), which will in turn result in positive employee outcomes (job satisfaction and organizational commitment).

Third, existing PSM research has failed to adequately examine the organizational antecedents of PSM. Even though a large number of studies have been devoted to the identification of the outcomes of PSM, very few studies have investigated its antecedents, especially organizational influence (Moynihan and Pandey, 2007a; Perry et al., 2008; Gould-Williams et al., 2013). It has been argued in particular that there is a need for research on the effects of HRM practices on PSM (Giauque et al., 2010; Perry, 2010; Gould-Williams et al., 2013). Accordingly, this study has contributed to the PSM literature by examining the effects of high performance HR practices on PSM. Results have shown that high performance HR practices are positively related to PSM. However, findings suggest that there may also be other organizational factors that may have an influence on PSM.

Fourth, this study has also made a contribution to the literature by examining both the mediating and moderating effects of P-O fit on the relationship between PSM and employee attitudes. It has been argued that the mechanisms through which PSM affects employee outcomes require further investigation (Wright and Pandey, 2008; Brewer, 2010). P-O fit was proposed by a number of researchers (e.g. Bright 2008; Wright and Pandey 2008; Brewer, 2010; Christensen and Wright, 2011; Kjeldsen and Andersen, 2013) as one such mechanism. However, its actual role on the PSM-employee outcomes link was not clear, where it was suggested by some researchers as a mediator of this relationship (Bright, 2007; Bright, 2008; Wright and Pandey, 2008; Kim, 2012), whereas others have suggested that it is a moderator (Steijn, 2008; Taylor, 2008; Kjeldsen and Andersen, 2013). The findings of this study showed that P-O fit is an important mediator of the relationship between PSM and employee attitudes. However, contrary to what was proposed by some researchers (e.g. Steijn, 2008; Taylor, 2008; Kjeldsen and Andersen, 2013), P-O fit had no moderating effect on the link between PSM and employee attitudes.

Finally, it has also been argued that more research is needed on the factors that can facilitate greater P-O fit (Bright, 2008; Boon et al., 2011). Existing research on P-O fit has mainly focused on examining the relationship between P-O fit and different employee outcomes and has failed to adequately examine its predictors. Thus, the present study has contributed to the P-O fit literature by examining the effects of both high performance HR practices and PSM on employees fit with their organizations. The study findings suggest that both variables are important predictors of P-O fit in public sector organizations.

Besides its theoretical contributions, this study also has methodological contributions. First, the majority of the studies on the relationship between high performance HR practices and employee outcomes have been conducted in the Western world and Asia. The same applies to the studies linking PSM with employee outcomes. To the best of the author's knowledge, this study has provided the first analysis of these relationships in a Middle Eastern country, which is Egypt. Overall, the findings of this study revealed that findings of the Western and Asian countries are generalizable to the Egyptian workforce.

Furthermore, most of the existing research on the relationship between PSM and work-related outcomes has utilized ordinary regression techniques for statistical analysis (Wright, 2008). According to Wright (2008), researchers need to be aware of the potential complexity of PSM's role in affecting work-related outcomes by using more sophisticated analytical tools,

specifically SEM, to test for potential variables that may mediate and moderate the relationship between PSM and employee attitudes and behaviours. In recent years, researchers have started using SEM to test mediation effects (e.g. Kim, 2006; Pandey et al., 2008; Anderfuhren-Biget et al., 2010; Gould-Williams et al., 2013). However, the current study is the first to use SEM to examine the moderating effect of P-O fit on the relationship between PSM and employee attitudes. Using SEM to test for interaction effects allowed controlling for different types of random and non-random measurement errors which, in turn, resulted in parameter estimates which are highly accurate.

## **8.6 Limitations of the Study**

As with most research of this nature, the findings of this study should be interpreted with consideration of a number of limitations. First, the current study used a cross-sectional design, and accordingly conclusions regarding causality cannot be made. The cross-sectional design of the present study does not provide clear information on the accurate directions of relationships between the variables of the study. Instead, the study results report levels of association only. For instance, it is plausible that the level of P-O fit influences employees' perceptions of high performance HR practices, where employees who achieve fit with their organizations may have a positive view of HR practices. It is also possible that employees who are satisfied with their jobs have a greater propensity to serve the public and also perceive that their values are consistent with their organizations. To establish causality, longitudinal research is needed.

Second, the study data was collected from professionals in the Egyptian higher education and health sectors, and a convenience sample was used. Thus, the findings of the current study cannot be generalized to the Egyptian context as a whole and are limited to the studied sample.

Third, there is no agreement upon which set of HR practices should be used when testing the relationship between high performance HR practices and employee outcomes. Accordingly, the six practices selected for the current study may not be representative of all the high performance practices employed by organizations. However, the practices included in the current study are among the most widely used practices in the public and government sector studies linking high performance HR practices and employee outcomes.

## 8.7 Directions for Future Research

A number of relevant directions for future research are worth noting. First, although longitudinal research is both time consuming and expensive, future studies would benefit from testing the current study's model through a longitudinal research design so as to determine the causal links more explicitly. Longitudinal research could also help evaluate the stability of PSM overtime, and determine whether it is a static trait that does not change over time or a dynamic state which can be affected by organizational changes (Wright and Grant, 2010).

Second, the current study theoretically proposed that the relationship between high performance HR practices and employee outcomes could be explained through SDT. However, the assumptions of this theory were not fully tested in the current study. Future research should examine the assumptions of SDT and consider the effects of high performance work systems on the satisfaction of the basic psychological needs and whether the satisfaction of these needs may relate to different employee outcomes in organizations.

Third, although this study has clearly demonstrated the importance of analysing the mechanisms mediating the relationship between high performance HR practices and employee outcomes, still more research needs to be done so as to gain a better understanding of these relationships. Moreover, there is a need to expand the scope of research, developing more complex models which can include financial and economic indicators together with employee-related outcomes. This can help us gain a better understanding of all the links of the causal chain that connects high performance HR practices and organisational performance, and evaluate the degree to which high performance HR practices, through the mediating effects of employee outcomes, affect organisational performance.

Fourth, this study has provided evidence of the significant role played by P-O fit on both the HR practices-employee outcomes relationship and the PSM-employee outcomes relationship. However, the findings of the study revealed that there are other mediators of these relationships that are still awaiting discovery. Future studies may wish to consider the mediating effects of other types of fit such as person-job fit, person-group fit and person-supervisor fit.

Fifth, the current study limited employee outcome variables to job satisfaction, organizational commitment and quit intentions. While these are key outcomes which have been linked with

improved performance, future studies, specifically in Egypt and other Arab and Middle Eastern countries, should examine other employee outcomes such as performance and OCBs. Future studies should also consider the potential negative effects of high performance practices. In other words, it is possible that high performance HR practices may not only enhance employees' attitudes to work but also potentially lead to increased stress and work-related pressures.

Sixth, the potential negative effects of PSM should also be considered in future research. Very little attention has been paid to the link between PSM and work outcomes that undermine employee health and wellbeing. However, recently, Giaque et al. (2012) reported a positive relationship between PSM and work-related stress. This finding indicates that PSM may lead to improved performance-related outcomes at the cost to employees and thus, it would be important to shed more light on the 'dark side' of PSM (Giaque et al., 2012, p. 1).

Seventh, the current study assessed the impact of just one organizational factor, high performance HR practices, on PSM. There may be other organizational factors that affect PSM such as organizational climate and organizational design. Thus, there is still significant room for further work that can provide a richer understanding of the organizational factors that can help instil, nurture or suppress PSM.

Finally, the findings of the current study may not be applicable to all organisations in developing countries in general, and the Middle East in particular, because of the vast differences in the social and cultural environments. The Middle East is a region with diverse cultures; therefore, it is very likely that the way organisations in this region are structured and HRM practices are carried out also be different. Accordingly, additional research is needed on this topic in other geographical locations so as to better understand the generalizability of the findings.

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## Appendix A: Research Ethics Form

### ETHICS 2



### FULL ETHICAL APPROVAL FORM (STAFF/PhD STUDENTS) or students referring their form for a full ethical review

(For guidance on how to complete this form, please see Learning Central – CARBS RESEARCH ETHICS)

If your research will involve patients or patient data in the NHS then you should secure approval from the NHS National Research Ethics Service. Online applications are available on <http://www.nres.npsa.nhs.uk/applicants/>

**Name of Lead Researcher :** Ahmed Mohammed Sayed Mohammed Mostafa

**School:** CARBS

**Email:** MostafaAM@cardiff.ac.uk

**Names of other Researchers:**

**Email addresses of other Researchers :**

**Title of Project:** The Relationship between High Performance HR Practices and Employee Attitudes: The Mediating Role of Public Service Motivation and Person-Organization Fit

**Start and Estimated End Date of Project:** September 2010 - September 2013

**Aims and Objectives of the Research Project:**

This research seeks to examine the effect of high performance HR practices on employee attitudes of job satisfaction, organizational commitment and quit intentions in the Egyptian public sector. This study also sheds light on the mechanisms through which high performance HR practices affect employee attitudes by examining the mediating effects of both public service motivation (PSM) and person-organization (P-O) fit on this relationship.

**Please indicate any sources of funding for this project:**

### *1. Describe the methodology to be applied in the project*

The study data will be collected through structured questionnaires (please find survey attached). The questionnaire items are mainly derived from existing literature. The questionnaires will be sent to a convenience sample of employees in the Egyptian government (public) sector. The data will be collected from a large sample of respondents. This quantitative approach using a large sample size will result in the anonymity of the respondents in the findings of the study. Data will then be analyzed using structural equation modelling (SEM) to establish the validity of the hypothesized relationships between the study's constructs.

**PLEASE ATTACH COPIES OF QUESTIONNAIRES OR INTERVIEW TOPIC GUIDES TO THIS APPLICATION**

**2. Describe the participant sample who will be contacted for this Research Project. You need to consider the number of participants, their age, gender, recruitment methods and exclusion/inclusion criteria**

The target participants here are the employees (both males and females with varying ages) in the Egyptian government sector. A convenience sample will be used in which 1000 employees will be selected according to their convenient accessibility to the researcher. This target is based on the required number of cases that is considered suitable to conduct SEM analysis.

**3. Describe the method by which you intend to gain consent from participants.**

An introductory letter will be attached to each survey. This letter will inform the respondents of the purpose of the study. There will also be an assurance of confidentiality and an offer of assistance for any respondent with individual questions. Consent is given implicitly through the completion of the questionnaire. No additional consent is sought. Participants will be invited to contact the researcher to receive a report of the study's findings when it is ready.

**PLEASE ATTACH A COPY OF ALL INFORMATION WHICH WILL BE GIVEN TO PROSPECTIVE PARTICIPANTS (including invitation letter, briefing documents and, if appropriate, the consent form you will be using).**

**4. Please make a clear and concise statement of the ethical and health and safety considerations - <http://www.cf.ac.uk/osheu/index.html> - raised by the project and how you intend to deal with them (please use additional sheets where necessary)**

The information sought in this study is of non-personal nature and is concerned with ordinary issues of day to day management. Consequently, the main ethical issues are concerned with balancing the needs of consent, confidentiality and anonymity. As for consent, implicit consent is given in completing the questionnaire and so no additional paperwork is provided for this purpose. Regarding confidentiality and anonymity, participants are not required to divulge any contact details to the researcher. The introductory letter attached to each questionnaire also addresses issues of confidentiality and anonymity by assuring participants that their responses will remain confidential and their identities will be unknown. Additionally, participants will be informed that the data will be used only for academic purposes.

Contact details for myself are comprehensive and the respondents are invited to make contact at any stage for further information.

**STUDENTS SHOULD BIND THE SIGNED AND APPROVED FORM INTO THEIR REPORT, DISSERTATION OR THESIS**



***Please complete the following in relation to your research project:***

		Yes	No	n/a
(a)	Will you describe the main details of the research process to participants in advance, so that they are informed about what to expect?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(b)	Will you tell participants that their participation is voluntary?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(c)	Will you obtain written consent for participation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(d)	Will you tell participants that they may withdraw from the research at any time and for any reason?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(e)	If you are using a questionnaire, will you give participants the option of omitting questions they do not want to answer?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(f)	Will you tell participants that their data will be treated with full confidentiality and that, if published, it will not be identifiable as theirs?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(g)	Will you offer to send participants findings from the research (e.g. copies of publications arising from the research)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(h)	If working with children and young people please confirm that you have given due consideration to University guidance available at: <a href="http://www.cardiff.ac.uk/govrn/cocom/resources/2010%20November%20Safeguarding%20Children%20&amp;%20V A's.doc">http://www.cardiff.ac.uk/govrn/cocom/resources/2010%20November%20Safeguarding%20Children%20&amp;%20V A's.doc</a>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**PLEASE NOTE:**

If you have ticked **No** to any of 5(a) to 5(g), please give an explanation on a separate sheet.

(Note: N/A = not applicable)

There is an obligation on the principal researcher/student to bring to the attention of Cardiff Business School Ethics Committee any issues with ethical implications not clearly covered by the above checklist.

Signed: Ahmed Mohammed Sayed

(Principal Researcher/Student)

Print Name:

AHMED MOHAMMED SAYED MOSTAFA

Date:

8<sup>th</sup> NOVEMBER 2011

**SUPERVISOR'S DECLARATION (Student researchers only):** As the supervisor for this student project I confirm that I believe that all research ethical issues have been dealt with in accordance with University policy and the research ethics guidelines of the relevant professional organisation.

Signed:

Julian Gould-Williams

Print Name:

DR JULIAN GOULD-WILLIAMS

Date:

8<sup>th</sup> NOVEMBER 2011

***TWO copies of this form (and attachments) MUST BE OFFICIALLY STAMPED by  
Ms Lainey Clayton, Room F43, Cardiff Business School***

**STATEMENT OF ETHICAL APPROVAL**

This project has been considered using agreed School procedures and is now approved.

Official stamp of approval of the School

Research Ethics Committee:

Date:

## Appendix B: Cover Letter and Questionnaire

### Cover letter for the survey

You are requested to assist in a study that seeks to provide a better understanding of how your institution (employer) can support you at work. This questionnaire is designed to assess your perception of your institution's commitment to you through its human resource management practices and the extent to which it affects your attitudes at work.

Please take a few minutes to fill out this questionnaire based on your current job experience. Completing this questionnaire is entirely voluntary. However your time and cooperation regarding this survey will be greatly appreciated and will provide valuable information to human resource management education and research area. The results of this study can help your employers revise and enhance their HRM practices to build a better employee-employer relationship.

Individual responses to this survey will be kept *confidential* and will *not be disclosed*. Your institution will *not* have access to the information you have provided me. Your employment status will not be affected. No reference will be made in written or oral materials that could link you to this study. Only grouped data will be reported in the results.

If you have any questions, please do not hesitate to contact me at [MostafaAM@cardiff.ac.uk](mailto:MostafaAM@cardiff.ac.uk) or 0161443957.

Thank you very much for your help.

Ahmed Mohammed Sayed Mostafa  
PhD student  
Cardiff Business School,  
Cardiff, UK

**Q1: To what extent do you agree or disagree with each of the following statements about your institution? (Please circle one number for each)**

		Strongly disagree	Dis-agree	Slightly disagree	Neither agree nor disagree	Slightly agree	Agree	Strongly agree
I.1	My institution's hiring policy and process is fair	1	2	3	4	5	6	7
I.2	Considerable importance is placed on the hiring process by my institution	1	2	3	4	5	6	7
I.3	Very extensive efforts are made by my institution in the selection of new workers/employees	1	2	3	4	5	6	7
I.4	The institution hires only the very best people for this job	1	2	3	4	5	6	7
I.5	My institution offers opportunities for training and development	1	2	3	4	5	6	7
I.6	In my opinion, the number of training programs provided for employees by my institution are sufficient	1	2	3	4	5	6	7
I.7	When my job involves new tasks, I am properly trained	1	2	3	4	5	6	7
I.8	My institution provides excellent opportunities for personal skills development	1	2	3	4	5	6	7
I.9	Employees in this job can be expected to stay with this institution for as long as they wish	1	2	3	4	5	6	7
I.10	Job security is almost guaranteed to employees in this institution	1	2	3	4	5	6	7
I.11	If the company was facing economic problems, employees would be the last to get downsized.	1	2	3	4	5	6	7
I.12	I am certain of keeping my job	1	2	3	4	5	6	7
I.13	I have good opportunities of being promoted within this institution	1	2	3	4	5	6	7
I.14	The promotion process used by my institution is fair for all employees	1	2	3	4	5	6	7
I.15	Employees who desire promotion in this institution have more than one potential position they could be promoted to.	1	2	3	4	5	6	7
I.16	Qualified employees in this job have the opportunity to be promoted to positions of greater pay and/or responsibility within the institution.	1	2	3	4	5	6	7
I.17	My institution allows me to plan how I do my work	1	2	3	4	5	6	7
I.18	My institution allows me to make a lot of job decisions on my own	1	2	3	4	5	6	7
I.19	My institution allows me to decide on my own how to go about doing my work.	1	2	3	4	5	6	7
I.20	My institution gives me considerable opportunity for independence and freedom in how I do the work.	1	2	3	4	5	6	7
I.21	Management keeps me well informed of how well the institution is doing	1	2	3	4	5	6	7
I.22	The communication between me and other employees at work is good	1	2	3	4	5	6	7
I.23	The communication between me and the managers/supervisors at work is good	1	2	3	4	5	6	7
I.24	Employees in my institution regularly receive formal communication regarding company goals and objectives	1	2	3	4	5	6	7

**Q2: To what extent do you agree or disagree with each of the following statements? (Please circle one number for each item)**

	Strongly disagree	Dis-agree	Slightly disagree	Neither agree nor disagree	Slightly agree	Agree	Strongly agree
2.1 In general, I like working in my institution	1	2	3	4	5	6	7
2.2 In general, I don't like my job	1	2	3	4	5	6	7
2.3 Overall, I am satisfied with my job	1	2	3	4	5	6	7
2.4 I feel emotionally attached to this institution	1	2	3	4	5	6	7
2.5 I really feel as if this institution's problems are my own	1	2	3	4	5	6	7
2.6 I feel a strong sense of belonging to my institution	1	2	3	4	5	6	7
2.7 I would prefer another more ideal job to the one I have now	1	2	3	4	5	6	7
2.8 If I have my way, I won't be working for this institution a year from now	1	2	3	4	5	6	7
2.9 I have seriously thought about leaving this institution	1	2	3	4	5	6	7
2.10 I don't intend to remain with this institution for long	1	2	3	4	5	6	7

**Q3: To what extent do you agree or disagree with each of the following statements? (Please circle one number for each item)**

	Strongly disagree	Dis-agree	Slightly disagree	Neither agree nor disagree	Slightly agree	Agree	Strongly agree
3.1 I am prepared to make enormous sacrifices for the good of the society	1	2	3	4	5	6	7
3.2 Serving citizens would give me a good feeling even if no one paid me for it	1	2	3	4	5	6	7
3.3 It is definitely more important to me to do good deeds than gaining money	1	2	3	4	5	6	7
3.4 Making a difference in society means more to me than personal achievement	1	2	3	4	5	6	7
3.5 It is difficult for me to contain my feelings when I see people in distress	1	2	3	4	5	6	7
3.6 I usually feel bad for the difficulty of the poor and the needy	1	2	3	4	5	6	7
3.7 Daily events remind me of how dependent we are on one another	1	2	3	4	5	6	7
3.8 I am very interested in what is happening in my society	1	2	3	4	5	6	7
3.9 I would prefer seeing public officials do what is best for the society even if it harmed my interest	1	2	3	4	5	6	7
3.10 I unselfishly contribute to my society	1	2	3	4	5	6	7
3.11 I am very interested in politics	1	2	3	4	5	6	7
3.12 I like to discuss political issues with others	1	2	3	4	5	6	7
3.13 I don't care much for what politicians say or do	1	2	3	4	5	6	7

**Q4: To what extent do you agree or disagree with each of the following statements? (Please circle one number for each item)**

	Strongly disagree	Dis-agree	Slightly disagree	Neither agree nor disagree	Slightly agree	Agree	Strongly agree
4.1 My personal values match or fit the values of my institution	1	2	3	4	5	6	7
4.2 My personal goals are very similar to the goals of my institution	1	2	3	4	5	6	7
4.3 My personal values match those of current employees in this institution	1	2	3	4	5	6	7
4.4 Overall, I think I fit well with my institution	1	2	3	4	5	6	7

## General Background information

The following information is needed to help analyse the results. Please respond by ticking the appropriate boxes or completing the blank spaces.

- a. Your Gender is: Male ☐ Female ☐
- b. Your age is:  
 20-30 years ☐ 31-40 years ☐ 41-50 years ☐ 51-60 years ☐ More than 60 years ☐
- c. Your highest level of education achieved:  
 Bachelor's degree ☐ Masters ☐ PhD ☐ Other (please specify) \_\_\_\_\_
- d. Your current institution is in: Health Sector ☐ Higher Education Sector ☐
- e. Your current job is:  
**If in Health Sector:**  
 Consultant physician ☐ Specialist physician ☐ Intern physician ☐ Nurse ☐ Pharmacist ☐  
**If in Higher Education Sector:**  
 Professor ☐ Assistant professor ☐ Lecturer ☐ Assistant lecturer ☐ Demonstrator ☐
- f. Length of service in your current institution:  
 Under 5 years ☐ 5-10 years ☐ 11-15 years ☐ More than 15 years ☐

## Appendix C: Mahalanobis D<sup>2</sup> Distance for Outliers

Observation Number	Mahalanobis D <sup>2</sup> -Distance	p1	p2
46	74.753	.000	.000
570	67.216	.000	.000
617	65.536	.000	.000
616	64.599	.000	.000
624	63.130	.000	.000
625	63.130	.000	.000
103	60.809	.000	.000
595	59.394	.000	.000
588	58.264	.000	.000
565	58.264	.000	.000
167	57.996	.000	.000
647	57.372	.000	.000
443	56.402	.000	.000
29	54.023	.000	.000
603	53.709	.000	.000
556	53.221	.000	.000
145	53.120	.000	.000
592	51.830	.000	.000
178	51.218	.000	.000
479	51.067	.000	.000
664	50.764	.000	.000
518	49.191	.000	.000

## Appendix D: Effects of High Performance HR Systems Dimensions on PSM, P-O Fit and Employee Attitudes

**Table C1: Effects of Ability-Enhancing HR Practices on PSM, P-O Fit and Employee Attitudes**

Relationship	Standardized Coefficient	t-value
Ability-Enhancing HRM → Job satisfaction	0.266	3.123**
Ability-Enhancing HRM → Commitment	0.354	4.959***
Ability-Enhancing HRM → Quit intentions	- 0.293	- 3.304***
Ability-Enhancing HRM → PSM	0.303	6.013***
Ability-Enhancing HRM → P-O fit	0.767	15.318***

\*\*\*  $p < 0.001$ , \*\*  $p < 0.01$

**Table C2: Effects of Motivation -Enhancing HR Practices on PSM, P-O Fit and Employee Attitudes**

Relationship	Standardized Coefficient	t-value
Motivation-Enhancing HRM → Job satisfaction	0.239	3.313***
Motivation-Enhancing HRM → Commitment	0.305	4.881***
Motivation-Enhancing HRM → Quit intentions	- 0.294	- 3.849***
Motivation-Enhancing HRM → PSM	0.327	6.423***
Motivation-Enhancing HRM → P-O fit	0.699	12.280***

\*\*\*  $p < 0.001$

**Table C3: Effects of Opportunity -Enhancing HR Practices on PSM, P-O Fit and Employee Attitudes**

Relationship	Standardized Coefficient	t-value
Opportunity-Enhancing HRM → Job satisfaction	0.337	4.565***
Opportunity-Enhancing HRM → Commitment	0.253	4.244***
Opportunity-Enhancing HRM → Quit intentions	- 0.282	- 3.708***
Opportunity-Enhancing HRM → PSM	0.306	5.984***
Opportunity-Enhancing HRM → P-O fit	0.701	13.524***

\*\*\*  $p < 0.001$

## Appendix E: Mediating Effects of PSM dimensions on HPHRP-Employee Attitudes Relationships

Path	Self-sacrifice	Compassion	Commitment	Policy making
HPHRP → PSM Dimension	0.301***	0.113*	0.314***	0.120*
PSM Dimension → Job Satisfaction	0.164***	0.124**	0.214***	-0.042
<b>Sobel test</b>	<b>3.3745***</b>	<b>1.830<sup>m.s.</sup></b>	<b>3.852***</b>	<b>-1.003</b>
PSM Dimension → Org. Commitment	0.220***	0.167***	0.296***	0.092*
<b>Sobel test</b>	<b>4.462***</b>	<b>2.075*</b>	<b>4.950***</b>	<b>1.774<sup>m.s.</sup></b>
PSM Dimension → Quit Intentions	-0.035	0.013	-0.067	0.144**
<b>Sobel test</b>	<b>-0.806</b>	<b>-0.309</b>	<b>-1.023</b>	<b>1.954*</b>
<i>Model Fit Statistics</i>				
$\chi^2/df$	2.235	2.174	2.226	2.231
CFI	0.975	0.977	0.977	0.978
GFI	0.954	0.959	0.956	0.956
TLI	0.969	0.971	0.971	0.972
RMSEA	0.043	0.042	0.043	0.043

\*\*\* $p < 0.001$ , \*\* $p < 0.01$ , \* $p < 0.05$ , <sup>m.s.</sup> $p < 0.1$



## Appendix F: Mediating effects of P-O Fit on PSM dimensions-Employee Attitudes Relationships

Path	Self-sacrifice	Compassion	Commitment	Policy making
PSM Dimension → P-O fit	0.284***	0.130**	0.337***	0.091*
P-O fit → Job Satisfaction	0.575***	0.609***	0.557***	0.627***
<i>Sobel test</i>	<b>5.720***</b>	<b>2.726**</b>	<b>6.205***</b>	<b>2.011*</b>
P-O fit → Org. Commitment	0.695***	0.740***	0.667***	0.749***
<i>Sobel test</i>	<b>5.874***</b>	<b>2.736**</b>	<b>6.457***</b>	<b>2.015*</b>
P-O fit → Quit Intentions	-0.463***	-0.480***	-0.456***	-0.489***
<i>Sobel test</i>	<b>-5.444***</b>	<b>-2.694**</b>	<b>-5.830***</b>	<b>-2.000*</b>
<i>Model Fit Statistics</i>				
$\chi^2/\text{df}$	2.469	2.282	2.502	2.326
CFI	0.978	0.982	0.980	0.983
GFI	0.959	0.965	0.961	0.964
TLI	0.972	0.977	0.973	0.978
RMSEA	0.047	0.044	0.047	0.044

\*\*\* $p < 0.001$ , \*\* $p < 0.01$ , \* $p < 0.05$