A MODEL OF WORK IDENTITY IN MULTICULTURAL WORK SETTINGS

by

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ABSTRACT

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Identity is a cognitive concept that describes “who I am”, and an important part of an individual’s identity is derived from shared social entities. However, as work and the work setting began playing prominent roles in most people’s social lives, the social identity derived from the working environment became the focus of several studies. It was, however, recognised that the locus of identification stretched beyond the organisation to other social phenomena available in the work setting. This finding encouraged a change of focus, which asserts that facets of work are sources of identification. The construct, work identity (WI), captures this extended understanding of social identity derived from work.

There were also several research agendas about ways to strengthen or manipulate the relationship between employees and their work and/or workplace. Concepts such as work involvement, work commitment, work engagement, work centrality, and person-organisation fit represent this category of enquiry. As identity or identification was often mentioned in the definitions of these concepts, the concepts are perceived as WI-associated concepts. As several researchers recognised concept redundancy or concept contamination among the WI-associated concepts and between the WI-associated concepts and WI, further clarification of WI was needed.
The purpose of this research project was to generate a model of the antecedents and consequences of WI in multicultural work settings. Conducting the research in a multicultural setting did not only test the theoretical ideas in a challenging context, but it contributed to a better understanding of employees from the research setting. The study used a cross-sectional field survey in order to gather responses from a convenience sample of employees from workplaces in Dubai. Data from 644 respondents was subjected to regression analysis and structural equation modelling. One characteristic of the dataset was the positively skewed distribution within some scales and significant disparity in the mean calculations of different nationality groups.

Applying multiple regression to analyse and explore bivariate relationships, the data supported a positive relationship between job resources and WI. As an unexpected weak positive relationship between job demands and WI was also found, further research into the behaviour of job demands is required. A strong predictive relationship between WI and work engagement was indicated and a negative relationship between WI and turnover intentions was supported. Structural equation modelling identified a parsimonious model of WI in multicultural work settings which contained the concepts of job resources and job demands as antecedents of WI, with work engagement and turnover intentions as consequences of WI. The strength of causal relationships within this model was significantly affected by three moderator variables, namely level of education, age and, most strongly, by nationality. Therefore, although a stable covariance model was accepted, different nationality groups still processed the relationships between variables within the model in unique ways.

Although WI manifested itself as a single-component structure in previous research that operationalised WI in the same way as this study, three facets of WI emerged here: work centrality, person-organisation fit, and value congruence. The different WI facets did not consistently relate to the antecedents or the consequences of WI in the same way. In addition, in response to findings of redundancy and contamination in previous studies, WI was found to be distinct from work engagement. This finding is a catalyst for future research to explore facets of WI and for researchers to revisit work engagement as a consequence of WI and work engagement in multicultural work settings.
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CHAPTER 1: CONTEXTUALISATION OF RESEARCH

1.1 Introduction

Identity has been recognised as an important concept to study within the context of organisations. Albert, Ashforth, and Dutton (2000) asserted that “identity and identification... are root constructs in organisational phenomena and have been a subtext of many organisational behaviours.” (p. 13).

Acting upon this assertion, this study aims to test a model of predictors and consequences of identity derived from work and the work setting, called work identity (WI). This chapter will show that the increased scholarly interest that is driving progress in research on identity related to the workplace, and the need for knowledge about this topic in the selected research setting, provide the grounds for this project.

An overview of the structure of this chapter is presented in Figure 1.1.

Figure 1.1. Chapter 1 structure.

This chapter will provide a summary of the current level of knowledge, the research setting and the rationale for the study. In addition, it will discuss the research
problem and objectives of the study. Finally, it will consider the proposed value of the study and introduce the subsequent chapters.

1.1.1 Current level of knowledge and the theoretical rationale.

Identity plays a key role in how people make sense of, and interact with, their social environments (Weick, 1995, quoted by Pratt, Rockmann, & Kaufmann, 2006). Both Psychology and Sociology offer theories of identity (called identity theory and social identity theory respectively). Despite some variations in emphasis and exposition, these theories propose very similar explanations of the definition and process of forming an identity derived from a social structure (Hogg, Terry, & White, 1995; Stets & Burke, 2000). At the very least, the shared identity that people derive from social groups (social identity) is a widely accepted concept that explains “multifacetted and dynamic” views of the self that “mediate between social structures and individual behaviour” (Hogg & Terry, 2001; Hogg et al., 1995, p. 255; Stets & Burke, 2000).

Social structures provide more than just a temporary shared identification when a common interest prevails within that social structure (Rousseau, 1998). Social structures provide deep-rooted shared identification, which has been described as “the ability to experience one’s self as something that has continuity and sameness, and to act accordingly” (Erikson, 1962, quoted by Torres, Howard-Hamilton & Cooper, 2003, p. 126). Deep-rooted identification provides some of the attributes that people use to define themselves (Terry, 2003). This means that belonging to group X and not to group Y gives a person a sense of self that guides his/her behaviour. Therefore, social identity has powerful implications for organisations as it serves to facilitate favourable perceptions and interactions among people. These perceptions provide a means to overcome differences between employees and, therefore, to work together based on a shared social identity rather than personal liking (Brewer & Gardner, 1996; Cornelissen, Haslam, & Balmer, 2007; Hogg & Turner, 1985). Positive consequences of social identity for organisations (including retention, co-operation, organisation-focused strategic decisions, congruent actions, and ‘going the extra mile’) were found in numerous work-based identity studies (Ashforth & Mael, 1989, Cheney, 1983; Dutton, Dukerich, & Harquail, 1994; Edwards, 2005; Rousseau, 1998; Van Dick, 2001).
If social identity forms a powerful bond between people and if this bond can positively affect their workplaces, then the factors at work that shape social identity should provide critical enablers to establish this advantage. It is already known that the work content and work processes that employees follow in organisations are important mechanisms for interaction both with each other and with their social structure (the work setting) (Kreiner, Hollensbe, & Sheep, 2006; Ravasi & Van Rekom, 2003). It is also known that these interactions allow employees to use the social structure of the work setting for continuous and even subconscious identity integrity assessments (Pratt et al., 2006). Likewise, researchers have recognised the importance of social identity derived from workplaces and formalised organisational identification (OI) as a construct (Ashforth & Mael, 1989; Ravasi & Van Rekom, 2003). Moreover, there are authors who have suggested that the work setting is the key mode by which present-day adults form their social identity (Gini, 1998; Kirpal, 2004; Pratt et al., 2006).

However, while there is agreement about many elements of a social identification process in general, some authors have still expressed uncertainty about the definition and role of identity in the social and business sciences (Abdelal, Herrera, Johnstone, & Martin, 2001; Ibarra, 1999; Pratt et al. 2006; Wan-Huggins, Riordan, & Griffeth, 1998). Several researchers have also observed that many aspects of OI are still tentative and that work-based identity needs further theoretical and operational depth in its conceptualisation (Sveningsson & Alvesson, 2003; Edwards, 2005; Fiske & Neuberg, 1990; Ibarra, 1999; Pratt, 1998; Pratt et al., 2006).

While researchers were exploring OI as a concept, studies about a number of other work-based identity-related concepts were conducted. Several authors studied concepts such as work commitment and work involvement to find that overlaps with the idea of a work-based identity occurred (Hunt & Morgan, 1994; Kanungo, 1982; Lawler & Hall, 1970; Meyer, Becker, & Van Dick, 2006; Morrow, 1983; Penley & Gould, 1988; Roodt, 1997; Van Knippenberg & Sleebos, 2006). Work engagement is another related concept which was found to contain elements of a work-based identity (Schaufeli & Bakker, 2004; Schaufeli, Salanova, González-Romá, & Bakker, 2002). In many of these studies of work engagement, a process model of antecedents and consequences, called the job demands-resources (JDR) model,
was used (Bakker & Demerouti, 2007; Bakker, Demerouti, & Verbeke, 2004; Rothmann & Jordaan, 2006). This model distinguishes between two categories of antecedents, one that enhances positive outcomes (job resources) and one that diminishes the these outcomes (job demands) (Schaufeli & Bakker, 2001). As this model has successfully explained the dynamic process of a work-based identity in recent studies (Bothma, Roodt, & Barkhuizen, 2010; De Braine & Roodt, 2011), the JDR framework has been adopted as an organising mechanism for the research model used for this study.

A study of social identity as it pertains to work and work setting is therefore apt and this is the area of research selected for this project. The general uncertainties and gaps identified by several researchers (mentioned above) have provided a point of departure and rationale for such an enquiry. These uncertainties and gaps will be explored in Chapter 2 (literature review) in order to establish hypotheses for this study.

1.2 Research Problem

1.2.1 Research questions.

A brief introduction to previous research on work-based identity and its related concepts were introduced above in section 1.1.1, and will be discussed in more detail in Chapter 2. Evidence that social identities (specifically WI) have potential positive benefits for organisations will also be presented. This exploration underpinned the process of formulating the research problem as a research question. The primary research question is:

What are the possible antecedents and consequences of WI in multicultural work settings?

This primary research question presumes a model of WI, which will allow the exploration of the relationships between antecedents and WI and the relationships between WI and its consequences. As was explained in section 1.1.1, above, the
observable antecedents are categorised into two latent variables, job resources and job demands. The secondary research questions therefore support the primary research question and are as follows:

**In multicultural work settings:**
1) How are job resources related to WI?
2) How are job demands related to WI?
3) Do job demands act as a moderator in the relationship between job resources and WI?
4) Do job resources act as a moderator in the relationship between job demands and WI?
5) How is WI related to positive consequences (such as work engagement)?
6) Is WI related to negative consequences (such as turnover intentions)?
7) Do gender, age, education, organisational tenure, job level, and nationality (control variables in the research model) moderate the model?

These research questions are presented in the research model, Figure 1.2.

![Figure 1.2. The research model. Arrows in the model do not imply causation, but indicate direction of prediction. Org tenure, Organisational tenure; NOID, Need for organisational identification.](image-url)
Figure 1.2 presents WI as the central idea in a process model of antecedents and consequences with several control variables that could potentially influence the whole model. While the rationale behind the selection of all the factors in this model will be presented in the literature review (Chapter 2), the different elements of the model will be briefly introduced and defined in this chapter to provide an understanding of the research scope and focus. Literature about work-based identity and related concepts provided the primary support for decisions to select the variables in the research model. However, the selection of some of these variables was also influenced by the research setting. The influences that the research setting had on the selection of factors are also described here so that all background information about the research setting is gathered together in one chapter.

The different factors in the research model are introduced next and these are: WI, the antecedents, the consequences, and the control variables.

1.2.2 Research model: WI.

As indicated in Figure 1.2 (above), WI occupies the central position within the research model as the focus of the study. WI was briefly introduced in section 1.1.1 as a social identity that people derive from their work or workplace (Gini, 1998; Kirpal, 2004; Pratt et al., 2006). However, there are substantive reasons why it is important to focus on work identity and not just social identity.

While it is probably generally recognised that work is the activity we need to provide economic means, work is attaining increasing significance in people’s lives (Kirpal, 2004). Furthermore, the word work takes on specific meaning as a mind-activity in an employment context where employees are held accountable for task outputs (Jaques, 1989; Jaques & Clement, 1991; Toffler, 1980). In addition, motivational principles form the “foundation” of social identity (Haslam, 2004, p. 67). Work also plays a key role in motivation as the contributions of Maslow, Alderfer, McClelland, McGregor, and Herzberg attested (Vroom & Deci, 1970). It is therefore no coincidence that the shared identity people derive from work often becomes the key “internal cognitive structure” (Albert et al., 2000, p. 13) of meaning in an era of tumultuous change and uncertainty.
There are many sources of social identity in and at work. Some authors have accepted that a work-based identity includes at least two important foci: where you work (organisational membership) and what you do (professional identity) (Pratt et al., 2006). However, people identify with other people in organisations and with their ideas, such as values, goals, and knowledge (Cheney, 1983). Furthermore, in a meta-analysis, Riketta and Van Dick (2005) found that people were more attached to their work groups than to their organisations. Several other researchers also recognised aspects of work as loci of shared identification, such as:

- occupation (Dutton et al., 1994),
- both work group and profession (Johnson, Morgeson, Ilgen, Meyer, & Lloyd, 2006: Russo, 1998),
- work group, team, subunit, relations, occupation, or career (Ashforth, Harrison, & Corley, 2008),
- a speciality within a profession (Pratt & Rafeali, 1997),
- work unit or work project (Veenstra, Haslam, & Reynolds, 2004),
- the job, or even an individual identity based on disidentification with the organisation (Kreiner & Ashforth, 2004).

However, despite there being several sources of social identity at work, it is worth remembering that identity remains a self-referential or self-defining concept (Pratt, 1998; also Ashforth & Mael, 1989). Walsh and Gordon (2008) placed the focus back on the individual in their definition of WI as “a work-based self-concept constituted of a constellation of organisational, occupational and other identities that shapes the roles individuals adopt and the corresponding ways they behave when performing their work” (p. 4). According to this definition, WI is a construct that can be predicted by other factors, can mediate between organisational and individual phenomena, and is instrumental in producing consequences for individuals and organisations.

1.2.3 Research model: Antecedents.

There is no single attested model of antecedents for the most established work-based identity construct, namely organisational identification (Kreiner & Ashforth,
However, in recent studies of factors related to work-based identity, various potential antecedents and clues about potential antecedents were found. This exploration of potential antecedents, which produced the selection of antecedents in the research model used for this study, will be explained in the literature survey (Chapter 2). The selected antecedents included in the model are briefly defined here to enhance understanding of the focus and scope of this study. Any influence of the research setting on the selection of a factor is also explained here.

The antecedents are divided into two latent variables, job resources and job demands. Job resources include those aspects associated with a job that reduce job demands, achieve job goals and encourage personal growth (Schaufeli & Bakker, 2004). Job demands are the “physical and psychological cost of the job” (Schaufeli & Bakker, 2004, p. 296). As presented in Figure 1.2, the observable job resources included in the model are organisational reputation, need for organisational identification (NOID), task-level resources, and remuneration perceptions. Each one of these variables is explained below.

**Organisational reputation:** Organisational reputation-related concepts refer to an organisation’s image (Carmeli, 2005). This image may be based on the general appraisal of an organisation’s stakeholders over time (Kreiner & Ashforth, 2004), or the organisational members’ beliefs of the perceptions of outsiders (Wan-Huggins, Riordan, & Griffeth, 1998). Studies showed that a positive organisational reputation stimulates improved performance (Carmeli & Tishler, 2004). Organisational reputation can therefore be seen as a job resource because it helps (at least some) employees to achieve organisational goals. The United Arab Emirates (UAE), where the study is located, is seen as a brand-conscious society with an ascription culture (Whiteoak, Crawford, & Mapstone, 2006). Therefore, within the context of shared social identity, it is anticipated that the extra status achieved through organisational reputation will be an important performance motivator, and therefore a job resource, in the workplace.

**Need for organisational identification:** Glynn (1998, p. 238-9) defined NOID as “an individual’s need to maintain a social identity derived from membership in a larger, more general social category of a particular collective”. As countries in the Middle
East, where the UAE is located, displayed high collectivism (Hofstede, 1983), one might expect NOID to be included in the preference to associate collectively. It is argued that a shared social identity derived from work, may be a motivator for employees from collective cultures who do not have access to familiar social systems while working in a foreign country. However, the collectivist characteristic cannot be summarily extended to all employees in the multicultural population of the UAE.

Task-level resources: The resources related to tasks include autonomy and skill variety, which are classical elements of job satisfaction (Hackman & Oldham, 1976). Factors, such as these, appear to enjoy a near-traditional inclusion in organisational studies and in turn, have been included in many of the studies on WI-affiliated concepts (Boles, Johnston, & Hair, 1997; Carmeli, 2005; Kotzé & Roodt, 2005; Kreiner & Ashforth, 2004; Van Veldhoven, De Jonge, Broersen, Kompier, 2002; Wan-Huggins et al., 1998). Hackman and Oldham (1976) established that task resources have a direct impact on the motivation and satisfaction of employees and Haslam (2004) found that identification depended on motivational processes. Task resources are therefore included in the research model as one of the antecedents of WI.

Remuneration perceptions: This factor refers to the perceptions that employees have about their remuneration. Positive perceptions about remuneration were included in the research model as a result of evidence from work-based identity literature as well as observations in the research setting. Disposable income occupied an important role in the lifestyle of the UAE population, who displayed the highest consumer spending in the world (UAE tops, 2008; Abbas, 2011). Moreover, Emiratis were reported to select jobs based on remuneration and there was evidence that some unemployment among Emirati graduates was directly related to their inflated salary expectations (Abdelkarim, 2001; Al-Najjar, 1999; EPRU, 2006; Prasad, Yang, & Al Hashimi, 2002). Remuneration was also a prime reason for foreign employees to work in the UAE and the Gulf region (Westley, 2008).

The second category of antecedents is job demands (see Figure 1.2). Previous studies showed that job demands did not encourage engagement with work (a factor
related to WI) (Rothmann & Jordaan, 2006; Schaufeli & Bakker, 2004). However, job demands are included in the research model to establish whether job demands actively discourage WI. The two observable job demands in the research model are: breach of psychological contract and work-family conflict.

*Breach of psychological contract:* The psychological contract is a subjective set of expectations (and obligations) that an employee and employer have of one another (Muller-Camen, Croucher & Leigh, 2008). The psychological contract includes expectations about fairness, employment security, scope of tasks, development, career, involvement, and trust (Guest & Conway, 1997; Guest & Conway, 2004). As positive psychological contracts may include a variety of markers, from leader support to acceptable working hours, it could already imply the presence of some job resources. However, studies showed that the breach of psychological contracts could stimulate negative psychological responses that are not favourable to social exchanges in the workplace or to performance (Dulac, Coyle-Shapiro, Henderson, & Wayne, 2008). This negative bias is considered to be a job demand as it reduces job resources by adding to the psychological cost associated with the workplace.

The psychological contract is in itself an important and valid construct. However, the research setting contributed two specific reasons to include it in the research model, namely that in the UAE, both foreign employees and local tertiary education graduates are potentially prone to an expectation gap. Although the research setting will be explained in following sections, the two reasons are explained here.

In the local labour market, Emiratis dominate public sector employment. However, only 40,000 Emiratis (the highest estimation) are employed in the private sector which offers approximately 4 million jobs (Al Qassemi, 2010). These figures may not be accurate, because they appear inflated when compared to other population statistics (refer to section 1.3.2, below). However, one percent is the statistic most commonly quoted as the number of Emirati employees in the private sector. The UAE employment market is therefore heavily dependent on foreign workers, ranging from semi-skilled labourers to professionally qualified employees.
Literature concerning foreign work assignments in multinational corporations revealed increased chances of disappointments and misunderstandings related to employment expectations during international assignments (Siers, 2007). In addition, psychological comfort or discomfort affected adjustment to a new environment (Siers, 2007). Similar to expatriate assignments, foreign employment contracts in the UAE share some characteristics of the temporary international assignments of employees from multinational companies. This is because the UAE does not extend citizenship privileges to immigrants. Foreigners have to leave the country when their employment contracts are not renewed or when they reach retirement age (Fenton, 2008). Furthermore, dubious recruitment practices that create false expectations are still rife in the Gulf region (Grapeshisha.com, 2006; WAM, 2008). The factors mentioned in this paragraph are therefore presumed to contribute to potential breaches of psychological contracts between local employers and foreign employees.

Moreover, Emirati graduates experience a gap between their work expectations and work reality when they find that many available positions (particularly in their preferred employment sector, government departments) are often routinised jobs designed for less qualified entrants and managed by supervisors, who are less qualified than the graduates (HRM Cohort 2007, personal communication, November 4, 2007; HRM Cohort 2008, personal communication, April 16, 2008). In a study by Sturges and Guest (1981), expectation gaps contributed to graduates' perceptions of psychological contract breach. Expectation gaps also undermined commitment. It is therefore anticipated that potential psychological contract breach may have an effect on new local graduate employees in the UAE.

*Work-family conflict:* Work-family conflict is conflict between an individual's work and family (or home) responsibilities whereby one’s operation and actions at home are negatively affected by work demands (Boles et al., 1997; Demerouti, Geurts, Bakker, & Euwema, 2004). (This study is not interested in conflicts originating from home, called family-work conflict.) Research findings have linked work-family or work-home conflicts and job demands directly (Ahuja, Chudoba, & Kacmar, 2007; Butler, Grzywacz, Bass, & Linney, 2005; Demerouti et al., 2004). This factor is therefore included in this study with the expectation that it does not produce WI. In a
commercial online survey by a large recruiter in the Middle East, work-life balance in
the UAE scored lower than other countries in the region (bayt.com, 2008). This low
score indicates that work-family conflict may indeed be a barrier to WI in this setting.

The concept, work-family conflict, rather than work-life balance, is selected for
inclusion in the research model for three main reasons. Firstly, a significant part of
the UAE workforce is from traditional Middle Eastern and Asian cultures that are still
struggling to resolve the role of economically active women in society. Secondly, as
mentioned previously, foreign employees do not have the prospect of citizenship,
even after extended residency in the UAE. This means that many people’s
employment expectations in the UAE are to “make money” and then move on to
other agendas rather than focusing on maintaining a work-life balance. However,
as the brisk business of money transfer agencies attest to, many of these foreigners
have home obligations outside the UAE (Bloomberg & McGinley, 2010). Thirdly,
extended families dominate the social arrangements of significant sectors of the UAE
population (Emiratis, other Arabs, and Asians) in the UAE. One local study reported
that Emirati youth perceived strong material ties with their families (Alnajjar, 1996).
Sturges and Guest (2001) reported that work-life balance played a role in the
commitment and retention of new graduates in the United Kingdom. As new Emirati
graduates are an important part of the UAE workforce, the balance between family
and work may therefore be an issue to consider within this research setting.

1.2.4 Research model: Consequences.

Two consequences of WI, work engagement and turnover intentions, are included in
the research model. The reason why these concepts were included in the research
model is, firstly, because they were both used in studies similar to the current study
(for example, De Braine & Roodt, 2011; Bothma et al., 2010). The second reason is
that both these concepts were regularly used in studies that employed the JDR
model (for example, Barkhuizen & Rothmann, 2006; Rothmann & Jordaan, 2006;
Schaufeli & Bakker, 2004). It is postulated that the presence of WI is associated with
positive consequences, while negative consequences may occur if WI is largely
absent or low. Work engagement is a result of a high level of WI and turnover
intentions a result of low WI.
Work engagement has been described as a positive, fulfilling, work-related state of mind articulated by vigour, dedication and absorption (Schaufeli & Bakker, 2004). While turnover is a key productivity and performance measure in many studies of organisations (Bartlett & McKinney, 2004), turnover intentions refer to employees’ “conscious and deliberate wilfulness to leave” an organisation (Tett & Meyer, 1993, p. 262). Turnover intentions have been found to have a positive relationship with actual turnover (Byrne, 2005; Hendrix, Robbins, Miller, & Summers, 1998; Steensma, Van Breukelen & Sturm, 2004).

1.2.5 Research model: Control variables

The control variables in the research model are generally self-explanatory, namely: gender, age, level of education, organisational tenure, job level, and nationality. All of these control variables significantly affected the results of previous studies into WI-related variables. These findings will be discussed in Chapter 2 (literature review). However, there are important reasons related to the research setting that contributed to the inclusion of two of these controls in the research model. These are discussed below.

**Gender:** Local issues related to gender may make this control variable a factor in employees’ decisions to join or stay with organisations. The traditional segregation of men and women in UAE society and also in some Arab communities where women may not want to, or may not be allowed to work with men. Furthermore, there are huge gender imbalances in the UAE population, specifically in Dubai. According to the Dubai Statistics Centre (2009a) only 401,238 of the 1.77 million residents in 2009 were women. While this imbalance is largely due to the presence of many foreign male contract labourers who are not allowed to bring their families into the country, there is also a gender imbalance among the Emirati population; 1.8 males for every female (Randeree, 2009).

**Nationality:** A key characteristic of UAE society is the diversity of employees in workplaces. Nationality is therefore included as a control variable to obtain an indication of cultural differences. Although all nationalities do not contain only one
culture, and although some nationalities share a culture, it was argued that it is appropriate to assume that the presence of an array of different nationalities would indicate the presence of different cultures. The multicultural work context of the UAE was selected to test a model of WI rather than to explain the relationship between nationality and WI per se. The latter explanation warrants further dedicated research. The relationship between different nationalities and WI in this study is therefore exploratory.

This concludes the overview of the research model. The research setting is discussed in the next section.

1.3 Research Setting

1.3.1 Rationale for a study in this setting.

It is widely accepted that theoretical constructs manifest themselves in different forms and strengths in different cultural contexts. For example, the GLOBE study found that the concept of leadership varied widely across cultures (House, 2004). The same was found for other constructs, such as temperament (Keating & Abramson, 2009), work values (Matic, 2008), and work ethic (Forsyth, O’Boyle Jr., & McDaniel, 2008; Furnham, Bond, Heaven, Hilton, Masters, Payne, Rajamanikam, & Stacey, 2001). Many more examples can be cited to provide substance for the idea that context does influence individual behaviour and indeed organisational behaviour (Haslam, 2004).

It is therefore important to test any construct related to the social sciences in a variety of settings before generalisations are made. This research project will not be conducted in one of the major research centres for Organisational Behaviour and Human Resource Management, rather in Dubai in the UAE. The purpose of this decision is two-fold: to test a model of WI in a multicultural setting outside western contexts and other established research settings, and to contribute to the research base in the chosen region.
1.3.2 Population and employees of the UAE.

The UAE is a federation of seven emirates located on the Arabian Gulf (also called the Persian Gulf) depending on and a member of the Gulf Co-operation Council. Geographically it is about the same size as Austria. The largest emirate is the oil-rich Abu Dhabi, home of the capital, while Dubai is the trading hub. More information is available on the official UAE website, UAE Interact (http://www.uaeinteract.com).

In general, relevant and current research data in this region is both sparse and variable in quality, or just not available (Dresch, 2005; EPRU, 2007; MENAFN Press, 2010; Peterson, 1991). This is also true for accurate population statistics. The population growth since the formation of the United Arab Emirates in 1971 has been dramatic (from 250,000 to estimates of more than 8 million in 2009). While the UAE Federal Government estimated that the UAE had 8.2 million residents in 2009, the World Bank’s estimate was 4.6 million (National Bureau of Statistics, 2011; World Bank Group, 2011). Therefore, the best estimation of the UAE population breakdown is based upon a combination of sources (Randeree, 2009; CIA, 2008; Dagher, 2006; Fattah, 2006; Keyrouz, 2008; MENAFN Press, 2010; Oxford Business Group, 2008):

- Emiratis: less than 13.5%,
- Arab foreigners (plus Iranians): more than 15%,
- South Asian foreigners (India, Pakistan, Nepal, Bangladesh, Sri Lanka): approximately 60%,
- Other Asian foreigners: more than 7%,
- Western (including Eastern European, Australian and South American) foreigners: up to 3%, and
- African foreigners: more than 1%.

The official estimate of population figures for Dubai, where this study will be conducted, was reported to be 1.77 million people in 2009 (White, 2010). However, during workdays the Dubai population increases to 2.6 million when employees from surrounding emirates enter to work (Dubai Statistics Centre, 2009b).
In addition to the diversity of the UAE population, there are other factors that render this a relevant and challenging testing ground for a study about WI in a multicultural context. One of these factors is the rapid employment growth within the UAE since 1971 when it “jumped from the eighteenth century into the twentieth with one giant leap” (Al-Fahim, 1995). Annual local identity conferences have recognised that this fast development is a factor in identity confusion (Al-Shamsi, 2009; Keyrouz, 2008).

It would appear that little or no quantifiable information has been written about the national identity of the UAE. Factors of social identification beyond ethnic and sectarian divisions therefore remain unclear. There were some studies on the Gulf States (which included the UAE), but because the Kingdom of Saudi Arabia is the largest state in the Gulf, observations from this state may have been generalised. Dresch (2005) described that recent nation-building efforts in the Gulf resulted in a sha'b (people) with a cohesiveness similar to that of a crowd at a soccer match, while the paternalistic ideology of the nation as the “children or dependents of a ruler” (p. 134) was often promoted by state media. Patrimonial societies are the way “things really work” in this region (Peterson, 1991, p. 1427). However, some authors perceived that the tribal ties were less substantive than the folkloric importance that they seem to have had (Al-Rasheed, quoted by Dresch, 2005). This might lend credence to the view that one of the key reasons for the identity crisis has been the “weakness of civil society and restrictions on freedoms of opinions and views” (Al-Shamsi, 2009, p. 2). While these observations may be true, there is no doubt that a sense of family is a core characteristic in the local culture. This extends to the concept of 'ā'iliyah (familialism), which means that states treat their nationals well, but foreigners are kept at a distance as a result of a collective endeavour to uphold what is ‘good’ and destroy what is ‘blameworthy’ (Fendy, quoted by Dresch, 2005, p. 138). This self-contained notion has also been reported by others (Fenton, 2008; Peterson, 1991; Smyth, 1994).

While the assertion that Emiratis are “not in excess of 10%” of the residents in the country (Al-Awadi, 2010, p. 1), most published statistics show that the local Emirati employees also constitute less than 10% of all employees in the UAE workforce. This demographic imbalance is widely considered to threaten Arab identity (Bladd,
However, the influence of the tribal-based social identity of Emiratis is dominant in many organisations. An important reason for this is that UAE law stipulates majority local ownership of companies. Although informal private agreements may sometimes subvert this legal requirement, sole foreign ownership is only allowed in free zones, run by government-appointed free zone authorities (Emirates Network, 2008). In addition, there is overwhelming anecdotal evidence that tribal and family ties play a crucial role in recruitment and selection, and in the organisational hierarchy (or, at the very least, it may override or suspend organisational hierarchy at critical moments).

Finally, identification with work or workplaces is not always an obviously supported phenomenon in the Arabian Gulf where identity is tied up with highly politicised, ascriptive social relationships and social lineage (Dresch, 2005). Tribal and family ties, rather than WI, are also important social identity indicators among Arabs and large sections of the South Asian workforce (Ali 1990; also see At-Twaijiri & Al-Muhaiza, 1996; Rice, 1999). The research setting of the UAE is a new testing ground for work-based identity studies. It can therefore be argued that this setting, which is deemed a melting pot of identities, may specifically challenge the robustness of ideas about social identity in workplaces.

**1.3.3 Practical rationale for this study.**

In addition to testing a model of WI in a multicultural setting, another key reason for selecting this research setting is the limited research on workplaces and employees in the UAE. Prasad et al., (2002) conducted one of the few studies that aimed to give a somewhat comprehensive view of people management in the UAE. They focused on labour relations where associations and unions are illegal. Relevant to this study on WI, their findings gave hints about the association of employees with their work. There were signs that UAE policy makers have an "insight deficit" into people management practices in local organisations (Prasad et al., 2002, p. 8); others called it an “emotional” response (Al Qassemi, 2010, p. 2). Furthermore, "voice deficit" caused feelings of marginalisation - mostly among Emiratis, labourers and lower paid employees (Prasad et al., 2002, p. 21). No local study about work-based identity could be found, but a summary table of local studies into factors
associated with work-based identity is attached in Appendix A. These studies provided some clues about which variables to include in the research model (presented in Figure 1.2 and described above in section 1.2).

While western ideas are now influencing the local business scene in the UAE, this influence is relatively new and is still treated with suspicion by many Emiratis. Older Emiratis base their suspicion on what they see as the imperialist approach that the British and international oil companies took until the 1960s (Al-Fahim, 1995). Younger Emiratis are also suspicious because they feel overwhelmed by the large number of foreigners in their country (Dagher, 2006). Hence, the UAE is a changing, rather than a changed society. As this society is embracing western economic models and alliances with the West, and as western organisations are increasingly using the country as a regional and trading base, it is opportune to test the concept of WI in this multicultural laboratory-like setting. Research to understand how employees identify with their work or workplace, may therefore provide important intelligence for students and managers of human resources and business environments in this setting.

1.3.4 Conclusion about the rationale of the study.

The brief introductions to the theoretical background and research setting of the study have provided evidence that WI is an important and relevant research topic because:

- there is scientific interest for clarification of this topic,
- there are clear points of departure for the research,
- the research results will add to work-based identity knowledge, and
- the research results will add value in a particular setting.

In the next section of this chapter, the problem statement and the elements of the research model will be introduced in order to provide a clear overview of the research project.
1.4 Research Objectives

The research questions which provided the impetus for the research model were discussed in section 1.2. These research questions directly relate to the research goal and objectives. The research objectives provide both a guide and a summary of the research project. The main research goal of this study is to:

Develop a process model of antecedents and consequences of WI in the multicultural work settings of the United Arab Emirates.

1.4.1 Theoretical objectives.

To achieve this research goal, the terminal theoretical objective for the study is to:

Find and use research evidence to develop a model of WI in multicultural work settings.

The supporting theoretical objectives are to review the research literature in order to:

1) Explore and define WI,
2) Determine and describe antecedents of WI in multicultural work settings,
3) Determine and describe consequences of WI in multicultural work settings,
4) Establish which biographical and demographical variables (control variables in the research model) are likely to affect the model.

The theoretical objectives will be addressed in Chapter 2.

1.4.2 Empirical objectives.

The empirical objectives will be addressed in Chapters 3, 4, and 5. The main empirical objective that aligns with the research goal is to:
Test how WI, its antecedents (job resources and job demands), and its consequences (work engagement and turnover intentions) fit in a covariance structure model.

Logically, the following secondary empirical objectives have to be achieved to support the primary empirical objective:

1) Test how job resources and job demands (antecedents of WI in the research model) relate to WI in multicultural work settings.
2) Test how WI relates to work engagement and turnover intentions (consequences of WI in the research model) in multicultural work settings.
3) Test if job demands act as a moderator in the relationship between job resources and WI in multicultural work settings.
4) Test if job resources act as a moderator in the relationship between job demands and WI in multicultural work settings.
5) Test how WI is related to work engagement and turnover intentions (consequences of WI) in multicultural work settings.
6) Test how gender, age, education, organisational tenure, job level, and nationality (control variables in the research model) moderate the covariance model.

Auxiliary objectives for this study will add value to the field of Organisational Behaviour and people management by testing the model of WI in a multicultural setting, and will contribute to the body of useful research for the region.

The scene is therefore set for a quantitative study in the post-positivist paradigm, applying an empirical approach to the research question “what are antecedents and consequences of WI in the multicultural work settings?” Cross-sectional research data will be collected by conducting a survey of employees in an explanatory study, providing a set of relationships between variables. While conclusions might be insightful for the testing of the research model, the findings will also establish a baseline for future studies of a similar nature in a similar research setting (Babbie, 2007). This will make it possible to observe the population over time and allow this study to contribute to future studies.
1.5 Chapter Synthesis

This first chapter of the thesis has contextualised the problem and highlighted the importance and relevance of the topic. Firstly, arguments about the importance and relevance of the research topic were presented and this established a theoretical rationale for studying WI. Thereafter, the research model was presented to provide a high-level introduction to the factors included in this research project. This was followed by a demonstration of the motivation for and value of the study in its specific setting, multicultural work settings in Dubai, UAE. Finally the research problem was separated into theoretical and empirical objectives that will guide the enquiry.

Throughout this chapter the value of this project was emphasised. In summary, this research firstly aims to address the need to research WI as a new concept that extends ideas related to work-based identity. In this way, the study will contribute to the clarification of identity in the workplace. Secondly, this research aims to contribute to knowledge about Middle Eastern workplaces and employees.

In chapter 2, Literature Review, relevant literature related to the research problem, to the research objectives, and to the research model will be reviewed. Hypotheses related to the variables in the research model will be argued and presented.

Chapter 3, Research Design, will describe the research design, research approach and methods to test the hypotheses presented in chapter 2. In Chapter 4, Research Results, the empirical research findings will be presented. The analysis and interpretation of the research findings will be put forward in Chapter 5, Discussion and Interpretation, within the context of the reviewed literature. Finally, in Chapter 6, Conclusions and Recommendations, conclusions about the contributions of this research to current knowledge and to workplaces will be shared. Recommendations for future research will also be made. Chapter 2 follows next.
CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

The previous chapter presented the introduction, theoretical background, overview of the research setting, the research questions, and objectives of the study. This chapter will discuss the findings of a literature review in order to provide theoretical answers to the primary research question “What are the possible antecedents and consequences of work identity (WI) in multicultural work settings?”. The main theoretical objective is therefore to: Find and use research evidence to develop a model of WI in multicultural work settings. Hence, the chapter structure (presented in Figure 2.1) follows the order of the supporting theoretical objectives listed below.

![Figure 2.1. Chapter 2 structure.](image)

The supporting theoretical objectives are to:
1) explore and define WI,
2) determine and describe antecedents of WI in multicultural work settings,
3) determine and describe consequences of WI in multicultural work settings, and
4) establish which biographical and demographical variables (control variables in the research model) are likely to affect the model.
These theoretical objectives underpin the reasons for the importance and feasibility of this study offered in Chapter 1 and reiterated below:

- the existence of current scientific interest to clarify work-based identity,
- the availability of clear points of departure for the research,
- the value of the research results for work-based identity knowledge, and
- the contribution of this nature of research in the research setting.

In addition, the discussion in this chapter will provide further evidence for the validity of these reasons by contextualising the study within previous research, and offering research hypotheses to address current knowledge voids. This study approaches the research topic from an Organisational Behaviour perspective aimed at informing Human Resource Management practices. Both these fields of study borrow theory from the foundational disciplines of psychology and sociology.

Although the idea of work as a source of social identity has been supported for decades, WI is not an established construct in research literature. It is, therefore, not possible to simply provide a definition of WI, the key construct in the research model, and explore studies related to the antecedents and consequences in the research model. Rather, an alternative framework will be used, a summary of which is provided in the remainder of this section (below).

To date, several foci of WI have been studied, the two most popular being organisational identification (OI) and (work) role identity. Both these concepts have clear links with studies about identity in the foundational disciplines of psychology and sociology. However, many studies featuring an array of work-related concepts closely associated with WI, have also been published – as well as arguments about the redundancy of such concepts and contamination between them. It is confusing for both student and practitioner to encounter very similar, but differently named ideas throughout research literature. Although contextualisation is helpful in understanding any phenomenon, the aim of this study is not to trace all the historical roots of WI. Rather, the study aims to conceptualise WI with reference to those studies as WI is arguably a natural progression of foundational studies on social
identity. It also aims to unravel the relationship between WI and other concepts that have endeavoured to guide our understanding about the relationship between the self and the work setting over the three past decades.

Accordingly, this literature review will start by discussing the roots of WI in psychology and sociology to show how WI is a natural progression of ideas about social identity (see Figure 2.1). This will, in turn, clarify the term identity in relation to the WI concept. Next, the review will address the other key terms in the research question (stated above), namely work, multicultural, and work settings and unravel the relationship between WI and related concepts, specifically commitment, involvement, work centrality, and engagement. The job demands-resources model, also employed as a useful organising mechanism for antecedents to WI, will then be discussed. Thereafter, definitions of selected antecedents and research findings showing a link with WI will be presented followed by definitions and review of literature related to the selected consequences of WI. Finally, the control variables selected for use in the research model will be explained.

2.2 Work identity

The discussion in this section will concentrate on the central concept in the research model (highlighted in Figure 2.2), WI. (For an overview of the research model, refer to section 1.2.)

2.2.1 Definition of WI.

WI is a type of social identity derived from the workplace. A definition, which summarises the current conceptualisation of WI, is “a work-based self-concept constituted of a constellation of organisational, occupational and other identities that shapes the roles individuals adopt and the corresponding ways they behave when performing their work” (Walsh & Gordon, 2008, p. 49).
This definition refers to a type of social identity that is built up from a variety of sources based in the workplace. The definition also recognises that a person’s self-concept has an effect on behaviour at work. An explanation of how different theoretical approaches point towards these ideas follows in the next section. Further clarification of the definition will also be offered to explain how the workplace contains different loci of social identity, and how the body of research about WI-related constructs prepared the way for a broader focus on work and the workplace as a locus of social identity.

2.2.2 Foundations of WI.

A personal identity, or self-concept, is considered to incorporate a combination of aspects such as personality, (dis)likes, talents, skills, attitudes, or opinions that differentiate the self from all others (Brewer & Gardner, 1996; Wetherell, 1996). However, in social interaction, people may redefine themselves in terms of a group (or groups) to which they belong to form a social identity. This is true in both large-scale and small groups (Turner, Brown, & Tajfel, 1979).
Two types of social identification were recognised: situated identification (more transient and unsteady) and deep structure identification (more fundamental internalisation of a group into the sense of self) (Ashforth et al., 2008). Temporary or situated identification typically lasts while the common interest prevails (Rousseau, 1998). Situated identification (in the sense of first becoming aware of a different identity) also precedes deep structure identification (Ashforth et al., 2008). Deep-rooted identification occurs when individuals perceive that similarities with a group provides or confirms their self-definition and behaviour according to this self-definition is condoned (Erikson, 1962, quoted by Torres et al., 2003). This lasting identification is the core of social identity theory and its allied theories; it is also a goal sought by those management practices, structures and systems that contributes to WI formation (Hoogervorst, Van der Flier, & Koopman, 2004; Kirpal, 2004; Mischenko, 2005).

The following section presents an understanding of WI from the foundational theories of psychology and sociology. As depicted in Figure 2.3, several theories contribute to our understanding of WI. These include social identification theory, social categorisation theory, entitativity, optimal distinctiveness theory, social exchange theory and identity theory, role theory and symbolic interactionism.

Figure 2.3. Theories from foundational disciplines that contributed to the understanding of WI.
2.2.2.1 Social identity theory (SIT) and Self-categorisation theory (SCT).

Social identity theory (SIT) (Tajfel, 1978a, 1981; Tajfel & Turner, 1985) extended our understanding of the individual self beyond personal identity. SIT explained how the cognition and motivation of people during social interaction shaped their definition of themselves in terms of group memberships. It was found that self-definition shapes people’s behaviour, and, in turn, their psychology (Deaux & Martin, 2003; Haslam, 2004; Hogg & Terry, 2001; Pratt, 1998; Tajfel, 1982; Turner et al., 1979). The process of self-definition, called self-categorisation, is context-sensitive. Self-categorisation is used to demarcate in-groups and out-groups into distinctive categories that accentuate simplified decision frameworks about the meaningfulness of behaviour (Deaux & Martin, 2003; Hogg & Terry, 2001). Therefore, belonging to group X and not group Y, gives a person a sense of self that guides his/her behaviour.

The human desire to self-enhance by comparative favouring of the in-group (called in-group bias) fuels categorisation. As a result, self-categorisation perpetually refines a subjective belief structure within which legitimacy builds an idealised, depersonalised prototype of a category (Hogg & Terry, 2001; Tajfel, 1982). Consequently, SIT recognised that people’s behaviour and identity could shift along a continuum from uniquely personal characteristics to common, collective, depersonalised, prototypical qualities (Abrams & Hogg, 2004).

SIT explained the subjective terms of categorisation and the important role that in-group favouritism plays in people’s decisions and behaviour (Sherman et al., 1999). Ashforth and Mael (1989) explained that categorisation provides two important solutions. It “segments and orders” (p. 21) the social environment in a way that helps people to describe others, and it helps an individual to situate him/herself in the social environment. Closely related to SIT, self-categorisation theory (SCT) expounded the cognitive process of self-categorisation and emphasised the salience of social categories (Abrams & Hogg, 2004). According to the salience proposition people can self-define in terms of several group categories, but they tend to evoke the attributes of the most salient and distinctive group in their context and act according to the prototype it upholds (Sherman, et al., 1999). In fact, Tajfel (1978a)
explained that people arrange their in-groups in a hierarchy of importance based upon:

- the clarity of their group membership,
- the balance of negative and positive aspects of their membership, and
- the extent of their emotional investment in the process.

However, Tajfel (1978a) also accentuated that a person’s conduct still depends on the mutual interaction, or “dialectical relationship” (p. 43), between the social setting and the choice of which group membership on the hierarchy s/he enacts. He explained that this interaction can reflect behavioural choices that are wholly based upon interpersonal interactions, or wholly based upon intergroup interaction, or upon a continuum between these two extremes. Extreme interpersonal behaviour refers to actions that are solely based upon two people’s personal identities, while intergroup behaviour is activated entirely by group association, such as during a civil war. Therefore, SIT and SCT recognised that a person’s identity could reflect personal elements, interpersonal elements and impersonal prototypical elements drawn from individual interactions with groups or intergroup interaction.

Self-categorisation is, in fact, self-stereotyping. By acknowledging stereotyping, it is recognised that the process of categorisation simplifies the social world. People do not always have the cognitive resources or time available to make sense of all elements within their social context, so they simplify their interpretation of their environment in order to manage it (Brewer & Harasty, 1996; Fiske & Neuberg, 1990; Tajfel, 1969, quoted by Oakes, 1996). The ability to cope with variability is a core element of social identity as is also explained in the job demands-resources model (Schaufeli & Bakker, 2004) and the job demands-control model (Karasek, 2008). These models explain how individuals cope with the social demands of the workplace by balancing an array of resources and demands (or the demand-load that a person can control). The job demands-resources model will be used later in this chapter to provide a framework for the research model.

While the social identity theories explored the idea of simplification through categorisation, meta-theoretical integration provided the catalyst for progressive
studies that brought the simultaneous enactment of multiple categorisations to the forefront (Abram & Hogg, 2004). This was not completely a new idea as Deschamps and Doise (1978) highlighted that people form their identities in "pyramidal-segmentary" structures and "cross-cutting" structures of loyalty (p. 141). These structures explain a particularly tight grouping of categories on a hierarchical arrangement (the hierarchy of importance, discussed above). For example, and Doise observed (originally in military organisations) that people identify with multiple in-groups at the same time. The other groups in this relationship are therefore not perceived as not I, but complimentary to each other within a social system (p. 143). Simple categorisations do occur (no overlaps between two groups is recognised), but crossed categorisation means that group memberships cut across each other. (Group memberships can be viewed as a series of approximate concentric circles of which only the largest category will be visible if viewed from a vertical angle.) This surely reflects our own experience of activating any of several group identities that would fit a certain situation (for example, "I also grew up in Jumeirah... in Dubai... in the UAE... in the Middle East"). Therefore, it can be concluded that an individual's social coping mechanism contains his/her own structure of stereotypes that s/he uses to establish a place within the social order. Individuals can activate an array of these categories to inform behaviour depending of the specific situation, and s/he would keep to their choice(s) depending on his/her investment to the category.

The findings from studies related to SIT and SCT have powerful implications for work settings. Identification, seen as the extent to which a “group is valued and self-involving, and contributes to an enduring sense of self” (Haslam, 2004, p. 53) has real benefits for the in-group. People can favour each other and, therefore, work together based on a shared social identity rather than personal liking (Abrams & Hogg, 2004; Brewer, 2006; Hogg & Turner, 1985). A further implication is that the more a person identifies with a group, the more consistently s/he acts with the group’s values, ideology, and culture (Abrams & Hogg, 2004; Haslam, 2004; Rousseau, 1998). Brickson (2000) proposed that people with similar identities react similarly to organisational context and practices. In fact, people who share an identity tend to expect that they will agree on issues and actively strive to reach agreement (Haslam, 2004). However, as much is claimed about identity in literature, it is important to heed the following caveat. Social identity is a process (not an
object) and it should therefore not be interpreted without considering the theoretical context of the identity construct, as well as the social context that resulted in a self-concept (Abrams & Hogg, 2004, p. 103; Tajfel, 1978a).

This summary demonstrated that social identity in general, and the social identity derived from work settings specifically, has important implications and potential benefits for individuals and organisations. A variety of social groups, from the interpersonal to the impersonal, can contribute to identity formation. The findings of researchers highlighted that the formation of social identity (although remarkably stable) remains an active process relative to a frame of reference and that several identity categories may be available for activation. Although a cognitive concept, social identity is also borne out of a desire to increase and maintain individual needs related to the enhancement of the self. This desire accentuates the motivational nature of social identity. Moreover, this summary showed that the subjective nature of social identity renders individual enquiry an appropriate research methodology and provides support for the choice of a process model for this study.

2.2.2.2 Entitativity.

Entitativity is another social psychological concept that is relevant to this study because people are likely to identify with high entitativity groups. In fact, a workplace could serve as the assembly point for a number of unified groups. A brief exploration of entitativity is included below for the purpose of clarifying other social psychological concepts in the identification process.

Entitativity refers to the coherence or wholeness of a group as an entity; that is how real the group is (McGarty, Haslam, Hutchinson & Grace, 1995). People perceive individuals and groups in different ways. Their perceptions of groups are more generalised than their perceptions of individuals and often dependent on “illusionary” correlations between the group and its attributes (McConnell, Sherman & Hamilton, 1994, p.174; Sherman, Hamilton & Lewis, 1999). The reason for this is that people generally assume that group entities are less unified than individuals (they have a lower degree of entitativity) (Susskind, Maurer, Thakkar, Hamilton & Sherman, 2000). However, when perceivers expect a high degree of entitativity from a group, they tend to process information more thoroughly before they make judgements
about the group (Hamilton & Sherman, 1996). In this way, entitativity is linked to stereotyping: the higher the entitativity, the more thorough the decision-making process to establish the prototype that forms the basis of categorisation (Brewer & Harasty, 1996). Entitativity also recalls the interpersonal-intergroup continuum proposed by Tajfel (1978a) (see section 2.2.2.1, above). Hamilton and Sherman (1996) also observed that studies on individual impression formation and group stereotyping displayed common processes. This confirms that the process and targets of identification are available in organisations. Furthermore, not only can organisations consist of multiple smaller and larger types of groups, but organisations also use symbolic actions to influence or create the impression of vision, values or competitive position (Crane, 2000; Jongbloed & Frost, 1985; Schultz, 1991). These actions may foster the illusionary entitativity of groups and therefore affect the degree of stereotypical judgement used when individuals evaluate impersonal groups.

Hamilton and Sherman (1996) found that three factors played a key role in the perception of greater entitativity. These factors are:
- a higher degree of organisation within a group,
- a greater number of similar individuals within a group, and
- closer proximity of the group to the perceiver.

High entitativity groups are also more readily used as prototypes when perceivers make judgements to determine group association, because people find high entitativity groups easier to recognise and to associate with than less unified groups. In addition Hamilton, Sherman, and Lickel (1998) found that people arrange their in-groups in a hierarchy of importance from high to low entitativity. Lickel, Rutckich, Hamilton, and Sherman (2006) confirmed that people arrange this hierarchy according to the degree of intimacy with each group. Their research found that families and friends were the most intimate groups. Tasks groups (typically found in organisations) were second most intimate, while social categories (such as race and nationality) were third. Organisations where people work are likely to be more structured, that is, they are likely to have clear leadership functions, defined roles and tasks and shared norms. According to Sherman et al. (1999) these factors
contribute to higher entitativity. They are therefore probable targets to be used for social identification because it may be relatively easy to make sense of them. However, Sherman et al. (1999) reported that entitativity increased as variability and diversity of group members decreased (also in large groups according to McGarty et al., 1995). By implication, the reverse could be true. That would mean that diverse workplaces might not always be good targets for social identification because their entitativity might be lower. Indeed, the vigorous effort that many organisations put into training to cope with workforce diversity (Human, 1996; Reynolds, Eggins & Haslam, 2010) may suggest that special measures are necessary to enhance entitativity within diverse workforces. In organisations, entitativity and diversity are therefore interlinked. Consequently, the theory of entitativity provides the rationale for testing WI in multicultural workplaces.

Furthermore, Susskind et al. (1999) found that perceivers judged entitativity subjectively based on their own needs and goals. Multiple social categories could therefore meet the needs of an individual. These might range from task achievement to quality interactions, and/or from intimate relations to surface level association (such as historical or geographic links).

In conclusion, ideas about entitativity not only support SIT and SCT, but also clarify that different types of social entities found in society at large could also be available targets for identification in work settings. The different types of groups along the entitativity continuum are present within multicultural organisations and they are all potential foci for WI. However, it is expected that higher diversity might make the identification with the organisation at large more difficult.

2.2.2.3 **Optimal distinctiveness theory (ODT).**

Optimal distinctiveness theory (ODT) (Brewer, 1991) emphasise elements from SIT and SCT differently. ODT propose that people consider their identities in terms of various group memberships as well as individual achievements to establish which perspective helps them to optimise the self in a given situation (Brewer & Gardner, 1996). Brewer & Gardner (1996) also made a distinction between social identity developed from interpersonal or small group interactions, and social identity from large (impersonal) social categories. This distinction is heightened to form different
types of identity. Furthermore, different levels of inclusiveness and more or less affection (rather than just cognition) in intimate and impersonal groups were found (Brewer & Gardner, 1996). This finding links clearly with the foundational theories discussed thus far, as well as with the conditions of commitment to an identity described in identity theory (Stryker & Serpe, 1982) (refer to section 2.2.2.5, below). Millward (1995) confirmed that both levels of inclusiveness (interpersonal and impersonal) were found in the work setting.

ODT is therefore a formalisation of ideas expressed in different forms in social psychology. It accentuates that the variety of social targets that are available for identification in the workplace ranges from the very intimate to the prototypical. In addition, ODT reminds us that personal identity may also play a key role in the motivation of behaviour and self-esteem in social situations.

2.2.2.4 Social exchange theory.
Another psychological theory, social exchange theory, offers an alternative explanation for the relationship between individuals and groups. Tyler and Blader (2000) described that social exchange theory (Thibault & Kelley, 1959, quoted by Tyler & Blader, 2000) explained how people tended to cooperate with each other and with groups in exchange for valuable (originally, material) resources. This theory describes a bargaining process between two parties in the social exchange. The individual then bases decisions concerning cooperation on an assessment of how fair or gainful the outcomes are considered to be. If a “working agreement” is reached (or rather “calculated”), cooperation ensues (McCall & Simmons, 1966, p. 142 & p. 156). This is different from SIT, which originated from intergroup comparisons where people associate with groups to develop a sense of themselves and to self-enhance (Tajfel, 1978b, 1981).

Tyler and Blader (2000) noticed that people viewed procedural justice as an important indicator of their status within a group. They argued that self-enhancement (the associated pride and respect that connect an individual to the group) is an important element in identification judgements, which determine future cooperation within a group. However, in resource-based interactions, justice assessments are based on the balance between resources gained and lost and this
determines future cooperation or competition. However, Tyler and Blader also argued that exchanges which render continued perceptions of procedural justice in a transactional relationship may develop respect and pride associated with the opposite party. This could be similar to situated identification (see section 2.2.2), that can develop into a deep-rooted identification. If social exchange between an individual and a group is a regular occurrence, the exchange contributes to the salience of that group. Salience plays an important part in the identification process (see section 2.2.2.1).

Therefore, while social exchange does not always lead to identification, the social exchange process should be considered as an important precursor to and component of an identification process in work settings.

2.2.2.5 Identity theory.

As the psychological contributions to social identity recognises that sociological variables are key to people’s behaviour and choices (Abrams & Hogg, 2004), it is pertinent to turn to this discipline for an explanation of identity. Sociological research tended to treat organisations (and other social systems) as units of analysis and, in the past, this did not attract much attention from managers (Culnan, O'Reilly III, & Chatman, 1990). However, expanding the scope of sociology to include micro-sociological environments is contributing to correct this tendency (Deaux & Martin, 2003).

Identity theory is based upon symbolic interactionism. Identity theory proposes that society impacts on the self, while the self impacts on social behaviour (called role), and social behaviour shapes society (Stryker & Serpe, 1982, p. 207). Symbolic interactionism revealed that these interactions between self, role and society are quite structured and causally interrelated (Nuttbrock & Freudiger, 1991). The individual self is, therefore, seen as a product of social interactions, manifested in the roles that the individual adopts. Without social options, social choices would not be made, and an identity would not manifest itself (Pratt, 1998; Stryker & Serpe, 1982).

Identity theory also proposed that people have functional roles in social systems and these positions carry behavioural expectations or, more subjectively, there are
emergent and negotiated understandings between people about their roles (Ashforth, 2001). Roles have boundaries in the form of mental constructions that simplify the social world to enable people to make sense of their own behaviour and that of others (Ashforth, 2001). Because people think in terms of I as well as we, both these concepts are integrated in who people are (Brewer & Gardner, 1996; Brickson, 2000). Identity theory emphasises how the boundary-defining properties of social structures bar or facilitate interactions and shape role identities (Deaux & Martin, 2003). Role identities are idealised (also intuitive and imaginitive) conceptions of the self that need to be maintained and legitimised in the face of social interaction (McCall & Simmons, 1966). Roles are often clarified through conflict between individuals and social structures. However, social identity also plays a key normative function to maintain social order through the expected and reciprocal roles that people perform (Stryker & Serpe, 1982).

Stryker and Serpe (1982) further explained that the prevalence of specific social behaviour depends upon the salience of an identity (from an individually stored identity hierarchy) that is called upon in a particular situation. Other symbolic interactionists refer to this hierarchy as psychological centrality and they emphasise the subjective nature of this centrality (McCall & Simmons, 1966). The symbolic-interactionist view presupposes that the social self develops out of “socially organised systems” and active interaction with the societal structures (Mead, 1934, quoted by Stryker & Serpe, 1982, p. 202). As individuals interact with a variety of social structures in a variety of roles, a hierarchy of identity salience helps people to sort between available behavioural options. Again, the conclusion is drawn that organisations can benefit from people who share the same symbols of interaction, because, in turn, this triggers consistency in behaviour patterns. In fact, one suggestion to assist organisations with promoting identification was to pay attention to the differentiation and integration of structures, because different structures may invoke different identities and behavioural choices (Stryker, 1980, quoted by Stryker & Serpe, 1982). In addition, Stryker and Serpe (1982) recommended that, at times, the social context offers salient and coherent complimentary role interactions that promote stability in the social structure. This may facilitate identification aligned to roles without the requirement of taxing cognitive demands. They also recognised that the social context may consist of (even conflicting) group categories that are not
directly or exclusively related to work roles. Therefore, depending on the nature and number of categories, more intensive and cognitively taxing identity work (that is cognitive and social efforts to establish or maintain an identity) may be required. Stryker and Serpe’s research showed that the social context has systemic properties that tended to maintain the status quo; however, in spite of this, social context is not always stable and therefore requires variable levels of judgement to adapt to change. Depending on the identity hierarchy that people hold to, more or less observable variability in identity may be triggered by contextual changes.

Consequently, identity theory and the symbolic interaction between an individual and society, or between different roles, reflect the cognitive process of social categorisation and stereotyping (offered by SIT and SCT) from a different perspective. The psychological and sociological views are, therefore, not contradictory, but rather complimentary. Identity theory also confirms the appropriateness of organisations as loci of social identity, as well as the range of targets for identification within organisations. Both approaches incorporated a hierarchical arrangement of identities and a salience proposal. To name the prioritisation of prominent identities (or an identity) as psychological centrality also sheds light on the nature of deep-structured identity and has implications for the interpretation of WI-associated concepts (discussed in section 2.2.4 below).

2.2.2.6 Final comments about the foundation disciplines.

This summary of some of key theories from the foundational disciplines indicated that social identity derived from work settings is an established idea. Although the traditions of sociology and psychology approached identity and identification from different angles, both perspectives are essential to fully comprehend the concept. It is also evident that identity formation is a dynamic process rather than a single event. A variety of foci may be instrumental in establishing social identity and individuals will look for those that will add optimal distinctiveness and self-enhancement to their personal identities. Identification is a multifaceted concept and it may be established in reference to groups ranging from more personal or intimate groups to larger and more distant groups in the context of the perceiver. However, not all these groups will have the same impact on the social identity of individuals. As the entitativity of groups may differ, people will afford different levels of attention.
to them. It is therefore not surprising that social identity always maintains the characteristics of a process and can be described as two states of social identity that constantly interrelate. One is the established social identity (more deep-rooted and enduring traits) and the other is a state of becoming (more situational and based on fluctuating exchange transactions). Behavioural manifestations related to these identities are, however, most often dependent upon the salience of a category. How lasting the behaviour remains, relies upon the commitment to a category, which depends on the investment in, and social dependence upon the category.

The foundational theories also provide some indicators of antecedents and anticipate consequences of WI. The discussion of antecedents and consequences of WI (later in this chapter) and of methodology (in Chapter 3) will therefore refer back to the foundational theories. For the remainder of this report, ideas discussed in this section will be referred to as concepts from the foundational disciplines.

2.2.3 Work, work setting and multicultural.

The primary research question ("What are the antecedents and consequences of work identity (WI) in multicultural work settings?") contains the terms work, work settings and multicultural. These concepts are reviewed in this section.

2.2.3.1 Work.

Work is inextricably linked to identity. Wetherell (1996) stated, “identity and self-esteem are attached to our position in the structures of work and paid employment. 'Work' and 'not work' are socially constructed definitions and they hold within them a moral dimension.” (p.249).

This idea has been recognised in this study by describing WI as a type of social identity specifically related to the workplace. Several foci of identification at work were listed in section 1.2.2. In the previous section of this chapter, relevant theories from foundational disciplines, which recognised the work setting as a locus of social identity, were discussed.
The close ties between identity and work is also recognised in exchange theory. Blau (1964) recognised that work provides at least two types of exchange relationships, namely economic (transactional) exchange and social (relational) exchange. Economic exchange sets up an exchange of value without (necessarily) establishing a shared goal (Hoogervorst, et al., 2004), while social exchange refers to the social identification that is the topic of this research project. Steers and Porter (1991, p. 574) went further by proposing that work offers people:

- compensation for efforts;
- social interaction;
- social status; and
- a source of identity.

Therefore, work may be an economic concern, but it is also a social construct that plays a (some say, the) role in people’s socialisation, motivation and definition of themselves. Since Karl Marx defined it as such, many students of sociology treated work as central to people’s lives and moreover, held the view that work impacts every other part of life (Kanungo, 1982). Gini (1998) reiterated, “people are what they do and what people do affect every aspect of who they are” (p. 708). Other authors also proposed that work is central to how people define themselves, in addition to it providing purpose and meaning in life (Kirpal, 2004; Philipson, 2001; Schwartz, 1982; Ulrich & Ulrich, 2010).

Since this link between work and identity has been established, studies have provided evidence that organisations can benefit from members who identified with the organisation (refer to section 1.1.1). Consequently, many organisations actively aim to impact identification through the arrangements of work that people do (Alvesson & Willmott, 2002; Buche, 2006). Some of these arrangements pertain to organisational culture, structures, systems and practices (such as leadership, communication, promotions and job design) (Hoogervorst et al., 2004; Kirpal, 2004), work defined by the job itself (Gini, 1998), and work role expectations (Sveningsson & Alvesson, 2003). Therefore, workplace influences work, and both work and work setting are linked to identity.
2.2.3.2 Work settings.
The term work settings was selected to refer to what is more generally called organisations. Etzioni (1964) described that organisations take a central place in our lives as a coordinator of human actions and as a “powerful social tool” (p. 1). He defined organisations as “social units or human groupings” which are “deliberately planned” or “constructed” to “seek specific goals” or to “enhance the realisation of specific goals” (p. 3). He also proposed that organisations, as social units, display conscious planning, the presence of power centres and replaceable membership more than other social units such as families, tribes and ethnic or friendship groups. Blau and Scott (1963, p. 27) agreed that organisations are “deliberately established” for a “certain purpose”. There are therefore differences between the work setting and other social settings and identification in these settings require specific enquiry.

However, organisations are sometimes described using terminology such as bureaucracies, institutions, corporations, companies, businesses, or formal organisations. Examples of other terms used for organisations are governments, public sector companies, private sector companies, not-for-profit organisation, universities, schools and religious orders. These terms represent a further level of distinction that is not intended or required for the current study. To avoid any potential confusion about any type of organisation, this study refers to organisations as work settings or workplaces. The two terms will be used interchangeably.

2.2.3.3 Multicultural.
The research question indicates that the setting for this study is multicultural work settings. Context is important in any study of individual behaviour. The assumption that individual behaviour can be isolated and sufficiently described by means of laboratory experiments (methodological individualism) is rejected by cultural psychologists and by social identity theorists (Su, Chiu, Hong, Leung, Peng, & Morris, 1999). Rather, they purport that individuals reveal social structure in their behaviour and that their behaviour affects social structure. Therefore, when people from different social backgrounds interact in a shared environment their responses to prompts in this environment may differ. This would, in turn, increase social diversity within that environment.
Diversity refers to a “mixture of people with different group identities within the same social system” (Nkomo & Cox, 1996, p. 339). Group identities are at the core of Sumner’s (1906, quoted by Brewer, 2006) ethnocentric argument whereby the in-group (or we-group) stands central and differentiated from out-groups. This shared interpretation of their context is the essence of culture (Smith, Bond, & Kagitcibasi, 2006). There are many definitions of culture, but for the purpose of this study, culture is considered to be the common characteristics in the life-styles of a community and their shared interests (Degenaar, 1993). It is recognised that culture is closely related to identity (Bergh, 2006).

It has already been established that people use stereotyping to simplify their judgments about the social environment (refer to section 2.2.2.1). While stereotypes are helpful in establishing identity and making judgments in everyday live, in multicultural situations they also create ideological barriers to change and to the acceptance of others (Human 1996). Consequently, for the purposes of this study, multicultural refers to the presence of different communities (with more or less different lifestyles, characteristics, interests, and common interpretations of context) sharing the same space. Social identity is already a complex concept and because of the extra cognitive complexity that culture brings, this study will not aim to unravel the different strains of the cultural orientations of nations. However, by placing the study in a context where there are different cultures present, this study aims to test the robustness of the WI model, rather than the nature of the cultural diversity in the setting. This study may therefore show if cultural diversity affects a WI model, but not why it is affected.

For many years, studies have shown that organisational behaviour concepts are not uniformly and universally applicable. For example, in a study on bureaucracy orientation of Egyptian officials, it was found that despite similarly structured organisations, the Egyptians displayed different attitudes and behaviours towards work compared to Americans (Berger, 1957). In 1958, a study by Abegglen was published in which he highlighted the differences between western and the now-famous Japanese recruitment and remuneration practices in factories (Blau & Scott, 1963). Abegglen’s study also showed the greater extent to which Japanese managers were involved in the private life of employees. Much later, Abrams, Ando
& Hinkle (1998) established that the differences between western and Japanese workplaces remained the same.

Many studies showed how people from different parts of the world attuned to social phenomena and how they integrate their communities, history, or life spheres holistically into their selves (Berg, 2006). Smith et al. (2006) presented a large corpus of social psychology studies from across the world that showed marked differences, not only in outcomes, but also in the reaction of respondents to methodologies, and in the different meanings attached to similar behaviours. This is significant because it explains the same looped cycle observed in identity theory (described in section 2.2.2.5). Differences in (collective) selves manifest through different emotions, perceptions, and social behaviours. These behaviours influence social interactions, which influence the context, which in turn affect the development of self. There are, therefore, systematic variations in observations of the same or similar constructs across different contexts. A sample of the differences that Smith et al. (2006) found in social psychology research is presented in Table 2.1.

<table>
<thead>
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<th>Table 2.1</th>
<th>Sample of Systematic Differences Observed in Social Psychological Studies Across Cultures (Smith et al., 2006)</th>
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<tr>
<td>Styles of verbal communication</td>
<td>Job satisfaction</td>
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<tr>
<td>Styles of non-verbal communication</td>
<td>Psychological contract</td>
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<td>Success and failure in communication</td>
<td>Organisational commitment</td>
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<tr>
<td>Relating to others</td>
<td>Organisational citizenship behaviour</td>
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<td>Conflict and negotiation</td>
<td>Reward allocation</td>
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<td>Working in teams</td>
<td>Procedural justice</td>
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<td>Leadership</td>
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The findings in this table are merely an illustration. Other studies made wider enquiries. For example, Kirkman, Lowe and Gibson (2006) reviewed 180 studies that used the Hofstede’s framework of cultural values in studying individuals or groups. They found that cultural differences had an effect on topics ranging from alliance formation to organisational justice. A multicultural context does not
overcome these differences because Adler and Graham (1989) found differences in the way that people process inter- and intracultural social interactions.

In light of the results from these studies, there must be a general expectation that people from diverse cultures may respond differently to the constructs used in this study. The multicultural context selected for the study provides a suitable setting within which to test this expectation.

2.2.4 Work-related research that pre-empted WI.

As depicted in Figure 2.4, there are several concepts in organisational behaviour literature that could indicate some concept contamination with WI. Whether this was due to a lack of precision in concept definition, or to emerging concept redundancy, or to narrowly focused research designs, these concepts provided important clues about WI and its probable antecedents and consequences. A brief exploration of the most relevant concepts is presented here, namely organisational identification, commitment, person-organisation fit, work centrality, involvement and engagement.

Figure 2.4. WI-associated concepts discussed in this study.
In the rest of this report, concepts discussed in this section will be referred to as WI-associated or WI-related concepts.

### 2.2.4.1 Organisational identification (OI)

Although the work setting has been established as an important locus of social identity (in section 2.2.3.1 above), the question remains: what do people identify with in the workplace? One seemingly obvious answer, is the organisation itself. Organisational identification (OI) is widely accepted as a form of social identity at work (Pratt, 1998; Wan-Huggins et al., 1998). However, from its inception, it was not always clear what was meant by identification and Ashforth and Mael (1989) called for an alignment of OI with SIT (refer to section 2.2.2.1, above) to re-establish conceptual coherence. If aligned with SIT, OI is a "perceptual cognitive construct" rather than apparent behaviours or affective displays (Wan-Huggins et al., 1998, p. 724). OI has been defined as “the degree to which a member defines him- or herself by the same attributes that he or she believes define the organisation” (which could include values, norms, and interests) (Dutton et al., 1994, p. 239). Pratt (1998) explained that organisational identification occurs when a person’s beliefs about his or her organisation become self-referential or self-defining. He also observed that people selected an organisation based on congruence with individual identity (affinity) or that people changed to become more similar to the organisation they were in (emulation). People may therefore join an organisation because they recognise identity correspondence or they may change to become more like the organisation. However, it cannot be assumed that all the people who identified with an organisation have the same beliefs and values. *I am* (self-definition, which is identity) is different from *I believe* (internalisation of values or beliefs) (Ashforth & Mael, 1989; Hogg & Turner, 1987).

The OI concept did, however, not capture the full spectrum of a work-based identity. Cheney (1982) reminded us that people identify with other people in organisations and with their ideas (such as values, goals and knowledge). In a meta-analysis, Riketta and Van Dick (2005) found that people were more attached to their work groups than to their organisations (also Alderfer & Smith, 1982). This implied that the work-group was the more salient factor for social identification - where employees found "optimal distinctiveness", socialisation and social control (Riketta &
Van Dick, 2005, p. 504). This was also confirmed by the results of a study on the turnover intentions and commitment of nurses whereby the uncertainty was raised as to whether employees were committed to their organisation or profession (Lum, Kervin, Clark, Reid & Sirola, 1998). Several other researchers also amended the OI construct in their studies to include other aspects of work as foci of identification, ranging from occupation to work projects (Dutton et al., 1994; Johnson et al., 2006; Kreiner & Ashforth, 2004; Pratt & Rafeali, 1997; Russo, 1998; Veenstra et al., 2004).

Furthermore, Hogg and Terry (2000) argued that identification in organisations is not only an identification with the organisation as an entity; rather that organisations are made up of “groups, units or divisions... professions or sociodemographic categories that are distributed across organisations... all with different social identities and group prototypes” (p. 2). Ashforth et al. (2008, p. 328) proposed that people’s identities within organisations emerge from the “essences” (those social aspects that are central, typical, and lasting) of the collectives and from the roles of which s/he is a member. They referred to foci of identity such as teams, occupation and network, but this can also include work groups, departments, unions, lunch groups, age cohorts, project teams and other social groups in organisations (Ashforth & Mael, 1989). These studies therefore seem to have developed a readiness to expand OI to include other organisational foci.

A notion of *nested identities* was also proposed by researchers (Ashforth & Mael, 1989). Ashforth and Johnson (2001) described this notion as a chain that links a hierarchy of identities with each other. The idea of nested identities closely resembles cross-cutting identities (Deschamps & Doise, 1978) discussed in section 2.2.2.1. However, the point of departure and the focus for this is still to establish how “fully nested” or specific these identities are to an organisation. Nested or cross-cutting identities in workplaces, however, do not always have to include aspects of the organisation, arguably the largest and most impersonal social entity available to people in the work setting.

The expansion of the OI concept was also explored by Kreiner and Ashforth (2004) in alignment with the definition of Dutton et al. (1994), which described OI as a matter of degrees of attachment. They argued that people identified with different
levels of an organisation (from the job to the organisation), with different facets (such as work-group or department), or with different aspects (such as the social responsibility of the company or its design style). In addition, they reminded us that individuals identify with social entities to self-enhance (refer to the tenets of SIT and SCT in section 2.2.2.1). In their study, therefore, they considered the following to be degrees of OI:

- some people may define themselves as disconnected from an organisation to maintain positive self-esteem (*disidentification*);
- others may simultaneously identify with aspects of the organisation and disidentify with other aspects (*ambivalent identification*);
- still others may not identify with the organisation or disidentify with it, but self-define as neutral towards the organisation; and, finally,
- others may fully identify with the organisation as part of the definition of self (*identification*).

However they did not extend their continuum further to also recognise overidentification as a degree of OI.

Defining a social identity according to its specific locus (for example, organisation, job, role, profession, team or workgroup) or defining it as work-based, changes its conceptualisation substantially. This follows an argument of Kanungo (1982) concerning the difference between job involvement and work involvement. If identity is based on a specific locus (for example, a workgroup, occupation, or organisation) and the locus is changed, then the identity will change. The identity is therefore only relevant for as long as the workgroup, occupation, or organisation lasts. An identity that is based on a specific locus is therefore a descriptive operationalisation. On the other hand, WI is independent of a particular work group. As such WI does not have one locus; rather it is a normative predisposition, a belief about how the self should stand in relation to work loci and/or work facets, and/or work aspects as social endeavours in general. It is therefore expected that not all people will define themselves in terms of work; some people may identify themselves exclusively in terms of a particular occupation or organisation. As the two ideas overlap, one expects a positive relationship between them; that both work locus identification and WI would manifest themselves in people’s self-definitions, albeit to different degrees.
A person may, however, still strongly identify with some loci, facets or aspects found at work although s/he might not identify with a particular workgroup, job or organisation where s/he works at that moment.

It is evident, therefore, that OI is one point of reference for WI. While OI is a work-based social identity, different loci, facets or aspects of WI often compete in the work setting and may be incorporated into the concept. Furthermore, Kanungo’s (1982) argument provided grounds for the conceptualisation of WI in a way that would add value to the current body of knowledge and align with foundational disciplines.

2.2.4.2 Commitment.

Multiple studies containing substantial evidence and concern about redundancy and contamination related to job or work commitment have been published, particularly in relation to suspected overlap with work-based identity (Allen & Meyer, 1990; Hunt & Morgan, 1994; Meyer et al., 2006; Morrow, 1983; Roodt, 1997; Van Knippenberg & Sleebos, 2006). This concept will now be explored as it is important to contextualise the information for the purposes of this study.

Stryker and Serpe (1982) used the term commitment in identity theory to refer to the determinant of identity salience in the identity hierarchy. According to them, commitment is defined by the number of other relationships that hinges upon the salient identity (interactional commitment) and the emotional cost of losing an identity (affective commitment). Others expressed this differently by suggesting that individuals are more committed to self-defining roles that are based on the demands of more people (extensivity) and, to those individuals, more important people (quality) (Nuttbrock & Freudiger, 1991). Accordingly, in identity theory there is a commitment concept that is integrated in social identity. Once an identity is formed, commitment to an identity or identities develops. Again, it appears that there is a process order in the relationship between these two concepts (without first forming more than one identity, there is no place for commitment to determine a distinction between identities). Furthermore, identity is the primary concern with commitment playing a supportive (albeit arguably a strengthening) role.
However, while some aspects of the above argument may be implicit in the operationalisation of commitment in many organisational studies, commitment also seems to be used as a separate concept outside of its relationship with social identification. Although identity appeared in several definitions of these concepts, not all maintained a link with the foundational theories on shared social identity. Levy (2003) defined commitment as the strength of a person's identification with an organisation. Mohrman and Cohen (1995) proposed that committed people are personally identified and engaged with their work. They argued that identification is the highest form of work commitment. Other authors disagreed and considered commitment to be the result of factors such as non-structural work arrangements or job involvement (Cohen, 1999; Judge, Cable, Boudreau, & Bretz, 1995; Wallace, 1995).

Penley and Gould (1988) distinguished between an instrumental and an affective approach to commitment. According to them, the former is based on exchange while the latter includes elements of OI. Instrumental commitment is therefore by definition dissimilar to social identity. Several authors attempted to integrate these two approaches of commitment. Arguably some of the strongest proponents of commitment, namely Allen, Meyer, Mowday, Porter and Steers, attempted such an integration. The work of Meyer & Allen (1990) viewed commitment as a psychological state that depicted a person's current and continued relationship with an organisation. Porter, Steers, Mowday and Boullian (1974) (also Mowday, Steers & Porter, 1979; Steers, 1977) defined commitment as identification and involvement indicated by three factors:

- a strong belief and acceptance of organisational goals and values;
- a willingness to exert considerable effort on behalf of the organisation; and
- a strong desire to maintain organisational membership.

However, there is a difference between attitudinal commitment (as defined above) and identification. Van Knippenberg and Sleebos (2006) found commitment to be based upon a social exchange with an organisation while identification was not. They argued that an exchange relationship assumes that the person and the organisation are two separate entities, while presenting evidence that identification was self-referential. Social exchange theory originated from observations about the
way that people exchange resources (see section 2.2.2.4); the more desirable the resources, the more the wanting party cooperates with the group holding the resources (Tyler & Blader, 2000). Furthermore, Van Knippenberg and Sleebos (2006) highlighted that in their study, commitment did not fully explain the relationship between a person and an organisation. They also postulated that OI is a better basis for analysing many organisational behavioural aspects (such as leadership, diversity, and decision-making) than commitment (p. 579). Based on the information about prototypical behaviour triggered by identification (section 2.2.2.1), OI would be more likely to result in positive behaviour on behalf of an organisation than commitment, which is dependent upon attitudes in an exchange relationship.

Since the 1990s, there has been “increasing concern among researchers and practitioners” about concept redundancy and contamination related to commitment (Cohen, 1999, p. 285). For example, Ashforth and Mael (1989) disputed the relevance of some measurements to commitment definitions. Like Roodt (1997), the research of Lum et al. (1998) also questioned the sources of commitment and concluded that they may not be related to the organisation. The meta-studies of Ashforth et al. (2008) and Riketta and Van Dick (2005) are examples of further attempts to clarify commitment. Based on a review of empirical studies, Ashforth et al. (2008) were satisfied that OI and commitment were distinctive, with OI seeming to stimulate affective commitment. (Affective commitment was one of three attitudinal components that Allen and Meyer [1990] proposed, the other two being normative commitment and continuance commitment.) However, in their meta-analysis, Riketta and Van Dick (2005) reached an opposing conclusion. Although they recognised that commitment might include broader ideas, they proposed that organisational identification and affective commitment are sufficiently closely related to be represented by one concept, attachment. The redundancy of two separate concepts was accepted and, in turn, applied by others (Karsh, Booske & Sainfort, 2005). Yet, given that commitment may be based upon social exchange and that identification is a cognitive construct, this argument requires further investigation. The solution can probably be found in the observation of Tyler and Blader (2000) (refer to section 2.2.2.4) that an exchange relationship could prompt a categorisation process.
Some authors also attempted to bring order to the confusion, for example Morrow (1983) and Roodt (2004). Morrow (1983) classified 30 forms of commitment that revealed widely different interpretations. She referred to the roots of the commitment idea in Dublin’s (1956) central life interest and Lodahl and Kejner’s (1965) job involvement, but she described the later development of the concept as not “rational” (p. 487). She further pre-empted later research that recognised organisational identification as a way of combining dimensions of commitment. Roodt (2004) also identified instances of redundancy, contamination and a “myriad of measures” (p. 84) in commitment research. He proposed commitment as a motivational process. He also extended the scope of the construct by demonstrating that a commitment continuum can range from alienation to commitment and beyond to extreme commitment (workaholism). The conclusions from both these authors left room for the suggestion that commitment may be one link in a social identity-related chain of possible interactions between individuals and their workplaces (refer to section 2.2.4.7 below).

To conclude, this study is not about commitment, but there exists a strand of commitment that is fully integrated into identity theory. There are also some ways in which the concept of commitment has been operationalised that duplicate aspects of identity, and other ways in which it is different from identification. The precarious relationship between the two concepts provides strong reasons for further investigation into WI, and to explore a potential progressive process related to identity that may (finally) explain the link between the two (refer to section 2.2.4.7 below). At the same time, as potential overlap is recognised, there may be clues about antecedents and consequences of WI in the commitment studies.

2.2.4.3 From job involvement to work involvement.
Penley and Gould (1988) saw Etzioni’s organisational involvement model as a way to integrate different approaches to organisational commitment. They provided an explanation of the origins of some of the concepts and consequently they used the terms involvement and commitment, as well as attachment, interchangeably. They explained that Etzioni divided involvement into three types: moral, calculative, and alienative. As explained in sections 2.2.4.2 (above), moral and alienative involvement are affective dimensions, while calculative involvement is an
instrumental dimension. The term alienative involvement hailed from Karl Marx’s idea of lack of control and a perceived absence of alternatives. Moral involvement was defined as an acceptance of and identification with organisational goals. This three-dimensional classification and their stated association with affective and instrumental dimensions were confirmed in Penley and Gould’s (1988) study. The stage was therefore set for the three terms used for an individual’s association with an organisation to be investigated for concept redundancy and concept contamination.

Kanungo (1982) explained involvement. He explained how the sociological roots of alienation were found in Durkheim’s (1893) *anomie* – “the perceived lack of social means and norms to guide one’s behaviour” towards socially accepted goals (p. 20). This was essentially a failure of social structural support and norms. Dubin, (1956, quoted by Dubin, 1992) (refer to section 2.2.4.6 below) saw job alienation as the opposite of work centrality. He also found a close connection between central life interest and the protestant work ethic (which asserted that work has moral and personal value). However, Paullay, Alliger, and Stone-Romero (1994) found that protestant work ethic does not reflect the same personal meaning that work has to people as work centrality does. From a social psychological perspective, alienation presents two dimensions: powerlessness over socio-political events in one’s context, and a cognitive state of meaninglessness on the individual level. Kanungo (1982) also emphasised that it was sociologists rather than psychologists who dominated studies about alienation until the late 1970s. The social psychological approach has been emphasising the extreme positive pole of alienation, job involvement, although without using a common definition. Two dimensions of involvement emerged: a “performance-self-esteem-contingency” (the degree to which individual performance affects self-esteem), and job involvement as a “component of self-image” (the degree of psychological identification with one’s job) (p. 33). Some authors referred to “work involvement” rather than job involvement (p. 34). Later the two separate ways in which job involvement was operationalised were reclassified into three psychological states: job involvement (the concept of psychological identification); intrinsic motivation (a state where appropriate job behaviour satisfy highly personal needs); and job satisfaction (how achievement of job outcomes or rewards satisfy individual needs). This division was made by Lawler and Hall (1970) and the
redefinition of their job involvement construct aligned well with Dubin’s (1992) central life interest. Both these concepts referred to a cognitive state of identification in the same way that WI is defined. Since the 1980s, job involvement has again become clouded in confusion to the extent that the ensuing contamination and redundancies have themselves become a focus of research papers (Brown, 1996; Diefendorff, Brown, Kamin, & Lord, 2002; Paullay et al., 1994; Roodt, 1997, 2004, Roodt, Bester, & Boshoff, 1994).

While maintaining the general tenets described so far, Kanungo (1982) then proceeded to distinguish job involvement from work involvement (repositioning it from a descriptive to a normative concept). He used motivational language to describe the term, in order to capitalise on established terms in organisational studies. To take the concept further, a study by Roodt et al. (1994) established that work involvement can be presented as a bipolar continuum with alienation and workaholism as the continuum extremes with degrees of involvement spread in between. To a large extent, this work distinguished work involvement from WI. However, as job or work involvement was not always operationalised as a motivational construct, some of the aforementioned studies may provide clues for antecedents of WI.

2.2.4.4 Work engagement.

Work engagement is another concept that has close ties with social identity. It is of particular importance as it is operationalised (in this study) as a potential consequence of WI, partly because it played a central role in the JDR model employed as the framework for the research model. For this reason, there is a highly comparative theoretical and empirical context available within which to study WI in relation to one of the other WI-related concepts. As is the case with other concepts discussed so far, work engagement has also been used as the term for several related, but arguably overlapping concepts. Two major applications of the term will be discussed here.

The first application within previous research is personal engagement, employed by Kahn (1990). He operationalised it as behavioural preferences that display the “preferred self” at work (p. 700) or how people “bring in or leave out their personal
selves during work role performances” (p. 649). It appears that he took great care to limit his focus to the work conditions that facilitated (or not) behaviour which reflected the preferred self. Given what is already known about the foundations of WI, Kahn’s engagement concept would therefore refer to a behavioural consequence of the degree of identification which is displayed under certain work conditions. Kahn found “meaningfulness, safety and availability” to be relevant conditions (p. 705) for the self to be displayed in behaviour. Kahn (1992) then proceeded to refine these ideas and formulate psychological presence at work as an experiential state that draws “deeply on the personal self” (p. 321) during performance. Kahn’s work on personal engagement contributed to the formulation of Schaufeli and Bakker’s (2001, 2004) work engagement proposition (Sonnentag, 2003).

The second application, work engagement, has been presented as the positive opposite of burnout (Schaufeli & Bakker, 2004). However, burnout has received the most research attention in both clinical and social psychological studies during the past three decades (Maslach, Schaufeli & Leiter, 2001). Therefore, burnout must receive some attention here to assist with an explanation of engagement. Burnout, as operationalised by Maslach et al. (2001), is a work-related construct with three dimensions, namely:

- **exhaustion**, which is individual fatigue, which may prompt
- **cynicism** or depersonalisation (emotional and cognitive distance between the self and work), which may interfere with
- **professional efficacy** or may cause ineffectiveness in social and non-social occupational accomplishments.

Researchers placed exhaustion as the primary component of burnout, while the other two components cynicism and (low) professional efficacy, contextualised the exhaustion. Maslach et al. (2001) argued that removing exhaustion from this context would miscommunicate its meaning and impact on work. Two conclusions can be drawn from this explanation. Firstly, it seems that the three components describe a process in the order listed above (Leiter & Maslach, 1988). Secondly, as cynicism is a cognitive and emotional concept, it raises the question as to whether cynicism is
possibly disidentification caused by exhaustion with lack of professional efficacy as a consequence.

Maslach and Leiter (1997, quoted by Schaufeli & Bakker, 2004, p. 34) stated that burnout and work engagement can be presented as opposite extremes on an energy continuum. However, Schaufeli and Bakker, as well as others (for example Kim, Shin & Swanger, 2009) who applied the Maslach Burnout Inventory found burnout and work engagement to be independent but negatively related states or weak antipodes (Schaufeli et al., 2002). In turn, Schaufeli and Bakker (2004) defined work engagement as a “persistent and pervasive affective-cognitive... positive, fulfilling, work-related state of mind that is characterised by vigour, dedication, and absorption” (p. 195). These three dimensions were proposed as opposites of the burnout components:

- Vigour: an energetic mental state that allows an individual to be resilient and persistent in work endeavours.
- Dedication: an awareness of meaning, fervour and positive challenge.
- Absorption: a state of being fully immersed, focused and pleasurably drawn into one’s work without realising the passage of time.

Schaufeli and Bakker (2001, 2004) then argued that work engagement is best described by three continua as diagrammatically represented in Figure 2.5.

![Figure 2.5. A graphic interpretation of the dimensions of work engagement (Schaufeli & Bakker, 2001, 2004).](image)

The first two dimensions were named *activation* and *identification*. They proposed that these two dimensions are closely related to psychological identification. The
third dimension, called flow, proposed by (Csikszentmihalyi, 1990), was not specified by Schaufeli and Bakker; however, they made two comments about it. Firstly, they related absorption to the idea of flow, which refers to (short term) spikes in intrinsic enjoyment, focus, loss of self-consciousness and unforced attentiveness (Schaufeli & Bakker, 2004). Secondly, they remarked that flow is more complex than the other two dimensions. By presenting this dimension as flow (with ineffectiveness and absorption as antipodes), it is argued here that flow might reflect the idea of a short term situational identification which peaks or dips depending on the momentary work at hand.

Therefore, it would appear that work engagement has been neatly constructed and operationalised in the Utrecht Work Engagement Scale (UWES) (Schaufeli et al., 2002). Other studies supported the three-factor conceptualisation of work engagement (for example, Du Plooy & Roodt, 2010; Field & Buitendach, 2011; Rothmann & Rothmann, 2010). However, some studies did not always achieve the same separation of the dimensions that the originators reported. For example, Bezuidenhout and Cilliers (2010) found three factors that did not correspond to the original three dimensions. Some studies found that the first two dimensions (activation and identification) are distinct from flow (Barkhuizen & Rothmann, 2006; Rothmann & Jordaan, 2006). Yet another study found two distinct and negatively correlated factors, vigour and emotional attachment (Wefald & Downey, 2009). These findings seem to support the argument that vigour is the only non-confounded construct in the work engagement model (as described in Figure 2.5) (Shirom, 2003). The dimensions of work engagement are therefore not yet finalised.

Other studies also moved towards a single-factor structure for work engagement, but without necessarily supporting Shirom’s position. These studies found work engagement to be a single factor structure after applying the UWES, which was designed to measure the three dimensional conceptualisation of work engagement (De Braine & Roodt, 2011; Rothmann, Jorgensen, & Hill, 2011; Sonnentag, 2003). These findings mean that the distinction between identity-related dimensions and the flow dimension, as well as the possible relation between the dedication (and maybe vigour) dimension/s and identification are potentially removed. Indeed, the study by Sonnentag (2003) also found that work engagement fluctuated on a daily basis and
was strongly influenced by daily recovery levels. These findings could indicate that work engagement may not be as closely associated to WI as previously argued. Further research into work engagement is therefore required. However, different from the other WI-associated concepts discussed in this section, it is a specific objective of this study to test the relationship between WI and work engagement.

### 2.2.4.5 Person-organisation fit.

There are several characteristics of person-organisation fit that mirrors social identification. The definition of person-organisation fit already makes this similarity clear: the perceptions that individuals have of similarity between their selves and an organisation (Piasentin & Chapman, 2007). Studies of person-organisation fit showed that the fit could be achieved if an individual perceived that the organisation meets some of his or her needs (the needs-supply perspective). However, the fit can also be achieved when an individual’s abilities meet an organisation’s demands (the demands-ability perspective) (Kristof-Brown, Zimmerman, & Johnson, 2005). When both these perspectives are achieved simultaneously, the person-organisation fit is stronger and more lasting.

These perspectives gained from person-organisation fit studies are very similar to the tenets of social identity formation found in the foundational disciplines (refer to section 2.2.2). SIT and SCT proposed that mutual interaction helps to place identities higher on the identity hierarchy (making them more salient) (Tajfel, 1978a). Identity theory asserted that active interaction between individuals and social structure strengthens the development of the social self (Stryker & Serpe, 1982). Furthermore, congruence in values has been explained as a way that an individual self-categorises based upon his or her drive for self-enhancement (Hogg & Terry, 2001; Sherman, et al., 1999; Tajfel & Turner, 1985). Moreover, both the foundational disciplines and studies of person-organisation fit proposed that social identification could be superficial or enduring. In the foundational disciplines this was called situated or deep-rooted identification (Rousseau, 1998; Torres et al., 2003), while Kristof (1996) called it a supplementary fit or a complementary fit between person and organisation. While the foundational disciplines were concerned about the relationship between individuals and any social system, person-organisation fit
studies focused on workplaces as the social system. As such, it is highly likely that person-organisation fit and WI are overlapping concepts.

2.2.4.6 Work centrality.

Pryor and Davies (1989) described three major approaches to work centrality found in the research publications. Work centrality could refer to:

1. an integrated belief system that could reflect any of five major work belief systems (ranging from work ethic to leisure ethic), or
2. a continuum of attitudes to work that could range from 'as little as possible interference in my life' to 'freedom', or
3. the concept of a central life interest.

In a study comparing these three approaches, Pryor and Davies (1989) then found a strong correspondence between work ethic, organisational work beliefs, and central life interest. This means that the third option in the list, central life interest, was accepted. The idea that people have a "central life interest" was proposed in the 1950s by Dubin (1956, quoted by Dubin, 1992), who originally defined it as the "expressed preference for a given locale or situation in carrying out an activity" (p. 134). He wrote the following:

If an individual has a ‘central life interest’, then a high investment of affective energy is made in the social setting comprising the central life interest. Where a setting is an arena of 'required' behaviour, then individuals invest mostly or exclusively behavioural (physical) energy... A central life interest is a set of activities about which each of us says: ‘That is who I am,’ and then invests all energies in realizing that ‘I’. (p. xi and 3)

As the life interest becomes self-referential it fits the description of social identity in the foundational disciplines. If the self-referential life interest is (at) work, then work becomes the focus of a person’s social identity. This focus is the domain of work centrality. Work centrality is described as a cognitive construct (Kanungo, 1982) which covers a person’s general commitment to work and their degree of identification with the work role (Hirschfeld & Feild, 2000). Similarly, Paullay et al.
(1994) defined work centrality as a person’s beliefs about the “degree of importance that work plays” in someone’s life (p. 225).

In Hirschfeld and Feild’s (2000) study which investigated alienation and work centrality as bipolar opposites, they compared several other work-related factors. Although work centrality and affective commitment were positively correlated, they found stronger correlations between work centrality and protestant work ethic (a normative concept), and between work centrality and leisure ethic. They also found that work centrality is almost certainly associated with individual values and self-identity. However, this integration of concepts associated with WI has not been found across all publications.

In view of the treatment of social identity in the foundational disciplines (section 2.2.2 above), there seems to be little reason to maintain multiple terms for this concept. Of all the WI-associated concepts, one might argue that work centrality best captures the essence of WI (as a psychological self-definition with normative implications). It can be argued that two terms are actually redundant (a self-definition must by definition, contain a central life interest). Yet, the foundational disciplines showed that there are degrees of identification and that different self-definitions are activated according to the salience of categories and self-enhancement needs. Work centrality may therefore capture an enduring deep-rooted WI. Similarly, there are also degrees of centrality and one cannot expect that all degrees of work centrality are necessarily self-referential; there could be some degree of centrality as a result of social exchange or social norms. Thus, while work centrality displays much similarity to WI, more investigation is required to categorically establish redundancy.

2.2.4.7 Positive results from uncertain origins.

So far, this discussion has presented an understanding of social identity from the foundational theories that underpin WI (section 2.2.2). Some entangled concepts and uncertainties regarding WI-associated concepts have also been presented to show that WI might play a role in these phenomena (section 2.2.4). In Chapter 1 (section 1.1.1), positive consequences of identification in the work settings were identified. The degree to which an employee’s identity corresponded with an organisation affected motivation, job satisfaction, job performance, individual
decision-making, role orientation, role conflict, employee interaction, and continuation of service (Cheney, 1983). Despite the uncertainties surrounding many of these terms, it appears that OI (with the possibility of an array of organisational loci of identity) potentially sets a process in motion, which ultimately has a positive impact on the workplace. Harris and Cameron (2005) found that highly identified employees tended to be more committed. Carson, Carson, Birkenmeier, and Toma (2006), in turn, found that committed employees reported higher job satisfaction, supervisory effectiveness, occupational identity, and control over work. Moreover, employee commitment had a positive effect on organisational culture and transformational leadership within some organisations (Chen, 2004). Therefore, it would seem that work-based identification, commitment and positive organisational outcomes form links in one looped chain of potentially positive events.

However, as mentioned in the previous section, there are uncertainties about identity related constructs, some of which affect the relationship or overlap between WI and commitment. If a looped chain of events exist (and if common definitions are agreed), some of these uncertainties may be explained. One can, for example, argue that the attachment-related constructs developed sequentially instead of them being categorically redundant, as argued by Riketta and Van Dick (2005) (mentioned in section 2.2.4.2 above). For instance, identity may encourage attachment, while attachment may secure involvement, which may facilitate engagement, and, in turn, stimulate commitment. This could mean that in studies of (for example) commitment, preceding constructs in the chain could manifest themselves. In addition, studies of say, OI, may be polluted by manifestations of concepts further down the chain. The manifestation of related constructs may depend upon where the respondents are on their relational journey with the organisation or with work at large.

These ideas are inherent in the current knowledge of the constructs and they provide research questions for further exploration. These explorations could include qualitative methodologies that may compliment the more focused quantitative research into people's perceptions. At the very least, the apparent links between the associated concepts discussed here, may support the idea that WI could form part of
a process. Each link in this process and the holistic effect of all the links in the chain require investigation.

To conclude, the overview of WI-associated concepts showed that OI as a construct has tacitly been expanded to include other work-based loci of identity. WI could be the term extended to embrace multiple loci of identity. However, a more distinctive view would be to use Kanungo's (1982) argument (section 2.2.4.1 above) and define WI as a self-concept with a normative compulsion. If WI represents a deep-rooted (and therefore enduring) psychological self-concept, it will, in turn, be expected to have normative qualities and to affect behaviour accordingly. Without alteration, the same definition proposed above (in section 2.2.1) could adequately describe WI if it is understood to be a lasting, normative and process-based cognitive construct that applies to work as a social endeavour.

Existing literature that informed the research model and lead to the hypotheses is explained in the next section of the report.

2.3 Building a Model of WI

There is no established model of antecedents for organisational identification (Kreiner & Ashforth, 2004) or for most of the WI-associated concepts discussed in section 2.2.4. However, in recent studies of WI-associated factors, various potential antecedents and clues about potential antecedents can be found. The term ‘clues’ is specifically used for two reasons. Firstly, WI has not previously been extensively tested as an integrative conceptualisation of social identity. Consequently, there are very few published studies related to WI specifically, and only one study published that explored leadership identity formation in the selected research setting (Harold & Stephenson, 2007, refer to Appendix A). Results from studies about WI-associated concepts are therefore used as clues about potential antecedents (refer to section 2.2.4 above). Secondly, there might be considerable concept redundancy and concept contamination between WI-associated concepts. This might complicate, rather than illuminate, the relationships between WI and its specific antecedents. This study therefore takes a cautious approach, which is appropriate for this stage of
investigation into the topic. Instead of isolating a wide array of specific antecedents, the intention is to focus predominantly upon categories of antecedents.

Two models were considered for their potential to offer antecedent categories for this study. The first was the job demands-control model of Karasek (1979), which grouped antecedents into psychological stressors at work and the discretion that a person has to control these demands. The second model was the job demands-resources (JDR) model (Maslach et al., 2001; Shaufelli & Bakker, 2004). This model presented a balance between job resources and job demands as antecedents for the WI-related factors of work engagement and burnout. The JDR model was selected as it allowed for a positive research approach through its balanced perspective of positive and negative influences at work. Moreover, the JDR model was also theoretically linked to WI-associated factors.

As highlighted in Figure 2.6, the next section of the discussion focuses on the second element in the research model, the antecedents, and then specifically on the impact of job resources and job demands upon WI.

![Figure 2.6: Research model. The position of the antecedents in the model is highlighted.](image)

60
2.3.1 JDR model as an organising structure.

Schaufeli, Bakker, and Van Rhenen (2009) described the JDR model as “a heuristic and parsimonious model that specifies how” negative and positive outcomes may be achieved through “two specific sets of working conditions that can be found in every organisational context” (p. 894). They used this model to describe burnout and work engagement. In this study, work engagement is an important WI-associated concept (discussed in section 2.2.4, above). Because of its association with WI and the JDR model, work engagement has been selected as a potential consequence of WI in the research model for this study (refer to Figure 2.6 above). The two specific sets of working conditions referred to in the JDR model are job demands and job resources. Job demands refer to those aspects of a job that required sustained physical or psychological effort; the “physical and psychological cost of the job” (Schaufeli & Bakker, 2004, p. 296). Job resources described more than the physical or mental resources needed to complete job tasks and included those aspects associated with a job which:

1. reduced job demands,
2. functioned to achieve job goals, and
3. encouraged personal growth and development (Schaufeli & Bakker, 2004)

The original propositions related to the JDR model stated that high job demands drained the employee's energies, which led to cynicism (also called exhaustion, which was described as an energetic process). It also stated that the absence of resources to deal effectively with job demands fostered disengagement (a motivational process). Schaufeli, Bakker, and their colleagues employed the JDR model in several studies. The results of some of their studies are presented in Table 2.2.

The results of the various studies cited in Table 2.2 showed that job resources tended to produce positive results, while job demands tended to produce negative results. Job demands also acted as a moderator between job resources and work engagement. In addition to the significant relationships found in the different studies, it was also found that people interpreted and processed job resources and job demands differently (Bakker, Demerouti & Schaufeli, 2005).
### Table 2.2

**Relationships between Variables in the JDR Model**

<table>
<thead>
<tr>
<th>Independent variable</th>
<th>Relationship/ moderator</th>
<th>Dependent variable</th>
<th>Author</th>
</tr>
</thead>
<tbody>
<tr>
<td>JR</td>
<td>-</td>
<td>JD</td>
<td>(Schaufeli &amp; Bakker, 2004)</td>
</tr>
<tr>
<td>JR</td>
<td>+</td>
<td>Engagement</td>
<td>(Bakker, 2003; Llorens, Schaufeli, Bakker &amp; Salanova, 2007; Schaufeli &amp; Bakker, 2004)</td>
</tr>
<tr>
<td>JR</td>
<td>-</td>
<td>Burnout</td>
<td>(Schaufeli &amp; Bakker, 2004)</td>
</tr>
<tr>
<td>JD</td>
<td>+</td>
<td>Burnout</td>
<td>(Bakker et al., 2004)</td>
</tr>
<tr>
<td>Absence of JR</td>
<td>+</td>
<td>Disengagement</td>
<td>(Demerouti, Bakker, Nachreiner &amp; Schaufeli, 2000)</td>
</tr>
<tr>
<td>JR</td>
<td>-</td>
<td>Disengagement</td>
<td>(Bakker et al., 2004)</td>
</tr>
<tr>
<td>JR</td>
<td>JD</td>
<td>Engagement, increased performance</td>
<td>(Bakker et al., 2004)</td>
</tr>
<tr>
<td>Burnout</td>
<td>+</td>
<td>Turnover intentions</td>
<td>(Schaufeli &amp; Bakker 2004)</td>
</tr>
</tbody>
</table>

This table shows that job resources and job demands played important roles related to work engagement and other factors that are applicable to this study. In the research model, job resources and job demands are included as antecedents to WI. The JDR model is also a useful organising mechanism to aid the conceptualisation of the relationships between antecedents, WI and its consequences.

Several studies about OI and other related constructs are summarised in Table 2.3 (below) with the purpose of identifying potential antecedents for WI. A pattern of job resources and job demands and their potential effects on work-related identification can be identified from the studies presented in Table 2.3. The presence or absence of job resources, rather than the absence of job demands, seemed to have a relationship with WI-associated factors. Studies about OI (Kreiner & Ashforth, 2004), and about work commitment (Kotzé & Roodt, 2005), work engagement (Rothmann & Jordaan, 2006) and well-being (Van Veldhoven et al., 2002) showed an association between job resources and these WI-related factors. However, job demands were strongly related to work-home conflict (Butler et al., 2005), while the observable job demand, breach of psychological contract, was related to disidentification (Kreiner & Ashforth, 2004). Studies, such as these summarized in Table 2.3 informed decisions about the inclusion of antecedents in this research project.
Table 2.3

Potential Antecedents of WI: Review of Related Studies

<table>
<thead>
<tr>
<th>Antecedents (Dependent variable)</th>
<th>Key findings</th>
<th>Instrument(s)</th>
<th>Sample (Location)</th>
<th>Citation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychosocial job characteristics, i.e. High job demands and Low Job Control (Suicide risk – the ‘ultimate’ opposite of engagement)</td>
<td>Low job control (a factor that is related to job resources) increased suicide risk. High job demands did not explain suicide risk.</td>
<td>WHO MONICA Psychosocial Study Questionnaire ($\alpha = .65$)</td>
<td>3,125 men (Japan)</td>
<td>Tsutsumi, Kayaba, Ojima, Ishakawa, Kawakami, &amp; the Jichi Medical School Cohort Study Group, 2007</td>
</tr>
<tr>
<td>Job demands and job resources (Work engagement)</td>
<td><strong>Job resources</strong> (growth opportunities, organisational support &amp; advancement) predicted vigour and dedication (two work engagement factors). Job resources did not reduce the effect of high job demands on work engagement. Job demands related weakly to work engagement.</td>
<td>Utrecht Work Engagement Scale (Schaufeli, et al., 2002) ($\alpha = .78$ and .89) Job Demands Resources Scale (Rothmann &amp; Jordaan, 2006)</td>
<td>471 academic staff from 3 universities (South Africa)</td>
<td>Rothmann &amp; Jordaan, 2006</td>
</tr>
<tr>
<td>Perceived external prestige (PEP), job satisfaction, affective commitment (Job involvement)</td>
<td>PEP and job satisfaction were positively related to affective commitment.</td>
<td>Job Involvement Scale (Kanungo, 1982) ($\alpha = .88$) PEP (Fortune's Annual Survey of America's Most Admired Corporations Index) ($\alpha = .83$)</td>
<td>98 chief financial officers in local authorities (Israel)</td>
<td>Carmeli, 2005</td>
</tr>
<tr>
<td>Organisation of choice, Employee well-being, job satisfaction, organisational climate (Organisational commitment)</td>
<td>Variations in organisational commitment were explained by: organisational climate (57%), job satisfaction (58%), employee well-being (49%), and employer of choice perceptions.</td>
<td>Veldsman Employee Commitment Survey (sections ranged from $\alpha = .96$ to .73)</td>
<td>120 highly paid bank employees from 2 banks (South Africa)</td>
<td>Kotzé &amp; Roodt, 2005</td>
</tr>
<tr>
<td>Antecedents (Dependent variable)</td>
<td>Key findings</td>
<td>Instrument(s) (Cronbach’s Alpha for internal consistency, where available)</td>
<td>Sample (Location)</td>
<td>Citation</td>
</tr>
<tr>
<td>----------------------------------</td>
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<td>------------------------------------------------------------------</td>
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</tr>
<tr>
<td>Job characteristics <em>(Work-home Conflict)</em></td>
<td>There were significant correlations between job demands and Work-home conflict and between control and Work-home conflict.</td>
<td>Daily completion of assessment surveys using Likert scales</td>
<td>46 non-professional couples <em>(Midwestern USA)</em></td>
<td><em>(Butler, et al., 2005)</em></td>
</tr>
<tr>
<td>National labour market structure <em>(Work Identity)</em></td>
<td>Work identities tended to reflect the labour market structure: in more structured markets the identity was more associated with established social entities; in more flexible markets, work identities reflected individual and entrepreneurial learning profiles.</td>
<td>Semi-structured interviews (qualitative study)</td>
<td>500 employees and 100 managers <em>(Europe)</em></td>
<td><em>(Kirpal, 2004)</em></td>
</tr>
<tr>
<td>Individual, job, and organisational variables <em>(Organisational Identification)</em></td>
<td>The strongest antecedent of organisational identification was the need to identify (NOID), followed by and positive affectivity and low cynicism. Organisational reputation strongly prevented disidentification, while psychological contract breach facilitated disidentification.</td>
<td>Organisational identification <em>(Mael &amp; Ashforth, 1992) (α = .90 to .92)</em> Individual variables: PANAS scale <em>(Watson, Clark &amp; Tellegren, 1988) (α = .62 to .90)</em> Job-related variables <em>(Rizzo, House &amp; Lirtzman, 1970) (α = .88)</em> Organisation-related variables ( Kreiner &amp; Ashforth, 2004) (α = .92) Organisational reputation <em>(Wan-Huggins et al., 1998) (α = .88)</em></td>
<td>330 employees (all alumni from a specific university) <em>(USA)</em></td>
<td><em>(Kreiner &amp; Ashforth, 2004)</em></td>
</tr>
<tr>
<td>Psychological demands, job variety, job control, social support <em>(Well-being)</em></td>
<td>Job variety predicted employee well-being, while psychological demands caused strain. Social support contributed to well-being. There were weak indications that perceived inequity of pay confounded well-being.</td>
<td>Questionnaire on the Experience and Evaluation of Work <em>(Van Veldhoven, 1996) (All scales above α = .75)</em></td>
<td>2565 respondents from 36 organisations <em>(Netherlands)</em></td>
<td><em>(Van Veldhoven, et al., 2002)</em></td>
</tr>
<tr>
<td>Antecedents</td>
<td>Key findings</td>
<td>Instrument(s)</td>
<td>Sample (Location)</td>
<td>Citation</td>
</tr>
<tr>
<td>-----------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------</td>
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</tr>
<tr>
<td>Inequity, feelings of resentment, organisational commitment (Turnover and Absenteeism)</td>
<td>Feelings of resentment triggered poor organisational commitment, which mediated perceived inequity and turnover intention. Inequity was related to absenteeism, but absenteeism was not mediated by resentment and commitment.</td>
<td>New items for perceived inequitable relationship ($\alpha = .76$), feelings of resentment ($\alpha = .93$), and turnover intention (Spector &amp; Jex, 1988) ($\alpha = .65$) Organisational Commitment Questionnaire (Mowday, Steers &amp; Porter, 1979) ($\alpha = .70$)</td>
<td>90 health care professionals (Netherlands)</td>
<td>Geurts, Schaufeli, &amp; Rutte, 1999</td>
</tr>
<tr>
<td>Construed external image, motivating job characteristics, role-related characteristics (Organisational Identification)</td>
<td>Construed external image and role-related characteristics were positively related to OI, but perceived motivational job characteristics were not. OI increased intentions to remain, but it did not mediate the effects of the antecedents (image, motivating job characteristics, and role-related characteristics) on the intentions.</td>
<td>Construed external image (Riordan, Gatewood &amp; Bill, 1997) ($\alpha = 91$); Perceived motivating job characteristics (Warr, Cook &amp; Wall, 1979) ($\alpha = .86$) Perceived role-related characteristics ($\alpha = .89$) Organisational identification (Mael, 1988; Mael &amp; Ashforth, 1992) ($\alpha = .82$)</td>
<td>98 employees of one company in one small town (South-West USA)</td>
<td>Wan-Huggins et al., 1998</td>
</tr>
<tr>
<td>Role conflict, role ambiguity, Work-home conflict (Propensity to Leave)</td>
<td>Work-home conflict reduced job satisfaction and produced emotional exhaustion, which was significantly related to propensity to leave. Role conflict and role ambiguity was not related to job satisfaction.</td>
<td>Role conflict (Rizzo, House &amp; Lirtzman, 1970); Job satisfaction INDSALES (Churchill, Ford &amp; Walker, 1974); Emotional exhaustion items (Kreitner &amp; Kinicki, 1992); Work-home conflict items (Burke, Weir &amp; DuWors, 1979); Propensity to leave measure (Bluedorn, 1982) (All $\alpha = .8$ or higher)</td>
<td>104 salespeople in one firm (USA)</td>
<td>Boles et al., 1997</td>
</tr>
<tr>
<td>Organisational values (Affective Commitment, Normative Commitment, Continuance Commitment)</td>
<td>High correlations between affective and normative commitment, but negatively related or unrelated to continuance commitment. Values predicted affective commitment more than normative commitment and not continuance commitment. Tenure positively related to affective commitment and predicted continuance commitment.</td>
<td>Values Taxonomy (McDonald &amp; Gandz, 1991) ($\alpha$ varied .64 to .89); Organisational Commitment Scale (Meyer et al., 1993) ($\alpha$ varied above .7)</td>
<td>281 employees in government communications agency and social welfare organisation (Australia)</td>
<td>Abbott, White, &amp; Charles, 2005</td>
</tr>
</tbody>
</table>
As research of the young concept, WI, was not available, the search for potentially fitting causes and antecedents had to include studies of associated concepts. The most associated concepts were discussed in the sections that addressed the untangling and definition of the WI construct in the earlier sections of this chapter. Those same concepts are referenced in the Table 2.3. Apart from the identification of potential antecedents, the concern behind this table was also to distinguish between concepts that could indicate either job resources or job demands. While some of the studies listed in the table used the JDR model, this was not a prerequisite. The antecedents and dependent variable of each study was identified in the first column, while a brief summary of the findings that may be of interest in this study is provided in the second column. The instruments, research settings and authors are also indicated. Therefore this table provided a decision matrix for choices in this study and studies contained in this table are used throughout the model-building process in this section and those following.

Studies mentioned in this table confirmed the characteristics of job resources and job demands that were discussed at the beginning of the section. The following antecedents, which indicated job demands, were identified in the table above. Work-family conflict, or work-home conflict (Boles et al., 1997; Butler et al., 2005); NOID (Kreiner & Ashforth, 2004); pay inequity (Van Veldhoven et al, 2002), resentment (Geurts et al. 1999). Antecedents that indicated job resources were social support (Van Veldhoven et al, 2002), organisational reputation (Wan-Huggins et al., 1998), tenure (Abbott et al., 2005). The results of these studies all confirmed the characteristics of job demands and job resources as described at the beginning of the section. Job demands detracted from positive consequences or produced negative consequences, while job resources were responsible for positive consequences. In addition, as these antecedents summarised in Table 2.3 were found to cause outcomes such as commitment, organisational identification, well-being, and WI they could play important roles in explaining WI. Job resources and job demands are therefore directly addressed as research questions in this study and, based on the discussion above, the following hypotheses have been set:

**Hypothesis 1:** Job resources are positively correlated to WI.

**Hypothesis 2:** Job demands are negatively correlated to WI.
Hypothesis 3: Job demands act as a moderator in the relationship between job resources and WI.

Hypothesis 4: Job resources act as a moderator in the relationship between job demands and WI.

2.3.2 Observed variables selected as indicators of job resources.

Job resources and job demands have now been established as two factors which have an impact on work engagement and, when burnout occurs, on turnover intentions. Job resources and job demands are considered latent variables in the research model because they will not be directly measured (Byrne, 2001). Observed variables will be selected and measured as indicators of these latent variables.

2.3.2.1 Organisational reputation.

Authors have operationalised the idea of organisational reputation in a variety of ways. Instead of a single recognised construct, it is therefore more relevant to report that there are organisation reputation-related concepts. These concepts all refer to:
- the general appraisal of an organisation’s reputation by its stakeholders over time (Kreiner & Ashforth, 2004), or
- organisational members' beliefs of the perceptions of outsiders concerning its reputation (Wan-Huggins et al., 1998), or
- the organisational image (Carmeli, 2005).

A positive appraisal of these factors is expected to result in a positive reputation. Job resources were described as aspects associated with a job that reduce the psychological cost of the job and help people to achieve the goals and to develop themselves (refer to section 2.3.1). Organisational reputation is therefore potentially a job resource that could provide motivation (such as status at the individual level) that has helps to achieve performance goals (Carmeli & Tishler, 2004). Furthermore, as social identification is a self-enhancing process (as proposed by SIT, refer to section 2.2.2.1), one would expect that organisations with positive reputations may be attractive reference groups. In fact, there is evidence that
identification with an organisation happens because of the organisation’s positive reputation. Experiments about students’ associations with successful sports teams showed that members tended to publically “bask in the reflected glory” of the successful group even though they were not involved in creating the success (Cialdini, Bordon, Thorne, Walker, Freeman, & Sloan, 1976, p. 366). Organisational reputation may also play a role in the salience proposition (refer to section 2.2.2.1). Several other studies showed that notions related to organisational reputation played a positive part in WI-associated concepts:

- Construed external image was positively related to OI (Wan-Huggins et al., 1998);
- Organisational prestige was strongly related to OI (Mael & Ashforth, 1992);
- Perceived external prestige related strongly to affective commitment (Carmeli, 2005);
- Organisational reputation was negatively associated with disidentification (Kreiner & Ashforth, 2004);
- Employer of choice perceptions were strongly related to organisational commitment and it affected retention (Kotzé & Roodt, 2005).

There is wide support for the idea that organisational reputation is positively related to concepts associated with WI. Hypothesis 1.1 (below) directly reflects this evidence and states:

**Hypothesis 1.1: There is a positive correlation between organisational reputation and WI.**

### 2.3.2.2 Need for organisational identification.

In studies on entitativity (refer to section 2.2.2.2), it was found that people sometimes identified with a group based on their personal needs (Susskind et al., 1999). Glynn (1998) defined need for organisational identification (NOID) as "an individual’s need to maintain a social identity derived from membership in a larger, more general social category of a particular collective" (p. 240). It must be noted that Glynn’s definition did not specify that the larger social category should be a workplace. However, larger social entities are often work organisations as Kreiner and Ashforth (2004) recognised when they defined NOID in similar terms as Glynn. The need to
make a larger social category or workplace a part of one’s self-definition, does not refer to an absence of something that leaves the person devastated or incapable. The need rather represents a driving force, or motivation, towards something desirable that is reminiscent of the belonging need in Maslow’s needs hierarchy or the need for achievement in McClelland’s needs theory. These theories proposed that the presence of needs is motivational forces that drive increased performance (Kreitner, Kinicki & Buelens, 1999). A predisposition towards identification with the workplace therefore provides a positive mental resource to complete job tasks.

As a predisposition or trait, NOID was expected to accelerate identification at the workplace. It was argued that WI is part of a person’s "socially extended self", which is based on a collective social identity that does not require personal relationships among group members (Brewer & Gardner, 1996, p. 84). It is widely acknowledged that social identification can be based upon a prototypical representation of a social entity (refer to section 2.2.2.1). Because NOID does not require personal relationships, it is not the same as McClelland’s (1987) need for affiliation. While some people protect their separateness, others display their identification through public demonstrations of identity markers, such as corporate clothing, product usage, or even brand-inspired behaviour (Glynn, 1998). Through NOID, a person expresses which role the opposing drives of “I” (individual distinctiveness) versus “we” (organisational inclusivity) play in WI (Brewer, 1991, p. 476). A personal trait, such as NOID, may be stimulated by personal factors or by social factors (such as cultural changes) where conflict between the need to be different and the need to be similar to others is strong (Brewer, 1991). Finally, in a study to establish different degrees of identification, Kreiner and Ashforth (2004) found that NOID, OI and positive affectivity are positively associated with one another.

As NOID is by definition directed towards identification with an organisation or part thereof (refer to section 2.2.4.1, where different foci of OI are discussed), the Hypothesis 1.2 (below) is formulated as follows:

**Hypothesis 1.2: A positive correlation between NOID and WI exists.**
2.3.2.3 Task-level Resources.

Resources related to a task include the classic elements of job satisfaction. Job satisfaction appears to enjoy a near-traditional inclusion in organisational studies and, as such, has been included in many of the studies of WI-associated concepts (Boles et al., 1997; Carmeli, 2005; Kotzé & Roodt, 2005; Kreiner & Ashforth, 2004; Van Veldhoven et al., 2002; Wan-Huggins et al., 1998). This is appropriate because the characteristics of the job establish the job's motivational potential (Hackman & Oldham, 1976). Moreover, the tasks that people do at work as part of their jobs formulate an important situational impact on WI (Gini, 1998). The studies presented in Table 2.3 showed that task-level resources had a positive relationship with work engagement, commitment and well-being and therefore would potentially also have a positive relationship with WI. The studies represented in the table showed that task-level resources were best represented by the observable variables growth opportunities, organisational support, and advancement.

Several authors operationalised task-level resources within the context of the JDR model. Rothmann and Jordaan (2006) found that the task-level resources organisational support and growth opportunities explained variance in vigour, and that advancement explained variance in dedication. (The dimensions vigour and dedication are also most closely aligned to identification, as discussed in section 2.2.4.4). These results were supported by Mostert and Rathbone's 2007 study which showed significant positive correlations between supervisor support and co-worker support and work engagement. In a study on burnout and performance, Bakker et al. (2004) found that autonomy, development possibilities, and social support were significantly negatively correlated with disengagement and exhaustion (which represents the opposite of work engagement). It could consequently be argued that as there is a positive relationship between these task-level resources and work engagement (one of the WI-associated factors), then there is possibility a similar relationship with WI. Other research findings provided further support for this argument.

In a study about burnout and work engagement, Bakker et al. (2005), found that the task-level resources (work autonomy and work social support) were significantly
positively correlated with vigour and dedication (the work engagement dimensions associated with identification), and significantly negatively correlated with cynicism (a burnout dimension). In another study that used the JDR framework, Mostert and Rathbone (2007) also found that autonomy had significant effects on work engagement. Studies outside the JDR framework found the same trends, for example Allen and Meyer (1990) related autonomy to commitment, Eisenberger, Cummings, Armeli, and Lynch (1997) related autonomy to affective commitment, while Van Knippenberg and Sleebos (2006) related it to OI and commitment.

There was therefore strong evidence that task-level resources had a positive relationship with WI-associated factors. Based on these findings, three observable task-level resources, task support, growth opportunities, and autonomy were selected for this study. Hypothesis 1.3 follows the direction of previous research findings and states:

**Hypothesis 1.3: Task-level resources are positively correlated with WI.**

### 2.3.2.4 Remuneration Perceptions.
Remuneration perceptions were operationalised as pay satisfaction, reward or, compensation perceptions and referred to people’s opinions about the remuneration that they receive for their work. A study of compensation, work motivation, and job satisfaction found that internally and externally fair fixed compensation had a positive impact on job satisfaction (Igalens & Roussel, 1999). A large study by Brown, Yoshioka, and Munoz (2004) found a strong relationship between pay satisfaction and intentions to stay in an organisation. Another study showed that pay satisfaction had both direct and indirect effects upon turnover intentions among nurses in Canada (Lum et al., 1998). Recognition and reward for achievement also played a role in the commitment of graduates in the UK (Sturges & Guest, 2001). Positive remuneration perceptions were operationalised as the largest part of a latent variable, advancement, in a study of the JDR model in South Africa by Rothmann and Jordaan (2006). They reported a significantly positive relationship between advancement and two dimensions of work engagement and advancement, namely vigour and dedication (which were both established as closely associated with identification).
Remuneration perceptions are therefore important to attract and to retain employees, as well as to satisfy them. As an attractiveness factor or a factor that contributes to satisfaction and work engagement, it is therefore argued that remuneration perceptions may contribute to WI, as stated in Hypothesis 1.4:

**Hypothesis 1.4: Remuneration perceptions will be positively correlated with WI.**

### 2.3.3 Observed variables selected as indicators of job demands.

The second category of antecedents is job demands. Job demands were related to Burnout and not to work engagement (which was predicted by job resources) in the extended JDR model (Schaufeli & Bakker, 2004). A study by Rothmann and Jordaan (2006) in South Africa supported this finding. As a result, this research does not place a large amount of emphasis on job demands. Only two observable job demands are included in the research model, breach of psychological contract and work-home conflict.

#### 2.3.3.1 Breach of psychological contract.

The psychological contract is a subjective set of expectations (and obligations) that an employee and employer have of each other (Muller-Camen et al., 2008; Robinson & Morrison, 2000). Studies proposed that the state of the psychological contract developed continually as an employee interacts with the employer (Muller-Camen et al., 2008). The psychological contract includes expectations about fairness, employment security, scope of tasks, development, career, involvement, and trust (Guest & Conway, 1997, 2004). The human resource practices of an organisation shape the psychological contract, which, in turn influenced absences, turnover, retention, and performance (Muller-Camen et al., 2008).

Employees may consider that the psychological contract (and any breach of that contract) is established by multiple factors which interact. For instance, perceptions of fair procedures play a role in mediating organisational irritants (such as politics), as well as strengthening employees faith in the system (Byrne, 2005; Hendrix et al.,
1998). However, more connected to WI-associated concepts, feelings of resentment erode organisational commitment (Geurts et al., 1999) while perceived breaches of the psychological contract cause organisational disidentification (Kreiner & Ashforth, 2004). In a study that was not linked with WI-associated factors, Robinson and Rousseau (1994) found that breach of psychological contract is negatively associated with trust in the employer, with job satisfaction, with organisational satisfaction, and with intentions to remain with the employer. They also found that breaches of the psychological contract were positively associated with actual employee turnover. This is an important finding for this study as turnover intentions forms part of the research model.

Breaches of the psychological contract had negative effects on WI-associated concepts in previous studies. As foreign employees and local graduate employees were both potentially prone to an expectation gap in the research setting (refer to section 1.2.3) this was an important job demand. Hypothesis 2.1 addresses this factor and follows the direction found in previous research:

**Hypothesis 2.1: A negative relationship between breach of psychological contract and WI exists.**

### 2.3.3.2 Work-home conflict.

Work-home conflict enjoyed attention in the 1980s in developed countries and focused on the problems that women faced in their dual roles at work and in the family. This issue has been extended to incorporate work-life balance for all employees (Muller-Camen et al., 2008).

Work-home conflict has been defined as conflict between an individual's work and family (or home) responsibilities in which one’s operation and actions at home are negatively affected by work demands (Boles et al., 1997; Demerouti et al., 2004; Geurts, Taris, Kompier, Dikkers, Van Hooff, & Kinnunen, 2005). There are research findings which indicated that work-home conflict is a consequence of job demands (Ahuja et al., 2007; Butler et al., 2005; Demerouti et al., 2004). However, as work-home conflict increased the social demands on a person, it also increased the load
on ordering capacity and consequently reduced their job control (Karasek, 2008). In this way, job demands may be exacerbated due to existing work-home conflict.

In a study of the relation between work engagement and work-home conflict, Mostert & Rathbone (2007) found positive relations between work-home interaction and work engagement, and they quoted other studies with the same findings. Greenhaus, Parasuraman, and Collins (2001) found that work-to-family conflict caused intentions to withdraw from work and withdrawal behaviours. This was, however, moderated by high work involvement. Turnover intentions and work-family conflict were also significantly related in a study of New Zealand government employees (Haar, 2004).

Work-family conflict is therefore included as a job demand in this study in Hypothesis 2.2, which states:

**Hypothesis 2.2: There exists a negative relationship between work-family conflict and WI.**

### 2.3.4 Potential Consequences of WI.

A consequence of identification is an awareness of who we are (and who we are not), as well as the ability to act in a way that is consistent with the identity (Torres et al., 2003). This could bring a measure of predictability into a social system, or even cooperation among similarly identified people (Abrams & Hogg, 2004; Brewer & Gardner, 1996; Brickson, 2000; Haslam, 2004; Hogg & Turner, 1985). One of the areas of predictability is role clarity (Stryker & Serpe, 1982). Indeed, several authors agreed that OI offered positive consequences to organisations in the form of retention, co-operative behaviour and decision-making that reflected the organisation’s best interests (Ashforth & Mael, 1989; Cheney, 1983; Dutton et al., 1994; Gioia, 1998; Rousseau, 1998; Van Dick, 2001; Van Knippenburg & Van Schie, 2000). Furthermore, SIT and SCT (section 2.2.2) asserted that individuals identify so that they can self-enhance. Self-esteem is therefore an associated benefit of positive identification (Turner et al., 1979). Numerous consequences were also identified through several studies related to WI-associated concepts (refer to section
2.2.4). However, this study uses the JDR model as a framework and therefore looks to the model to select consequences as well.

The consequences of WI, as indicated in the research model presented in Figure 2.7 are reviewed in this section.

![Research model](image)

*Figure 2.7. Research model. The position of consequences in the model is highlighted.*

### 2.3.4.1 Work engagement.

Work engagement was introduced in section 2.2.4.4. The definition of work engagement offered was as a "persistent and pervasive affective-cognitive... positive, fulfilling, work-related state of mind that is characterised by vigour, dedication, and absorption" (Schaufeli & Bakker, 2004, p. 195). In the JDR model, Schaufeli and Bakker (2001) defined cynicism and dedication as the extremes of an identification continuum that predicted burnout and work engagement respectively. According to the JDR model, job resources and job demands reacted with each other and produced either work engagement or burnout. The activation and dedication dimensions were found to be closely related to identification and to play a central role in work engagement (Schaufeli & Bakker, 2004).
Results of previous studies based upon the JDR model confirmed the role of the dedication and activation dimensions, however, no consensus was reached regarding the overlap with identification (Bakker et al., 2004, 2005; Bakker & Demerouti, 2007; De Bruin & Taylor, 2006; Rothmann, Mostert & Strydom, 2006; Rothmann & Jordaan, 2006; Schaufeli & Bakker, 2004).

Hirschfeld and Feild (2000) offered an answer to the potential overlap between identification and work engagement. They argued that work engagement contains a level of affect that is not present in work involvement or work centrality (two concepts with close ties to WI). They considered engagement to be a person’s “general level of enthusiasm for the world of work” (p. 790). However, they did not use the JDR model and operationalised engagement (together with identification) as a consequence of high commitment to work. Hirschfeld and Feild (2000) therefore found that engagement in a work role is empirically distinct from identification with a work role, but that engagement complements identification.

In an endeavour to clarify WI, Hypothesis 5\(^1\) is therefore partly informed by the uncertainties surrounding the WI-associated factors, but also by the way that work engagement is operationalised in the JDR model, and states:

\textbf{Hypothesis 5: There exists a positive correlation between WI and work engagement.}

\subsection*{2.3.4.2 Turnover Intentions.}

Turnover intentions are seldom defined in reported studies. This is because the idea is probably perceived to be self-explanatory. Turnover intentions refer to an individual predisposition towards an intention to leave the current workplace. Many researchers argued that turnover intentions are the final step in the decision-making process before a person actually leaves a workplace (Hom, Griffeth, & Salaro, 1984; Mobley, 1982; Mowday et al., 1979; Steers & Mowday, 1981).

\footnote{Hypotheses numbering: Please note that the first four hypotheses were already listed in section 2.3.1.}
In most studies which used the JDR model, the path to turnover intentions is from job demands that caused burnout. There is therefore an indirect relationship between job demands and turnover intentions and this study expects the same. This idea is based upon studies which found that job demands stimulate exhaustion (the opposite of engagement), which caused turnover intentions (Bakker & Demerouti, 2007; Bakker et al., 2004; Demerouti et al., 2000; Schaufeli & Bakker, 2001, 2004). These studies also indicated that the absence of job resources was related to disengagement, which increased turnover intentions. The finding that the absence of job resources stimulated turnover intentions was also supported in a study that did not use the JDR model (Agarwal, Ferratt, & De, 2007).

Studies of WI-associated concepts also established correlations with turnover intentions. In a cross-cultural study, Abrams et al., (1998) found that OI “substantially and significantly” predicted negative turnover intentions in Japan and the UK (p. 1027). Affective commitment, which is the aspect of commitment most strongly associated with WI (refer to section 2.2.4.3) was associated with lower turnover intentions in a welfare organisation (Abbott et al., 2005). There were also significant negative correlations between turnover intentions and organisational commitment, job satisfaction, job involvement, and friendship opportunities in a study on friendship opportunities in work setting (Riordan & Griffeth, 1995). However, Van Knippenberg and Sleebos (2006) found that a negative relationship between OI and turnover intentions “disappeared” when they implemented a control for commitment (p. 578). They found a closer relationship between commitment and turnover intentions than between commitment and identity. They argued that closer relationships were expected among attitudinal constructs (such as commitment and turnover intentions) than between cognitive and attitudinal constructs. Riketta and Van Dick (2005) also found that commitment is more closely associated with attitudinally affected behaviour such as withdrawal or absenteeism. In a study that compared WI and work engagement as predictors of work outcomes, it was found that WI was the better predictor of turnover intentions (Bothma et al., 2010). Despite conflicting results among factors surrounding turnover intentions, it is evident, then, that the findings are generally showing negative relationship between WI-associated variables and turnover intentions.
In addition, research using the JDR model found indirect effects of job resources and job demands (through disengagement and burnout, respectively) with turnover intentions. Overall, the results of most studies discussed in this section gave the impression that WI may be moderating turnover intentions. Hypothesis 6 (below) has been formulated to reflect this relationship, and states:

**Hypothesis 6: There exists a negative correlation between WI and turnover intentions.**

### 2.3.5 Control variables.

Control variables are important for the purpose of explaining influences on the relationship between the dependent and independent variables beyond the variables themselves (Northey, Tepperman, & Russell, 2005). However, the focus of this research, as depicted by the research model, is a WI process where WI is a central mediator. WI can therefore be seen in the role of dependent variable in relation to its antecedents and as independent variable to its consequences. While many studies consider the impact of control variables in bivariate relationships, the interest in this study is in the effect of the moderators on the process of WI represented by the covariance structure model. The control variables in the research model are indicated in Figure 2.8.

Gender, age and education are traditionally used as demographic variables in person-organisation research (Kreiner & Ashforth, 2004). However, while many biographical and demographical variables may play a role in WI research, it is difficult to determine the most appropriate variables.

Cross-study comparisons of variables are problematic as some variables were included in some studies, but not others, and they were categorised, subdivided, grouped and reported differently across studies. In some studies, the effect of control variables was unclear, for example, nurses (occupation) and gender (female) (Maslach & Jackson, 1981). This selection is further complicated by using studies related to OI or to WI-associated factors to gain a sense of the potential effect of biographical and demographical control variables. In addition, the direction of the
moderation effects were not reported in some studies or not uniform in some reported studies. Furthermore, the complexity of establishing moderation effects in bivariate relationships is much less than in covariance models. The direction of the moderation effects is therefore not declared in the hypotheses. The directional aspect was treated an exploratory feature.

Figure 2.8. Research model. The position of the control variables is highlighted.

The rationale for the inclusion of each of the control variables are discussed in the rest of this section.

2.3.5.1 Gender.

Several studies found relations between gender and WI-associated concepts. Related to the JDR model, in a study about burnout, gender differences affected all the subscales (Maslach & Jackson, 1981). Wan-Huggins et al. (1998) found that gender (male, rather than female) played a role in mediating OI. The same study also found that gender (female, rather than male) mediated between OI and some of its outcomes. Another study found a “significant but weak positive correlation” between gender (female, rather than male) and commitment (which is a concept associated with WI) (Bartlett & McKinney, 2004, p. 71). There is therefore evidence to support the inclusion of gender as a control variable in the research model.
Hypothesis 7.1: The control variable, gender, moderates the research model.

2.3.5.2 Age.
The moderating effect of age on social identity has been recognised in the foundational disciplines. Stryker and Serpe (1982) studied identity salience and they found that age directly affected certain types of role commitment which, in turn, had a positive effect on time spent in a role. They argued that experience increases with age and therefore the number of relationships with others would increase. This is a prerequisite for role commitment, which, in turn, increases identity salience.

Age was also included in previous research which used the JDR model as well as in that of other variables that have been incorporated within the current study. For example, a study using the JDR model found that patterns of burnout (often seen as the antithesis of work engagement) differed across age groups (Maslach & Jackson, 1981). Van Veldhoven et al. (2002) found that age did not correlate with job strain (a precursor of burnout), but with well-being (which is related to work engagement). Many studies found that age correlated with turnover intentions (Ahuja et al., 2007; Byrne, 2005; Karsh et al., 2005; Kotzé & Roodt, 2005). However, a study by Brown et al. (2004) did not find any correlation between age and retention.

In conclusion, it would appear that age is a common element in many social behaviour studies. In addition, age played a moderating role in previous studies that used the JDR model. Age also played an important role in social identity salience. Age is therefore included as a control variable in the research model.

Hypothesis 7.2: The control variable, age, moderates the research model.

2.3.5.3 Level of education.
Studies related to the JDR model found that patterns of burnout were affected by the level of education of respondents (Maslach & Jackson, 1981). Other studies found similar results. In a multicultural study of the job control questionnaire, Karasek, Brisson, Kawakami, Houtman, Bongers, & Amick (1998) found correlations between education and several job control measures. Variance in well-being at work was also affected by educational level (Van Veldhoven et al., 2002). Maslach et al.
(2001) reported that education played an unexplainable role in burnout. Finally, Barkhuizen and Rothmann (2006) found small but significant effects of education on engagement factors. It is therefore expected that education may moderate a model of WI.

**Hypothesis 7.3: The control variable, level of education, moderates the research model.**

### 2.3.5.4 Organisational tenure.

Including organisational tenure as a control variable delivered mixed results. Wan-Huggins et al. (1998) found that tenure (more, rather than less) mediated between WI and its antecedents. Tenure was often associated with more experience and more pay (Lum et al., 1998). However, Kotzé & Roodt (2005) found that employees with medium to longer tenure experienced “more problems that impact on retention” than staff with shorter tenure (p. 54). Contradictingly, a study by Brown et al. (2004) did not find any correlation between tenure and retention. However, to support the possibility that tenure may affect WI, it was “positively associated” with affective commitment (the aspect of commitment that is closest to WI, refer to section 2.2.4.3) (Abbott et al., 2005, p. 540). The contradictory past results provide one reason to study this control variable further. Moreover, previous findings that tenure affected WI or WI-associated variables, provide reasons to expect that longer tenure may play a positive role in the process of WI. Therefore, organisational tenure is included as a control variable in the research model.

**Hypothesis 7.4: The control variable, organisational tenure, moderates the research model.**

### 2.3.5.5 Job level.

Job level (management, rather than non-management) mediated OI in a study by Wan-Huggins et al. (1998). In a study about job strain, job level made a “small, but significant” contribution to explain variance in Well-being (Van Veldhoven et al., 2002, p. 218). However, a study into the relationship between compensation and work motivation found no significant difference between the views of non-management and management employees (Igalens & Roussel, 1999). Nonetheless,
a study by Arnold and Davey (1999) on intention to leave and commitment suggested that there are differences in the ways that managers/administrators responded in comparison to the responses of engineers and scientists. It can only be concluded that there are potential differences in the way that people on a managerial career path and people on a professional career path may respond.

Furthermore, the level of work required by a job has an impact on the extent of discretion allowed to be exercised (Jaques, 1989) and, therefore, also on authority, challenges and variety in the job (factors related to task-level resources, discussed in section 2.3.2.3). As these factors may play an important role in how employees view their jobs, tenure is included as a potential moderator variable in the research model.

**Hypothesis 7.5: The control variable, job level, moderates the research model.**

### 2.3.5.6 Nationality.

As this study investigates WI in multicultural work settings, the inclusion of nationality is essential to examine this aspect. It cannot be argued that each nationality contain a single cultural group. However, if there are cultural differences within a nationality, the assumption that the presence of several different nationalities in a workplace would indicate the presence of multiple cultures, is even stronger. When the term, multicultural, was discussed (refer to section 2.2.3.3), many studies that demonstrated the impact of diversity-related factors were cited. For example, Hofstede (1983) related that national differences played an important role in management studies, because these differences:

1. provided the context of political power,
2. played a role in individual identity, and
3. influenced how individuals interpret meaning as part of their mental programming.

While national values are not a psychological construct, they provide a picture of the most common determinants of shared meaning in a nation. The thinking patterns and perceptions of different nationalities may therefore be different (Hofstede, 1983; Keating & Abramson, 2009). This may mean that different nationalities could think about or perceive a WI process in diverse ways as the results of multiple studies into WI-associated concepts have shown. Some researchers proposed that
organisational commitment is subordinate to the cultural context (Adler & Graham, 1989; Randall, 1990). Furthermore, in a study by Wan-Huggins et al. (1998), race mediated the relationship between antecedents and OI, as well as the relationship between OI and its outcomes. In addition, significant differences between high and low work engagement were based on ethnicity (Mostert & Rathbone, 2007). These results were echoed in the study that Bothma et al. (2010) conducted in South Africa, this time between ethnicity and WI. Therefore, the evidence from previous studies indicated that nationality may affect the WI model.

Hypothesis 7.6: The control variable, nationality, moderates the research model.

2.4 A covariance structure model.

The hypotheses presented in the previous sections, provided tentative solutions to the theoretical research objectives by analysing bivariate relationships between specific variables contained in the research model. However, the primary theoretical objective of the study is to develop a model of antecedents and consequences of WI. Throughout the literature review, it was emphasised that WI is best explained in a process model. A process model goes beyond the analysis of the bivariate relationships as described in the hypotheses mentioned so far. (It is, however, recognised that the knowledge gained from the analysis of the bivariate relationships, in addition to knowledge of existing theories, provide useful intelligence for the construction of process models.) Bivariate analyses, which can only consider one dependent variable at a time, are inadequate to explain the complexity of how an array of independent and dependent variables vary in relation to each other in multiple cause and effect patterns. Bivariate analyses can also not consider unobserved variables, while intangible underlying constructs are often at the very core of social behaviour. It is, therefore, accepted that a bivariate view of human social behaviours is often limited (and limiting). Consequently, one could argue that process modelling is a requirement to analyse the complexity involved in human social behaviour. The relevant statistical procedures to achieve the analysis of a process model are called structural equation modelling. The terms covariance structure or covariance model are used here to describe the nature of the relationships in the process model. Covariance structure models and structural
equation models are often used synonymously (Kline, 2005). The analysis procedure is explained in Chapter 3.

Previous studies of WI as part of a covariance model could not be found. However, the JDR model was successfully used in covariance structure models before to study burnout and performance (Bakker et al., 2004), work engagement (Barkhuizen & Rothmann, 2006), and burnout and ill health (Rothmann & Essenko, 2007). Based upon the successful application of the JDR model in covariance structures, the final hypothesis, Hypothesis 8, draws the findings of the literature review to a conclusion and proposes an answer to the terminal research question, and states:

**Hypothesis 8:** WI, job resources and job demands (antecedents of WI), and work engagement and turnover intentions (consequences of WI) fit a covariance structure model.

### 2.5 Chapter Synthesis

In reviewing the state of the literature on work-based social identity, it became evident that the foundational disciplines provided complex and far-reaching theories that affect the way in which work-based identification is understood. However, many studies departed from, or failed to consider the links between their WI-associated topics of interest and the foundational theories. This led to confusion about ideas concerning the relationship between employees and the work setting.

Social identification with the workplace as a locus was found to be an established concept, best expressed in OI. Theory also indicated that identity formation is a dynamic process rather than a single event. As a variety of organisational foci may establish social identity, it was argued that individuals would look out for those salient categories that provide optimal distinctiveness and self-enhancement. These categories could range from closer interpersonal relations to more distant, larger and impersonal groups. Groups which display more cohesion (entitativity) would attract more attention and will therefore be favoured. Social exchange may provide opportunities to build trust between individuals, and between individuals and groups,
and so pave the way for positive associations that might encourage individuals to incorporate a group into their definition of self. Fleeting situated identification may therefore facilitate deeper identification, but this is part of a continuous state of ‘becoming’. As individuals may associate with a variety of in-groups, they must find a way to decide to which group to commit. Salient groups provide an obvious choice, although investment of time and energy, and social dependence upon a group may provide the most stable and enduring identities in the identity hierarchy of individuals.

Social identity expanded awareness of how individuals interacted with their social context, which led to a quest to find the best ways to benefit from identification with organisations. The reality was, however, that people found many different social aspects in organisations with which to identify. Ultimately, the loci of identification do not form the core of WI, but these loci help to shape the psychological integration of the self with work as a social endeavour in ways that have normative implications for behavioural choices. These elements align WI with the foundational disciplines and distinguish WI from several associated concepts.

The research model to be tested in this study contains job resources, proposed to be positively related to WI, and job demands, proposed to be negatively related to WI. In a causal model, WI is hypothesised to mediate between the antecedents and consequences. The JDR model provides a theoretical framework for this study, but this model is already substantially supported by research, originally from Europe, but increasingly from across the world.

As well as presenting the WI construct, its foundations, and associated concepts this chapter also explained the antecedents and consequences related to WI. Several research questions underpinned the chapter, namely:

1) Are job resources related to WI?
2) Are job demands related to WI?
3) Is WI related to work engagement?
4) Is WI related to turnover intentions?
5) Do gender, age, education, organisational tenure, job level, and nationality (control variables in the research model) moderate the research model?
6) Do job resources, job demands, WI, work engagement and turnover intentions fit a covariance structure model?

Previous results of research in the field of work-based identity were also used to build hypotheses about the research questions. These hypotheses all contribute to the main research question: what are the antecedents and consequences of WI in multicultural work settings?

In the next chapter the research design, instruments and procedures to test the hypotheses will be introduced. A plan for the statistical analysis of results will also be offered.
CHAPTER 3: RESEARCH DESIGN

3.1 Introduction

A review of the literature was presented in order to fulfil the theoretical objectives of the study stated in Chapter 2. The review was utilised to hypothesise the relationships between variables in a process model that depicts WI, its antecedents and its consequences (refer to Figure 1.2 for the research model). In this model, job resources and job demands were presented as antecedents of WI. Organisational reputation, need for organisational identification (NOID), task resources, and remuneration perceptions were independent observable variables included in the research model to represent the latent variable, job resources. Work-family conflict and breach of psychological contract (BPC) were the selected observable job demands while work engagement and turnover intentions were consequences of WI.

This chapter presents the research design being used to gather primary data to determine support of the research hypotheses, and so to answer the research questions of this study (stated in Chapter 1). Figure 3.1 presents an overview of the key topics of the chapter.

![Figure 3.1. Chapter 3 structure.](image)

A research design aims to provide a valid, objective, accurate and economical way to achieve these answers. The principles of the research design are discussed in
the section concerning the research approach. The research method section includes discussions about the location of data, participants, measuring instruments, research procedure and the statistical analysis.

3.2 Research Design and Approach

The research design process answered questions about the type of study necessary to provide satisfactory answers to the research problem and fulfil the research objectives. The empirical objectives of this study were based upon the research questions. The primary empirical objective identified was to test how WI, its antecedents (job resources and job demands), and its consequences (work engagement and turnover intentions) fit covariance structure model. The following secondary empirical objectives were identified to support the primary empirical objective:
1. Test how job resources and job demands (antecedents of WI in the research model) relate to WI in multicultural work settings.
2. Test if job demands act as a moderator in the relationship between job resources and WI in multicultural work settings.
3. Test if job resources act as a moderator in the relationship between job demands and WI in multicultural work settings.
4. Test how WI is related to work engagement and turnover intentions (consequences of WI) in multicultural work settings.
5. Test how gender, age, education, organisational tenure, job level, and nationality (control variables in the research model) moderate the covariance model.

To gather the necessary data to achieve these objectives, it was decided to use a cross-sectional field survey of the target population. This is generally recognised as a practical and cost-effective research design, but it has some possible limitations (Babbie, 2007). One limitation of cross-sectional methods is that it may omit important sources of data, because only a sample of the target population is surveyed. By excluding a study of the whole target population it is the sampling technique which determines the generalisability of the results. This study aimed to survey a large sample to counteract some of the limitations of a cross-sectional
research design (Babbie, 2008; Field, 2009). However, as cross-sectional observations from a field survey provide only a snapshot of the population, further studies will be required to explain the reasons for possible causes and effects identified in this study (Babbie, 2008; Nardi, 2003).

By using a survey, the aim of this study was to provide an overview of a sample from a large population to determine the incidence, distribution, and interrelations among variables of a psychological and sociological nature. The greatest limitation of using surveys was the validity and reliability of the instrument. Only previously validated instruments with acceptable reliability indicators were therefore applied in this study. In addition, a pilot testing procedure was introduced to attempt to improve the content validity. Only one cycle of data collection was necessary to generate appropriate data to test the hypotheses proposed and to explain relationships between the variables in the study, thus enabling the researcher to propose a theoretical model.

To test the research model and how variables within the model interact, a quantitative study was required to empirically answer the research questions. The advantages of a quantitative study were the possibility to make attitudes and opinions explicit, to measure large numbers of responses systematically, and to analyse the relationships between responses statistically. However, it is known that quantitative studies may lack some of the “rich meaning” that qualitative studies of the attitudes and opinions of respondents can uncover (Babbie, 2007, p. 23). On the other hand, quantitative studies allow more control and accuracy, as well as time efficiency to aggregate, compare and summarise the data for statistical analysis. This level of control was needed in this study to test the hypotheses and give a nomothetic explanation of WI in the work setting.

As the variables in the research model were already in existence in the workplace and the researcher did not exert control over them, this was an ex-post facto study. The researcher’s control over the variables was only applied by means of inferential statistics. The hypotheses were therefore tested and results analysed to propose a theoretical model. In addition, a correlational research approach was appropriate in order to minimise interference with the naturally occurring phenomena (Field, 2009).
In the previous chapters, it was proposed that WI is part of a process. The research model therefore contained antecedents that predicted WI, and WI, in turn, predicted outcomes. Therefore, this was a predictive study. A central goal of this research was to decide and predict outcomes by deciphering the causes of WI. One of the key considerations of predictive studies is to establish cause and effect. According to Nardi (2003), three prerequisites for cause and effect exist, namely a relationship or correlation, a time-line of events, and an absence of alternative explanations (Nardi, 2003). As WI is a new concept, this study will not necessarily establish that there is a categorical absence of alternative explanations. However, within the parameters of this study, it was attempted to contribute to these prerequisites. Already, the literature review (Chapter 2) aimed to establish likely relationships between variables included in the research model and a likely time-line. These relationships were captured in the hypotheses. The findings of this study will contribute to the knowledge base the correlations between variables in the research model. The findings of this study will also establish a baseline for future studies of a similar nature in similar settings (Babbie, 2007).

The next section describes how this research approach was applied within in the research method.

3.3 Research Method

3.3.1 Sample and participants.

3.3.1.1 Location of data.
The primary research objective was to develop a model of antecedents and consequences of WI in multicultural work settings. This translated into an empirical objective to test this model. The social identity of individuals is a matter of perception and personal belief (Albert et al., 2000; Albert & Whetten, 1985; Blenkinsopp & Stalker, 2004; Hogg & Turner, 1985; Thoits, 1991) which means that the data required to achieve these objectives is located in the minds of employees. Self-reporting measures were therefore used provide appropriate data to study WI;
specifically surveys which are suitable methods to gather such data in large populations (Babbie, 2007). A cross-sectional field survey type was appropriate to meet the research objectives and the observation units for the study were individual employees.

3.3.1.2 Target Population.

In alignment with the primary research objective mentioned in the previous section, the target population of the study was employees in multicultural work settings (defined in section 2.2.3.3). Work settings where people do not generally share a common heritage, common interpretation of reality, artefacts and/or behaviours beyond the organisation where they work, were selected for this study.

3.3.1.3 Unit of analysis.

The specific sampling frame selected for this study was employees working in organisations in Dubai (a multicultural setting described in section 1.3). The unit of analysis was therefore individual employees who work in these multicultural workplaces. As explained, this setting had the additional characteristic of a high percentage of transitory foreign residents and most organisations did not apply intensive and/or systematic acculturation or socialisation interventions for new employees. It was argued that these factors served to maintain the multicultural nature of the research setting. Moreover, most employers in Dubai used English as their business language, while internet access was common at work and at home. The setting was therefore purposefully selected to test the model of WI because it accommodated the selected research objectives and fitted well with the chosen research method.

Ideally the researcher would have liked to have used probability sampling to enhance representativeness and to generalise results (Babbie, 2008; Lohr, 1999; Nardi, 2003). However, random sampling of employees would have required available employee data that informed selection based on the control variables in the research model and the national demographic estimates (refer to section 1.3.2). In turn, this would have required very high levels of administrative cooperation from several organisations. These required permission levels were not available and non-
probability sampling was therefore chosen as an alternative (also refer to section 3.4.1 concerning permission).

Purposive sampling is a nonprobability sampling technique frequently used when probability sampling would be too expensive or impractical (Wysocki, 2001). Purposive sampling relies on the researcher’s knowledge and judgement of how well a population and its elements fit the purpose of the research (Babbie, 2008). However, generalisability must be sacrificed for this economical convenience. Survey data gathered from a nonprobability sample may render a skewed representation of the target population and cannot be confidently generalised to the target population (Kemper, Stringfield, & Teddlie, 2003; Lohr, 1999; Martinez-Pons, 1999). This limitation was applied in the discussion of research findings (Chapter 5). However, care was taken during sampling to provide a sufficiently large sample that would provide the power required to apply the selected statistical analysis techniques (refer to Section 3.4.4 for a discussion of statistical analysis). Within the purposive sampling frame a respondent-biased and consensus-based approach to participation was followed. Permission was obtained to send invitations for participation to employees in several organisations. This was done via an e-mail that contained a link to the survey.

3.3.1.4 Sample.
Throughout the data-gathering period, the demographic attributes of returned surveys were monitored to ensure that respondents were from within the sampling frame. Based on retrospective access to different nationalities, it was planned that the invitations to participate in the survey could request potential respondents to forward the survey link to their colleagues and local acquaintances of a specific nationality. This increased the potential reach of the survey and added a snowball sampling effect in the later stages of data collection. It was argued that the range of this sample would provide an opportunity to gather sufficient data to meet the empirical objectives of the study and to establish a baseline for further studies about WI and for employee-workplace interaction in this region (Kemper et al., 2003).

Potential participants were invited to respond by being sent an email which contained a link to the web-based survey. Table 3.1 presents a list of invitations for
participation sent out during the purposive sampling phase. The employees who received these invitations to participate were all administrative, professional or managerial staff in the organisations recorded in this table. Responses were received from 855 respondents. This represented a response rate of nearly 75% (calculated by counting responses received versus invitations to participate sent by researcher). However, this information gave an inaccurate picture of the sampling success as the snowball sampling phase (employed to obtain larger representation of specific nationalities) distributed an unknown number of additional invitations. Furthermore, as nonprobability sampling was used, reporting the response rate may be perceived as irrelevant (see section 3.3.1.3).

Table 3.1

<table>
<thead>
<tr>
<th>Original Sample</th>
<th>Number of invitations sent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organisation</td>
<td></td>
</tr>
<tr>
<td>Bank 1</td>
<td>53</td>
</tr>
<tr>
<td>Bank 2</td>
<td>150</td>
</tr>
<tr>
<td>Property development</td>
<td>197</td>
</tr>
<tr>
<td>Property management</td>
<td>152</td>
</tr>
<tr>
<td>Tertiary education</td>
<td>78</td>
</tr>
<tr>
<td>Government department 1</td>
<td>144</td>
</tr>
<tr>
<td>Government department 2</td>
<td>140</td>
</tr>
<tr>
<td>Trade and retail</td>
<td>54</td>
</tr>
<tr>
<td>Insurance and trading</td>
<td>64</td>
</tr>
<tr>
<td>Oil and gas</td>
<td>32</td>
</tr>
<tr>
<td>Hospitality</td>
<td>30</td>
</tr>
<tr>
<td>Not-for-profit</td>
<td>15</td>
</tr>
<tr>
<td>School</td>
<td>22</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1131</strong></td>
</tr>
</tbody>
</table>

198 (23%) of the responses received were not fully completed surveys and were deemed inadmissible. A further 3 (0.003%) responses were rejected because they originated from outside the sampling frame. Ten more surveys were rejected after data screening. The data from the remaining 644 fully completed survey was included in the study. The survey and the item means are included in Appendix B and the survey is discussed below.
Table 3.2 presents the biographic and demographic characteristics of the study’s participants. The participants were almost equally split between male and female.

Table 3.2

**Biographic and Demographic Data**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Category</th>
<th>Frequency</th>
<th>Valid Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Male</td>
<td>324</td>
<td>50.3</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>320</td>
<td>49.7</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>644</td>
<td>100.0</td>
</tr>
<tr>
<td>Age</td>
<td>16-25</td>
<td>143</td>
<td>22.2</td>
</tr>
<tr>
<td></td>
<td>Above 25 - 35</td>
<td>284</td>
<td>44.1</td>
</tr>
<tr>
<td></td>
<td>Above 35 - 45</td>
<td>144</td>
<td>22.4</td>
</tr>
<tr>
<td></td>
<td>Above 45</td>
<td>73</td>
<td>11.3</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>644</td>
<td>100.0</td>
</tr>
<tr>
<td>Education</td>
<td>High School</td>
<td>69</td>
<td>10.7</td>
</tr>
<tr>
<td></td>
<td>Diploma</td>
<td>102</td>
<td>15.8</td>
</tr>
<tr>
<td></td>
<td>First degree</td>
<td>298</td>
<td>46.3</td>
</tr>
<tr>
<td></td>
<td>Masters +</td>
<td>175</td>
<td>27.2</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>644</td>
<td>100.0</td>
</tr>
<tr>
<td>Tenure</td>
<td>2 years or less</td>
<td>235</td>
<td>36.5</td>
</tr>
<tr>
<td></td>
<td>Above 2 - 5 years</td>
<td>232</td>
<td>36.0</td>
</tr>
<tr>
<td></td>
<td>Above 5 - 10 years</td>
<td>92</td>
<td>14.3</td>
</tr>
<tr>
<td></td>
<td>Above 10 years</td>
<td>85</td>
<td>13.2</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>644</td>
<td>100.0</td>
</tr>
<tr>
<td>Job level</td>
<td>Administrative/technical</td>
<td>162</td>
<td>25.2</td>
</tr>
<tr>
<td></td>
<td>Professional/specialist</td>
<td>158</td>
<td>24.5</td>
</tr>
<tr>
<td></td>
<td>First line supervisor</td>
<td>96</td>
<td>14.9</td>
</tr>
<tr>
<td></td>
<td>Middle manager</td>
<td>108</td>
<td>16.8</td>
</tr>
<tr>
<td></td>
<td>Senior manager</td>
<td>88</td>
<td>13.7</td>
</tr>
<tr>
<td></td>
<td>Part-time</td>
<td>32</td>
<td>5.0</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>644</td>
<td>100.0</td>
</tr>
<tr>
<td>Nationality</td>
<td>UAE</td>
<td>223</td>
<td>34.6</td>
</tr>
<tr>
<td></td>
<td>Middle East</td>
<td>188</td>
<td>29.2</td>
</tr>
<tr>
<td></td>
<td>Asia/Indian subcontinent</td>
<td>123</td>
<td>19.1</td>
</tr>
<tr>
<td></td>
<td>West</td>
<td>110</td>
<td>17.1</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>644</td>
<td>100.0</td>
</tr>
</tbody>
</table>

At the time of data collection, most of the participants were between 26 and 35 years old, were in possession of a first degree, and had worked in their organisation for five years or less. There were roughly similar numbers of participants in the managerial categories (296) as in the non-managerial categories (326). The participants were
from multiple nations. For the purposes of some of the statistical procedures, the respondents were segregated into the four major nationality groups indicated in the table. This was a pragmatic division rather than one based upon the application of stringent cultural value criteria. Although the degrees of cultural diversity among the four groups differed, there were clear cultural differences between these groups. These groups were UAE nationals, foreigners from other Middle Eastern countries, foreigners from India and Asia, and foreigners from the West. The last group (called West) included mostly Europeans, people from the Americas (mostly North America), and from Australia. The small group of participants from Africa were not enough to form a group that would allow the application of all the selected statistical techniques. Their responses were therefore added to the participants from the West.

3.3.2 Measuring instruments.

The measuring instrument for this study was a questionnaire with 94 questions divided into ten subsections. Figure 3.2 provides a graphic illustration of the survey content.

![Figure 3.2. Research model with the ten sub-scales included in the survey.](image-url)
As presented in Table 3.2, the first section of the survey contained demographic and biographic questions. Subsections 2 to 5 contained a combination of scales of job resources as antecedents of WI. Subsections 6 and 7 contained antecedents related to job demands. Subsection 8 contained the WI measure. Subsections 9 and 10 contained scales to measure the consequences of WI.

General arguments about the instrument design follow in section 3.3.3. Thereafter the sourced survey items are discussed under the same variable names used in Figure 3.2, and the same subheadings will be used in the following sections, namely definition, items and response scale, validity and reliability, and rationale for inclusion.

3.3.2.1 Definition, items, and response scale.
The underlying theory of each of the variables, as well as each of the studies that used the selected survey items, were discussed in Chapter 2 (refer to sections 2.2 for WI, and section 2.3 for the variables included in the rest of the research model). In addition to these discussions, it was important to establish an epistemic correlation, the link between a definition of a concept and the measurement procedure (Morrow, 1983). This link was important for establishing content validity of the instrument. The definition of each variable in this study and examples of the survey items selected to operationalise the variable for the purposes of this study are therefore presented in the separate sections to follow. The survey items, with means for each item, are included in Appendix B.

In this study, a five-point Likert response scale was available for respondents. One of the reasons for this choice was that several of the selected measuring instruments used such a response scale. Moreover, during a pilot testing phase, the original response scales for the different instruments were used. However, the feedback from the respondents in the pilot study was that the different response scales were confusing. There was therefore wide support for a five-point response scale. Sourced instruments which used four- or seven-point response scales were adapted to provide consistency in this study. In the subsequent discussion, the original response scales of each source are mentioned.
3.3.2.2 **Validity and reliability.**

Reported reliability statistics and factorial validity of instruments in previous studies were often used as criteria for inclusion of instruments in this study. This is reported for each variable in the sections to follow. Furthermore, as WI, the JDR model, and several of the constructs in the research model had not previously been studied in this research setting, portability of the instruments was not assured. In the discussion of the research approach (section 3.2, above), it was mentioned that some of the limitations of the research approach could be overcome by heightening the validity of the survey. To enhance content validity, the research process included a pilot phase (refer to section 3.4.2). The pilot phase provided feedback used to facilitate interpretation of the instrument for participants. Adaptations to the original items were mostly limited to simplification of words which had been misunderstood and/or rephrasing of questions in cases where confusion or misinterpretation was common among participants in the pilot study.

The reliability coefficients for a previous or original application of the selected survey items are reported in sections to follow. Reliability studies are conducted to estimate the consistency of survey scores across repeated measurements and reliability coefficients indicate this consistency on a scale from 0 to 1. Cronbach’s alpha (\( \alpha \)) is generally used (Webb, Shavelson, & Haertel, 2007). While the coefficients will be different for new population samples, the alphas for previous applications of survey items indicate a responsible choice. While Cronbach’s alpha scores of .60 or above are considered admissible by some (McKinley, Manku-Scott, Hastings, French, & Baker, 1997), the psychometric theorists, Nunally and Bernstein (1994, quoted by Mostert & Rathbone, 2007) suggested that only reliability above .70 is acceptable. The higher figure was used as one of the selection criteria for items included in the survey for this project.

3.3.2.3 **Rationale for inclusion.**

Apart from the indicators of epistemic correlation, validity, and reliability, the measurements for this study were selected from previous studies with similar design elements. These similarities and any other specific reasons for inclusion of each part of the survey instrument are discussed under this heading in the following sections. If the research setting provided a specific reason for the choice of a
variable, the reasons were discussed in section 1.2, in which the research model was introduced.

3.3.3 Control variables.

The first section of the questionnaire was comprised of demographic and biographic questions about gender, age, education, tenure, job level, and nationality. These are the control variables included in the research model. In each question, respondents were asked to select from several response categories. All these control variables had been used in previous studies which found that these variables had some moderating effect on results (as discussed in section 2.3.5).

3.3.4 Job resources.

3.3.4.1 Organisational reputation (Wan-Huggins et al., 1998).

3.3.4.1.1 Definition, items, and response scale.
Organisational reputation was discussed in section 2.3.2.1. Wan-Huggins et al. (1998) defined construed external image as an “image that members construct from how they believe outsiders view the organisation where they work” (p. 728). They used five items to measure this variable. Some examples are “Generally, I think Company (name) has a good reputation in the community”. When Kreiner and Ashforth (2004) used these items in a different study, they renamed the concept as organisational reputation and their wording made the items applicable across organisations rather than using an organisation name rendering them applicable only to that specific organisation. Examples are “I think my company has a good reputation in the community” and “I think my organisation is known as a good place to work”. The original five-point Likert response scale options ranged from 1 (strongly disagree) to 5 (strongly agree).

3.3.4.1.2 Validity and reliability.
Wan-Huggins et al. (1998) applied their survey in the USA and found a high reliability coefficient (\( \alpha = .91 \)). The Kreiner and Ashforth (2004) study also found a good reliability coefficient (\( \alpha = .88 \)). Results of a factor analysis of the items in this instrument were not reported in other studies. However, this instrument was used in
several studies where good reliability coefficients were reported and significant correlations with other variables, such as job satisfaction, turnover intentions and OI, were reported (Riordan, Gatewood, & Bill, 1997; Wan-Huggins et al., 1998). This instrument was also used to test organisational reputation using SEM. Acceptable fit indices were achieved in SEM with organisational reputation as an antecedent for OI, by Kreiner and Ashforth (2004) and as a moderator between antecedents and consequences, by Riordan et al. (1997). SEM procedures usually start with a confirmatory factor analysis (CFA). One should therefore be able to presume that the latent factors were investigated, but these results were not published.

During the pilot study, one item from the original instrument was rejected. One of the items in the original survey was: “Generally I think my company has a good reputation in industry”. Most of the members in three of the four focus groups during the pilot study misinterpreted “industry”. However, their interpretation of community, used in other items, included reputation among the community of organisations. It was therefore decided to delete the item that confused respondents in the pilot group.

3.3.4.1.3 Rationale for inclusion.

The items for organisational reputation were included in the survey instrument for two main reasons. Firstly, despite unreported factorial validity, it provided a reliable measure of a potential antecedent at the organisational level in previous studies, specifically WI-related studies (Kreiner & Ashforth, 2004; Wan-Huggins et al., 1998). These studies also found that organisational reputation played a significant role in social identification. Secondly, the variable is deemed an important factor in the research setting. Therefore, it was decided to include organisational reputation in this study.

3.3.4.2 NOID (Kreiner & Ashforth, 2004).

3.3.4.2.1 Definition, items, and response scale.

The definition used for NOID in the study from Kreiner and Ashforth (2004) is “the individual’s generalised desire to derive at least a partial self-definition from a work organisation of which he or she is a member” (p. 13). These researchers used a measured NOID with seven items to establish a desire for identification with an
organisation where respondents work, for example, “No matter where I work, I’d like to think of myself as representing what the organisation stands for”, and “I would rather say ‘we’ than ‘they’ when talking about an organisation that I work for”. The five-point Likert response scale ranged from 1 (strongly disagree) to 5 (strongly agree).

3.3.4.2.2 Validity and reliability.
The internal consistency in the source study was adequate ($\alpha = .75$) (Kreiner & Ashforth, 2004). Factorial validity for this variable has not been reported. After the pilot study, words in two items were simplified to enhance the content validity.

3.3.4.2.3 Rationale for inclusion.
Kreiner and Ashforth (2004) found that the relationships between NOID and identification, as well as with OI strength and organisational reputation were significant and positive. They also found significant negative correlations of NOID with OI incongruence, with disidentification, with ambivalent identification and with neutral identification. NOID was therefore included here because it was found to be an antecedent for the WI-related factor OI, and because it measures an antecedent at the individual level. Furthermore, it was argued that NOID is an important factor in a research setting where the loss of identity due to multicultural influences is widely debated.

3.3.4.3 Task-level resources (Bakker et al., 2004).
3.3.4.3.1 Definition, items, and response scale.
In a study of the JDR model, Bakker et al. (2004) described task-level resources as job resources at the level of the task. Their approach was followed for this study. Their task resources scale had three dimensions (each containing three three-item scales), namely autonomy, professional development opportunities, and social support. The survey included statements such as “I can decide myself how I execute my work” (autonomy), “My work offers me the opportunity to learn new things” (development opportunities), and questions such as “Can you ask your colleagues for help if necessary?” (for social support). They used a five-point Likert response scale that ranged from 1 (never) to 5 (always), or 1 (totally disagree) to 5 (totally agree), where applicable.
3.3.4.3.2 Validity and reliability.
The reliability coefficients for the different measures in the study of Bakker et al. (2004) as well as their original sources of the instruments were:
- autonomy \( (\alpha = .68) \), based on Karasek’s (1985) scale \( (\alpha = .81) \).
- professional development opportunities \( (\alpha = .86) \), based on Van Veldhoven and Meijman (1994) \( (\alpha > .70) \).
- social support \( (\alpha = .81) \), based on Bakker, et al. (2003) \( (\alpha = .72) \).

Bakker et al. (2004) tested job resources using structural equation modelling (SEM) and found that the maximum likelihood estimates for certain observable variables to be part of the latent variable job resources were: autonomy (.55), development opportunities (.86), and social support (.34). This means that the relationships were medium to strong. Although the reliability coefficient for autonomy was slightly lower than the acceptable limit set for this study (see section 3.3.2.2) in one previous study, all three task resources performed well in the SEM used in that study. They were therefore included in the survey instrument for this study. To assure content validity and based upon feedback from the four focus groups in the pilot study, the statements of the three scales were changed into direct questions, using simple language where needed (see Appendix B).

3.3.4.3.3 Rationale for inclusion.
There were numerous scales of task-level resources available for potential inclusion in this study. The three selected scales were chosen for two reasons. Firstly, the three tasks-level resources had previously been used in a study of the JDR model (Bakker et al., 2004). Secondly, the selected task resources were deemed directly relevant to the work environment of the research setting.

3.3.4.4 Remuneration Perceptions (Rothmann & Jordaan, 2006).
3.3.4.4.1 Definition, items, and response scale.
In a study of the JDR model and work engagement, Rothmann and Jordaan (2006) included four items to test remuneration perceptions as part of a variable advancement, which was measured by six items. Their items match the meaning attached to remuneration perceptions in this study, namely people’s opinions about
the remuneration that they receive for their work (see section 2.3.2.4). Examples of items were, “Do you think you are paid enough for the work that you do?” and “Can you live comfortably on your pay?”. The items were originally used with a four-point Likert scale ranging from 1 (never) to 4 (always).

3.3.4.4.2 **Validity and reliability.**

The scale for the variable advancement developed and tested by Rothmann and Jordaan (2006) had satisfactory internal reliability (\( \alpha = .76 \)). The authors reported that their factor analysis showed that the four remuneration items loaded on one factor (with factor loadings of .76, .80, .79, and .70). The other two items of their advancement variable grouped in a factor called advancement with substantially lower factor loadings, promotion, .45, and development, .34. It is therefore acknowledged that the four remunerations items present a valid measurement. The content validity was addressed by rephrasing three questions slightly to reflect the concerns about meaning expressed by the participants in the pilot study.

3.3.4.4.3 **Rationale for inclusion.**

The variable advancement was significantly related to the dedication and vigour in the study by Rothmann and Jordaan (2006). The factor analysis in their study found that dedication and vigour were two components of work engagement, which is also used in this study as an outcome of WI in the research model. Furthermore, advancement was significantly positively related to organisational support, growth opportunities, and social support. These variables are akin to task-level resources included in the research model. Potential positive relations with other variables in the research model and relevance to the research setting were the two most important reasons to include the four remuneration items to help to test organisation-level job resources.

3.3.5 **Job demands.**

3.3.5.1 **Breach of psychological contract (Robinson & Morrison, 2000).**

3.3.5.1.1 **Definition, items, and response scale.**

Robinson and Morrison (2000) operationalised the concept, breach of psychological contract, as a failure to fulfil a set of beliefs about reciprocal obligations between
employee and organisation adequately. This is in line with the definition of the concept used in this study, which refers to the breach of a subjective set of expectations (and obligations) that an employee and employer have of each other (refer to section 2.3.3.1). Robinson and Morrison (2000) used items such as: “I have not received everything promised to me in exchange for my contributions” and “Almost all the promises made by my employer during recruitment have been kept thus far.” They applied a five-point Likert response scale ranging from 1 (strongly disagree) to 5 (strongly agree).

3.3.5.1.2 Validity and reliability.
Robinson and Morrison (2000) reported strong internal reliability levels ($\alpha = .92$) for the items in their survey. They also conducted a factor analysis of the test items and found that the five items selected for this study loaded onto one factor (loadings ranged from .70 to .87). This confirmed the validity of the items to indicate perceived breach of psychological contract.

During the pilot study, participants found the original item statements difficult to comprehend and the three reverse items confused them. They recommended that the statements be changed to questions, which was easy to implement. The word yes was added to strongly agree and no to strongly disagree to reflect answers to the questions asked and to emphasise the direction of the Likert response scale.

3.3.5.1.3 Rationale for inclusion.
The reliability, validity, and relevance of the five variables demonstrated their usefulness as a potential job demand. Arguments about the sensitivity of expectations held by both foreign and local employees (see section 1.2.3) also contributed to the decision to include this variable in the research model.

3.3.5.2 Work-family Conflict (Geurts et al., 2005).
3.3.5.2.1 Definition, items, and response scale.
Geurts et al. (2005) defined work-home interaction as a process where an individual’s reaction to load build up at one domain (either work or home) influences his/her behaviour in the other domain. In this study, negative reaction to load at work that affects behaviour at home is included as a job demand. Here, the
construct is called work-family conflict which is conflict between an individual's work and family (or home) responsibilities in which one's operation and actions at home are negatively affected by work demands (refer to section 2.3.3.2). The definitions in the source of the instrument and in this study are therefore in alignment with one another. Geurts et al. (2005) measured negative work-home interference with eight items, including “How often does it happen that you find it difficult to fulfil your domestic obligations because you are constantly thinking about work?” and “How often does it happen that you are irritable at home because your work is demanding?”. These items also align with the definition used in this study. The original response scale was a four-point Likert scale ranging from 1 (practically never) to 4 (practically always).

3.3.5.2.2 Validity and reliability.
In the original study, Geurts et al. (2005) reported a good reliability coefficient ($\alpha = .84$). The researchers were satisfied that their survey items describing negative work-home interaction loaded on the same latent dimension. Using three different samples, the items loaded on one factor with loadings from .30 to .56. Each item reached their cut-off point of a .35 loading in at least one of three samples. During the pilot study that preceded this field study, only small changes to unfamiliar terminology were made to enhance content validity.

3.3.5.2.3 Rationale for inclusion.
The main reasons for including these items in the survey instrument are correlations with other variables related to this study and items that describe people in the sampling frame well. The negative work-home interaction survey items showed significant negative correlations with two variables, job support and commitment (Geurts et al., 2005). These items were also deemed to fit the profile of employees in the research setting well as many of them had domestic obligations to families or extended families inside or outside the country.
3.3.6 Work identity.

3.3.6.1 Definition, items, and response scale.

Until recently, the most established instrument related to work-based identity was the instrument for OI developed by Mael and Ashforth (1992), which used a five-point Likert response scale ($\alpha = .87$). However, an OI instrument would provide an incomplete view of WI without considering the additional loci and facets mentioned in section 1.2.2. Roodt et al. (2009) used the work facet approach to establish an instrument for WI that went beyond OI. De Braine and Roodt (2011) used this instrument to operationalise WI as defined by Walsh and Gordon (2008). This is the same definition of WI used in the current study (see section 2.2.1).

The WI instrument (28 items) included the areas of work, job, occupation and career, as well as elements of person-environment fit and work role centrality. Examples are, “To what extent do you see your job as your whole life?”, “How much does your work determine your value as a person?” and “How much of your identity is based on your job?”. The original survey employed a seven-point response scale.

3.3.6.2 Validity and reliability.

In the previous studies, mentioned above, the reliability coefficient was acceptable for all items in the WI instrument (all above $\alpha = .70$ and an overall $\alpha \geq .90$). A factor analysis of the original WI survey items found that all the items loaded onto a single factor (De Braine & Roodt, 2011). This satisfied the requirement of factor validity.

To contribute to content validity, small language edits were made to some of the items where the participants in the pilot study did not understand the words or phrases used in the original version. The seven-point Likert response scale was reduced to five points in alignment with the rest of the questionnaire.

3.3.6.3 Rationale for inclusion.

This research project aligned with a group of studies of WI conducted at the University of Johannesburg using a common instrument for WI (De Braine & Roodt, 2011; Bothma et al., 2010). No other questionnaire about WI (as an extended work-related identity construct) beyond OI existed at the time this study was conducted.
3.3.7 Consequences.

3.3.7.1 Work engagement.

3.3.7.1.1 Definition, items, and response scale.

This study used the definition of Schaufeli et al. (2002) of work engagement as a cognitive state that is “positive, fulfilling, work-related... characterised by vigour, dedication, and absorption” (p. 74). These authors operationalised their definition by using the Utrecht work engagement scale (UWES). The UWES measured the three dimensions of work engagement on a seven-point Likert scale as follows:

- **Vigour** (six items), for example “When I get up in the morning, I feel like going to work”.
- **Dedication** (five items), for example “My job inspires me”.
- **Absorption** (six items), for example “When I am working, I forget about everything else around me”.

3.3.7.1.2 Validity and reliability.

Schaufeli et al. (2002) tested the UWES with two samples in Spain (α = .73 to .91 across two samples). They reported strong interrelations between the subscales that measured the three dimensions of work engagement (r = .63 and .70). Moreover, their SEM analysis showed that their three-component structure of work engagement produced the best model-fit statistics, Δχ²(6) = 145.62, RMSEA = 0.06, CFI = 0.90, p < .001 (p. 82). These results also demonstrated factorial validity. In a different study, Schaufeli and Bakker (2004) found Cronbach's alpha coefficients of .78 to .89 for the UWES.

Applying the same instrument, the pilot study phase of this research project found that a few words in the original items were not known or misinterpreted by members of the focus groups. These words were changed to enhance content validity.

3.3.7.1.3 Rationale for inclusion.

The UWES is established and has been extensively used in the research of Schaufeli, Bakker and colleagues to produce valid and reliable results (for example, Schaufeli et al, 2002). Therefore, this study applied the definition of work engagement.
engagement coined by these researchers and their UWES as the appropriate measuring option.

3.3.7.2  **Turnover intentions.**

3.3.7.2.1  **Definition, items, and response scale.**

Turnover intentions were defined as an individual predisposition towards an intention to leave the current workplace (refer to section 2.3.3.2). Items such as “I will probably look for a job at a different company in the next year” and “How likely is it that you will be working for the same company this time next year?” showed that Moore’s (2000) items to measure turnover intentions fitted the definition. Moore used four items to measure turnover intentions in a study that applied the JDR model as a framework for the antecedents and consequences of exhaustion.

3.3.7.2.2  **Validity and reliability.**

The aforementioned scale was applied in a study in Canada and the USA and achieved a good reliability coefficient ($\alpha = .92$) (Moore, 2000). Moore (2000) conducted a CFA, which found that the four items measuring turnover intentions loaded on a single factor (with factor loadings ranging from .81 to .87). Moore also reported significant correlations between turnover intentions and all job resources (negative) and job demands (positive) included in the study. This demonstrated factorial validity.

3.3.7.2.3  **Rationale for inclusion.**

Moore’s (2000) items were selected for this study because the items focus on short-term turnover intentions. Their measures were also successfully applied in a study using the JDR model. The validity and reliability of the scale was therefore sufficiently demonstrated in previous studies.

3.4  **Research Procedure**

The explanation of items selected for use in the survey for this study has now been completed (above). The research procedure to be used for implementation of the research design will be discussed in the subsequent sections.
3.4.1 Permission.

After attempts to obtain the cooperation of organisations to officially share information about their employees to enable a random sample failed, managers in different organisations were contacted to encourage the voluntary participation of their employees in the study. Descriptions of these organisations and the number of employees for whom permission was obtained, are presented in Table 3.1. Organisations were asked to allow an intern from a local university to use her access to the organisational e-mail system to distribute the invitations to participate. This arrangement also allowed for a channel of communication between the organisation and the researcher. Once an organisation agreed to allow the distribution of invitations, the URL to the survey was distributed via e-mail to their employees with a cover letter explaining the research and inviting their voluntary and anonymous participation. Employees therefore self-selected to participate in the survey.

3.4.2 Pilot study.

It has been established that the statistical measures from previous studies demonstrated the construct validity of the measurements used in this research. However, content validity had to be re-established in a multicultural sample where most of the respondents use English as their business language, but English was not their mother tongue. Adaptation of instrument language to be linguistically and psychologically appropriate in a cultural context is a recognised approach to research in multicultural settings (Van de Vijver & Leung, 1997).

A pilot sample from the sampling frame for this research was exposed to the survey items to test the content validity of the instrument. The composition of focus groups is presented in Table 3.3. The participants were all passport holders of the countries indicated in the table. If a participant was born in a different country, it is indicated in brackets. The responses of the focus group participants were not included in the research data.
Table 3.3
Composition of Pilot Study Focus Groups

<table>
<thead>
<tr>
<th>Focus Group 1</th>
<th>Focus Group 2</th>
<th>Focus Group 3</th>
<th>Focus Group 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>UAE</td>
<td>UAE</td>
<td>UAE</td>
<td>UAE</td>
</tr>
<tr>
<td>Bahrain</td>
<td>Jordan</td>
<td>India</td>
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<td>India</td>
<td>India</td>
<td>Lebanon</td>
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</tr>
<tr>
<td>India</td>
<td>Pakistan</td>
<td>Palestine</td>
<td>Sri Lanka</td>
</tr>
<tr>
<td>Sri Lanka</td>
<td>Nepal</td>
<td>Egypt</td>
<td>(Iran) USA</td>
</tr>
<tr>
<td>Iraq</td>
<td>Philippines</td>
<td>(Turkey) Canada</td>
<td>Jordan</td>
</tr>
<tr>
<td>South Africa</td>
<td>Puerto Rico</td>
<td>Australia</td>
<td>UK</td>
</tr>
</tbody>
</table>

The first two focus groups received a paper copy of the survey with the original items and response scales which the group members completed independently. Although self-administered, the participants were asked to complete a section of the questionnaire and then, without changing their responses, to make notes of their interpretation of a question if they experienced any uncertainty about its meaning, interpretation, or the response scale. Their feedback was collated in a focus group session where each section of the instrument was discussed. Recommendations were, in turn, formulated from the feedback.

The third group also completed a paper version of the survey independently and in sections, but during their focus group meeting. After all the participants had completed a section, each item was read aloud by the researcher and the participants were invited to make comments about their interpretation of the language. The researcher also asked participants to explain their interpretation of terminology, such as “freedom”, “supervisor”, “reputation”, and “identity” in the context of specific questions. Problem areas and recommendations for improvement were noted.

The fourth focus group independently completed the questionnaire online. They were also asked to make notes about their interpretation of questions, the response scales, and the online experience. During the fourth focus group, the participants’ comments were discussed by survey section. After their own comments were noted,
the feedback from the first three focus groups was presented to the participants in the fourth focus group and their feedback and recommendations for rephrasing were noted. The researcher then reviewed recommendations and adapted items where misinterpretations were common among the four focus groups.

One of the key points of feedback from the focus groups was that individuals understood items phrased as a clear question better than items that expected an opinion on the relevance of a statement to be expressed. In cases where the integrity of original instruments was not compromised, items were rephrased to contain a clear question. Guidelines for the modification of items set by Brislin (1986, quoted by Van de Vijver & Leung, 1997) were followed whenever possible. However, in cases where item comprehension was not perceived as problematic, the original items were maintained.

3.4.3 Field survey.

In alignment with many previous studies about social identity-related constructs, this study used a survey (for example, Gamble & Huang 2008; Goldberg, Riordan, & Schaffer, 2010; Haslam, Jetten, & Waghorn, 2009; Hekman, Bigley, Steensma, & Hereford, 2009; Khandelwal, 2009; Muliawan, Green, & Robb, 2009). This survey was distributed online. Online surveys collect data faster, are less expensive, more flexible, and offer greater user convenience than most other survey media (Schillewaert, Langerak, & Duhamel, 1998). While online surveys obviously limit the sampling frame to people with internet access, this choice was suitable for the research setting where e-government is standard and over 90% of businesses were online (BMI, 2008).

Survey distribution was limited to organisations which were willing to allow its distribution and which indicated that their employees used English in the workplace (refer to Table 3.1). Work settings where Arabic was the predominant or exclusive work language were excluded from the study. However, this was a small number of organisations and although this approach excluded the armed forces, a number of other government departments were included in the survey.
The online questionnaire was self-administered. Self-administration has the drawback that the administrator does not control the response setting. However, it also potentially improves validity as administrator bias and influence is removed. Additionally, self-administration places greater demands on the self-explanatory nature of instructions and questions (Babbie, 2008). The pilot-testing phase was therefore important for attending to respondents’ interpretation of the items.

Previous research recorded response rates of between 6 and 36 per cent for online surveys, with e-mail invitations found to be the most effective method to recruit participants and producing the fastest response rates (Schillewaert et al., 1998). Individual e-mail invitations containing a URL link to the survey were therefore used. In most organisations, the e-mail invitation was distributed from an internal e-mail address used by an identified student intern who was working in the organisation during that period. For a few organisations, the invitations were distributed from the researcher’s e-mail address at a local university.

Surveys were distributed within the organisations during October 2008 and February 2009. The nationalities of respondents were monitored and during the latter half of February 2009, invitations requested potential participants to forward the invitations to local colleagues and locally employed acquaintances from Asia. This was done in an attempt to increase the responses from South Asian employees, who were ostensibly the largest single nationality grouping in the country (refer to Section 1.3.2).

3.4.4 Statistical analysis.

Studies using research models of a similar format used descriptive statistics and regression analysis to establish relationship between specific factors (for example, Becker, Billings, Eveleth & Gilbert, 1996), and/or SEM to test for model fit (for example, Carmeli, 2005; Rothmann & Jordaan, 2006). Factor analysis was also used to simplify the relations between the potentially interrelated factors used in this research model (for example, Child, 2006). The Statistical Consultation Service of the University of Johannesburg and a statistician assisted in the process of preparing the SEM analysis.
3.4.4.1 **Sample size.**
The literature about research design suggested several broad principles to
determine sample size. Most of these principles depended upon the purpose or
expectation of the study. Some of these approximations used the number of
predictors in the study, for example, Green (1991), whose largest requirement
suggested that a minimum sample size of 170 is needed to test the individual
predictors in the research model for this study. However, Cohen's (1988, quoted by
Kline, 2005) graphic guideline for the number of predictors in this research model
suggested a sample size of least 600 if medium to small effect sizes were expected.
The sample size of 644 was therefore deemed adequate to test the hypotheses set
for this study.

3.4.4.2 **Initial analysis phase: Descriptive statistics, correlations,
reliability.**
Descriptive statistics help to present data in a manageable form, to reduce the data
through summarising, and to estimate relationships among variables in the
population (Babbie, 2007; Morgan, Reichert & Harrison, 2002). This was therefore
the starting point in the analysis of results. Descriptive statistics were used to test
the normality of data (including mean, mode, median, standard deviation, skewness,
and kurtosis). Means, mode, and median are standard measures of central
tendency in data and standard deviation is a regular measure of data dispersion.

Parametric statistics relate to an entire population rather than just a sample in a
population. Field (2009) stated that normally distributed data is an assumption for
most parametric tests. Z-scores (derived from the skewness or kurtosis values and
their standard errors) are widely used indicators of normality, with upper limits of
acceptability for large samples, $z = 3.9$ (Kline, 2005). However, measurements of
skewness (too many low or high scores in a distribution) and kurtosis (scores
clustering in the tails of the distribution) are not considered to be reliable for large ($N
> 200$) samples. A large sample was used in this study ($N = 644$). For such
samples, authors recommended a visual inspection of the histograms (Field, 2009;
Kline, 2005). However, as a convenience sampling method was used (refer to
section 3.3.1.3), generalisation of the data beyond the sample of this study was not
recommended (Kemper et al., 2003). Incidents of non-normal data distribution would accentuate this cautionary note. Reporting statistics to show that the data adhere to parametric assumptions could, therefore, be of little practical value for this study. However, reporting the characteristics of the data would provide insight into the answer patterns in the sample.

Other preliminary tests that were applied established correlations and reliability statistics for the data. Pearson correlation coefficients ($r$) were calculated to explore the direction and strength of the linear relationships between the variables. The reliabilities of the different measurements used in the survey were tested using Cronbach’s alpha ($\alpha$). All data processing in this phase were completed by using PASW SPSS Statistics 18 (2009).

### 3.4.4.3 Second analysis phase: Identifying the measurement model.

Constructs "which are synonymous with concepts, are theoretical constructions, abstractions, aimed at organising and making sense of our environment" (Pedhazur & Schmelkin, 1991, p. 52). To agree on the definition of a construct may require a painstaking process, but it is often eclipsed by the challenges to measure a construct. Measurement has been described as "the Achilles heel of sociobehavioural research" (Pedhazur & Schmelkin, 1991, p. 2). An important part of this study is therefore to determine if the observed variables are valid indicators of the constructs that can be used for measurement. A part of this has been completed in previous sections of this chapter where the definitions of constructs were compared to the items used in the measurement instruments. Validity does not, however, refer to the instrument as much as it is concerned with the "interpretation of data arising from a specific procedure" (Cronbach, 1971, p. 447). The constructs included as factors in the research model were the focus of the factor analysis procedures employed to identify a measurement model that was used in the SEM (in third phase of the statistical analysis, see section 3.5.4.3).

#### 3.4.4.3.1 Confirmatory factor analysis (CFA).

Factor analysis (FA) aims to simplify several interrelated measures in an orderly manner by using mathematical procedures (Child, 2006). The factors, which are the focus of this technique, are reliable generalisations based upon common variance-
covariance displayed among a group of observed variables (Schumacker & Lomax, 2004). The factors are therefore also called latent variables. As the common variations among variables are visualised in a multi-dimensional space, FA uses formulae from geometry. A correlation matrix, containing the correlation coefficients between variables, is the starting point for this procedure and clusters of large correlation coefficients observed within such a matrix suggest that underlying similarities among those variables exist (Field, 2009). FA adds value by distilling the most economical number of latent variables possible to explain the common variance from a correlation matrix. These factors are, therefore, statistical objects that can be depicted as classification axes against which measurement variables can be plotted on a scale from -1 to +1. It is, however, important to remember that strong correlations may suggest prediction, but it does not make causation obvious (Child, 2006).

A FA is considered a confirmatory procedure when it aims to establish how well a hypothesised structure of a latent variable and select observable variables are present in a dataset (Child, 2006). This research employed factors which were all used in previous studies which confirmed their validity. However, as the previous studies were not conducted in the same research setting, the validity of the factors had to be tested before they could be accepted. As with all FA, the procedure that was followed in this study started off by producing a Pearson product moment correlation matrix. (This matrix and all the results of the procedures described in this chapter are presented in Chapter 4). Pearson product moment correlation (r) is commonly considered as the best method to render the common features among variables as well as their magnitude and direction (Child, 2006). The correlation matrix was drawn after it was established that the data produced by the test item scores approached normality and that a linear relationship between them existed. (as described in Section 3.x). These actions were taken to make sure that the data met the assumptions of FA.

As there are several approaches available to extract factors from the observed variables, the reasoning behind the choices that were made must be explained. In social and behavioural sciences it is expected that factors are often not as discreet or independent from each other as one would expect in the natural sciences. For
this reason mathematical techniques are often applied to enhance factor extraction (Pedhazur & Schmelkin, 1991). As this phase of the data analysis was executed to confirm the existence of hypothesised factors in the data gathered from a specific population sample, two preferred methods of FA were available, namely principal component analysis and principal axis factoring (PAF). It is generally considered that these methods often produce similar results (Field, 2009). However, the purpose differs. Principal component analysis explores total variance between variables to reduce the data. This is therefore most often used for exploratory FA (when an a priori hypotheses structure does not exist). PAF procedures analyse common variance to model the structure of correlations among variables (Warner, 2012). To confirm the hypothesised latent variables, PAF was therefore employed as the CFA procedure used in this study.

It was mentioned before that FA uses geometric formulae. If one visualises the dispersion of variables in a multi-dimensional space, it follows logically that the variables can be viewed from different angles. Factor rotation is therefore applied during FA to provide the optimal viewpoint that allows the maximum factor loading on the least number of factors (Field, 2009). This rotation is usually applied to improve the interpretation of the factor structure if it was not clear after the mathematical procedures were directly applied to the correlation matrix. The rotation must, however, follow a set of guidelines to maintain the parsimonious nature of FA, and at the same time, to render constant factors that will be recognisable in multiple applications of the same tests or similar studies within the same populations. These guidelines emphasise the rigour that was traditionally required to apply methods inherited from (more precise) natural sciences to (more imprecise) social and behavioural sciences. It was this requirement for rigour that prompted Thurstone in the 1940s to develop criteria for a simple structure to guide factor rotation. These criteria were accepted and still form the basis of current applications (Child, 2006).

Two types of rotation exist. Orthogonal rotation tries to keep factors unrelated during rotation, while oblique rotation allows factors to correlate (Field, 2009). As the purpose of the CFA used in this study was to establish if the hypothesised structure of latent variables can be obtained from the data in this population sample, oblique rotation was selected in situations where the PAF did not discriminate directly between factors.
To summarise, the FA phase of the data analysis aimed to confirm the validity of the factors used in the research model and in the measuring instruments that were included in the survey employed in this study. The CFA followed a PAF procedure, followed by oblique rotation when the interpretation needed improvement. In addition, a set of criteria was generated in advance to guide the acceptance of factors and the inclusion of items from the FA procedure. This was an important step to make sure that assumptions for the procedure were met and that equal rigour was applied throughout factor extraction procedure.

3.4.4.3.2 Decision rules for factor extraction and item removal.

Sphericity: Besides the assumptions required for factor analysis about data normality and linear relationships, mentioned above, a test for sphericity was applied to all the datasets used during the study. Sphericity essentially refers to the size of the correlations in the correlation matrix. Significant sphericity must exist to find factors among the variables and, therefore, to progress with FA (Child, 2006). Bartlett’s test for sphericity was used in this analysis and the criterion set was significance at $p < .05$ (Field, 2009).

Sampling adequacy: The next criterion was a measure of sampling adequacy, which was used to indicate if the sample size satisfied the requirements for the number of variables. The Kaiser-Meyer-Olkin test (KMO) was applied to indicate sampling adequacy for each test overall. To ascertain whether the contribution of individual variables was adequate, anti-image correlation matrices were used. For both these tests the minimum limit was set at 0.5 (Child, 2006).

Retained latent variables: The guideline was set that retained latent variables must explain at least 60% of the total variance found among the observed variables in the dataset (Hair, et al., 2006). This guideline referred to the initial eigenvalues obtained from the total variance matrix produced after PAF analysis. Eigenvalues explain the extracted variance contributed by a latent variable (Child, 2006). If the extracted variance is low, the latent variable is not considered to be a valid factor. This 60% limit was set even if the eigenvalue of an extracted factor was greater than one (1.00). The eigenvalue of one is often used as a parameter to indicate that a factor
explains a practically significant amount of variability in the data. However, although this parameter is also built into the SPSS program used for the data analysis (SPSS, 2005), the meaningfulness of eigenvalues is highly dependent on sample size (Field, 2009). Nevertheless, it was accepted that the number of factors extracted should not be more than the number of eigenvalues larger than 1.00 (Kaiser, quoted by Fields, 2009). In addition, the acceptable number of observable variables required to indicate a latent factor depends more on the rigour of the procedure followed than on a universal number guideline (Gorsuch, 1983). For this study, it was decided that each factor must be represented by no less than three observable variables to be accepted as a valid factor.

**Factor loading:** Although it is recognised as an inexact approach, it is typically considered that a factor loading of .30 or greater could be accepted as a salient loading (Gorsuch, 1983). However, Stevens (2002) calculated critical values of acceptable factor loading based upon sample size. For samples above 600 (such as used in this study), a factor loading should be larger than 0.21 to be considered significant. Therefore it was decided that factor loadings above .30 would be acceptable for inclusion, but if an item displayed a factor loading between .21 and .30 inclusion would be considered if conceptually coherent grounds for acceptance existed.

It was also expected that some items may load on more than one latent variable. The first decision step was to accept items which were salient on only one factor. This decision would satisfy the rule of a simple structure best (Gorsuch, 1983). Although indeterminancy is a contentious topic, it was considered that the purpose of the CFA phase of statistical analysis was to confirm the hypothesised factor structure. It was therefore decided that items that loaded on more than one factor could be considered for inclusion. The decision rule was that such items must meet the criteria described in the previous paragraph, and the difference between the two loadings must be more than .25, otherwise it would be discarded. Rigour was also reinforced by stipulating that “absolute values” were used, therefore ignoring the differences between positive and negative loadings (Hair et al., p. 119).

To summarise, the decision rules were:
• For factor inclusion:
  o Sphericity (Bartlett’s test), \( p < .05 \)
  o KMO > 0.5
  o Anti-image correlation > 0.5
  o 60% of total variance must be explained
  o The number of factors extracted should not be more than the number of eigenvalues larger than 1.00
  o A factor is only accepted if it is represented by at least three items with acceptable factor loadings

• For item inclusion:
  o Factor loading > .30
  o Factor loading > .21, if conceptual grounds for inclusion exist
  o The difference between the absolute values of factor loadings on two latent variables must exceed .25 and conceptual grounds for inclusion must exist.

3.4.4.3.3 Exploratory factor analysis (EFA).

One of the main purposes of FA is to understand the structure of a set of variables (Field, 2009). This study only used variables obtained from previous studies and as such it was expected that the underlying structure of the set of variables will be clear. However, it was not assumed that established observable variables would consistently produce data with the same characteristics across different population samples and in different research settings. This assumption had to be tested and the validity of the measuring instruments had to be confirmed under the new conditions. This was the purpose of the CFA. However, it was anticipated that if the underlying factors were not confirmed, alternative factor structures may be present. It was reasoned that while the study was not intended to be of an exploratory nature, exploration is a valid research agenda, especially in situations where established concepts were proven ineffective to explain phenomena (Babbie, 2007). This reasoning is supported by the acknowledgement that the process to verify hypotheses will “frequently… throw up… unforeseen relationships” (Child, 2006, p. 8). By recognising the possibility that research results may suggest more problems than solutions, the distinction between the confirmatory and exploratory use of FA
may become blurred. However, discovering alternative factors would not only provide new understanding of the concepts at hand, but also promote findings that are unique to the research setting of a study.

While the decision rules for the confirmation of factors and items were intended to be strictly followed during the CFA procedures to validate factors, the strict application of the same rules had to be reconsidered during EFA. It was decided that the same decision rules would guide the EFA procedures to extract valid factors. However, the aim of the EFA was to allow the discovery of best available factors from the disputed data that will still allow the pursuit of the objectives of the study. Decisions about the strict application of the rules were therefore considered after the optimal factor extraction was achieved.

It was attempted to keep the two processes (CFA and EFA) separate. Any alteration to the original dataset (such as rejecting items with low factor loadings or cross-loadings) before accepting a factor was considered to be part of the exploratory process. Therefore, when it was found that a set of variables did not confirm the anticipated underlying factor structure, either by displaying alternative factor structures or by not meeting the decision rules during the CFA process, it was referred for exploration. These results are reported in Chapter 4.

3.4.4.4 Third phase of analysis: Multiple regression.
To achieve four of the empirical objectives (numbered 1 to 4 in section 3.2), the second phase of statistical analysis was required. The relationship between independent and dependent variables in the research model was tested and moderation effects between job resources and job demands explored. This was used to test hypotheses 1 to 6.

The statistical procedure used for this phase was multiple regression. Regression procedures deliver the percentage of variance in a dependent variable that is accounted for by one or more independent variables (Miles & Shevlin, 2001). This means that each regression model is a mini causal model, also called a “single-stage causal model” (Meyers, Gamst, & Guarino, 2006, p. 595) because it shows the relationship between a dependent variable and a number of independent variables.
Multiple regression made it possible to find which of a group of variables were responsible for which part of the variance. The analysis followed the guidelines of Baron and Kenny (1986) for moderator distinction.

The assumptions concerning regressions are that the independent variables must be quantitative and unbounded (that is, without “constraints on the variability of the outcome”), there must be some variation in their value, and the variables must not correlate to such an extent that multicollinearity occurs (Field, 2009, p. 220). Further assumptions are that the residuals are normally distributed without many outliers and that the errors are independent (without autocorrelation) (Miles & Shevlin, 2001). Finally, while it is assumed that each value of dependent variable originate from a separate entity and that a linear relationship between the independent and dependent variables is expected (Field, 2009). Tests for all the aforementioned assumptions were included in the analysis.

In addition to the testing of the mentioned hypotheses, the regression analyses were also used to investigate the potential causal relationships between variables. The simple single-stage causal models represented by regression models were used to explore potential causal paths during the model identification phase of SEM, discussed in the next section.

3.4.4.5 **Final phase: Structural equation modelling (SEM).**

Structural equation modelling takes the idea of causal paths forward in some very useful ways. Firstly, it considers the causal paths between independent variables and several dependent variables at the same time. This means that it tests multi-stage models (rather than the single-stage models in multiple regression). Therefore, while regression analyses focus on parameter estimates, SEM provides a general test of how well data fit an a priori hypothesised underlying model (Miles & Shevlin, 2001). Secondly, SEM considers the effect of observed variables on latent (and therefore unobserved) variables that a researcher might want to define. The implication of this is that SEM tests a measurement model and a structural model both separately and simultaneously. The measurement model is the relationship between at least two measured variables and an unmeasured (or latent) variable. (This test can be compared to a CFA of the latent variable.) It is preferred that the
latent variables are supported by independent clusters of observed variables (that is, each observed variable loads only on one common factor). The structural model refers to the causal paths, “or relations of dependency” (McDonald & Ho, 2002, p. 65), between the latent variables. The measurement of the structural model provides the ability to define both direct and indirect causal relations between latent variables in the model (Byrne, 2001; Meyers, et al. 2006). SEM uses the principle of maximum likelihood that the data was drawn from a representative population and therefore worthy of generalisation (Kline, 2005).

SEM is therefore a powerful procedure that tests complex relationships between several observed and latent variables at the same time. This increases the precision of a study, although it requires more data collection because the procedure requires at least medium sized samples or more if numerous variables are included in the model (Kline, 2005;)

The primary empirical objective of this study was to test how all the variables of the study fit a covariance structure model. Hypothesised relationships between observed and latent variables (reflected in the research model) were tested with SEM. This meant that theoretical appropriateness took precedence over more statistical power (which could have produced less meaningful results). As previous studies of covariance models of WI were not found, the purpose of the application of SEM in this study could be described as model generating rather than model confirming (Kline, 2005). Processing was enabled through the use of the SEM program, AMOS 18 (Amos Development Corporation, 2009).

3.4.4.5.1 Assumptions of SEM
It is accepted that “slight to moderate” departures from normality usually do not affect SEM per se, although the chi-square measurement and standard errors included in the procedure are more likely to be affected (Raykov, Tomer & Nesselroade, 1991, p. 501). While SEM considers observed measurements and the latent variables suggested by the measurements, it also allows for measurement error (which is common in social science data) (Byrne, 2001).
Medium samples sizes of between 100 and 200 are recommended for successful evaluation using SEM (Breckler, 1990, quoted by Kline, 2005) which is easily met with a sample size of 644 in this study. This guideline will be followed in this study. Missing values also affect sample size and therefore require special attention in SEM. However, there were no substantial missing observations that required a systemic solution in this study.

Multivariate normality is assumed for analysis applying SEM. This means that univariate and bivariate distributions are normal and that bivariate scatterplots are linear and homoscedastic (errors at each level of the predictors have the same variance) (Field, 2009). This was tested in the initial statistical analysis phase by including skewness and kurtosis tests. It was accepted that kurtosis index results bigger than 10.0 suggested a problem and results above 20.0 indicated a serious problem (Kline, 2005).

Different authors have suggested a variety of parameters that SEM should achieve. There seemed to be general consensus that the underlying theory, related to the research model, should guide the interpretation of SEM (Byrne, 2001; Kline, 2005). The SEM progressed through several phases, namely: model specification, model identification, model estimation, model testing, and model modification.

3.4.4.5.2 Model specification
Model specification refers to the application of existing theory to determine the variables, the relationships, and the parameters in the structural model (Schumacker & Lomax, 2004). The selection of measures used in this study was based upon previous research results related to WI and/or other variables related to the research model. One assumption underlying SEM is that the assessment measures used to measure the observed variables in the structural model are psychometrically sound (Byrne, 2001). The selected measuring instruments produced data with suitable reliability coefficients in previous applications in previous studies, and factorial validity indices were provided for several measures. The prior research that guided the nature and relationship between the variables in the structural model was discussed in Chapter 2. The model specification stage sets the foundation of the SEM process because the aim is to find if the true model is consistent with the
implied theoretical model. If not, the model will be misspecified because the wrong parameters were omitted or included (Schumacker & Lomax, 2004).

3.4.4.5.3 Model identification.
Model identification is the process to determine whether the variance-covariance structures established in the model specification and the sample data produced a unique set of parameter estimates. The basic process thereof is presented here below by a brief summary of information derived from SEM guides (Kline, 2005; McDonald & Ho, 2002; Meyers, et al. 2006; and Schumacker & Lomax, 2004). There are two aspects that must be identified.

Measurement model identification: The indicators of validity and reliability from previous studies were useful to specify a model. However, that could not be accepted *per se*, because this study grouped variables differently than the research models of previous studies and this study observed the variables in a different population. To establish whether a specified model could be used for measurement, a CFA had to be conducted. In this endeavour to identify a measurement model, the relationship between the observed variables and the latent variables were designated by factors loadings. In addition, it was accepted that a portion of each observed variable score was not associated with the hypothesised latent variable, and therefore measurement errors were recorded. Therefore, the following equation illustrates the process followed for each latent variable:

\[
\text{Latent variable} = \text{function of observed variable} + \text{error}.
\]

The process used for the CFA was discussed in Section 3.4.4.3 and the results of the FA are presented in Section 4.2.3.

Path model identification: Parameters are characteristics of a population that are represented in a model to determine causality by estimation with a sample statistic. Given that there are many possible causes that may attract a researcher’s interest, there could be a desire to include many parameters in a model. However, any mathematical technique cannot be expected to estimate possibilities without some minimum amount of measured data. For this reason there is a relation between the
number of parameters that can be estimated by a structural path model and the number of observations contained in that model. The basic rule is that free parameters must be less, or equal to, the amount of distinct (or observed) values in the model (Kline, 2005).

Therefore, starting with the number of observed variables included in a model one can determine how many free parameters may be added to the model. The equation is:

\[
p(p+1)/2
\]

where \( p \) = number of observed variables.

There are three possible levels of model identification. Models can be underidentified if the one or more parameters could not be determined due to lack of observed information in the variance-covariance matrix. In this situation the parameter estimations will not be trustworthy. Zero or negative degrees of freedom will indicate underidentification. This will require abandonment of the model or enabling positive degrees of freedom by adding constraints (that is setting a fixed a value for a variable that was not measured). Models can also be just-identified (if all the parameters are uniquely identified due to just enough information in the variance-covariance matrix). Models could also be overidentified if the variance-covariance matrix contains excess information that allows several ways to estimate a parameter. The results of this enquiry are presented in Section 4.4.1.2.2.

3.4.4.5.4 Model estimation.
One of the first considerations for model estimation is the sample size. A general rule is that there should be between ten and twenty cases for every free parameter. Samples below 5 cases per parameter may generate erroneous results (Kline, 2005). This one of the reasons why SEM is considered to be a large-sample technique.

Schumacker and Lomax (2004) described that the basic principle of model estimation is to determine if the observed covariances presented in the data can be continuously generalised to represent an observed population. Based on the observed data, what is the likelihood that the parameters occurring in a population
are actually continuously caused by the factors on the model? Maximum likelihood estimation is therefore considering all the parameters in a model at once and it is therefore deemed to be based on full information rather than partial information (as used in the related procedure of multiple regression, which can only consider one dependent variable at a time).

The procedure is then to submit the specified model and the data to a software program that will calculate the maximum likelihood estimates. The results will determine if the model fitted the requirements. If not it could be respecified, or if there are indicators that it does fit the data, alternative configurations could be attempted if an overidentified model was used. The parameter estimates should then be verified to consider the specific effects of the direct paths and any unpredicted associations between variables in the model.

3.4.4.5 Model testing and modification.
It stands to reason that after initial model estimation any reasonable alternatives to the model can be tested depending on the objectives of the study. As this study aimed to produce a confirmatory model, it was anticipated that any number of iterations within the theoretical framework would be tried until a satisfactory model was established. The principle of parsimony is relevant here. This principle aims for the simplest most economical model to obtain the best model fit for maximum likelihood of the causal structure.

In terms of specific model fit indicators, there exist a common expectation that the chi-square measurement relative to the degrees of freedom must be low (Raykov et al., 1991). This is reflected by the relative chi-square measurement, $\chi^2/df$. This indicates the maximum likelihood that the data fit the model. It is based on the minimum value of the discrepancy. A small chi-square value indicates a good model fit, $\chi^2 = 1$ is ideal, but it is suggested that a ratio of 5 or less is ‘beginning to be reasonable’, while ratios of 2.00 to 4.00 were seen as acceptable (SPSS, 2005). However for large samples, as was used in this study, this indicator is not considered to be very reliable (Paullay et al., 1994; Schaufeli & Bakker, 2004) and additional measures will be considered.
Other indicators that are commonly used to supplement the interpretation of model fit is the goodness-of-fit index (GFI) and the comparative fit index (CFI) (Byrne, 2001; Kline, 2005). The ideal index for both indices is 1, but both measures are expected to have practical value if the measurement was close to .90 (Barkhuizen & Rothmann, 2006; Hair, Black, Babin, Anderson & Tatham, 2006). The GFI is an indication of the relative amount of variance and covariance in the sample predicted by estimates of the population, while the CFI reveals incremental fit. The root mean square error of approximation (RMSEA) indicates the overall amount of error in the fit between the hypothesised model and the data. RMSEA has a built-in correction for model complexity that favours the most parsimonious model. As RMSEA is a “badness-of-fit index” (Kline, 2005, p. 138), the best fit is indicated by zero and any result above zero indicates increasingly worse fit. It is recommended that a model with a RMSEA above .10 is inadmissible, while levels below .05 are desirable, but levels of up to .08 are reasonable (Barkhuizen & Rothmann, 2006; Naudé & Rothmann, 2004). However, recognising that this was the ideal range, others made more lenient allowance for a model fit, RMSEA from .001 to .12 (Hair et al., 2006).

By identifying the model of best fit, SEM will be used to test the terminal empirical objective, which is described in Hypothesis 8.

3.4.4.5.6 Interaction effects of control variables.

The moderation effects of the control variables on the model of best fit and the paths linking the different variables in the model (Hypothesis 7) was tested with a multigroup moderation test procedure by using the SEM software, AMOS (Amos Development Corporation, 2009).

This process is the SEM equivalent of familiar moderations test procedures. Although these test is considered a second generation SEM technique popularised in the last decade (Qureshi & Compeau, 2009), the test was originally developed in 1971 (Meyers et al., 2006). It has also been applied to a variety of psychosocial topics, such as adolescent behaviour patterns, personality traits and well-being studies (Van der Aa, Overbeek, Engels, Scholte, Meerkerk, & Van den Eijnden, 2008). The multigroup test considers an omnibus comparison between the effects of two or more groups on the model fit and the parameter estimates. The differences of
a chi-square goodness of fit index establish if any significant differences between the groups under scrutiny appeared. This is achieved by first generating an unconstrained model that shows the weighting or path coefficients for each group separately. Secondly, this model is then constrained by forcing (or constraining) the path coefficients to be equal. If significant differences between the constrained and the unconstrained models are established, a procedure similar to a post hoc test (simple effects in ANOVA) will establish which paths are associated with the differences (Meyers, Gamst, & Guarino, 2006).

Using a tested model, the specific steps to be followed are (Gaskin, 2011b; 2011c):

- enter data for each moderator variable in two categories (for example, for age: older and younger; for gender: male and female; for education: degree and others; or for nationality; Middle Eastern and Non-Middle Eastern),
- use the standardised estimates of the SEM to trim insignificant paths ($p > .05$) in the subgroup with the fewest insignificant paths one at a time to build an unconstrained model,
- collect the chi square and degrees of freedom data for each moderator variable to establish the chi square differences of the unconstrained model,
- establish a fully constrained model and select the chi square and degrees of freedom for each moderator variable,
- calculate the chi-square differences between the unconstrained and fully constrained models,
- establish which chi-square differences are significant, $p < .05$,
- conduct a path-by-path analysis for those groups which shows significant differences, and
- compare the results with chi-square thresholds to determine which paths were affected by the moderator variable.

The statistical analysis will therefore follow three stages. Starting with descriptive statistics and data exploration, multiple regressions to test the relationship between specific variables in the research model will follow. Finally SEM will be used to test whether the data fits the theoretical model and to test the effect of moderator variables.
3.6 Ethical Considerations

Anonymity is an important ethical consideration as it keeps responses confidential in order to encourage confident participation and truthful responses. Anonymity is also an important factor to help counter reactivity effects that occur during social research (Nardi, 2003). Perceived anonymity is high for self-administered online surveys (Babbie, 2007). Indeed, there are more administrative controls than paper-based surveys available for online applications under uncontrolled conditions (Babbie, 2008). Anonymity was greatly enhanced by making the survey exclusively accessible through a secure central server. (The questionnaire was hosted on a server belonging to Widgix LLC in the USA.) The survey was not distributed on company servers or via e-mail. This was an important factor for the maintenance of anonymity and confidentiality, but also for data security.

Protecting the data is an important consideration when conducting field surveys (Babbie, 2007). Confidentiality, data security, and data integrity are relevant concerns. No link between the names of participants, their employers, and the completed responses was available to the researcher. In the e-mailed invitations and cover letter accompanying the online survey, the researcher also agreed to protect confidentiality by not publishing the names of invitees or their employers. For the sake of confidentiality and for data integrity, respondents were requested to complete the survey in one sitting as incomplete surveys could not be saved and completed at a later opportunity. Although the software program of the service provider provided a count of opened surveys and made semi-completed and completed responses available, only completed responses were received for inclusion in the results.

As the surveys were completed independently and online, it was important to prevent multiple submissions from the same respondent (Hamilton, 2001). The software used by the survey host only admitted one submission from an internet protocol (IP) address. When multiple responses from one IP address were submitted, only the last response was accepted. This may have limited participation through computer sharing, but it was a necessary step to protect confidentiality and to prevent duplication. Security was further protected by limiting access to the collected data.
though a single password protected account held by the researcher. The software program also marked the location of the IP address of responses on a world map. This made the rejecting of a few responses from outside the sampling frame simple. Data was automatically collated in Excel spreadsheets which were ready for transfer to PASW software. This reduced chances of data-processing errors.

Adverse emotional impact was not perceived to be a major risk for this survey. However, potential participants received invitations which upheld informed consent. Their voluntary and self-selected participation was further promoted by the option to discard the questionnaire at any time without consequence. Access to the researcher was made accessible by providing contact details on the invitation and the cover letter. This included a blog address where interested participants could access a brief summary of results and a debriefing within one month after receipt of the responses.

3.7 Chapter Synthesis

This chapter presented the research design through discussion of the research approach and the research methodology. The research approach was presented as an ex-post facto and correlation design using a field survey to gather data. The discussion of the research method described the sampling and participants, the measuring instrument, research procedure and statistical analysis. A purposive sampling technique was chosen to select participants from multicultural work settings. Participants self-selected to participate anonymously in the study. The survey was designed from valid and reliable measuring scales used in prior research into variables related to WI. The research procedure included a pilot study that considered construct transportability by checking content validity. The statistical analysis strategy to test the hypotheses was discussed.

The next chapter presents the results of the statistical analysis. These results will be used to test the hypotheses and achieve the empirical objectives of this study.

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2 Excel is a registered trademark for spreadsheet software by Microsoft Corporation and PASW is a registered trademark for statistical analysis software by SPSS Inc.
CHAPTER 4: RESEARCH RESULTS

4.1 Introduction

The previous chapter presented the research approach and the research design of this study. This included an explanation of the participants, the measuring instruments, the research procedure, and the statistical methods. Data was obtained by means of following the research procedure. This chapter will present the results of several data analysis processes required to achieve the research objectives of the study.

The primary empirical research objective for this study is to test how WI, its antecedents (job resources and job demands), and its consequences (work engagement and turnover intentions) fit a covariance structure model. The secondary empirical objectives support the primary empirical objective and these are to:

1. Test how job resources and job demands (antecedents of WI in the research model) relate to WI in multicultural work settings;
2. Test if job demands act as a moderator in the relationship between job resources and WI in multicultural work settings;
3. Test if job resources act as a moderator in the relationship between job demands and WI in multicultural work settings;
4. Test how WI relates to work engagement and turnover intentions (consequences of WI) in multicultural work settings; and
5. Test how gender, age, education, organisational tenure, job level, and nationality (control variables in the research model) moderate the research model.

The chapter structure is presented in Figure 4.1. The results from the data testing phase will be presented first. Data testing is undertaken to establish whether the dataset is valid and reliable so that it can be used for the purposes of this study. While this is important preparatory work for other analysis processes, this phase does not contribute directly to the achievement of the empirical research objectives.
The data testing phase includes descriptive statistics, covariance statistics, reliability statistics, and factor analysis which serve to summarise the data and test statistical assumptions. Valid and reliable data will then be used to test achievement of the research objectives and proof of the hypotheses of this study (set in Chapter 2). The empirical objectives will be achieved in the hypothesis testing phase and the model testing phase. Most hypotheses will be tested using multiple regression analysis of the data. Use of this type of analysis process means that the secondary empirical objectives, 1 to 5, are met. The results of SEM to test the entire Research Model are used to address the primary empirical objective and secondary objective 6.

4.2 Data Testing Phase

4.2.1 Descriptive statistics.

The biographic and demographic descriptions of the participants in the study were presented in Table 3.2 and the mean values of all the items used in the survey have been recorded, see Appendix B. The descriptive statistics of all variables are presented including their means, mode, median, standard deviations, skew and kurtosis are presented in Table 4.1.
This table shows that the respondents of the survey generally selected positive answers, $M > 3$ (or, in the case of turnover intentions, $M < 3$). When the Kolmogorov-Smirnov test for normality was applied, data associated with six variables showed significant skewness above the limit for large samples, $Z > 3.29$ (Field, 2009). These test results showed that the negative skewness of the data distribution for six variables was significant, $p < .001$. However, skewness is often found when using this test, because small standard errors, which cause significant values for skewness and kurtosis, often occur in large samples ($N = 200$) (Field, 2009). Additional visual inspection of the histograms confirmed that the clearest deviations from normality in data plots were found in the same variables where the data showed the greatest skewness in the Kolmogorov-Smirnov test, $Z > 3.29$, $p < .001$. The histograms are included in Appendix C. These were organisational reputation, $Z_{skew} = -6.30$, NOID, $Z_{skew} = -5.30$, task resources, $Z_{skew} = -4.70$, and work engagement, $Z_{skew} = -5.30$. The data from two of the components of WI, which

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<th>Kurtosis</th>
<th>$SE_{kurtosis}$</th>
<th>$Z_{kurtosis}$</th>
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<td>-0.70</td>
<td>-0.61</td>
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<td>-3.21</td>
</tr>
</tbody>
</table>

Note, Miss = missing values: $M$, Mean; $SD$, Standard Deviation; $SE$, Standard Error; $p < .001$. OR, Organisational reputation; NOID, Need for organisational identification; TR, Task resources; RP, Remuneration perceptions; BPC, Breach of psychological contract; WFC, Work-family conflict; WI WC, Work centrality; WI VC, Value congruence; WI POF, Person-organisation fit; WI, Work identity; WE, Work engagement; TOI, Turnover intentions.
emerged from the factor analysis (to be discussed in section 4.2.3 to follow) were also skewed, WI work centrality, $Z_{skew} = -4.10$, and WI person-organisation fit, $Z_{skew} = -4.10$. No significant kurtosis for data from the whole sample was found.

As the data was gathered from respondents in multicultural work settings, it was apt to establish whether skewness and/or kurtosis were generally found across the different nationality groups. These results are presented in Table 4.2. To facilitate the use of the same nationality groups throughout the analysis, the division of the groups was guided by the requirement to use at least medium sample sizes (100 to 200) for SEM analysis (Kline, 2005). The data was sorted to form four groups from broadly similar nationalities, namely respondents from the UAE, respondents from the rest of the Middle East, Asian or Indian respondents (called Asia), and the remaining respondents who were predominantly from the West (called West).

Table 4.2
Skewness and Kurtosis of Data Distribution, Sorted by Nationality Group

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<th>Skew</th>
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<th>Kurtosis</th>
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* M, Mean; SD, Standard Deviation; SE, Standard Error; p ≤ .001.

OR, Organisational reputation; NOID, Need for organisational identification; TR, Task resources; RP, Remuneration perceptions; BPC, Breach of psychological contract; WFC, Work-family conflict; WI WC, Work centrality; WI VC, Value congruence; WI POF, Person-organisation fit; WI, Work identity; WE, Work engagement; TOI, Turnover intentions.

To allow for the smaller sample sizes, the threshold for the z-scores were dropped to 1.96, *p < .05, for the groups from the Middle East, Asia and the West (Field, 2009). Table 4.2 reveals that there was highly significant (*p < .001*) skewness in some data in all groups, as well as kurtosis in some of the data from the Asia group. Most of the skewed data and all of the kurtosis found in the dataset used in this study were related to the antecedent, job resources. Significantly skewed data for organisational reputation was found for all four the nationality groups, $Z_{Asia} = -4.96$, $Z_{UAE} = -4.13$, $Z_{ME} = 2.61$, $Z_{West} = -2.09$. Skew data for NOID were found for three groups, the UAE, Middle East and Asia, $Z_{UAE} = -4.75$, $Z_{Asia} = -4.36$, $Z_{ME} = -2.50$. Data from three groups showed skewness for task resources, $Z_{Asia} = -2.77$, $Z_{West} = -2.48$, $Z_{ME} = -2.22$. Only the Asia group showed skew data for remuneration perceptions, $Z_{Asia} = -2.77$. In addition to being skewed, data from the Asia group also showed positive kurtosis for three variables, organisational reputation, NOID and task resources, $Z_{OR} = 3.02$, $Z_{NOID} = 2.19$, $Z_{TR} = 3.21$. No significant skewed data was found for the job demands antecedent.
No significantly skewed data was found for WI as a single factor construct among any of the groups, but data from the group from the West was skewed for one of the components of WI (to be discussed in section 4.2.3), WI value congruence, $Z = -2.44$. For the consequences of WI, the only skewed data was also from the group from the West. Their data for work engagement was negatively skewed and their data for turnover intentions was positively skewed, $Z_{WE} = -2.91$, $Z_{Turnover intentions} = 2.26$.

### 4.2.2 Correlations.

The second step in the data testing phase focused on correlations and tested the internal consistency reliability of the scales used to gather data for this study. Table 4.3 provides the Pearson product-moment correlation coefficients ($r$) between the variables in the Research Model and the Cronbach’s alpha ($\alpha$) for each of the scales.

**Table 4.3**

*Correlations and Internal Consistency*

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Cronbach’s alpha ($\alpha$) on the diagonal.

** $p < .001$, * $p < .05$ (two-tailed)

To group similar data together for easy reference, the three new factors of WI that emerged from the FA (to be discussed in section 4.2.3 to follow) are included in this table (WI work centrality, WI value congruence, and WI person-organisation fit).
Most of the effect sizes were medium. As was expected, very large effects only occurred between the mean of WI and the means of the three components of WI. The reliability coefficients of the scales for all variables were accepted. All, except NOID, were above the recommended Cronbach’s alpha level, \( \alpha > .70 \) (Kline, 2005). NOID missed the mark only slightly, \( \alpha > .69 \), but it was retained.

### 4.2.3 Factor analysis.

A number of valid survey items used in previous studies related to WI were used to measure the variables selected in this study. Figure 4.2 represents the Research Model with the scales to test the variables in this study. To test factorial validity of these scales in the context of this study, a CFA was conducted.

Figure 4.2. Research model with the selected measurement scales for each variable.

#### 4.2.3.1 CFA

The CFA process has been described in Section 3.4.4.3.1. The CFA is an essential part of model identification in SEM because it identifies the measurement model. However, as the factor confirmation was also required for the regression procedures that preceded SEM, it was decided to conduct and to report the CFA at the starting phase of data analysis. was Principal axis factoring (PAF) with oblique rotation (oblimin) was conducted on all the 86 items in the measurement instrument used for
this study. The Kaiser-Meyer-Olkin measure verified the sampling adequacy for the analysis, $KMO = .93$ (Field, 2009). Bartlett’s test for sphericity, $\chi^2(3655) = 32753.29$, $p < .001$, indicated that correlations between items were sufficiently large for PCA (Field, 2009). An initial analysis was run to obtain eigenvalues for each component of the data. Eighteen components had eigenvalues over Kaiser's criterion of 1 and in combination expressed 66.53 percent of the variance.

The decision rules described in Section 3.4.4.3.2 were followed to confirm the hypothesised factors. A summary of these decision rules are:

- For factor inclusion:
  - Sphericity (Bartlett’s test), $p < .05$
  - KMO > 0.5
  - Anti-image correlation > 0.5
  - 60% of total variance must be explained
  - The number of factors extracted should not be more than the number of eigenvalues larger than 1.00
  - A factor is only accepted if it is represented by at least three items with acceptable factor loadings

- For item inclusion:
  - Factor loading > .30
  - Factor loading > .21, if conceptual grounds for inclusion exist
  - The difference between the absolute values of factor loadings on two latent variables must exceed .25 and conceptual grounds for inclusion must exist.

The results are presented in Table 4.4a. In this table, abbreviations of the names for the variables included in the study were added to the factor numbers in the columns to give an indication of the main factor in focus in each column. Factor loadings less than .21 (as explained in the decision rules) were not shown in this table, to prevent the denseness of the data in the table to become distracting. Cronbach alphas were not included in this table, but the reliability coefficients for all selected factors were indicated in the results of the EFA that is described in the next section.
Table 4.4a

**PAC results**

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### Table 4.4 PAC results/ continued

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OR, Organisational reputation; NOID, Need for organisational identification; TR, Task resources; RP, Remuneration perceptions; BPC, Breach of psychological contract; WFC, Work-family conflict; WI, Work identity; WI WC, Work centrality; WI VC, Value congruence; WI POF, Person-organisation fit; WE, Work engagement; TOI, Turnover intentions.
From the CFA, presented in Table 4.4a, only three of the hypothesised constructs were extracted as pure factors (or independent clusters), namely organisational reputation, remuneration perceptions, and work-family conflict. This means that all the observed items from the relevant instrument loaded uniquely on these three hypothesised factors. The requirement of items to form a unique cluster around a factor is a strong sufficient condition for model identification in SEM (McDonald & Ho, 2002). All other conditions of factor selection would be considered weaker. There were other independent clusters indicated in the table, but none of them confirmed the hypothesised structure of the factors by including all the items from the measuring instruments. Although the factor structures of some of the other constructs could already be observed from the table, any manipulation of this data would not constitute a confirmatory process. The items were therefore referred to an exploratory procedure.

An important result of the CFA was that the hypothesised three-factor structure of work engagement could not be confirmed. Arguably, a two-factor structure for work engagement could be extracted, but as items cross-loaded on multiple factors, the three hypothesised components of work engagement could not be extracted as independent factors. In addition, the three-factor structure of task resources was also not confirmed. The three clusters of items were, however, sourced from a single previous study as three separate measures from an instrument that measured job resources. The three dimensions of work engagement were, however, part of a widely researched and supported theoretical construct. For that reason this finding has substantial theoretical implications. Furthermore, contrary to previous studies, there were indicators that WI displayed some underlying factors. These observations were explored in the EFA.

4.2.3.2 EFA.

Following the confirmatory procedure, the results were inspected to determine the requirements to improve the factor extraction and provide valid and stable factors for the other procedures in the statistical analysis. It was decided that the exploratory process would be governed by the same rigour applied in the decision rules for the CFA (summarised in the section above and discussed in Section 3.4.4.3.2).
However, new factors and new factor structures were allowed to emerge in the exploratory procedure. The EFA procedure was introduced in Section 3.4.4.3.3.

The scree plot for the CFA results showed that there was a possible convergence point after 18 components. This was reflected in the 18 extracted factors of the CFA. Factors 12, 14, 16, 17 and 18 of the CFA were not feasible factors. The scree plot also showed that there was a possible alternative conversion point after factor 11. There were therefore some indications that 11 or 13 factors would be optimal for this dataset.

Consequently, to start the EFA process, two more FA procedures were performed, the first forcing 11 factors and the second forcing 13 factors. The former attempt did not add value to the clarity of the extracted factors beyond what was already observed in the CFA results. In addition, forcing eleven factors drastically reduced the items in the dataset, and therefore limited the enquiry. As the indicators of the dataset that were explored during the initial analysis phase (descriptive statistics) confidently showed that the dataset was useful, there was no reason to accept the results of this first EFA procedure. The results of the second EFA, which forced 13 factors, are presented in Table 4.4b. The shaded areas in Table 4.4b also indicate how the decision rules were applied to finally select the factors. After applying the decision rules, eleven different factors could be extracted.

Arguable the most controversial finding is Factor 1, work engagement. It was already mentioned that work engagement did not display its hypothesised three-factor structure in the CFA. In the EFA, which forced 13 factors, the strongest loadings of items from the work engagement scale were on Factor 1. However, while the three-factor hypothesis was not confirmed, there were still some weak signs of that structure observable. Work engagement items also cross-loaded on Factor 3 (which contained task resources items) and on Factor 12. Factor 12 contained mostly work engagement items. However the work engagement items loaded strongest on Factor 1. Applying the decision rules to the EFA would have meant that most of the work engagement items should have been removed. However, the UWES scale and the work engagement construct have been widely
Table 4.4b

*Results of EFA (PAC with 13 factors forced).*

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OR, Organisational reputation; NOID, Need for organisational identification; TR, Task resources; RP, Remuneration perceptions; BPC, Breach of psychological contract; WFC, Work-family conflict; WI, Work identity; WI WC, Work centrality; WI VC, Value congruence; WI POF, Person-organisation fit; WE, Work engagement; TOI, Turnover intentions.

used, and proved to be a robust construct. With strong theoretical support it was decided not to act hastily. Table 4.4b showed that items that represented work engagement was not scattered across many factors. The items retained a distinctive association with each other across three factors, but the cross-loadings did not support the anticipated three-factor structure. It was therefore decided to include
work engagement as a single factor in this study and to recommend strongly that work engagement in relation to WI and in relation to multi-cultural contexts need further investigation.

The second factor extracted in the EFA represented all the items from the work-family conflict scale. This was a unique factor confirmed in the CFA. The third factor was task resources. The originally conceptualised three-factor construct with task autonomy, task support, and task development, was not confirmed by the CFA and the results of the EFA allowed the items to form one factor with a cluster of six unique items.

The fourth, seventh and eleventh factor all related to WI. This finding introduced another unexpected twist to the analysis which is discussed in a separate section following the reporting of the rest of the EFA results.

Breach of psychological conflict was the fifth factor identified. This was formed after deleting one item that cross-loaded on two different factors. The sixth factor was NOID. The decision rules specified that the difference between absolute values was to be applied when cross-loadings were considered. Two items were removed to allow the formation of a NOID actor. The eighth factor, remuneration perceptions, was already identified as a unique factor in the CFA. Turnover intentions were accepted as the ninth factor after one item that displayed multiple cross-loadings was removed. Organisational reputation, the tenth factor, was another unique factor identified in the CFA. Factors 4, 7 and 11 are introduced in the next section.

4.2.3.3 The three-factor structure of WI.

The WI questionnaire intended to measure WI as one factor (refer to Section 3.3.6) according to the findings of De Braine and Roodt (2011). However, the PCA found that the items from this scale loaded onto three distinct factors: 4 ($\alpha = .92$), 7 ($\alpha = .87$), and 11 ($\alpha = .77$). WI is the focus of this study, and as it has been described as a young construct, new insights are likely. The implication of this finding is that three new variables were introduced to the study. This deserved further attention as the three variables were not introduced in the literature review.
After investigating common themes among the items in the three components of WI, the components were named work centrality (Factor 4), person-organisation fit (Factor 7), and value congruence (Factor 11). As these three components are included in the testing phases to be reported in the following sections, the strict focus on the reporting of results will therefore now be interrupted for an introduction of the three new variables. For extra clarity, the items that loaded onto the three factors are listed in Table 4.5.

### Table 4.5

**WI Components Identified in EFA**

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<th>Factor 7 WI Person-organisation Fit (POF)</th>
<th>Factor 11 WI Value Congruence (VC)</th>
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<td>1. How much of your identity is based on your occupation?</td>
<td>17. How personally insulted do you feel when someone criticises the organisation that you work for?</td>
<td>23. How much does your job allow for the achievement of personal goals?</td>
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<td>2. How much do you see your job as your whole life?</td>
<td>18. How embarrassed do you feel when the media criticises the organisation that you work for?</td>
<td>24. How much does your job prevent you from being yourself or becoming who you want to be?</td>
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<tr>
<td>3. How much is your occupation the most important activity in your life?</td>
<td>19. How interested are you in what others think about the organisation that you work for?</td>
<td>25. How rewarding is the work in itself as an activity?</td>
</tr>
<tr>
<td>4. How much do you base the best description of ‘who you are’ on your career?</td>
<td>20. How much do you think of the organisation’s successes as your own?</td>
<td>26. We assume your job have high standards. How easily can you identify with the high standards of your job?</td>
</tr>
<tr>
<td>5. How central does the organisation that you work for stand in your life?</td>
<td>21. Does it feel like a personal achievement when someone praises the organisation that you work for?</td>
<td>27. How much are your values the same as the values of the organisation that you work for?</td>
</tr>
<tr>
<td>6. To what extent will your life be valueless without your job?</td>
<td></td>
<td>28. How much are you able to maintain your own values at the organisation where you work?</td>
</tr>
<tr>
<td>7. How much is your own identity based on your job?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. How much do you think of work as the most important aspect of your life?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. How directly related are all your achievements to your work?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. How much does your work determine your value as a person?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. How much is the best description of ‘who you are’ related to the organisation that you work for?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. How big a part of ‘who you are’ is your work?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. How much meaning does work add to your life?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The first component, *WI work centrality*, is an established construct and was recognised as a source for the WI questionnaire (Bothma et al., 2010; De Braine &
Roodt, 2011). Work centrality has been defined as a person’s beliefs about the “degree of importance that work plays” in his or her life (Paullay et al., 1994, p. 790) and was explained in Section 2.2.4.6. Work centrality was also recognised as the opposite of work alienation (Pryor & Davies, 1989; Kanungo, 1982). The detection of this component is therefore a confirmation of previous research that recognised work centrality as a form of work-based identification (Pryor & Davies, 1989; Lawler & Hall, 1970).

The second component, WI person-organisation fit, is also a recognised concept that was used as a source for the WI survey. Person-organisation fit has been defined as the perceptions that individuals have of similarity between their selves and an organisation (Piasentin & Chapman, 2007). According to Kristof (1996) models of person-organisation fit emphasise practical perspectives. This leaves the specific aspect of the person or the organisation that is responsible for this fit unspecified – sometimes to the detriment of concept itself. However, rather than being a jumbled concept, there is substantial theoretical support (discussed in section 2.2.4.6) for the empirical evidence that person-organisation fit is a facet of WI rather than a separate construct.

The theme of the third component, named WI value congruence, refers to equivalence in personal values and workplace values. In this sense value congruence is distinct from person-organisational fit, because the former isolates values as the locus of the congruence, while the latter does not. Kristof (1996) identified the error that some authors do not distinguish between person-organisation fit and person-culture fit. The finding of a value congruence component of WI shows that this is an important distinction. Indeed, O’Reilly, Chatman, and Caldwell (1991) found this distinction in their research of person-organisation fit and defined it as congruence between individual and organisational values. There is, therefore, support for value congruence as a facet of WI in the literature related to person-organisation fit. Other previous research provides more evidence of the likelihood of value congruence as a facet of WI. Values were recognised as a source for identification at work by Cheney (1983). Studies of OI, also recognised that matching values were a source of identity at workplaces (for example, Dutton et al.,
1994). The opposite was also found; the absence of value congruence had negative effects on identification at work.

As a result of the EFA findings, the three components of WI are used in the rest of the analysis of the results, while work engagement and task resources are treated as single factor variables. In the results of the statistical analyses that follow WI is used as a single composite construct and referred to as $WI$. When a specific component of WI is used separate from the other factors, it is specifically identified (for example, $WI_{work~centrality}$). In the next paragraphs the focus of the discussion returns to the reporting of the EFA results.

### 4.3 Phase 2: Hypothesis Testing

In this section the multiple regression statistics are presented and used to test the hypotheses, which were based on the literature review (Chapter 2). Each hypothesis will be reiterated at the beginning of the presentation of relevant results in this section. The hypothesis testing phase will address the first five secondary empirical objectives (see Figure 4.1).

#### 4.3.1 Assumptions for multiple regressions verified.

The preliminary step in the hypothesis testing process was to verify whether the data met the assumptions set for regression. A full explanation of the reasoning behind the procedure is presented here with reference to the first regression model, which is for the relationship between JR and WI. In the reports of consecutive regression models, between JD and WI, and between WI and the consequences, only the statistics and brief statements on the tests for assumptions will be reported. The suggestions of Morgan et al. (2002), as well as Field (2009), are followed for the reporting content and format.

The avoidance of high multicollinearity is seen as “perhaps the most important” consideration when variables are used in multiple regressions (Hutcheson & Sofroniou, 1999, p. 78). Multicollinearity, or a close linear relationship between two variables (Field, 2009), affects the reliability of the strengths of the relationships between independent and dependent variables in the regression procedure. It was
not anticipated that multicollinearity would pose a problem in the relationship between the independent JR variables (organisational reputation, NOID, task resources, and remuneration perceptions) and the dependent variable WI. The Pearson product moment coefficients (refer to Table 4.3, above) showed a medium effect (ranging from $r = .21$ to $.50$); all well below the level of concern, $r > .80$ (Field, 2009; Hutcheson & Sofroniou, 1999).

There are three other indicators of multicollinearity that were measured when the assumptions were verified. The first is the variance inflation factor (VIF), which indicates the strength of a linear relationship existing between predictors. Some authors suggested that a value of 10 should cause concern (Field, 2009). Others used the equivalent of $r = .80$ and indicated that $VIF > 5$ should raise concern (Hutcheson & Sofroniou, 1999). The VIF values for the JR variables were all well below 5, $VIF = 1.01$ to 1.46. The second indicator is a tolerance statistic, which is related to VIF. Values below 0.20 should raise concern (Hutcheson & Sofroniou, 1999), and values below 0.10 indicate “serious problems” (Field, 2009, p. 224). The tolerance values for the JR variables were all well above the recommended limits, $Tolerance = 0.69$ to $0.99$. The third indicator is the condition index, which indicates unacceptable relative variance associated with the eigenvalue if it rises above 30 (Field, 2009). The condition indices for the job resource variables were well below this threshold, ranging from 8.47 to 17.58.

A further assumption for regression procedures is that the errors in regression are independent (Field, 2009). The Durbin-Watson test was applied to check this. The customary guideline is that a value close to 2 indicates uncorrelated errors. The Durbin-Watson statistic for this set of variables was 1.94, which indicated that the residuals were independent and the independence assumption has, therefore, been met.

Lastly, assumptions were tested by examining normal probability plots of residuals and scatter diagrams of residuals versus predicted residuals. No violations of normality, linearity, or homoscedasticity of residuals, in addition to the distribution statistics discussed before (see section 4.2.1) were detected. In addition, box plots did not reveal evidence of outliers (Morgan et al., 2002).
With the assumptions accounted for, the multiple regression statistics were analysed.

### 4.3.2 Hypothesis 1: Job resources and WI.

The first hypothesis stated that the latent variable, JR, predicted WI. Sub-hypotheses were that each of the observed variables (organisation reputation, NOID, task resources, and remuneration perceptions) also predicted WI. These hypotheses were tested by performing a stepwise multiple regression analysis between the dependent variable, WI (the composite concept, as explained at the end of section 4.2.3, above) and the independent (observed) JR variables. The regression analysis revealed that a model containing three of the JR variables (NOID, task resources, remuneration perceptions), which were entered in the order of highest correlation with WI, significantly predicted WI, $F(644) = 129.74$, $p < .001$, $R^2 = .38$, adj$R^2 = .38$.

Table 4.6 displays the unstandardised regression coefficients ($B$), intercept and standardised coefficients ($\beta$) for each variable. The adjusted $R^2$ values, which were close to the $R^2$ values, showed that the cross-validity of the results could be significant. (However, it was argued that generalisation of the results obtained in this study should be considered with great caution.) Hypothesis 1 is therefore supported.

In terms of individual relationships between the independent JR variables and WI, NOID ($t = 15.34$, $p < .001$), task resources ($t = 10.18$, $p < .001$), remuneration perceptions ($t = 2.87$, $p < .001$) each significantly predicted WI (see Table 4.1 for means and standard deviations). Together, the three variables contributed 38% of the total shared variability. Most notable for this study is that NOID contributed 27% and task resources contributed 10% of the shared variability to WI. Remuneration perceptions contributed only 1% of the shared variability, while organisational reputation could not enter the model within the criterion of probability, $p < .05$. 

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Table 4.6

*Coefficients of Regression Model: Job Resources and WI as Dependent Variable*

<table>
<thead>
<tr>
<th>Variables in regression model steps</th>
<th>B</th>
<th>SE B</th>
<th>$\beta$</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>1.97</td>
<td>0.11</td>
<td></td>
</tr>
<tr>
<td>NOID</td>
<td>0.41</td>
<td>0.03</td>
<td>0.52**</td>
</tr>
<tr>
<td><strong>Step 2</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>1.16</td>
<td>0.13</td>
<td></td>
</tr>
<tr>
<td>NOID</td>
<td>0.36</td>
<td>0.03</td>
<td>0.45**</td>
</tr>
<tr>
<td>Task Resources</td>
<td>0.28</td>
<td>0.03</td>
<td>0.33**</td>
</tr>
<tr>
<td><strong>Step 3</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>1.11</td>
<td>0.13</td>
<td></td>
</tr>
<tr>
<td>NOID</td>
<td>0.36</td>
<td>0.03</td>
<td>0.42**</td>
</tr>
<tr>
<td>Task Resources</td>
<td>0.24</td>
<td>0.03</td>
<td>0.28**</td>
</tr>
<tr>
<td>Remuneration Perceptions</td>
<td>0.06</td>
<td>0.02</td>
<td>0.10*</td>
</tr>
</tbody>
</table>

*Note. $R^2 = .27$ for Step 1, $\Delta R^2 = .10$ for step 2 ($p < .001$), $\Delta R^2 = .01$ for step 3 ($p < .001$).*

* $p < .05$. ** $p < .001$.

Hypotheses 1.2 (NOID predicts WI), 1.3 (task resources predict WI), and 1.4 (remuneration perceptions predict WI) are therefore supported, but hypothesis 1.1 (that organisational reputation predicts WI) is rejected.

An additional regression was performed to verify whether job resources predicted WI rather than work engagement (the positive consequence of WI in the research model). A stepwise regression was performed to verify this notion. The relationship between job resources and WI was stronger than the relationship between job resources and work engagement. Task resources, NOID, and organisational reputation together explained only 24% of the variance in work engagement, $F(644) = 66.05, p < .001, R^2 = .24, \text{adj}R^2 = .23$.

A further regression analysis was conducted to investigate how job resources might predict each of the three WI components. Tables 4.7 and 4.8 show the unstandardised regression coefficients ($B$), intercept and standardised coefficients ($\beta$) of this analysis. The four job resources were entered into each of the regression models in the order of highest correlation with WI.
Just like the regression model for WI as a single construct, the regressions for two of the three WI components only contained three steps (Table 4.7). This means that in each regression, one variable did not enter within the criterion of probability, \( p < .05 \).

Table 4.7  

**Coefficients of two Regression Models: Job resources with WI Work Centrality and WI Person-organisation Fit as Dependent Variables**

<table>
<thead>
<tr>
<th>Variables in regression model steps</th>
<th>WI Work centrality</th>
<th>WI Person-organisation fit</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( B )</td>
<td>( SE )</td>
</tr>
<tr>
<td>Step 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>1.70</td>
<td>0.13</td>
</tr>
<tr>
<td>NOID</td>
<td>0.45</td>
<td>0.03</td>
</tr>
<tr>
<td>Step 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>1.07</td>
<td>0.16</td>
</tr>
<tr>
<td>NOID</td>
<td>0.40</td>
<td>0.03</td>
</tr>
<tr>
<td>Task resources</td>
<td>0.22</td>
<td>0.03</td>
</tr>
<tr>
<td>Step 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>1.01</td>
<td>0.16</td>
</tr>
<tr>
<td>NOID</td>
<td>0.40</td>
<td>0.03</td>
</tr>
<tr>
<td>Task resources</td>
<td>0.18</td>
<td>0.04</td>
</tr>
<tr>
<td>Remuneration perceptions</td>
<td>0.07</td>
<td>0.03</td>
</tr>
<tr>
<td>Organisational reputation</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note.* Work centrality, \( R^2 = .23 \) for Step 1, \( \Delta R^2 = .05 \) for Step 2 \( p < .001 \), \( \Delta R^2 = .01 \) for Step 3 \( p < .05 \). Person-organisation fit, \( R^2 = .20 \) for Step 1, \( \Delta R^2 = .05 \) for Step 2 \( p < .001 \), \( \Delta R^2 = .01 \) for Step 3 \( p < .05 \). * \( p < .05 \). ** \( p < .001 \).

Table 4.7 shows that three job resources (NOID, task resources, and remuneration perceptions) significantly predicted WI work centrality, \( F(644) = 82.47, p < .001, R^2 = .28, \text{adj}R^2 = .28 \). These results indicated that the three variables (NOID, task resources, and remuneration perceptions) contributed 28% of the shared variability to WI work centrality. Three job resources (NOID, task resources, and organisational reputation) also significantly predicted WI person-organisation fit by contributing 25% of the shared variability, \( F(644) = 72.22, p < .001, R^2 = .25, \text{adj}R^2 = .25 \). NOID was therefore the strongest predictor for both work centrality, \( t = 13.74, p < .001 \), and person-organisation fit, \( t = 12.58, p < .001 \). The observable job resource, organisational reputation, did not contribute to work centrality (as that variable could not enter into the model within the criterion of probability, \( p < .05 \)). Likewise, remuneration perceptions did not play a significant role in person-organisation fit.
The regression model for job resources and the last component of WI, value congruence, contained all four job resources. This model is presented in Table 4.8.

Table 4.8

*Coefficients of Regression Model: Job Resources and WI Value Congruence as Dependent Variable*

<table>
<thead>
<tr>
<th>Variables in regression model steps</th>
<th>B</th>
<th>SE B</th>
<th>β</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>1.80</td>
<td>0.12</td>
<td></td>
</tr>
<tr>
<td>Task resources</td>
<td>0.49</td>
<td>0.03</td>
<td>0.52**</td>
</tr>
<tr>
<td>Step 2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>1.28</td>
<td>0.15</td>
<td></td>
</tr>
<tr>
<td>Task resources</td>
<td>0.45</td>
<td>0.03</td>
<td>0.48**</td>
</tr>
<tr>
<td>NOID</td>
<td>0.17</td>
<td>0.03</td>
<td>0.19**</td>
</tr>
<tr>
<td>Step 3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>1.19</td>
<td>0.15</td>
<td></td>
</tr>
<tr>
<td>Task resources</td>
<td>0.39</td>
<td>0.04</td>
<td>0.41**</td>
</tr>
<tr>
<td>NOID</td>
<td>0.17</td>
<td>0.03</td>
<td>0.19**</td>
</tr>
<tr>
<td>Remuneration perceptions</td>
<td>0.11</td>
<td>0.03</td>
<td>0.16**</td>
</tr>
<tr>
<td>Step 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>1.15</td>
<td>0.15</td>
<td></td>
</tr>
<tr>
<td>Task resources</td>
<td>0.34</td>
<td>0.04</td>
<td>0.36**</td>
</tr>
<tr>
<td>NOID</td>
<td>0.15</td>
<td>0.03</td>
<td>0.17**</td>
</tr>
<tr>
<td>Remuneration perceptions</td>
<td>0.10</td>
<td>0.03</td>
<td>0.14**</td>
</tr>
<tr>
<td>Organisational reputation</td>
<td>0.09</td>
<td>0.03</td>
<td>0.12*</td>
</tr>
</tbody>
</table>

*Note.* Value congruence, $R^2 = .27$ for Step 1, $\Delta R^2 = .04$ for step 2 ($p < .001$), $\Delta R^2 = .02$ for step 3 ($p < .001$), $\Delta R^2 = .01$ for step 4 ($p < .05$). * $p < .05$. ** $p < .001$.

In contrast to the regression results for the other WI components, NOID did not play the primary role in predicting WI value congruence. Task resources played the key role in predicting value congruence, ($t = 15.54$, $p < .001$). This was followed by NOID, remuneration perceptions, and organisational reputation in a model that significantly predicted WI Value Congruence, $F(644) = 81.81$, $p < .001$, $R^2 = .34$, $\text{adj} R^2 = .34$ (see Table 4.1 for means and standard deviations). The results in Table 4.8 also indicated that all four observable job resources in the research model contributed 34% of the shared variability to WI value congruence.

Although no hypotheses were set for the relationship between job resources and the three components of WI, the results presented here, confirmed that job resources predicted all three of the components of WI, as well as WI as a single factor. These
findings are therefore further support for hypotheses 1.2, 1.3 and 1.4, while some data supported hypothesis 1.1. One of the observable job resources, organisational reputation, which did not predict WI as a single factor, was included in the regression models that predicted WI work centrality and WI value congruence. Organisational reputation is therefore not completely irrelevant to WI.

4.3.3 Hypothesis 2: Job demands and WI.

The second set of hypotheses stated that job demands, as a latent variable, and that the two observable job demands, breach of psychological contract and work-family conflict, were significantly negatively correlated with WI. Such a relationship was not immediately obvious in the covariant statistics (Table 4.3). The correlations showed the weak positive effect of breach of psychological contract on WI, \( r = .05 \) (not significant), and that of work-family conflict on WI as significant, \( r = .09, p < .05 \). As expected, multicollinearity was not observed, \( VIF = 1.0, Tolerance = 0.99, \) the Condition Index was 6.29, Durbin-Watson = 1.87.

The hypotheses were tested by performing a stepwise multiple regression analysis between the dependent variable (WI) and the independent JD variables. The results were that breach of psychological contract was not included in the model because it did not fit within the tolerance of \( p < .05 \). Furthermore, the remaining JD, work-family conflict, was positively related to WI. The unstandardised regression coefficient (B), intercept and standardised coefficient (\( \beta \)) for the WFC variable are displayed in Table 4.9. Although the job demand significantly predicted WI, the improvement was very small, \( F(644) = 5.18, p < .05, R^2 = .01, \) adj\( R^2 = .01 \). This means that work-family conflict explained 1% in WI variability. As breach of psychological contract did not have a significant effect on WI and as work-family conflict had a positive effect on WI, Hypothesis 2 is rejected. For the same reasons, sub-hypotheses 2.1 and 2.2, dealing with the observable job demands are also rejected.

To verify that the primary relationship in the research model is between job demands and WI, and not between job demands and work engagement, another stepwise regression was performed with work engagement as the dependent variable. The two observable Job demands could not be entered into a model within the tolerance
limit of \( p < .05 \). The effect of job demands on work engagement was therefore indeterminable.

Table 4.9

**Coefficients of Regression Model: Job Demands and WI (Dependent Variable)**

<table>
<thead>
<tr>
<th>Variables in regression model steps</th>
<th>B</th>
<th>SE B</th>
<th>( \beta )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>3.41</td>
<td>0.07</td>
<td></td>
</tr>
<tr>
<td>Work-family Conflict</td>
<td>0.05</td>
<td>0.02</td>
<td>0.09*</td>
</tr>
</tbody>
</table>

*Note. \( R^2 = .01 \) (\( p < .05 \)). * \( p < .05 \).*

The next step was to investigate the relationship between job demands and the three facets of WI. Covariance statistics (Table 4.3) indicated that each job demand showed significant correlations with only two of the three WI components beyond the required probability level, \( p < .05 \). This entry criterion is generally used to ensure that a variable contributes some robustness in the explanation of variance (Kinnear & Gray, 2009). Simple regressions were therefore conducted to investigate these relationships. Table 4.10 contains the regression results between the dependent variable WI work centrality and the independent job demand, work-family conflict.

Table 4.10

**Coefficients of Regression Model: Job Demands, Work-family Conflict and WI Work Centrality (Dependent Variable)**

<table>
<thead>
<tr>
<th>Variables in regression model steps</th>
<th>B</th>
<th>SE B</th>
<th>( \beta )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>3.2</td>
<td>0.08</td>
<td></td>
</tr>
<tr>
<td>Work-family conflict</td>
<td>0.10</td>
<td>0.03</td>
<td>0.14*</td>
</tr>
</tbody>
</table>

* \( p < .05 \).

The regression model showed that work-family conflict significantly predicted WI work centrality, \( F(644) = 12.10 \) (\( p < .05 \)), \( R^2 = .02 \), \( \text{adj}R^2 = .02 \), \( t = 3.48 \), \( p < .05 \). This means that work-family conflict explained 2% of the positive variance in WI work centrality.

The results of the analysis of dependent variable WI value congruence and independent variable breach of psychological contract are presented in Table 4.11.
Table 4.11

*Coefficients of Regression Model: Job Demands, Breach of Psychological Contract and WI Value Congruence (Dependent Variable)*

<table>
<thead>
<tr>
<th>Variables in regression model steps</th>
<th>B</th>
<th>SE B</th>
<th>β</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>3.39</td>
<td>0.09</td>
<td></td>
</tr>
<tr>
<td>BPC</td>
<td>0.07</td>
<td>0.03</td>
<td>0.10*</td>
</tr>
</tbody>
</table>

* p < .05.

The regression model showed that breach of psychological contract significantly and positively predicted WI Value Congruence, $F(644) = 6.03 (p < .05), R^2 = .01, \text{adj}R^2 = .01, t = 2.50, p < .05$. Breach of psychological contract explained 1% of positive variance in WI value congruence. Therefore, the rejection of the second hypothesis is confirmed as significantly positive relationships exist between job demands and two of the three WI components, as well as observed job demands and WI as a single factor.

4.3.4 **Hypothesis 3: Job demands as a moderator of job resources.**

The third hypothesis postulated that job demands acted as a moderator between job resources and WI. To test this hypothesis a multiple regression analysis was undertaken. WI (dependent variable) was entered with the independent variables, job resources and job demands, in two separate blocks. As these variables were all previously used in the multiple regression models, only the results of the analysis will be presented here. The assumptions will not be verified again. The change in $R^2$ was small but significant when the second block, job demands, were added to the model, $R^2_{\text{JR}} = .38, p < .001, R^2_{\text{JD}} = .39, p < .05$. Job demands, therefore, did act as a very small, but still significant, moderator in the relationship between job resources and WI. Hypothesis 3 is therefore supported. However, it should be mentioned that it was expected that job demands would reduce the effect of JR on WI. Nonetheless, given the positive effect of the JD variables on WI found in previous studies (refer to section 3.3.5), the positive moderation found here, is acknowledged as evidence that a moderation effect exists.
4.3.5 Hypothesis 4: Job resources as a moderator of job demands.

The fourth hypothesis stated that JR variables acted as a moderator between JD and WI. To test this hypothesis, a multiple regression analysis was used. WI (the dependent variable) was entered with the independent variables, job resources and job demands, in two separate blocks. As these variables were all previously used in the multiple regression models, the assumptions were not verified a second time. The results of the regression showed that the change in $R^2$ was substantial and significant when the second block, JR variables, were added to the model, $R^2_{JD} = .01$, $p < .05$, $R^2_{JR} = .39$, $p < .001$. This shows that job resources did act as a significant moderator in the relationship between job demands and WI. Hypothesis 4 is therefore supported.

4.3.6 Hypothesis 5: WI and Work Engagement.

The next hypothesis stated that a significant positive relationship between WI and Work Engagement existed. This hypothesis was firstly tested by using a simple regression to analyse the relationship between WI as a one-factor structure and Work Engagement, followed by a stepwise multiple regression of the relationships between the three components of WI and Work Engagement. Before the regressions were performed, the assumptions were considered.

It was not anticipated that multicollinearity would pose a problem in the relationship between WI and its three components (independent variables) and the dependent variable, work engagement. The Pearson product moment coefficients (refer to Table 4.3, above) showed medium to large effects (ranging from $r = .50$ to $.58$, $p < .001$), but they were all well below the level of concern for collinearity, $r > .80$ (Field, 2009; Hutcheson & Sofroniou, 1999). The VIF values for WI and its components and work engagement were all well below 5, ranging from 1.26 to 1.47. The tolerance values for WI and its components were all well above the recommended limits, $Tolerance = 0.80$ to 0.68. The condition indices were well below the threshold, ranging from 11.84 to 17.16. The Durbin-Watson statistics for the variables in the regressions that were performed also showed uncorrelated residual terms, 1.98 and 1.95. All these statistics indicated that the residuals were independent and the
assumptions for regression tests have been met. Moreover, the normal probability plots of residuals, scatter diagrams of residuals versus predicted residuals, and box plots did not yield any unexpected results.

The results of a simple regression between WI and work engagement are presented in Table 4.12, below.

Table 4.12
*Coefficients of Regression Model: WI and Work Engagement (Dependent Variable)*

<table>
<thead>
<tr>
<th>Variables in regression model steps</th>
<th>B</th>
<th>SE B</th>
<th>( \beta )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>0.93</td>
<td>0.13</td>
<td></td>
</tr>
<tr>
<td>WI</td>
<td>0.79</td>
<td>0.04</td>
<td>0.64*</td>
</tr>
</tbody>
</table>

*\( p < .001 \).*

The regression results in Table 4.12 shows that WI significantly predicted WE, \( F(644) = 450.19 \) \( p < .001 \), \( R^2 = .41 \), \( \text{adj} R^2 = .41 \), \( t = 21.22 \), \( p < .001 \). This means that WI explained 41% of the variance in WE. These results show substantial increases in work engagement as WI grows, \( B = 0.79 \). Because the standard error of the regression coefficient \( (SE B) \) is small, and the large standardised coefficient \( (\beta) \) is also significant, this is a confident result. Hypothesis 5 is, therefore, supported.

To explore the relationship further, the unstandardised regression coefficients \( (B) \), intercept, and standardised coefficients \( (\beta) \) for each variable in a multiple regression between the three WI components and work engagement are presented in Table 4.13.

This table shows that all three WI components (value congruence, person-organisation fit, and work centrality) were entered as variables in the regression in the order of the size of their covariance with work engagement. The three components of WI significantly predicted work engagement, \( F(644) = 177.07 \), \( p < .001 \), \( R^2 = .45 \), \( \text{adj} R^2 = .45 \). In terms of individual relationships between the
Table 4.13

*Coefficients of Regression Model: Three WI factors and Work Engagement
(Dependent Variable)*

<table>
<thead>
<tr>
<th>Variables in regression model steps</th>
<th>B</th>
<th>SE</th>
<th>β</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>1.42</td>
<td>0.13</td>
<td></td>
</tr>
<tr>
<td>WI Value Congruence</td>
<td>0.65</td>
<td>0.04</td>
<td>0.58*</td>
</tr>
<tr>
<td><strong>Step 2</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>0.93</td>
<td>0.13</td>
<td></td>
</tr>
<tr>
<td>WI Value Congruence</td>
<td>0.45</td>
<td>0.04</td>
<td>0.40*</td>
</tr>
<tr>
<td>WI Person-organisation Fit</td>
<td>0.31</td>
<td>0.03</td>
<td>0.34*</td>
</tr>
<tr>
<td><strong>Step 3</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>0.66</td>
<td>0.14</td>
<td></td>
</tr>
<tr>
<td>WI Value Congruence</td>
<td>0.39</td>
<td>0.04</td>
<td>0.35*</td>
</tr>
<tr>
<td>WI Person-organisation Fit</td>
<td>0.23</td>
<td>0.03</td>
<td>0.25*</td>
</tr>
<tr>
<td>WI Work Centrality</td>
<td>0.23</td>
<td>0.04</td>
<td>0.22*</td>
</tr>
</tbody>
</table>

*Note.* Value Congruence, $R^2 = .34$ for Step 1, $\Delta R^2 = .08$ for step 2, $\Delta R^2 = .03$ for step 3 ($p < .001$).

Independent variables and work engagement, WI value congruence was the stronger predictor of work engagement ($t = 18.06, p < .001$), WI person-organisation fit was second ($t = 9.57, p < .001$), and WI work centrality was the weakest predictor among the three components ($t = 6.29, p < .001$). The support of Hypothesis 5 has, therefore, been reconfirmed.

4.3.7 Hypothesis 6: WI and Turnover Intentions.

The relationship between WI and the consequence turnover intentions was hypothesised to be significant, but negative. This hypothesis was firstly tested by using a simple regression to analyse the relationship between WI as a one-factor structure and turnover intentions, and secondly by a multiple regression of the relationships between the three WI factors and turnover intentions.

It was not anticipated that multicollinearity would pose a problem in the relationship between WI and its components as independent variables, and the dependent variable, turnover intentions. The Pearson product moment coefficients (refer to
Table 4.3) showed small to medium effects (ranging from $r = .21$ to $r = .44$, $p < .001$); well below the level of concern for collinearity, $r > .80$ (Field, 2009; Hutcheson & Sofroniou, 1999). The VIF values for the analyses, were all well below 5, ranging from 1.00 to 0.77. The tolerance values were all well above the recommended limits, $\text{Tolerance} = 1.00$ to 0.57. The condition indices were well below the threshold, ranging from 11.75 to 13.75. The Durbin-Watson statistics for the two regressions were 1.87 and 1.89. All these statistics indicated that the residuals were independent and the assumptions for regression tests were met. Moreover, the normal probability plots of residuals, scatter diagrams of residuals versus predicted residuals, and box plots did not indicate new concerns.

The results of a simple regression between WI and turnover intentions are presented in Table 4.14. The regression showed that WI had a significant impact on turnover intentions, $F(637) = 79.34$ ($p < .001$), $R^2 = .11$, adj$R^2 = .11$, $t = -8.99$, $p < .001$. These results showed that it can be confidently expected that turnover intentions will decrease substantially as WI grows. Hypothesis 6 is, therefore, supported.

To explore the relationship further, the three WI components were entered into a multiple regression model as independent variables with turnover intentions as the dependent variable. The three WI components were entered in the regression in the order of the size of their covariance with turnover intentions (see Table 4.3).

Table 4.14

<table>
<thead>
<tr>
<th>Variables in regression model steps</th>
<th>B</th>
<th>SE B</th>
<th>( \beta )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>4.94</td>
<td>0.25</td>
<td></td>
</tr>
<tr>
<td>WI</td>
<td>-0.61</td>
<td>0.07</td>
<td>-0.33*</td>
</tr>
</tbody>
</table>

* $p < .001$.

However, two of the three components (WI person-organisation fit and WI work centrality) did not achieve the threshold range of $r < .05$ for entry into the model. The unstandardised regression coefficient ($B$), intercept, and standardised coefficient ($\beta$) for this regression model are presented in Table 4.15. WI value congruence had a negative relationship with the outcome, turnover intentions.
Table 4.15

**Coefficients of Regression Model: Three WI Factors and Turnover Intentions**

*(Dependent Variable)*

<table>
<thead>
<tr>
<th>Variables in regression model steps</th>
<th>B</th>
<th>SE B</th>
<th>( \beta )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>5.39</td>
<td>0.19</td>
<td></td>
</tr>
<tr>
<td>WI Value Congruence</td>
<td>-0.73</td>
<td>0.06</td>
<td>-0.44*</td>
</tr>
</tbody>
</table>

*Note. \( R^2 = .19 \) (p < .001). *p < .001.

The results showed that turnover intentions is expected to decrease by 0.73 units for every one unit increase in WI value congruence. Value congruence also explained 19% of the variance in turnover intentions, \( F(637) = 152.36, \ p < .001, \ t = -13.33, \ p < .001, \ R^2 = .19, \ adjR^2 = .19 \). It is therefore argued that value congruence is the component of WI that has the most direct effect on turnover intentions.

This concludes the presentation of results from the second phase of the statistical analysis. The next section expounds the final phase of statistical analysis in which SEM is applied to the research model.

### 4.4 Phase 3: Model Testing

The overall purpose of this study was to construct a model of WI in multicultural work settings. As model construction, rather than the exploration of model predictability, was the aim, the relationships and paths explored in SEM remained close the identified theoretical relationships. Two hypotheses were tested using SEM. The first related to covariance structure in the research model and the second dealt with the effect of the moderator variables on the model. The results of the analysis of model fit and a multigroup moderation test are presented in this section.
4.4.1 Hypothesis 8: A covariance model.

The Research Model used for this study was presented in Figure 4.2. Following the testing of hypotheses that required bivariate analyses, the way in which all the variables interacted with each other in a single covariance model was investigated. The hypothesised relationships were tested with SEM methods, as explained in section 3.5.4.3. The SEM Process proceeded through five stages, namely model specification, model identification, model estimation, model testing, and model modification.

4.4.1.1 Model specification.

Following the review of previous studies, the model presented in Figure 4.4 was specified. This diagram shows that the model followed the example of the JDR model (refer to section 2.3.1) closely. According to the guidelines of Hair et al. (2006), all measured items were allowed to load on only one construct each. Four

Figure 4.4. The specified covariance model.
observed variables were associated with job resources and two observed variables were associated with job demands. All the other constructs were allowed to correlate with each other. A recursive model was envisaged whereby the causal effects between the latent variables would be unidirectional and the disturbances (that is unknown causes dependent variables that were not included in the model) were uncorrelated. Specification errors would obviously have lead to a poor fit between the model and the data and it would have required more model modifications to attempt corrections. As the CFA has been reported already the model in Figure 4.4 was not relevant anymore. However, for completeness sake, this was the model that was specified prior to model identification (which included the CFA). This specified model included three observed variables that specified work engagement, as well as three observed variables that specified task resources. Based upon available literature, WI was originally specified as a singe-factor construct.

4.4.1.2 Model identification.
4.4.1.1.1 Measurement model.

The measurement model was established by conducting a CFA (see Section 4.2.3.1). This was the essence of the measurement model identification stage. The CFA confirmed that three factors were uniquely explained by independent clusters of observed variables. Other factors were not confirmed as some of the observed variables associated with these factors were not unique (that is, cross-loadings between factors occurred). Applying an EFA procedure eliminated those observed variables that did not meet the decision rules for factor extraction (see Section 4.2.3.2). These removals then enabled optimum factor extraction from the observable variables that did meet the criteria. This also changed the specified model. As WI was found to be a three-factor structure but work engagement was not, the model had to be respecified. The respecified model is presented in Figure 4.5.
Figure 4.5. The respecified model after the measurement model was established.

This changed the number of exogenous variables in the model to eleven. The model remained overidentified (37 degrees of freedom) but one of the latent variables, job demands (marked JD in the model), was underidentified. One of the error variables, e6, associated with this parameter was constrained to a low impact 0.05.

4.4.1.2.2 Path model.
Model identification aims to determine if each parameter of the model is fixed, free or constrained (see Section 3.4.4.5.2). In the specified model there were 29 free parameters (this included the variances, plus the covariances, as well as the direct effects on endogenous variables) that had to be estimated. Therefore, to establish a just-identified model, at least 29 distinct values had to be present in the model. Based on the number of observed variables in the model (11), the number of distinct values included in the model were:

\[ \frac{p(p+1)}{2} = \frac{11(11+1)}{2} = 66 \]
where $p$ = number of observed variables. As the number of free parameters were less than the number of distinct values, the model was overidentified and the order condition has been satisfied. This represented 37 degrees of freedom.

With the model identified, the model estimation could go ahead.

### Model estimation.

The sample size in this study consisted of 644 cases. As there were 29 free parameters in the identified model, the requirement of at least ten cases per free parameter was achieved.

The desirable limits for the fit indices were described in Section 3.4.4.5.4 and set as follows:

- Maximum likelihood of model fit (Relative chi-square measurement): $\chi^2/df < 5$.
- Goodness of fit index ($GFI$): .88 to .99.
- Comparative fit index ($CFI$): .88 to .99.
- Root mean square error or approximation ($RMSEA$): .001 to .12.

For the estimated model, the relative chi-square ratio measurement was, $\chi^2/df = 235.49/37 = 6.37$, $p < .001$. The other fit indices were $CFI = .89$, $GFI = .93$, and $RMSEA = .09$. No multi-collinearity among latent variables were detected. The AMOS program drew up a correlation matrix as a basis for the estimation and subsequent testing stages of SEM. The maximum likelihood estimates for the parameters in the model are presented in Table 4.16.

The estimates in Table 4.16 showed that there were sufficient activity in each of the paths to produce a feasible model and therefore model testing could proceed.

### Model testing and modification.

Following the initial stages in the SEM process to establish that the model has been specified, identified and estimated, model testing could take place. Although the fit
Table 4.16  

*Maximum Likelihood Estimates for the Structural Model*

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Estimate</th>
<th>S.E.</th>
<th>β</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>RP ← JR</td>
<td>1.00</td>
<td>.52</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TR ← JR</td>
<td>1.12</td>
<td>.10</td>
<td>.73</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>NOID ← JR</td>
<td>.54</td>
<td>.08</td>
<td>.37</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>OR ← JR</td>
<td>1.21</td>
<td>.12</td>
<td>.64</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>WFC ← JD</td>
<td>11.17</td>
<td>5.05</td>
<td>.97</td>
<td>.03</td>
</tr>
<tr>
<td>BPC ← JD</td>
<td>1.00</td>
<td>.09</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WI VC ← WI</td>
<td>1.00</td>
<td>.79</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WI POF ← WI</td>
<td>1.02</td>
<td>.07</td>
<td>.62</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>WI WC ← WI</td>
<td>.72</td>
<td>.6</td>
<td>.53</td>
<td>&lt; .001</td>
</tr>
</tbody>
</table>

OR, Organisational reputation; NOID, Need for organisational identification; TR, Task resources; RP, Remuneration perceptions; BPC, Breach of psychological contract; WFC, Work-family conflict; WI, Work identity; WI WC, Work centrality; WI VC, Value congruence; WI POF, Person-organisation fit; WE, Work engagement; TOI, Turnover intentions.

Indices and maximum likelihood estimates ($R^2$ values) of the estimated model indicated a good model fit, several alternative models were considered. These models and their fit indices are presented in Table 4.17.

It was, however, considered prudent not to deviate too far from the originally specified model. A model generating approach was followed in the model modification stage; instead of investigating new paths in the model, the parameters were adjusted to establish the best fit. The first four models (M1 to M4) were generated with the full dataset. These models are discussed here, while the results for the other models (M4.1 to M4.4) generated with partial datasets are included in this table for comparative purposes, but discussed in the next section about moderation effects.

The original model (M1 in Table 4.17) fitted the data adequately. Although this model was overidentified, the job demands parameter was underidentified. This was corrected by constraining the error value associated with the observed variable, work family conflict to a low impact 0.05. In the second model the error value of the
alternative observed variable in the job demands path, breach of psychological contract was constrained instead of the error rating associated with breach of psychological contract. Although the fit indices were still encouraging, this change resulted in a poorer overall model fit. Following this direction of thought, the observed variable, breach of psychological contract was removed from the third model. This also removed the latent variable job demands from the model. Job demands were then only represented by one observed variable, work-family conflict. This model still indicated good fit although the absolute model fit index of the chi-square measurement dropped a little. In the fourth model a path was added between work engagement and turnover intentions. This model showed the same fit indices as the original model and was therefore selected as the best fit model.

Table 4.17
Results of SEM: Alternative Models with Standardised Maximum Likelihood Indices (N = 644)

<table>
<thead>
<tr>
<th>Model</th>
<th>$\chi^2$</th>
<th>$\chi^2$/df</th>
<th>CFI</th>
<th>GFI</th>
<th>RMSEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>M1 Original Model</td>
<td>235.49</td>
<td>6.83</td>
<td>.86</td>
<td>.93</td>
<td>.09</td>
</tr>
<tr>
<td>M2 Alternative constrained error</td>
<td>533.11</td>
<td>7.06</td>
<td>.87</td>
<td>.92</td>
<td>.10</td>
</tr>
<tr>
<td>M3 BPC removed</td>
<td>479.74</td>
<td>7.86</td>
<td>.85</td>
<td>.89</td>
<td>.11</td>
</tr>
<tr>
<td>M4 Extra path WE $\rightarrow$ TOI</td>
<td>279.84</td>
<td>6.83</td>
<td>.86</td>
<td>.91</td>
<td>.10</td>
</tr>
<tr>
<td>M4.1 UAE, $N = 223$</td>
<td>117.07</td>
<td>2.86</td>
<td>.89</td>
<td>.91</td>
<td>.10</td>
</tr>
<tr>
<td>M4.2 Middle East, $N = 188$</td>
<td>103.67</td>
<td>2.53</td>
<td>.88</td>
<td>.91</td>
<td>.09</td>
</tr>
<tr>
<td>M4.3 Asia and India, $N = 123$</td>
<td>116.53</td>
<td>2.84</td>
<td>.79</td>
<td>.84</td>
<td>.12</td>
</tr>
<tr>
<td>M4.4 Other (West), $N = 110$</td>
<td>117.51</td>
<td>2.80</td>
<td>.78</td>
<td>.82</td>
<td>.13</td>
</tr>
<tr>
<td>Parameters</td>
<td>2.0 $\rightarrow$ 5.0</td>
<td>.88$\rightarrow$.99</td>
<td>.88$\rightarrow$.99</td>
<td>.001$\rightarrow$.12</td>
<td></td>
</tr>
</tbody>
</table>

Note. $\chi^2$ = chi-square; df = degrees of freedom; CFI = comparative fit index; GFI = goodness-of-fit index; RMSEA = root mean square error of approximation. All indices, $p < .001$, unless specified.

1 BPC $\leftarrow$ JD, not significant; TOI $\leftarrow$ WI, $p < .05$; TOI $\leftarrow$ WI, $p < .05$
2 BPC $\leftarrow$ JD, not significant; TOI $\leftarrow$ WE, not significant; TOI $\leftarrow$ WI, $p < .05$
3 NOID $\leftarrow$ JD, $p < .05$; BPC $\leftarrow$ JD, $p < .05$; TOI $\leftarrow$ WI, not significant; TOI $\leftarrow$ WE, not significant
4 WI $\leftarrow$ JD, not significant; BPC $\leftarrow$ JD, not significant; BPC $\leftarrow$ JD, not significant; TOI $\leftarrow$ WI, not significant; TOI $\leftarrow$ WE, not significant; WI $\leftarrow$ JR, $p < .05$; WI $\leftarrow$ JR, $p < .05$; WI $\leftarrow$ WE, $p < .05$; NOID $\leftarrow$ JR, $p < .05$; WIPOF $\leftarrow$ WI, $p < .05$; WIVC $\leftarrow$ WI, $p < .05$.

JR, Job resources; NOID, Need for organisational identification; JD, Job demands; WFC BPC, Breach of psychological contract; WI VC, Value congruence; WI POF, Person-organisation fit; TOI, Turnover intentions.
Model M4 achieved a relative chi-square index higher than the acceptable range, $\chi^2/df = 6.83$, $p < .001$. This absolute model fit value is, however, not always trustworthy for large samples and more reliance on alternative fit indices were recommended (refer to Section 3.4.4.5.5). Furthermore, the CFI was marginally below the acceptable range, $CFI = .86$, However, the GFI was within the acceptable range $GFI = .91$. The RMSEA value was also within the lenient acceptable parameters and achieved a practical value, $RMSEA = .10$, according to the limits set by Browne & Cudeck (1993). Consequently, Hypothesis 8 is supported; WI, job resources and job demands (antecedents of WI), and work engagement and turnover intentions (consequences of WI) fit a covariance structure model.

*Figure 4.6.* The path model showing regression weights per parameter, $p < .001$.

Following the consideration of the fit indices, the attention could therefore shift to the parameters in the model. The path model is presented in Figure 4.6. The path coefficients indicated in the diagram, demonstrated the direct effects on variables in terms of standard deviations. Following the direction of the arrows, this meant that
an increase in one standard deviation of the first variable affected the next variable with the increase or decrease in standard deviation indicated by the value of the regression weight.

Each path in this model of best fit was significant, $p < .001$. Most of the path coefficients were also confirming the theory. More details are provided in Table 4.18, which shows the unstandardised regression weights, the standard errors and the standardised weights of all the parameters in the best-fit model. According to these estimates, job resources and job demands had positive causal relations with WI, $\beta = .78$ and $\beta = .11$, respectively. In addition, WI caused work engagement, $\beta = .78$ and deterred turnover intentions, $\beta = -.35$.

Table 4.18

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Estimate</th>
<th>S.E.</th>
<th>$\beta$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>WI ← JD</td>
<td>.04</td>
<td>.02</td>
<td>.11</td>
<td>&lt; .05</td>
</tr>
<tr>
<td>WI ← JR</td>
<td>.62</td>
<td>.07</td>
<td>.78</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>WE ← WI</td>
<td>1.29</td>
<td>.12</td>
<td>.78</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>TR ← JR</td>
<td>1.12</td>
<td>.10</td>
<td>.73</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>OR ← JR</td>
<td>1.21</td>
<td>.12</td>
<td>.64</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>NOID ← JR</td>
<td>1.21</td>
<td>.12</td>
<td>.37</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>WFC ← JD</td>
<td>1.00</td>
<td>.97</td>
<td>.97</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>BPC ← JD</td>
<td>.09</td>
<td>.04</td>
<td>.09</td>
<td>&lt; .05</td>
</tr>
<tr>
<td>WI WC ← WI</td>
<td>1.00</td>
<td>.53</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WI POF ← WI</td>
<td>1.44</td>
<td>.13</td>
<td>.63</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>WI VC ← WI</td>
<td>1.42</td>
<td>.11</td>
<td>.81</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>TOI ← WI</td>
<td>-1.04</td>
<td>.23</td>
<td>-.35</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>TOI ← WE</td>
<td>-2.25</td>
<td>.11</td>
<td>.16</td>
<td>&lt; .05</td>
</tr>
</tbody>
</table>

OR, Organisational reputation; NOID, Need for organisational identification; TR, Task resources; RP, Remuneration perceptions; BPC, Breach of psychological contract; WFC, Work-family conflict; WI, Work identity; WI WC, Work centrality; WI VC, Value congruence; WI POF, Person-organisation fit; WE, Work engagement; TOI, Turnover intentions.
4.4.2 Hypothesis 7: Control variables and the research model.

Although Hypothesis 8 addressed the terminal empirical objective, Hypotheses 7.1 to 7.6 could not be tested without the confirmation of a best-fit model. These hypotheses postulated that the control variables (age, gender, level of education, organisational tenure, job level and culture, represented by nationality group) had moderated the structural model (refer to Section 2.3.5). Without a successful structural path model, the analysis of the effect of the control variables would have been limited to bivariate relationships tested by multiple regression procedures. However, since hypothesis 8 was supported, there was a covariance model of WI available that could be used. The procedure for multi-group moderation testing was discussed in Section 3.4.4.5.6. The multi-group moderations tests were applied to the best-fit model, Model M4. Table 4.19 shows the results of the multi-group moderation tests.

Table 4.19
Results of Multi-Group Moderation Test

<table>
<thead>
<tr>
<th></th>
<th>Chi-square</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age: 2 groups</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unconstrained model</td>
<td>361.51</td>
<td>82</td>
<td></td>
</tr>
<tr>
<td>Fully constrained model</td>
<td>381.37</td>
<td>93</td>
<td></td>
</tr>
<tr>
<td>Difference</td>
<td>19.86</td>
<td>11</td>
<td>≤.05</td>
</tr>
<tr>
<td>Gender: 2 groups</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unconstrained model</td>
<td>323.70</td>
<td>82</td>
<td></td>
</tr>
<tr>
<td>Fully constrained model</td>
<td>333.42</td>
<td>93</td>
<td></td>
</tr>
<tr>
<td>Difference</td>
<td>9.72</td>
<td>11</td>
<td>.56</td>
</tr>
<tr>
<td>Education: 2 groups</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unconstrained model</td>
<td>338.91</td>
<td>82</td>
<td></td>
</tr>
<tr>
<td>Fully constrained model</td>
<td>375.81</td>
<td>93</td>
<td></td>
</tr>
<tr>
<td>Difference</td>
<td>36.89</td>
<td>11</td>
<td>≤.001</td>
</tr>
<tr>
<td>Tenure: 2 groups</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unconstrained model</td>
<td>348.37</td>
<td>82</td>
<td></td>
</tr>
<tr>
<td>Fully constrained model</td>
<td>361.94</td>
<td>93</td>
<td></td>
</tr>
<tr>
<td>Difference</td>
<td>13.57</td>
<td>11</td>
<td>.26</td>
</tr>
<tr>
<td>Job level: 2 groups</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unconstrained model</td>
<td>341.92</td>
<td>82</td>
<td></td>
</tr>
<tr>
<td>Fully constrained model</td>
<td>355.56</td>
<td>93</td>
<td></td>
</tr>
<tr>
<td>Difference</td>
<td>13.64</td>
<td>11</td>
<td>.25</td>
</tr>
<tr>
<td>Nationality: 2 groups</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unconstrained model</td>
<td>452.27</td>
<td>164</td>
<td></td>
</tr>
<tr>
<td>Fully constrained model</td>
<td>538.72</td>
<td>197</td>
<td></td>
</tr>
<tr>
<td>Difference</td>
<td>86.45</td>
<td>33</td>
<td>≤.001</td>
</tr>
</tbody>
</table>

Note. Applied to M4, see Table 4.17.
The basic point of departure of these tests was to apply two different datasets to the best-fit model. The results presented two different model versions. Firstly, the data of the different groups representing a control variable (for example, younger and older for age, or male and female for gender) were entered into an unconstrained (free) model. Secondly, a constrained model that forced the data from the two groups to be the same (which was essentially the assumption of the original version of the best-fit model) was calculated. The two models were then compared with each other. If the model fit indices were significantly different, it indicated that the control variable did influence the model. The procedure could then progress to investigate the paths where the moderation effects occurred. Two results were therefore obtained; moderation of the model and moderation of specific paths.

Only three control variables had a significant effect on the best-fit model, namely age ($p < .05$), level of education ($p < .01$), and nationality ($p < .01$). This information was sufficient to consider the hypotheses that stated that control variables will moderate the covariance model. Hypotheses 7.1 (age affects the model), 7.3 (level of education affects the model), and 7.6 (nationality affects the model) were therefore supported. The other control variables did not have a significant effect on the best-fit model. This means that hypotheses 7.2, 7.4, and 7.5 were not supported.

It was mentioned in Section 2.3.5 that the direction of the moderation effects would be treated as an exploratory endeavour. This exploratory aspect of the multi-group moderation test considered the specific effects of the control variables on the paths in the model. This process had two stages. The first stage was to identify which paths were significantly affected. The second stage was to compare the regression weights of the unconstrained and the fully constrained models. To complete the first stage, the 95% confidence interval of the chi-square of the free (or unconstrained) model was calculated. For age, the values were $\chi^2_{\text{free}} = 365.35$, $df = 83$, $p = \leq .05$. The free model was then recalculated, but with the first path (only) constrained. The results were then compared with the chi-square at the 95% interval to see if the chi-square result from the model was higher. A higher chi-square value registered a significant difference, while a lower value indicated not a significant difference. The
calculation was then repeated, but with the second path constrained. The comparison of chi-square values followed. Thereafter, the same procedure was repeated while considering one constrained path at a time until all eleven paths in the model were tested. While the results showed that the control variable, age, had a moderating effect on the model (as mentioned earlier in Table 4.19), but it did not moderate any specific path significantly. The moderation effect of levels of education and nationality on specific paths was clearer. These effects are presented in Table 4.20.

Table 4.20 shows the paths that were significantly moderated by level of education and by nationality, \( p < .05 \). These paths were inspected by referring to the model diagrams, which also displayed the regression coefficients associated with each path in the covariance model. The diagrams for levels of education are presented in

<table>
<thead>
<tr>
<th>Table 4.20</th>
<th>Identification of Moderation Effects on Specific Paths, ( p \leq .05 )</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age:</strong></td>
<td></td>
</tr>
<tr>
<td>Unconstrained model</td>
<td>Chi-square: 365.35</td>
</tr>
<tr>
<td>df:</td>
<td>83</td>
</tr>
<tr>
<td>Affected paths in fully constrained model: None</td>
<td></td>
</tr>
<tr>
<td><strong>Education:</strong></td>
<td></td>
</tr>
<tr>
<td>Unconstrained model</td>
<td>Chi-square: 342.76</td>
</tr>
<tr>
<td>df:</td>
<td>82</td>
</tr>
<tr>
<td>Affected paths in fully constrained model: NOID ← JR 345.08</td>
<td></td>
</tr>
<tr>
<td>WI VC ← WI 348.93</td>
<td></td>
</tr>
<tr>
<td>WE ← WI 342.80</td>
<td></td>
</tr>
<tr>
<td>TOI ← WE 343.32</td>
<td></td>
</tr>
<tr>
<td><strong>Nationality:</strong></td>
<td></td>
</tr>
<tr>
<td>Unconstrained model</td>
<td>Chi-square: 456.11</td>
</tr>
<tr>
<td>df:</td>
<td>165</td>
</tr>
<tr>
<td>Affected paths in fully constrained model: NOID ← JR 470.93</td>
<td></td>
</tr>
<tr>
<td>BPC ← JD 457.04</td>
<td></td>
</tr>
<tr>
<td>WI POF ← WI 462.45</td>
<td></td>
</tr>
<tr>
<td>WI VC ← WI 483.92</td>
<td></td>
</tr>
<tr>
<td>JD → WI 461.85</td>
<td></td>
</tr>
<tr>
<td>JR→WI 467.52</td>
<td></td>
</tr>
<tr>
<td>WI → WE 472.81</td>
<td></td>
</tr>
</tbody>
</table>

NOID, Need for organisational identification; BPC, Breach of psychological contract; WI, Work identity; WI VC, Value congruence; WI POF, Person-organisation fit; WE, Work engagement; TOI, Turnover intentions.
Figures 4.7a and 4.7b (inserted on the next page). The paths that were significantly moderated by the control variable, level of education, were NOID ← JR, WI VC ← WI, WE ← WI, and TOI ← WI. The path coefficients for each of the moderated paths are presented in Table 4.21.

Table 4.21

Path Coefficients of Paths in the Covariance Model which were Significantly Moderated by Level of Education, p < .001

<table>
<thead>
<tr>
<th>Path</th>
<th>Lower education</th>
<th>Higher education</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOID ← JR</td>
<td>.57</td>
<td>.29</td>
</tr>
<tr>
<td>WI VC ← WI</td>
<td>.68</td>
<td>.85</td>
</tr>
<tr>
<td>WE ← WI</td>
<td>.75</td>
<td>.79</td>
</tr>
<tr>
<td>TOI ← WE</td>
<td>.05</td>
<td>-.25</td>
</tr>
</tbody>
</table>

NOID, Need for organisational identification; WI, Work identity; WI VC, Value congruence; WE, Work engagement; TOI, Turnover intentions

The differences in path coefficients showed that NOID played a larger role in the formation of perceived job resources in the lower education group (post-secondary diploma or lower), $\beta = .57$, than the higher education group (first degree or higher), $\beta = .29$. This indicated that the need for organisational identification was a far more important component for lower educated employees than for higher educated employees. Conversely, WI value congruence played a stronger role in the formation of WI among employees with higher education, $\beta = .85$, than the lower education group, $\beta = .68$. Although the difference looked small, a significant difference between the role that WI played in the formation of work engagement existed between the two groups. WI played a stronger role in the formation of work engagement with the higher education group. For every one standard deviation increase in WI, a .79 standard deviation increase in work engagement was observed for this group, $\beta = .79$. Comparatively, work engagement grew by .75 standard deviation for the lower education group. Finally, employees with lower education
Figure 4.7a. Unconstrained covariance model with data from lower education group.

Figure 4.7b. Unconstrained covariance model with data from higher education group.
were more inclined to entertain turnover intentions even if they experienced work engagement than higher educated employees. For every one standard deviation increase in work engagement lower educated employees increased their turnover intentions just a little, $\beta = .05$. However, work engagement was a stronger buffer against turnover intentions for employees with higher education; every standard deviation increase in work engagement reduced their turnover intention by .25 of standard deviation, $\beta = -.25$.

The control variable, nationality, also moderated several paths in the best-fit model significantly. As the main focus of this study was to investigate a model of WI in multicultural work settings, nationality, as the indicator for culture (explained in section 2.3.5.6) were deemed important. To interpret the results regarding nationality, Table 4.17 is important again. The results of SEM confirmed that a covariance model for WI in multi-cultural settings, M4, fitted the data from all nationality groups. A single covariance model therefore explained the process of how job resources and job demands caused WI and how WI caused work engagement and turnover intentions. However, within this best-fit model, cultural differences still played a role. In fact, the best-fit model was recalculated four times with data from four different nationality groups. The model remained stable and the model fit improved with data from fewer cultures. The nationality groups were UAE (Model 4.1), the Middle East (Model 4.2), Asia/India (Model 4.3), and the West (Model 4.4). As Table 4.17 shows, the fit indices for the UAE group and the Middle East group were all well within the acceptable parameters. The relative chi-square measurement, $\chi^2/df$ (which indicates the maximum likelihood that the data fit the model) for the models containing data from Asia and the West were still within the acceptable parameter. (The smaller sample sizes could, however, have played a role.) However, in Model 4.3, for Asia and especially for the West group (Model 4.4) other fit indices dropped slightly below the parameters. The error variances that required constraining also increased from Model 4.1 to Model 4.4. While these results reconfirms hypothesis 8, the tested covariance model is clearly best-suited for a multicultural population.
How nationality moderated the specific paths in the model were tested (refer to Table 4.19). Following the second stage of the multi-group moderation test it was established that nationality moderated many specific paths (refer to Table 4.20), namely NOID ← JR, BPC ← JD, WI POF ← WI, WI VC ← WI, JD → WI, JR → WI, WI → WE. The diagrams with the path coefficients of the free models containing the data from the four nationality groups are included in Figures 4.8 a, b, c, and d (on the following pages). The path coefficients of the significantly moderated paths across the four models are also presented in Table 4.22.

Table 4.22

Path Coefficients of Paths in the Covariance Model which were Significantly Moderated by Nationality, p < .001

<table>
<thead>
<tr>
<th>Path</th>
<th>UAE</th>
<th>Middle East</th>
<th>Asia</th>
<th>West</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOID ← JR</td>
<td>.22</td>
<td>.62</td>
<td>.26</td>
<td>.31</td>
</tr>
<tr>
<td>BPC ← JD</td>
<td>.10</td>
<td>.06</td>
<td>.27</td>
<td>-.04</td>
</tr>
<tr>
<td>WI POF ← WI</td>
<td>.60</td>
<td>.66</td>
<td>.64</td>
<td>.53</td>
</tr>
<tr>
<td>WI VC ← WI</td>
<td>.83</td>
<td>.72</td>
<td>.80</td>
<td>1.01</td>
</tr>
<tr>
<td>JD → WI</td>
<td>.19</td>
<td>.05</td>
<td>.27</td>
<td>-.02</td>
</tr>
<tr>
<td>JR → WI</td>
<td>.85</td>
<td>.77</td>
<td>.87</td>
<td>.77</td>
</tr>
<tr>
<td>WI → WE</td>
<td>.84</td>
<td>.73</td>
<td>.80</td>
<td>.65</td>
</tr>
</tbody>
</table>

NOID, Need for organisational identification; JR, Job resources; BPC, Breach of psychological contract; JD, Job demands; WI, Work identity; WI VC, Value congruence; WI POF, Person-organisation fit; WE, Work engagement.

The path coefficients showed that the Middle East group relied more heavily on NOID as a job resource than other nationality groups, $\beta = .62$. There were distinct differences in the way that nationality groups processed breach of psychological contract as a job demand. While members of the Asian group perceived that breach of psychological contract is a substantial job demand, $\beta = .27$, members of the West
Figure 4.8a. Unconstrained covariance model with data from the UAE nationality group.

Figure 4.8b. Unconstrained covariance model with data from the Middle East nationality group.
Figure 4.8c. Unconstrained covariance model with data from the Asia nationality group.

Figure 4.8d. Unconstrained covariance model with data from the West nationality group.
group did not perceive that this variable formed part of job demands at all, $\beta = -.04$. WI person-organisation fit played a smaller part in the formation of WI among members of the West group compared to other nationality groups, $\beta = .53$, but WI value congruence played a more substantial part in their perceptions of WI, $\beta = 1.01$. WI value congruence played a smaller role in the formation of WI among the Middle East group, $\beta = .72$. Members of the West group were the only respondents who perceived that job demands detracted from WI, $\beta = -.02$. This contrast sharply with the way that the Asian group perceived that an increase of one standard deviation in job demands cause an increase of .27 in WI, $\beta = .27$. Similar patterns of perceptions about the job resources as a cause of WI were found among all groups, although the difference between the groups from the Middle East and the West, $\beta = .77$, and the UAE and Asia, $\beta = .85$ and $\beta = .87$ respectively, were significant. Finally, WI caused less work engagement from the West group, $\beta = .65$, and most from the UAE group, $\beta = .84$.

Therefore, while a common variance model for WI existed in multicultural settings, nationality moderated this model in distinctive ways to buffer or enhance the way that WI was caused and how WI caused its consequences.

### 4.5 Chapter Synthesis

This chapter reported the results of the study by presenting the statistics in three phases. In the data exploration phase, the dataset was tested to ensure that it was adequate for analysis. Analysis of the descriptive statistics showed that the data was non-normally distributed as most of the results were slightly, and in the case of six variables significantly, skewed. Although the sampling technique used for the study (see section 3.3.1) already served as a deterrent against generalisation of the results, the non-normal distribution of data is a further caution against generalising the results beyond this sample.

The covariance statistics dispelled collinearity concerns and indicated many significant medium correlations between variables. This indicated a sound basis for the application of other statistical techniques. A factor analysis completed the data
exploration phase by showing that the components of the survey were discreet variables. The factor analysis also produced evidence of a three-factor structure for WI, while the data did not support a three-factor structure for work engagement.

In the next phase of data analysis, most of the hypotheses were tested by applying several regression techniques. The hypothesised relations between job resources and WI, and between WI and its consequences were supported. However, the analysis did not confirm a significant negative relationship between job demands and WI. These results emphasised the distinctive nature of the multicultural sample drawn for this study.

Finally, in the model testing phase, SEM was applied to test the covariance structure of the entire model. This showed that a feasible causal path model of WI was likely, as the model fit indices met or approached adequate model fit parameters. However, when the datasets from different nationality groups were used, the UAE dataset provided an improved model fit, indicating that the underlying theory does not apply to all nationalities in the same way. It was also found that the WI component, value congruence contributed most consistently to improved model fit across the different nationality groups. Finally, the results also showed that three control variables, age, education and nationality, moderated the most recommended WI model.

In the next chapter the results will be discussed and interpreted.
CHAPTER 5: DISCUSSION AND INTERPRETATION

5.1 Introduction

The previous chapter presented the results of several analyses of the data gathered during this research. In a first phase of analysis, the data integrity was tested and the descriptive statistics, covariance statistics, and the results of a CFA were presented. Secondly, the results of multiple regression analyses, used to test most of the hypotheses, were reported. Finally, the results of SEM, which was used to test the entire research model and the moderation effects of the control variables on the model, were presented.

The focus of this chapter is the interpretation of the research results and their integration with the current research literature. The findings of the study will be discussed and interpreted in two stages, each incorporating four phases. This process is illustrated in Figure 5.1.

![Figure 5.1. Chapter structure.](image)

This process is followed in order to present a phased discussion of the components of this study arranged according to four different points of interest, namely:
1) The nature of the central construct of the study, WI.
2) The antecedents of WI in multicultural work settings.
3) The consequences of WI in multicultural work settings.
4) Other elements related to the model of WI.

Section 5.2 will present a discussion of the theoretical objectives of this study in the four phases mentioned above. In section 5.3, the empirical objectives will be deliberated and the results interpreted within the same four discussion components.

5.2 Review of Theoretical Objectives

The primary theoretical objective for the study was to find and use research evidence to develop a model of WI in multicultural work settings. A proposed model was presented in Figure 1.2. This model was generated by a review of the research literature according to the supporting theoretical objectives, which were to:
1) explore and define WI;
2) determine and describe antecedents of WI in multicultural work settings;
3) determine and describe consequences of WI in multicultural work settings; and
4) establish which biographical and demographical variables (control variables in the research model) were likely to affect the model.

The literature review (Chapter 2) achieved the theoretical research objectives. These results will now be briefly recapitulated in the three phases as outlined in section 5.1 (above).

5.2.1 Work identity.

The primary objective of this research project was to produce a model of WI. However, to do that, the feasibility of WI as a construct had to first be established. This was the focus of the first theoretical objective. As WI is the central construct in all the research objectives, it is addressed first in this summary of theoretical objectives.
WI was defined by Walsh and Gordon (2008) as …a work-based self-concept constituted of a constellation of organisational, occupational and other identities that shapes the roles individuals adopt and the corresponding ways they behave when performing their work” (p. 4).

The key elements of this definition accentuate that WI is an individual identity, which stems from a variety of factors at work, and which influences the behaviour of individuals at work. Behind this definition was, however, an uneven history of theoretical development, which will be summarised in the next sections.

5.2.1.1 Theoretical development of WI.

WI (in the definition presented here above) is the culmination of arguments from Psychology and Sociology. Individual identity in social settings was explored via SIT and SCT (Turner et al., 1979). These theories explained the process of forming an individual identity by internalising characteristics that belong to social groups. Early in this process, the social exchange theory (Thibault & Kelly, 1959, quoted by Tyler & Blader, 2000) pushed the idea of social identity closer to the workplace by describing how people’s cooperation to obtain valuable resources forms bonds between them. Identity theory (Stryker, 1968; Stryker & Serpe, 1982) found that the relationship between people and social systems allowed individuals to develop a sense of who they were, and to self-enhance. These ideas were then applied and developed by numerous other researchers to explain the identity-related ‘work’ that people do to benefit both themselves and the groups with which they associate (Abrams & Hogg, 2004; Ashforth and Mael, 1989; Deaux & Martin, 2003; Fiske & Neuberg, 1990; Haslam, 2004; Hogg & Terry, 2001; Pratt, 1998; Sherman et al., 1999; Tajfel, 1982; Turner et al., 1979).

Meanwhile, workplaces and work, as dominant social ideas, have attracted increasing attention since the Industrial Revolution (De Vries, 2008). Through the publications of Marx and Engels (for example, Engels, 1891), work was recognised as a powerful social tool. However, Etzioni (1964, p. 3) moved away from a political definition of work to provide a relevant (for this study) explanation of workplaces as “deliberately planned… human groupings… (that) seek specific goals”. These ideas
acknowledged the workplace as a social unit that played an integral and indispensable role in people’s lives.

Bringing the two ideas (social identity and the workplace) together was moved along by a body of research that investigated identification with organisations (Alderfer & Smith, 1982; Ashforth & Mael, 1989; Dutton et al., 1994; Hogg & Turner, 1987; Lum et al., 1998; Pratt, 1998; Wan-Huggins et al., 1998). OI was recognised as “the degree to which a member defines him- or herself by the same attributes that he or she believes define the organisation” (which could include values, norms, and interests) (Dutton et al., 1994). As these studies progressed, it became clear that while OI was a valid construct, there were also other loci of work-related identity (refer to section 2.2.4.1). These included different social units in a work setting (such as groups related to work, community or profession) or even the notion of work itself (Ashforth et al., 2008; Hogg & Terry, 2000; Kreiner and Ashforth, 2004; Riketta & Van Dick, 2005). The effect of these findings was twofold. Firstly, it paved the way for the understanding of work-based identity as a construct broader than OI. Secondly, it broke through a wall between OI research and studies of other constructs describing individuals’ relationship with their work settings (discussed in the section 5.3.1.3, below). Both these consequences served to create a setting within which WI could be established.

Several researchers have recently been working to clarify the construct of WI (Walsh & Gordon, 2008; Riketta and Van Dick, 2005), some of them serving to share methods or approaches relevant to this study (Bothma et al., 2010; De Braine & Roodt, 2011). As such, studies of WI are still establishing the nature of this new construct. These studies have already recognised that the main root of WI is social identity, later developed further through the studies of OI. However, the next section briefly summarise a different group of studies which introduced concepts that may be have been WI in a less overt form.

5.2.1.2 WI in other constructs.

Work involvement, work commitment, and work engagement were found to be three concepts that shared common ground with WI and its roots. These three terms were often used interchangeably (Penley & Gould, 1988). By definition, the three terms
are forms of work-based identification. Lawler and Hall (1970) recognised that job involvement was work as a central life interest (the idea of Dubin, 1956, quoted by Pryor & Davies, 1989). Both these concepts were cognitive states of identification - “an important part of … self-concept” (Lawler & Hall, 1970, p. 311). Kanungo (1982) explained that job involvement stretched beyond the job and renamed the construct work involvement. He defined it as psychological identification with work and recognised that it was the positive psychological opposite of the sociological notion - work alienation.

By definition, work commitment also contained WI. Affective commitment (one of a trio of commitment dimensions) was defined as the “identification with, involvement in, and emotional attachment to” a workplace (Allen & Meyer, 1996). Other researchers defined commitment as the strength of identification with an organisation (Steers, 1977). It is therefore clear that WI may be incorporated within both work commitment and work involvement.

Involvement also appeared in the definition of dedication, which is a dimension of work engagement (Bakker & Demerouti, 2007). Dedication was found to be one pole of an identification continuum (with cynicism, a dimension of burnout, at the other end) (González-Romá, Schaufeli, Bakker, & Lloret, 2006; Schaufeli and Bakker, 2004). The link between work engagement and WI was also confirmed by Kahn (1990) who conceptualised engagement as a process whereby people “bring in or leave out their personal selves during work role performances” (p. 649). While the current understanding of work engagement seems to assume identification, engagement may also contain a wider “persistent and pervasive affective-cognitive state that is not focused on any particular object, event, individual or behaviour” (Schaufeli et al., 2006, p. 702). Teasing out WI from work engagement (especially when the identification continuum is considered) may help to bring new understanding of the identification process in work settings.

5.2.2 Antecedents in the research model.

As the primary theoretical objective of this study was to establish model of WI in multicultural work settings, all other theoretical objectives contributed to achieving
this result. The second theoretical objective required the identification of antecedents of WI. Job resources and job demands were selected as antecedents according to the tenets of the JDR model, used to organise the model of WI (see Figure 1.2). This choice was made because the JDR model has been established and used to study work engagement (and burnout) in an organisational contexts (Maslach et al., 2001; Schaufeli & Bakker, 2004). The JDR model postulates that job resources and job demands interact to cause positive and negative consequences at work (refer to section 2.3). Another reason to use an established model as the basis of this study is the research context. JDR studies were widely undertaken across Europe (Llorens et al., 2007), the United States of America (Buche, 2003), and in Africa (Barkhuizen & Rothmann, 2006; De Braine & Roodt, 2011; De Bruin & Taylor, 2006; Rothmann & Jordaan, 2006; Rothmann et al., 2006). However, no previous study on WI or JDR could be found in the multicultural workplaces of an Arabian Gulf or Middle Eastern country.

The JDR model specifies job resources and job demands as independent latent variables, but it recognises that a variety of observed variables may constitute these resources or demands. The selection of associated observed variables as antecedents to WI in the research model drew on previous studies as well as experience in the research context.

### 5.2.2.1 Job resources.

It was hypothesised that the presence of job resources would predict WI. There were four observed variables selected as job resources for this study, organisational reputation, NOID, task-level resources, and remuneration perceptions. Organisational reputation captures the organisational members' beliefs about the general appraisal of an organisation's reputation by its the stakeholders over time (Kreiner & Ashforth, 2004; Wan-Huggins et al., 1998). Organisational reputation was positively related to OI in several studies (Mael & Ashforth, 1992).

NOID refers to an individual's need for an identity obtained from a larger or more general social category related to their workplace (Glynn, 1998; Kreiner & Ashforth, 2004). Previous studies found that the NOID trait accelerated OI (Brewer, 1991; Glynn, 1998; Kreiner & Ashforth, 2004).
Resources that facilitate tasks accomplishment, or task-level resources, are a familiar sight in workplace-related research, including those in studies of WI-related concepts (Boles et al., 1997; Carmeli, 2005; Kotzé & Roodt, 2005; Gini, 1998; Kreiner & Ashforth, 2004; Van Veldhoven et al., 2002; Wan-Huggins et al., 1998). Task resources are also found in most studies using the JDR model (Bakker et al., 2004; Bakker et al., 2005; De Braine & Roodt, 2011; Mostert & Rathbone, 2007; Rothman & Jordaan, 2006). These previous studies found a positive relationship between task resources (as independent variables) and WI-related dependent variables.

Remuneration perceptions refer to people’s opinions about the remuneration that they receive at work. Consideration of the research context played a major role in the selection of this variable. However, several studies found that remuneration perceptions were closely related to job satisfaction (Igalens & Roussel, 1999), intentions to stay in an organisation (Brown et al., 2004), and to work engagement dimensions (Rothmann & Jordaan, 2006).

In alignment with the JDR model, the second antecedent of WI is job demands.

### 5.2.2.2 Job demands.

In previous studies using the JDR model, job demands predicted burnout, stress, and turnover intentions, but not work engagement (Schaufeli & Bakker, 2004; Rothmann & Jordaan, 2006). Job demands also moderated the positive effect of job resources on positive outcomes (Bakker et al., 2004). Two observable variables, breach of psychological contract and work-family conflict were selected to represent the latent variable, job demands. The main arguments for the selection of these variables were contextual. Breach of psychological contract is perceived as a key factor in the work experience of foreigners in the UAE. Work-family is considered to be a challenge for many local nationals. However, both these variables have been used in previous studies about identification. It was hypothesised that job demands would not contribute to cause WI and that the absence, or low, WI would lead to negative consequences.
In this study, breach of psychological contract is seen as the employee’s perception of a breach of the subjective set of expectations that each employee has of the employer (Muller-Camen et al., 2008; Robinson & Morrison, 2000). Kreiner and Ashforth (2004) found that breach of psychological contract correlated most strongly with disidentification, but also with ambivalent identification, and neutral identification (which is neither identification nor disidentification). They also found that breaches of the psychological contract correlated significantly and negatively with OI. This finding was mirrored in a study about organisational commitment (defined as the strength of identification with the organisation), which, in addition, found that breach of psychological contract was related to turnover intentions (Geurts, Schaufeli, & Rutte, 1999).

Work-family conflict was operationalised in this study to mean conflict between an individual's work and family (or home) responsibilities in which one's operation and actions at home are negatively affected by work demands (Boles et al., 1997; Demerouti et al., 2004). Work-family conflict was included in several studies that used the JDR model and in studies of WI-related concepts (Demerouti et al., 2004; Greenhaus et al., 2001; Haar, 2004; Mostert & Rathbone, 2007). These studies showed that WFC not only caused significant demands on people at work, but it was also associated with withdrawal, disengagement, or turnover intentions.

5.2.3 Consequences in the research model.

The third theoretical objective focused on the consequences of WI. Work engagement and turnover intentions, the two consequences of WI included in the research model, were found in previous studies to be significant outcomes of the JDR model (Bakker et al., 2004, 2005, Bakker & Demerouti, 2007; De Bruin & Taylor, 2006; Rothmann et al., 2006; Rothmann & Jordaan, 2006; Schaufeli & Bakker, 2004). As there are a smaller number of previous studies related to the consequences of WI, it was decided to keep two established variables in the research model to measure consequences of WI.

Work engagement has been defined as a “persistent and pervasive affective-cognitive... positive, fulfilling, work-related state of mind that is characterised by
vigour, dedication, and absorption” (Schaufeli & Bakker, 2004, p. 195). At least a portion of work engagement was expected to overlap with WI because of the presence of the dedication dimension as part of an identification continuum in work engagement. However, some studies found that work engagement did not always contain the three dimensions postulated by its definition (Barkhuizen & Rothmann, 2006; Rothmann & Jordaan, 2006; Sonnentag, 2003). It was therefore argued that there were elements of the work engagement concept that were caused by WI (Hirschfeld & Feild, 2000). This study therefore hypothesised that work engagement is a consequence of WI.

Many studies found turnover intentions to be a reliable predictor of actual turnover (Hom et al., 1984; Mobley, 1982; Mowday et al., 1979; Steers & Mowday, 1981). Turnover intentions were often the consequence of the negative outcome, burnout, as a result of the interaction between job resources and job demands. The relationship between WI and turnover intentions was also supported by several studies of other WI-related concepts (Riordan & Griffeth, The Opportunity for Friendship in the Workplace: An Underexplored Construct, 1995). In one of the few multicultural studies of OI, it was found that there was an interaction between OI and turnover intentions (Abrams, Ando, & Hinkle, 1998). This study therefore hypothesised that turnover intentions will be the consequence of low WI or the absence of WI.

5.2.4 Other elements in the research model.

The final theoretical objective was to establish which biographical and demographic variables were likely to moderate the WI model. Evidence from previous studies showed that age, gender, education, organisational tenure, job level and nationality moderated relationships between some of the variables included in the research model. These control variables were therefore included as likely moderators of the WI model in this study.

This overview of the outcomes of the theoretical objectives of the study serves to underpin the discussion of the empirical objectives in section 5.3 below.
5.3 Review of Empirical Objectives

Following the design of a theoretical research model, the model was empirically tested. The primary empirical objective was to test how WI, its antecedents (job resources and job demands), and its consequences (work engagement and turnover intentions) fit a covariance structure model. Logically, the following secondary empirical objectives had to be achieved to support the terminal empirical objective, namely to:

1) Test how job resources and job demands (antecedents of WI in the research model) relate to WI in multicultural work settings.
2) Test if job demands act as a moderator in the relationship between job resources and WI in multicultural work settings.
3) Test if job resources act as a moderator in the relationship between job demands and WI in multicultural work settings.
4) Test how WI relates to work engagement and turnover intentions (consequences of WI in the research model) in multicultural work settings.
5) Test how gender, age, education, organisational tenure, job level, and nationality (control variables in the research model) moderate the research model.

The empirical objectives were also used to direct the research methods and the analysis of results (presented in Chapters 3 and 4). These objectives will guide the discussion of the interpretation and integration of the results in this section in the same four phases used to summarise the theoretical objectives in section 5.2. This is, firstly, findings about the core focus of the study, WI, secondly, the antecedents in the research model, thirdly, the consequences of WI, and, finally, other elements related to the research model.

5.3.1 Work identity.

As WI is the central concept of the research project and all the empirical objectives (listed above) point towards it, and as the purpose of this chapter is to integrate the results of the study, the findings related to WI are discussed first. The most
important findings related to WI emerged from the data-testing phase, particularly the CFA that preceded the testing of hypotheses.

Previous studies used numerous instruments to operationalise ideas that are now recognised as associated with WI. However, only the work-based identity questionnaire of Roodt et al. (2009), used by Bothma et al. (2010) and De Braine and Roodt (2011), encapsulated the concept of WI as it has been defined in this study. Their questionnaire aimed to operationalise the definition of WI used in this study as presented at the start of this chapter (see section 5.2.1). De Braine and Roodt (2011) explained that this instrument was designed by testing and refining a combination of scales that measured facets of WI such as work centrality, person-organisation fit, OI, workaholism, organisational-related involvement or commitment, job involvement, job identity, career identity, and professional or occupational identity. After using their questionnaire in a study with 2,429 participants, a factor analysis showed 28 items delivered the best results, $\alpha = .95$. Their questionnaire was then applied to this study. Although intended to measure a WI as a single factor, confirmatory factor analysis applied in this study did not render the single-factor structure that either Bothma et al. (2010) or De Braine and Roodt (2011) encountered. The CFA was followed by an EFA which extracted three discrete WI factors from the data. The three WI factors yielded acceptable internal consistency and were given descriptive names based upon the common theme of the related items as follows:

- Work centrality, $\alpha = .92$,
- Value congruence, $\alpha = .77$, and
- Person-organisation fit, $\alpha = .87$.

These components were introduced and discussed in section 4.2.3.

As Roodt et al. (2009) used source material from different facets and loci of WI to design their instrument, finding different facets of WI was not entirely unexpected. Moreover, the foundational disciplines had already established that identity is a dynamic and multifaceted concept (refer to section 2.2.2) and the very definition of WI also emphasised these characteristics (refer to section 5.2.1, above). In addition, recognising identity as a multifaceted concept, must prompt the question, which
facets? This study can therefore offer an answer to that question. The three components of WI reported in the results of the PCA in this study were clearly facets of WI, rather than loci of WI. This finding supports the focus of WI as “a work-based self-concept” (according to the definition by Walsh & Gordon, 2008, p. 49) rather than situated in a single locus related to work, such as job, profession, or career.

In the SEM analysis it was found that all three paths between WI and its constituent facets were strong, $\beta = .53$ for work centrality, $\beta = .63$ for person-organisation fit, and $\beta = .81$ for value congruence. Finding three components of WI and finding that they all strongly contribute to form the WI construct, provided an opportunity to add an exploratory extension to the empirical objectives. While meeting the requirements of the objectives to test WI (now understood as an integrated three-factor structure, $\alpha = .93$), each of the three WI components were also considered separately in relation to the antecedents and consequences of the research model. The results were reported in Chapter 4.

The evidence from these exploratory analyses made a major contribution to clarify WI and to firmly establish it as a social identity construct. Using multiple regression analyses it was established that these facets became somewhat important in relation to different parts of the research model (refer to section 4.3.2). For example, NOID best predicted WI work centrality and WI person-organisation fit, but not WI value congruence (see Tables 4.7 and 4.8 in Section 4.3.2). Task resources, the strongest predictor of WI value congruence, did not affect the other two WI components as strongly. Organisational reputation did not explain variability in WI work centrality at all, while remuneration perceptions did not contribute to WI person-organisation fit. Therefore, different facets of WI responded to different antecedents. These results indicated that WI indeed behaves like a multifaceted construct.

In conclusion, the three components of WI appear to present three levels of detail about WI. First, work centrality refers to a predispositional cognition that work is a central life interest which exists in a person. Next, on a more general level, person-organisation fit refers to the recognition that aspects of an organisation is “similar to me”. From previous research we know that if an individual's needs and that of an
organisation are in agreement with one another, the association is likely to be more lasting (Kristof-Brown et al., 2005). Finally, value congruence refers to deep-seated cognitions or fundamental aspects of a person which similar match elements in the work setting. The nature of this facet indicates that the process of identification in the workplace moves beyond superficial or mere transactional associations. In the order of discussion here, the three components of WI also appear to present increasing degrees of internalisation. More importantly, they give the impression that WI is an encompassing process that may depend upon some series of triggers of different facets within both the organisation and the individual. Responding to these triggers, one can expect WI to intensify from an unsteady situated identification to a deep-rooted self-definition (Ashforth et al., 2008; Rousseau, 1998; Torres et al., 2003).

Achievement of the empirical objectives of the study yielded a clearer explanation of WI as a construct. This, in itself, was already a key contribution that the empirical part of this study made to the body of WI-related knowledge. However, the concepts that cause, and are caused by WI, were also empirically tested and are discussed in the following sections.

5.3.2 Antecedents of WI.

The first empirical objective focused on testing the relationship between the antecedents (job resources and job demands) and WI. As these are the two key variables in the JDR model, these results are discussed here. Previous studies using the JDR model found that job resources predicted positive outcomes (Bakker, 2003; De Braine & Roodt, 2011; Llorens et al., 2007; Schaufeli & Bakker, 2004). This study confirmed these findings. All the previous studies quoted here, used job resources and job demands as independent variables, and work engagement as a dependent variable, while the present study used WI as the dependent variable. Job resources also predicted the positive consequence, WI, $F(644) = 129.74, p < .001, R^2 = .38, \text{adj} R^2 = .38$. This represents another major contribution from this study to the body of knowledge about WI and the JDR model.
However, as work engagement was used as a consequence of WI within the research model used here, the direct relationship between job resources and work engagement was also tested to confirm the theoretical model. It was found that job resources produced a higher beta weight in WI than in work engagement, $\beta_{WI} = 0.45$; $\beta_{Work\ engagement} = 0.33$. Job resources was also responsible for less variance in work engagement, $F(644) = 66.05$, $p < .001$, $R^2 = .24$, $adjR^2 = .23$ than in WI. This showed that job resources had a greater predictive effect on WI than on work engagement. This finding confirms a similar result achieved by De Braine and Roodt (2011).

The job resources used in this study combined well in the SEM with WI and its consequences. However, the regression analyses showed that the four selected observed variables included in the research model for the purpose of representing the latent variable job resources, did not explain all the variance in WI, $F(644) = 129.74$, $p < .001$, $R^2 = .38$, $adjR^2 = .38$ (refer to Table 4.6). In fact, organisational reputation did not contribute to the shared variability of WI with the other job resources. However, organisational reputation did contribute weakly to explain the shared variability in two WI components, person-organisation fit and value congruence. NOID and task resources consistently played the two key roles in predicting WI or its components. This study therefore echoes the conclusions in other JDR studies, that it is difficult to capture all the antecedent job resources (for example, Rothmann et al., 2006; Van den Broeck et al., 2008).

In most of the previous studies, job demands predicted negative outcomes, such as burnout (Bakker et al., 2004; Schaufeli & Bakker 2004). However, Table 5.1 summarises findings from studies that showed a positive (if weak) relationship between job demands and positive outcomes. This table illustrates the seemingly contradictory positive relationships between job demands and positive outcomes that were observed in this study, as well as in a few previous studies. Positive relationships between job demands and positive outcomes are not usual in the JDR model, which supposes that job resources predict positive outcomes. However, previous studies of the JDR model recognised that interaction effects between job resources and job demands occurred. These interaction effects could weaken the
effect of either resource type (Bakker et al., 2004). It was also found that the interaction effects were especially effective when the job resource and the job demand are from the same (cognitive, emotional, or physical) psychological domain (Chrisopoulos, Dollard, Winefield, & Dormann, 2010). In their study, De Braine and Roodt (2011) accepted that these interaction effects might explain the positive effects of job demands in their study.

Table 5.1
**Significant Positive Relationships between Job Demands and Positive Outcomes in Previous Studies**

<table>
<thead>
<tr>
<th>Job demand</th>
<th>Positive outcome</th>
<th>Strength of relationship</th>
<th>Study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workload</td>
<td>Need Satisfaction</td>
<td>( r = .13, p &lt; .01 )</td>
<td>(Van den Broeck, Vansteenkiste, De Witte, &amp; Lens, 2008)</td>
</tr>
<tr>
<td>Overload</td>
<td>Growth Opportunities</td>
<td>( r = .16, p &lt; .01 )</td>
<td>(Rothmann et al., 2006)</td>
</tr>
<tr>
<td>Work Overload</td>
<td>Vigour</td>
<td>( r = .16, p &lt; .01 )</td>
<td>(Bakker et al., 2005)</td>
</tr>
<tr>
<td>Dedication</td>
<td></td>
<td>( r = .13, p &lt; .05 )</td>
<td></td>
</tr>
<tr>
<td>Work Cognitive Demands</td>
<td>Vigour</td>
<td>( r = .19, p &lt; .01 )</td>
<td>(Bakker et al., 2005)</td>
</tr>
<tr>
<td>Dedication</td>
<td></td>
<td>( r = .27, p &lt; .01 )</td>
<td></td>
</tr>
<tr>
<td>Job demands (Job Insecurity, Overload, Work-family Conflict)</td>
<td>Work engagement</td>
<td>( r = .16, p &lt; .01 )</td>
<td>(De Braine &amp; Roodt, 2011)</td>
</tr>
<tr>
<td>Vigour</td>
<td></td>
<td>( r = .10, p &lt; .01 )</td>
<td></td>
</tr>
<tr>
<td>Dedication</td>
<td></td>
<td>( r = .14, p &lt; .01 )</td>
<td></td>
</tr>
<tr>
<td>Absorption</td>
<td></td>
<td>( r = .21, p &lt; .01 )</td>
<td></td>
</tr>
<tr>
<td>Work-based identity</td>
<td></td>
<td>( r = .17, p &lt; .01 )</td>
<td></td>
</tr>
<tr>
<td>BPC</td>
<td>WI</td>
<td>( r = .09, p &lt; .01 )</td>
<td>This study</td>
</tr>
<tr>
<td>WFC</td>
<td>WI</td>
<td>( r = .10, p &lt; .01 )</td>
<td>This study</td>
</tr>
</tbody>
</table>

*Note.* BPC, Breach of psychological contract; WFC, Work-family conflict

However, an alternative reason for this unexpected positive effect of job demands on WI was revealed in a study by Payne and Morrison (1999). They concluded that many job demands did not lead to distress, but that some demands were positively associated with positive outcomes. They found that where person-organisation fit with job demands exists, these associations did not lead to negative outcomes. They then argued that not causing negative results, is not the same as causing positive results; rather, that a neutral position may have been achieved. Indeed, this possibility was supported by research using breach of psychological contract as a
job demand (Kreiner & Ashforth, 2004). The findings from the current research project also seem to support this position. Moreover, similar to the study by Payne and Morrison (1999), person-organisation fit was revealed as a facet of WI in this study and breach of psychological contract was also one of the job demands included here.

Finally, the simplest of the empirical enquiries, namely the means and standard deviations from the results of this study also demonstrated a clear reason for the positive relationship between job demands and WI. The respondents did not consistently perceive the selected job demands as demanding. The means of both observed job demands included in this study were close the midpoint of the five-point scales, $M_{BPC} = 3.26$, and $M_{WFC} = 2.82$. The implication is that many respondents (whose responses were within one standard deviation from the mean) either viewed the two job demands positively, or did not view them negatively. In fact, it could be argued that some of the respondents who did not view breach of psychological contract or work-family conflict negatively, may have considered these job demands to be positive contributors to their jobs. Such perceptions could change the job demands into job resources. However, this is speculation and the possibility of a neutral position must also be accepted.

Contrary to previous applications of the JDR model and, in addition to the positive path between job demands and WI, the SEM also showed that the path between job resources and job demands was significant and positive, albeit weak, .06, $p < .001$. This result also supports the idea that either a neutral position or a perception change from job demands to job resources occurred in the minds of many respondents.

Other observations from the SEM followed the expected covariance structures proposed by the JDR model. These observations include that job resources and job demands were antecedents of WI and that job resources played the major role in this relationship. This confirms the precepts of the JDR model and this confirmation is supported by other studies (De Braine & Roodt, 2011; Kirpal, 2004). The JDR model was therefore successfully applied to establish the covariance structure of a model of WI in multicultural work settings.
The second and third empirical objectives were concerned with the interaction effects between the two antecedents. As predicted by Schaufeli and Bakker (2004), the findings showed that job demands did act as a moderator between job resources and WI (see section 4.3.2). Job resources, on the other hand, also acted as a mediator between job demands and WI as predicted by Bakker et al. (2004). This confirmed the consistency of the JDR model.

5.3.3 Consequences of WI.

When considering the fourth empirical objective (testing the relationship between WI and consequences), the results supported the hypothesised relations. WI had a medium to large effect on the variance in work engagement, $F(644) = 450.19 \ (p < .001)$, $R^2 = .41$, adj$R^2 = .41$, $t = 21.22$, $p < .001$ (refer to Table 4.12). Separately, the three WI components were also significant predictors of work engagement, but none had the same effect size as the combined WI result. There are no definitive studies available that specifically address work engagement as a consequence of WI in its current form, although this conclusion could be drawn from the work of De Braine and Roodt (2011). They found that job resources was a better predictor of WI than of work engagement. This would suggest that there is a process order that indicates that job resources lead to WI and work engagement follows later.

A prerequisite for the preceding argumentation is that WI and work engagement were distinct from each other. At the very least, that is the finding in the current study and it is supported by the results from studies by Hirschfeld and Feild (2000), Bothma et al. (2010), and by De Braine and Roodt (2011). In the literature review (see sections 2.2.4.4 and 2.3.4), it was explained that work engagement encompassed dedication, which is the positive extreme of an identification continuum. Several studies found that this dimension was instrumental in activating work engagement (Bakker et al., 2004, 2005; De Bruin & Taylor, 2006; Rothmann et al., 2006). Therefore, if the evidence that WI and work engagement are two distinct constructs is accepted, the logical argument leads to an acceptance that identification preceeds work engagement. The results from this study seems to support this idea.
WI and turnover intentions were negatively related as hypothesised, $F(637) = 79.34$ ($p < .001$), $R^2 = .11$, $\text{adj}R^2 = .11$, $t = -8.99$, $p < .001$ (refer to Table 4.14). This result is supported by past research results, which showed that OI and WI-associated constructs were negatively related to turnover intentions (Abbott et al., 2005; Riordan & Griffeth, 1995; Abrams et al., 1998). Upon further exploration, only one of the components of WI had a significant relationship with turnover intentions. WI value congruence was a better predictor of turnover intentions than WI as a three-factor construct, $B_{VC} = -0.73$ versus $B_{WI} = -0.61$. Finding which facet of WI may contribute to reduce turnover intentions has important practical guidance value for managers. (WI value congruence included items such as the achievement of personal goals, rewarding work, standards that the employee can identify with, value congruence, and being valued based upon the employee’s contributions.) In the covariance structures where single WI components replaced the three-factor WI construct, the replacement with value congruence fitted the SEM best. Therefore, the notion that value congruence is a major driver for WI in this research context should attract attention.

The important role of WI value congruence found here, showed some similarity with a congruence concept that Kreiner and Ashforth (2004) used. They found that the congruence between the employee and the organisation was hindered by intra-role conflicts and breach of psychological contract. They also found that positive affectivity and, in a smaller way, NOID, helped to form congruence. Although different observable resources were included in this study, the results also indicated that breach of psychological contract and NOID played a role in WI value congruence. Therefore, some support for the way that WI value congruence was observed in this study exist in prior research about identification in organisations.

The outcomes of WI also indicated a further finding related to turnover intentions. The regression analysis between WI and turnover intentions delivered the largest standard error of the regression coefficient ($SE B = 0.07$) of all the regressions performed in this study. The second largest was in the regression between WI value congruence and turnover intentions, $SE B = 0.06$. (The other two WI components were not admitted in this regression model within the threshold of $r < .05$.) It is
therefore expected that the effect of WI on turnover intentions will vary slightly more across different samples than the other variables included in the research model and that value congruence will play a key role in this variation.

5.3.4 A model of WI in multicultural work settings.

The previous sections concluded the discussion of the central construct of the study and the empirical objectives related to antecedents and consequences of the WI model. The focus is now redirected to the primary empirical objective, which stipulated the generation of a model of WI in multicultural work settings, and to the final empirical objective, which addressed the moderation effects.

5.3.4.1 Moving towards a feasible model.
Achievement of the primary empirical objective required testing of the covariance structure of all the variables in a single model. A duly specified and identified model was tested using SEM methods. The most successful model (refer to Figure 4.6 in section 4.4.1.3) contained the latent job resources and job demands (established by six observable variables), WI as a three-factor construct, and the consequences of WI (turnover intentions and work engagement as a single-factor structure). The argument was explained (see section 4.4) that this model fit the SEM parameters adequately, $\chi^2/df = 6.83$, $CFI = .86$, $GFI = .91$, $RMSEA = .10$. An acceptable model of WI in multicultural workplaces was therefore achieved.

5.3.4.2 Control variables.
The overall research objective of this study and the empirical research objectives (listed in section 5.3, above) specified the context to be multicultural work settings. This multicultural setting played a key role in the way that the research model performed. Testing of the moderation effect of nationality on the whole model was also required by the fifth empirical objective. Section 4.2.1 also described how some of the data distribution was affected by the nationality groups included in this study. Therefore, it was expected that the varying data distribution for the different nationality groups played a role in the way that the data fitted the model.
As the seventh hypothesis and final empirical objective called for the testing of the moderation effect of control variables on the whole model the best model (M4 in Table 4.17) was used. The moderation effects were analysed by using a multigroup moderation test. The purpose of this test was to establish if the relationships hypothesised in SEM would differ based on the values of categorical variables, such as the control variables in the current study (Gaskin, 2011c; Meyers et al. 2006). Three of the six control variables included in the research model (age, level of education and nationality) were found to moderate the covariance structure in the overall model and certain specific paths within the model significantly. Contrary to some previous findings, the other control variables in the research model (gender, tenure, and job level) did not significantly affect the model (see section 4.4.2).

A variety of previous studies often provided contradictory results about moderation effects (see section 2.3.5) on specific variables. As the current research goal was to establish a model of WI, it was decided to investigate the moderation effects as part of the model-building process. The multigroup test was therefore planned to test the moderating effect of the control variables on all the relationships in the model, rather than the bivariate analysis of moderating effects related to specific variables. As the results pertain to the moderating effects on the full model, comparison with previous studies which followed a similar approach was sought.

The finding that age and education affected the model fit and the relationships between the variables in this study supported results of previous JDR model-based studies, such as one by Maslach and Jackson (1981). Beyond the JDR model, but comparable to this study, Barkhuizen and Rothmann (2006) conducted research using SEM to analyse a model that contained work engagement. Their study found that level of education played a moderating role. However, job level also significantly moderated their results, while age did not have a significant effect. Results of the current study found the opposite for both these control variables. A reason for these differences could be that Barkhuizen and Rothmann’s study was exclusively set in an academic institution, while only a small number of participants in the current study were from academic institutions. Other SEM studies related to WI did not always consider the moderation effects on the whole model. Different methodologies were used, such as including the moderator variable as one of the independent variables.
for the study (for example, Moore, 2000). This approach redefines the model and removes the moderation effect.

This study found that nationality was the control variable with the greatest moderating effect on the model. Nationality moderated seven specific paths in the model significantly (refer to section 4.4.2). The distinguishing cultural values among the four nationality clusters used in this study were responsible for differences in the paths to two antecedents of WI, differences in the way that WI was formed, as well differences in processing consequences of low or high WI. The moderation effect of nationality on the whole model was also highly significant, \( p < .001 \). One can therefore not exclude any variable or any path in the model from its moderating influence.

The cultural differences contained in nationality was anticipated to have an effect on elements of the research model. For example, Rothmann (2003) called for studies of work engagement in multicultural contexts to validate measuring instruments and to explore causes. There are some studies emerging that heeded calls like this. For example in a two-nation study of OI, Carmona, Buunk, Pieró, and Dijkstra (2006) found significant differences in the way that Spanish and Dutch employees associate with others and identify with their organisations. While nationality was not included as a control variable in many related studies, ethnicity did appear in a few. One such study found that ethnicity had a moderating effect on the positive relationship between OI and turnover intentions (Wan-Huggins et al., 1998). What these findings show is that nationality (or ethnicity) could rule a single model for OI in multicultural settings out.

However, although the findings of this study indicated that nationality affected the research model, the results also indicated a stable model for WI in multicultural settings. The assertion of Sommer, Bae, and Luthans (1996) that they found “beginning evidence” that a common model with explainable variance exist could therefore be echoed (p. 977). (They enthused over their findings in a two-nation study of organisational commitment, while the results of this study were established a single multi-cultural setting consisting of more than 200 nationalities.) The moderating effect of nationality found here is therefore \textit{within} the identified model.
This means that the model captured the complexity of the multicultural context, but that the sensitivity to cultural differences remains critical as this variation is still responsible for significant differences, albeit contained within the parameters of the model. This is an important contribution towards a model of WI that is stable across cultures. The fact that the results showed that the model improved when variation in nationality was reduced may indicate that a single model for WI exists. The similarity in the findings of this study in Dubai, and that of De Braine and Roodt (2011) in South Africa supports this notion further.

5.3.3 Considerations about the dataset.

So far, the discussion about the empirical objectives contained the key findings and contributions that this research project made to the body of knowledge about WI and the JDR model. The primary empirical objective (about establishing a WI model), the first empirical objective (about job demands and job resources as antecedents of WI) and the fifth empirical objective (about the effect of moderators) were addressed.

During the discussion of the findings presented in this chapter, statements were made about the distribution of data in the dataset used for this study. A final consideration of this dataset in comparison to data found in similar studies, would therefore contribute to integrate this study with others of a similar nature.

Before the statistical analyses were performed to test the hypotheses and meet the empirical objectives of the study, the data was tested to verify that it met the assumptions for the statistical techniques. The many significant correlations between variables (refer to Table 4.3) were interpreted as a positive sign for the interpretative statistical measures that followed. The medium to strong correlations also reduced the risk of collinearity between independent variables, which were to be avoided for the regression procedure (Field, 2009).

The indicators of skew and kurtosis observed in the data (refer to section 4.2.1) could be considered as early indicators that cultural differences might have played a role in the responses in this study. While the skew and kurtosis in some of the data distribution influenced the empirical results, it did not compromise the empirical
objectives. There are several reasons for this assertion. Firstly, multiple regressions were used to test most of the hypotheses. The assumption for this inferential statistical technique is normally distributed errors, not predictors (Field, 2009). Secondly, and more importantly, the normal data assumption is critical if findings are to be generalised to predict the behaviour of a larger population. By electing to use a convenience sampling technique in this study, it was accepted in advance that the results would not be readily generalisable. Thirdly, a large sample was used and therefore the skew and kurtosis indicators were noticed but it was also recognised that these indicators could be unreliable and other researchers often ignore them (Field, 2009). However, visual inspection of the scatter plots of results did show that the data was indeed skewed (as indicated in Table 4.1). Inspection of the data belonging to specific nationality groups (in Table 4.2) confirmed that the data was not uniformly skew across all nationality groups in the sample. Finally, the measuring instruments used to test the hypotheses had not been used in this population before. Measuring instruments, duly selected upon their validation during previous studies, might therefore not have aligned to the characteristics of the multicultural population in this research setting.

To illustrate the appropriateness of the data, a comparison of the data between this study and the studies used as a source of the scales are included in Table 5.2. This comparison shows that the data in this study compares well to the data in the studies from which the scales were selected. Overall, the scales performed in similar ways. This similarity in performance is accepted as partial validation that the constructs used in this study produced useful results, which are comparable with studies elsewhere. The exceptions are breach of psychological contract and work-family conflict (the observed job demands) in which the response means achieved in this study showed a more positive stance towards the job demands than the results of source studies. As discussed in 5.3.2, above, the job demands variable did not perform according to the standard JDR model tenets.
Table 5.2
Comparison of Scale Performance in this Study and Studies from where the Scales were Sourced

<table>
<thead>
<tr>
<th>Job Resource</th>
<th>This study</th>
<th>Source study</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\alpha = .88$</td>
<td>$\alpha = .91$</td>
<td>Wan-Huggins et al., 1998.</td>
</tr>
<tr>
<td>Organisational Reputation</td>
<td>$M = 3.90$, $SD = 0.86$</td>
<td>$M = 3.73$, $SD = 0.83$</td>
<td>Kreiner and Ashforth, 2004.</td>
</tr>
<tr>
<td>NOID</td>
<td>$\alpha = .75$</td>
<td>$\alpha = .75$</td>
<td>Bakker et al., 2004.</td>
</tr>
<tr>
<td></td>
<td>$M = 3.85$, $SD = 0.70$</td>
<td>$M = 3.49$, $SD = 0.64$</td>
<td></td>
</tr>
<tr>
<td>Task-level Resources:</td>
<td>$\alpha = .83$</td>
<td>$\alpha = .68, .86, .81$</td>
<td>Rothmann and Jordaan, 2006.</td>
</tr>
<tr>
<td>Autonomy, Development</td>
<td>$M = 3.69$, $SD = 0.66$</td>
<td>$M = 3.78$, $SD = 0.73, 0.77, 0.63$</td>
<td></td>
</tr>
<tr>
<td>Opportunities, Social Support</td>
<td>$\alpha = .86$</td>
<td>$\alpha = .76$</td>
<td>Geurts et al., 2005.</td>
</tr>
<tr>
<td>Remuneration Perceptions</td>
<td>$M = 3.08$, $SD = 0.89$</td>
<td>$M = 3.35$, $SD = 0.58$</td>
<td></td>
</tr>
<tr>
<td>Breach of Psychological Contract</td>
<td>$\alpha = .92$</td>
<td>$\alpha = .84$</td>
<td>Schaufeli and Bakker, 2004.</td>
</tr>
<tr>
<td></td>
<td>$M = 2.82$, $SD = 0.92$</td>
<td>$M = 3.93^*$</td>
<td>Moore, 2000.</td>
</tr>
<tr>
<td>Engagement:</td>
<td>$\alpha = .94$</td>
<td>$\alpha = .79, .89, .74^*$</td>
<td></td>
</tr>
<tr>
<td>Vigour, Dedication, Absorption</td>
<td>$M = 3.75$, $SD = 0.68$</td>
<td>$M = 3.94, 4.13, 3.71$, $SD = 0.91, 1.12, 0.94$</td>
<td></td>
</tr>
<tr>
<td>Turnover Intentions</td>
<td>$\alpha = .79$</td>
<td>$\alpha = .92$</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$M = 2.77$, $SD = 1.00$</td>
<td>$M = 2.42$, $SD = 1.25$</td>
<td></td>
</tr>
</tbody>
</table>

* Recalculated from a 4-point scale response.
** Averages calculated from four reported samples in the study.

5.4 Chapter Synthesis

The key question discussed in this chapter was, what did we learn from this study beyond what has been reported in the literature review of Chapter 2. Firstly, this study confirmed the findings from previous research that WI stretched beyond identification with the organisation. This study showed that WI is a broader construct, composed of different facets of identification in the workplace. The facets work centrality, person-organisation fit, and value congruence were identified. It was also demonstrated that these components were observed in different measures among nationalities and that these components were drivers for different parts of the research model and the WI process. In addition, the study showed that WI
functioned as a stable and reliable construct in a research model separate from and in relation to other constructs, including work engagement. By helping to clarify WI in relation to work engagement, this study advanced the progression of demystifying the WI process.

This study also applied the JDR model with WI as the central mediator and showed that the JDR model functions well in this capacity. As far as could be established, this was the first study of both WI and the JDR model in a Middle Eastern research context. As such, this study contributed to the establishment of benchmarks for future studies about similar concepts in the region.

Finally, this study confirmed multiple concerns and warnings about the impact of cultural differences on the understanding and application of social phenomena. Specifically, this study expounded understanding of Emirati and Middle Eastern nationality groups’ interaction with their work and work settings. Employees from Middle Eastern origin and now dispersed across the world, have so far escaped much research attention. However, there is now an increased presence of universities and students doing research in the Middle East (particularly the Gulf States). Instead of travelling abroad to study foreign concepts in foreign contexts, studies like this one, can contribute to improve the understanding of the region and its people’s understanding of themselves and of others in relation to themselves in the work setting.

In the final chapter, which follows, the conclusions and recommendations of this study are presented and the project reviewed.
CHAPTER 6: CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction

Following the interpretation and integration of results and discussion of the achievement of the theoretical and empirical objectives in the previous chapter, this chapter firstly presents an overview of all previous chapters of the study. In addition, it expounds the most important conclusions about the state of knowledge and the contribution of the empirical findings of this study to knowledge. Secondly, this research project is reviewed here in terms of the value that it added to theory and practice, and the strengths and limitations of the project. Lastly, the chapter offers suggestions for future research and final conclusions. This structure of the chapter is presented in Figure 6.1.

![Figure 6.1. Chapter 6 structure.](image)

6.2 Overview of Chapters

Chapter 1 provided the background, rationale and a broad overview of the study. An introductory review of literature provided the rationale for the study and a definition of
The main reasons for undertaking a study of WI were that the findings and recommendations from previous research indicated that concepts related to work-based identity were in disarray and that research was necessary to extend the fundamental concept of work-based identity beyond identification with one locus, namely the organisation. It was also argued that a model of the newly defined concept, WI, should be tested in a multicultural context. The relative lack of previous research in Middle Eastern settings also provided support for the study. Chapter 1 also stated the research problem, identified the research questions and introduced the research model (refer to Figure 1.2). Chapter 1 concluded with the stating of the research objectives and provision of an overview of all the subsequent chapters.

Chapter 2 proffered a review of the relevant literature to provide definitions of all the variables in the research model, followed by a theoretical overview of each variable. The main aim of the literature review was to meet the theoretical objectives that all directed enquiry towards a model of WI in multicultural work settings. The theoretical discussion which ensued provided the grounds for such a model, which proposed WI as the central mediator between antecedents and consequences. In accordance with the JDR model (Bakker et al., 2003), two latent variables, job resources and job demands, were included as antecedents. It was hypothesised that job resources, and not job demands, would predict WI. Job resources were represented by the following observable variables: organisational reputation, NOID, task resources, and remuneration perceptions. The other antecedent, job demands, was represented by two observable variables: work-family conflict and breach of psychological contract. Work engagement was included in the research model as a positive consequence of WI and turnover intentions as a negative consequence. Finally, previous studies suggested that the control variables, age, gender, level of education, organisational tenure, job level and nationality are likely to have a moderating impact on the research model. The literature review provided the basis for the empirical research objectives and the hypotheses for the study.

Chapter 3 presented the research design for the study, which was used to meet the research objectives. Chapter 3 also explained the research approach and the research methods related to the participants (location of the data), measuring instruments, research procedure, and statistical analysis. The design called for an
ex-post facto, quantitative, correlational study which employed a cross-sectional field survey.

Chapter 4 provided the results of the study. First, it described how the data was tested by considering the descriptive statistics, covariance statistics, and factor analysis. This was followed by hypothesis testing using simple and multiple regression techniques. Finally, the results of SEM, which was employed to test the covariance structure of all the variables in the research model and produce a final predictive model, were presented.

Chapter 5 provided an interpretation of the results and an explanation of how all the theoretical and empirical objectives of the study were achieved. The findings of the study were discussed and related to previous findings. This ensured that Chapter 5 provided the interpretative discussions that support the conclusions represented here. To prevent a repetition of the arguments included in Chapter 5, the conclusions are presented here with sufficient explanation only to clarify their meaning. To facilitate comparison between the two chapters, the conclusions are presented in the same order as the discussion of results in the previous chapter. Thus, conclusions about WI are presented first, followed by conclusions about the research model, and finally those about elements in the model.

The theoretical, empirical and methodological conclusions will be outlined next, following on from the provision and interpretation of evidence for those conclusions provided in the previous chapters.

6.3 Conclusions

The primary research question of this study was: How do WI, antecedents of WI, and consequences of WI fit a causal path model? (refer to section 1.2.1). This research question assumed a process model of WI to explore the relationships between antecedents and WI, and the relationships between WI and consequences (as operationalised in Hypothesis 8). Furthermore, the secondary research questions were used to formulate theoretical and empirical research objectives. The sections
that follow present, firstly, the main theoretical objectives, and, secondly, the main empirical objectives.

6.3.1 Theoretical conclusions.

The primary theoretical objective for the study was to find and use research evidence to develop a model of WI in multicultural work settings (refer to section 2.1). This objective served to underpin achievement of the overarching research objective. Supporting theoretical objectives were to review the research literature, to explore and define WI and to determine antecedents, consequences and biographical or demographical variables which could affect the model. These objectives were explained in section 5.2 by means of a review which contextualised the empirical results.

6.3.1.1 Theoretical conclusions about WI.

1) WI as an important social-psychological identity is implicit within several concepts which have described the relationship between individuals and their work. It has been recognised that work, and therefore work settings, play an increasingly important role in the social life of individuals. The proliferation of concepts which seek to explain the relationship between individuals and work supports this assertion. The definitions of some of these concepts, such as work commitment, work involvement and work engagement, made explicit reference to individuals’ identification with work-related facets. However, although foundational disciplines (psychology and sociology) have explained identity and identification in social systems. Returning to these foundations may explain some concept contamination, concept overlap and concept redundancy. This study proposed that WI is a step in a process with potential positive consequences for the relationships between individuals and organisations. The hypothesis that WI preceded work engagement in such a process was then set.

2) WI is a newly defined concept which represents social identity derived from facets related to work and the work setting. WI is rooted in social identity studies in the foundational disciplines of Psychology and Sociology (refer to
The concept of WI also extends the idea of OI. OI was arguably the most established construct to explain social identification in the work setting until studies recognised other loci and foci of a work-based identity beyond the organisation. This dynamic nature of WI was recognised by Roodt et al. (2009), who incorporated several facets when they developed the WI questionnaire (Bothma et al, 2010; De Braine & Roodt, 2011). They reported the following facets: work-role centrality, person-environment fit, OI, identification with job, career, occupation and work. However, the results of factor analyses for both these studies reported a single-factor structure for WI.

6.3.1.2 Theoretical conclusions about the antecedents of WI.

1) The JDR model was a potential predictive model for WI. The JDR model proposed that the presence of job resources rather than job demands would cause positive outcomes, such as work engagement (for example, Bakker & Demerouti, 2007). Studies of the JDR model also recognised that moderation effects between job resources and job demands may occur (for example, Schaufeli & Bakker, 2004). In the past, the JDR model was mostly used in studies related to burnout and work engagement. However, one study established that job resources and job demands were better predictors of WI, than of work engagement (De Braine & Roodt, 2011). The usefulness of the JDR model was proven in many previous studies and therefore utilised here.

2) Previous studies consistently found that job resources predicted positive results in organisations, but results indicated that job demands may be more challenging to interpret. The general trend in the argumentation and evidence about the JDR model showed that job resources play the key role in facilitating positive organisational phenomena (such as work engagement, WI, and well-being). Job demands were mostly associated with negative consequences (such as burnout and work-family conflict). In addition, and as could be expected in a model that includes both positive and negative factors, interaction between the factors may neutralise the positive or negative effect of either. A few studies noticed that job demands contributed to cause positive outcomes. The interaction effects and the effects of cultural
differences in individual perceptions about job demands are therefore not fully explained in the JDR model.

6.3.1.3 **Theoretical conclusions about the consequences of WI.**

1) **Work engagement was recognised as a likely consequence of WI.** Work engagement (as proposed by Schaufeli & Bakker, 2001) contained an identification continuum with the dimension of dedication at one extreme (and cynicism at the other). The distinction between dedication and WI, and between dedication and other elements of work engagement (vigour and absorption), has been questioned by authors (for example Barkhuizen & Rothmann, 2006; De Braine & Roodt, 2011; Rothmann & Jordaan, 2006). It was therefore argued that if some elements of work engagement overlapped with WI, then these elements (such as the dedication dimension) may be redundant, while other elements may be consequences of WI.

2) **Turnover intentions was identified as a likely consequence of low or absent WI.** Based on previous studies it was hypothesised that WI would have a significant and negative relationship with turnover intentions.

6.3.1.4 **Theoretical conclusions about other elements related to the research model.**

1) **Nationality (as an indicator of cultural differences) is one of several moderator variables that affected the results of previous studies of WI-related concepts and studies that used the JDR model.** Other biographical and demographical variables found to affect the relationships between variables in previous studies, were age, gender, level of education, organisational tenure, and job level.

2) **Studies about WI or studies that employed the JDR model were not available for the Middle East or for employees from Middle Eastern origin.** Many concepts in the social sciences have been based on studies undertaken in specific parts of the world. Attempts to generalise these findings to other populations have often been questioned. Cross-cultural researchers have warned against generalisation and pointed to the need for cross-cultural
validation (for example Ali, 1995; Hofstede, 1983). Despite the economic rise in parts of the Middle East and the international migration of many employees from Middle Eastern origin, no studies on WI or on the JDR model for these populations were available.

The next section presents the empirical conclusions.

6.3.2 Empirical conclusions.

The primary empirical objective for this study was to test how WI, its antecedents (job resources and job demands), and its consequences (work engagement and turnover intentions) fit in a causal path model. The secondary empirical objectives were to test the relationships between the antecedents and WI, between WI and its consequences, and to test the effect of the control variables on the research model. The results of the empirical investigation, presented in Chapter 4 and followed by interpretation and integration thereof in Chapter 5) underpin the conclusions presented here.

6.3.2.1 Empirical conclusions about WI.

WI was constituted of three different facets, work centrality, value congruence and person-organisation fit. Although different theoretical facets of WI were identified in and applied to the measuring instrument of WI, two previous studies that used this instrument, found a single factor structure for WI (Bothma et al., 2010; De Braine & Roodt, 2011). However, this study found that WI is a three-factor construct and that all three components existed in this multicultural research setting. This finding confirms that WI is indeed a multifaceted concept. This conclusion is a step towards the clarification of the relatively new WI concept and therefore one of the most important contributions of this study to theoretical knowledge.

6.3.2.2 Empirical conclusions about the antecedents of WI.

1) The JDR model was a successful model to investigate the relationships between WI, its antecedents and its consequences. Following the successful applications of the JDR model in studies of WI-related concepts and one study of WI (De Braine & Roodt, 2011), this research project also found that
the JDR model provided a sound framework to study and explain the covariant structure of a WI process. The JDR model served as the basis for a research model which approached acceptable model fit indices in the SEM. Moreover, this model was also used to postulate relationships between variables which were tested and found accurate after multiple regression analyses. The wider application of the JDR model is therefore an important methodological contribution of this study.

2) The latent variable, job resources, predicted WI in this study. Findings from many previous studies support this result. However, not all observable job resources were equal in their explanation of variance in WI. The observable variable, NOID was the strongest predictor, while organisational reputation did not predict WI in this study. There was also variation in which observable job resources predicted facets of WI (work centrality, value congruence, and person-organisation fit). Therefore, while there is clear evidence that job resources predict WI, which specific job resources predict WI is a question that requires being asked in each setting (also refer to conclusion 2 in section 6.3.1.2, above).

3) Job demands predicted WI. Evidence from this study confirmed that job resources predicted WI and that job resources and job demands moderated each other’s relationship with WI. However, in this study, job demands were generally either positively associated with WI or not significantly associated with WI (for different nationality groups). Job demands are therefore not universally perceived as demands. Contrary to expectations, it was not only the absence of job demands that facilitated WI, but also a neutral or positive view of job demands which contributed to WI. The contextual relevance of job demands is therefore an important consideration when observable variables are selected for a study.

4) Different facets of WI are facilitated by different job resources and job demands. The SEM used in this study showed that the WI facet, value congruence, was the best overall mediator between job resources and the consequences of WI. However, data from different nationality groups showed
that the antecedents predicting WI, or the different components of WI, varied between nationality groups. It would therefore seem that there is a variety of combinations of antecedents that could help to form different facets of WI and that these combinations are not the same for each culture group. Consequently, generalisation should be approached cautiously. Many iterations of job resources and job demands in combination with a nationality group should be considered to appropriately predict WI. This confirms that WI in a multicultural context is a complex research problem that deserves further enquiry. The contributions made here provide a starting point and basis for further studies.

6.3.2.3 Conclusions about the consequences of WI.

1) WI significantly predicted work engagement in this study. The SEM and multiple regressions employed in this study showed that WI predicted work engagement. Each of the three components of WI (work centrality, work congruence, and person-organisation fit) also predicted work engagement. De Braine and Roodt’s (2011) study also declared this result. Thus, this study provides an important contribution to confirm to theory though its confirmation of the result.

2) This study found that the presence of WI significantly reduced turnover intentions. This is an important theoretical and practical contribution of this study. In addition, the finding that low WI value congruence, and not WI work centrality or WI person-organisation fit predicted turnover intentions even more strongly than WI overall, has practical value. This finding also indicates that different facets of WI may be the catalyst for different consequences. This is also a potential explanation for the disarray observed in the work-based identity-related literature. It is possible that connections between facets of WI and WI became indistinct as researchers pursued the consequences of facets of WI. Further studies that clarify WI, its facets, and the antecedents thereof, if undertaken, may refocus these pursuits.
6.3.2.4 Conclusions about elements of the research model.

1) While a single model of WI in multicultural workplaces was found, nationality still moderated relationships within the model. Data from some nationality groups fitted the most parsimonious model of WI better than others. It was therefore not surprising that nationality, as a control variable, affected the overall model. In addition to affecting the strengths of covariant relationships between variables, a group moderation procedure also indicated that the data from the various nationality groups had a significant moderation effect on every phase of the model (antecedents, WI and consequences) and most of the individual paths in the model used for this study (refer to Figure 4.4). Therefore, despite working in the same setting, respondents from different nationalities reacted in varying degrees to the different antecedents of WI, to WI and to the consequences of WI contained in this study.

2) The control variables, age, level of education, and nationality, significantly affected the causal path model. In alignment with the previous conclusion, the control variables which affected the model most was age and level of education, in addition to nationality. The effect of several control variables on the model was tested, but only three had a significant impact on the covariance structure which fitted the data best. All three these moderators affected the model as a whole, while education and nationality affected specific paths in the model significantly more than other paths.

6.3.3 Methodological conclusions.

This study clarified the nature of WI by means of a literature survey and by testing various hypotheses. The study also applied the JDR model to explore a process model of WI with its antecedents and consequences. Based on this experience, the following methodological conclusions are offered:

1) This study was one of the first few to apply the WI questionnaire developed by Roodt et al. (2009) as a measuring instrument. The WI questionnaire was applied in a multicultural setting and showed good reliability, $\alpha = .93$. Previous studies that applied this questionnaire found a single-factor structure
for WI (Bothma et al., 2010; De Braine & Roodt, 2011). However, this study identified a three-component structure of WI. Two of the newfound components of WI (work centrality, and person-organisation fit) matched theoretical facets which were considered during the design of this questionnaire. However, the third component (WI value congruence), was not directly operationalised, but only implied. The validity and reliability of this measuring instrument have therefore been reconfirmed in this study and that implies that the instrument can be used with confidence in further exploratory and confirmatory studies. The different factor structure found in this study should be an encouragement to use the WI questionnaire more and in different settings to fully explore its potential.

2) This study was one of the first to apply the JDR model that linked specific resources and demands, other than those reported by De Braine and Roodt (2010) to WI. The results showed that the JDR model provided a useful framework to study WI. This implies that the JDR model can be used with confidence in studies of this nature and in similar investigations into similar concepts in Organisational Behaviour.

3) Scales that measured the variables in the research model of this study were obtained from existing instruments reliably used in studies related to WI-associated concepts or the JDR model. The factor analysis (PCA) employed to determine construct validity, as well as iterative item analysis, identified components that did not contradict the original instruments and yielded acceptable to high reliability coefficients. The empirical instruments used to test the hypotheses in this study were therefore suitable. This implies that the results from this study can be interpreted with confidence. The results and instruments used in this study should therefore be seen as benchmarks for similar studies in the research setting.

4) Non-probability sampling was unavoidable in this study. The most important reasons for incorporating it were related to the research setting. Uncertainty about population figures and the reluctance of organisations to allow systematic participation in a study that was investigating the reasons for their
employees’ WI, were the key considerations. However, once respondent referrals (a snowball-effect) were added to the sampling method, the positive participation gave the impression that employees were keen to share their perceptions. The large sample and the statistical results did increase the confidence in the conclusions of this study. However, the implication of using non-probability sampling remains that the results should be interpreted with caution.

5) The multiple statistical analyses provided insights into bivariate relationships and the more complex relationships when variables were combined in a model. Testing hypotheses with multiple regressions and applying SEM to test the covariance structure of relationships among all the variables, therefore served the study well. This confirmed that significant bivariate relationships do not always translate into an overall causal map. The implication of this observation is that a more holistic treatment of the data, such as achieved through SEM, is a useful method to follow.

6) This study was described as an ex-post facto, cross-sectional field study with correlational data analysis. This design served the research objectives well. However, the observed skewness and some kurtosis in the data distribution showed that different nationality groups responded to the survey questions in different ways. Based on the evidence from previous cross-cultural studies, this was not unexpected. The role that methodological considerations played in the observed data patterns is unclear. Language barriers, as well as the survey method, may have contributed to the data patterns found in this study. The potential impact of cultural differences should receive more attention in the research design phase of multicultural studies.

6.4 Recommendations

6.4.1 Theoretical recommendations.

The theoretical recommendations are based upon the aforementioned theoretical
and empirical conclusions of the previous section and are as follows:

1) The results in this study (empirical conclusions), as well as the critiques of WI-related concepts (theoretical conclusions), show that WI is part of a process. WI should therefore be studied as part of a process rather than a present/absent manifestation of the relationship between individual and work setting. Methodological suggestions which would incorporate this recommendation are indicated under section 6.4.2. Studies focusing on the WI process, rather than on WI as a static concept, would ensure that causes and consequences of WI are not confused with WI itself.

2) This study has built upon previous studies which demonstrated that WI is a key concept in the understanding of the relationship between individuals and their work and/or work settings. This study also found that the JDR model provided a useful framework to analyse the interaction between WI, its antecedents and consequences. If the recommendation to study WI as a process is accepted, then the JDR model can be recommended as a useful framework for such studies (including covariance structures of the WI process).

3) Concept redundancy and concept contamination among WI-related concepts were discussed in this report. This study questioned the nature of work engagement and WI was found to be a better predictor of work engagement than job resources and job demands. It was also found in this study that work engagement manifested as a single-factor construct, instead of the three-component structure found in some previous studies. It is therefore important to revisit the nature of work engagement within multicultural settings and to further unravel the relationship between work engagement and WI. Future studies should also address the challenge to disentangle WI and work commitment, and to finalise the differentiation between work involvement and WI. It is expected that as concept overlap or redundancy of WI-associated concepts is clarified, a clear sequence of causes and effects in a WI process would become the next research agenda.
4) Following the finding that job resources and job demands explained more variance in WI than in work engagement, the central mediating role of WI in the JDR model was confirmed. De Braine and Roodt (2011) found the same tendency in their study. WI should therefore receive more attention as a predictor of work engagement, particularly since the absence of WI (or low WI) also promoted turnover intentions.

5) The complex nature of culture means that any comprehensive description of cultural differences cannot be an exact science. However, the results of this study made it clear that cultural differences affected every aspect of the research model (that is how causes contributed to generate WI, the nature of WI itself, and how WI produced consequences). Increased awareness of this effect of culture in the research process is, therefore, of prime importance for future studies.

6) Employees from Middle Eastern origins are becoming increasingly dispersed across the world due to political turmoil, on the one hand, and the development of Middle Eastern economies, on the other hand. While currently underrepresented in research literature, mainly due to the fact that the Middle East is not always a setting that facilitates research easily, this research provided a degree of insight in this area. It is a setting which requires more research, especially with a cross-cultural focus.

6.4.2 Methodological recommendations.

While the research design of this study delivered useful results, there were lessons learned that should be considered:

1) The idea that a WI process might exist, has methodological implications. Multivariate process analytical techniques such as covariance structures and linear modelling are therefore recommended methods of analysis. Quasi-experimental or longitudinal studies which would allow for the adding or removal of causes or consequences would also be useful in order to understand the WI process better. In addition, as WI is studies about
identification also lend themselves to qualitative research methods, particularly to explore new relationships or to unravel overlapping between concepts.

2) Further studies to explore facets of WI and the antecedents and consequences of these facets would supplement the findings of this study. While the WI questionnaire used in this study (Roodt et al., 2009) proved to be a reliable instrument, the manifestation of facets of WI requires further enquiry.

3) While identity is a concept related to an individual, the consequences of WI also affect social groups at work and work as a social construct. It would therefore be worthwhile to use supervisory and/or peer ratings with self-ratings, particularly when the consequences of WI are studied.

4) Probability sampling in social science research remains an ideal sampling method to ensure the generalisation of results. Multicultural settings, as in this study, already provide challenges to the interpretation of results. Removing any potential interference in the research process, such as ensuring scientific sampling instead of convenience sampling, would increase confidence in the results and contribute to their general application. Where the setting facilitates a random sampling approach, it is strongly recommended.

5) When using the JDR Model, it is important to consider the selection of observable variables to represent the latent variables carefully. This is particularly critical when selecting observable job demands. It is may be particularly useful to conduct a preliminary study to establish whether a particular population sample perceives an observable job demand as a demand.

The next section will discuss the contributions that the study made to theory, method and practice.
6.5 Contribution of the Study

6.5.1 Theoretical contribution.

The main theoretical contributions made by this study were as follows:

1) This study provided an overview of the theoretical development of WI and its related concepts. This, in turn, contextualised WI as a social identity. Social identity has been described as a dynamic phenomenon, because identity salience depends on an identity hierarchy, which is triggered by intrinsic and extrinsic factors (see section 2.2.2.1 and 2.2.2.5). The results of this study showed that different antecedents predicted different WI facets and that all facets did not have the same effect on consequences of WI. These findings confirm that WI is a form of social identity and that it displays the same dynamic nature as social identity.

2) An initial process model of WI was constructed and presented. This model recognised job resources and job demands as predictors of WI, work engagement as a positive consequence and, turnover intentions as a negative consequence. The moderator effects of age, level of education, and nationality on the model were also established. This model did not only demonstrate the dynamic nature of WI, as mentioned in the previous entry, it also established that the JDR model is an appropriate framework to use for studies of this nature. By applying the JDR model in a new setting, this study also extended the use and understanding of this model.

3) The results of this study showed that job resources and job demands predicted WI and that WI predicted work engagement. This confirmed the finding that WI and work engagement are distinct from each other. This finding supports previous studies which found the similar results such as Hirschfeld and Field (2000), in a study that did not use the JDR model, and De Braine and Roodt (2011), in a study that used the JDR model. This confirmation makes two contributions. Firstly, it lends credence to process-based (rather than bivariate) studies of WI and WI-related concepts.
Secondly, it gives further credibility to claims of concept redundancy or concept contamination associated with WI-related concepts, in this case with work engagement.

4) This research investigated perceptions about WI in a multicultural setting. WI, its causes, and its consequences were not uniformly perceived by different nationality groups (who worked in the same setting). This implies a warning to be cautious in the generalisation of WI theory across cultures and to allow for cultural differences when studying WI and related concepts.

5) The research setting is not widely represented in behavioural scientific literature. By provided insights into the relationships between individuals and their workplaces in the research setting of the Arabian Gulf (Dubai, in particular), this study extends the understanding of WI, as well as the region.

6) The findings of this study opened up different avenues for further enquiry. For example, in addition to further enquiry into the WI process, the relationship between WI and work engagement, as well as the JDR model itself could be explored. Two contributions are particularly prominent here:

- The finding that job demands could switch over to act as job resources provides an alternative way to view job demands. This implies that the degree of demand may be perceived as neutral, positive or negative.
- This study showed that the same job resources did not explain variance in WI across different nationality groups. This finding implies that different job resources may facilitate optimal identification for different cultural groups.

6.5.2 Methodological contribution.

The three main methodological contributions that this study made were as follows:

1) The WI questionnaire of Roodt et al. (2009) was applied in a multicultural setting. Not only was this one of the first few studies about WI, but also one
of the first to test this instrument to find consistent reliability and construct validity.

2) The understanding of simpler and more complex relationships in the WI process was enhanced by using statistical techniques to test and analyse both bivariate relationships and covariance structure fit. Regressions showed relationships between specific variables, while SEM provided valuable insights for theoretical and practical use if these variables were combined in a single model.

3) The study applied an internet–based survey strategy. This proved to be very useful to reach the targeted population and it enhanced the sampling method. As such the study is a further example of the application of networking technology within the social sciences.

6.5.3 Practical contribution.

The practical contributions made by this study are as follows:

1) This study established WI as a predictor of work engagement. This insight is useful for managers who strive to achieve higher levels of engagement at work. For researchers, this finding should encourage renewed interest in WI and its consequences.

2) The results of this study showed that attempts to achieve positive WI-related consequences depended on the underlying WI process. The JDR model provided a solution to structure this process. This is an important contribution for managers and students who need to manipulate the process that preceded the positive outcomes which they would like to achieve in the workplace.

3) A deeper understanding of the cognitive processes that employees follow is useful to both managers and students of workplaces. This study provided insights into the relationship between different nationality groups and their
relationships with their workplaces in the UAE. While useful in its current form, the results could also be used as a reference for future research in the region.

6.6 Limitations of the Study

This study was limited to office workers with access to computers. While this is a wide-spread (if not, standard) method of communication in the research setting, it excluded employees without access to computers from the research. One example of excluded employees are the labourers, who make up a large percentage of the multicultural population of the UAE. Labourers are, however, a special class of employees. In this research context, language and literacy challenges would have excluded labourers from the study, even if they did have access to computers.

Even for those with computer access, language is, however, still a limitation. This study was only accessible to employees who could read and understand English. While this is the common local business language and a widely applied prerequisite for employment in the research setting, it is not the preferred or optimal language for communication to use for all respondents. While it is accepted that a lack of language fluency may have played a role in the interpretation of the survey questions in this study, the extent of this limitation is difficult to establish.

A further limitation related to the research setting was the reluctance or mistrust of data-gathering for research purposes among officials. This necessitated the use of non-probability sampling. This method was limited in scientific terms. While the large sample may have overcome some of the resulting complications, cautious interpretation of the results is advised. It must also be indicated that this study was a mono-method, self-reporting enquiry. The data was therefore from one source and gathered at one time.

Another limitation was related to the selection of observable variables to represent latent variables in the research model. Such as is the case for many other studies that used the JDR model, more and/or different observable job resources and job
demands would have been beneficial to better explain the variance in the dependent variables.

Finally, a mono-method, cross-sectional study was used. The criticism that data collected at a single time to provide a snapshot does not match the quality and therefore generalisability of prolonged observations of behaviour is true for this study, despite excuses of expediency. Quality could also have been increased by additional methods to the survey to cross-reference findings. Confirmation and expansion of findings related to WI will benefit from the use of expanded research methods.

6.7 Suggestions for Further Research

Several of the conclusions made in this chapter would be enhanced by further research. WI is a new concept, made up of different facets. This project and other studies which have been conducted so far, did not consistently identify the same facets. Further explorative and confirmatory studies of the nature of WI, should therefore be conducted. As the facets of WI are becoming refined, future studies may also serve to expand the measurement instruments for WI. However, studies should approach WI as a multiple facetted concept and not assume that a single facet adequately and holistically represents the concept. The dynamic nature of social identities also requires further research to maintain recognition of WI as a process and to choose research models and methodologies which uphold this understanding of WI.

A second area for suggested further research is the JDR model. As job resources and job demands interact with one another, and as different resources and demands predict different facets of WI for different nationality groups, a complex situation ensues. Establishing which job resources or job demands facilitate which facets of WI, would require more studies of the JDR model and WI. More such studies would make it possible over time to follow up with meta-analysis to map patterns of prediction and interaction to produce knowledge about the optimal antecedents in different cultural contexts.
A further aspect of the JDR model which requires further research is job demands. How job demands predict or block job resources to affect positive outcomes requires further investigation. The current focus is mostly on the absence or presence of job demands and on the interaction effects with job resources. However, it would seem that there are degrees of absence or presence of job demands in relation to job resources, which may suggest a possible curvilinear relationship and which may affect outcomes differently. There seems to be a point at which a job demand could ‘switch over’ and become a job resource. This phenomenon is expected to be highly context specific. The nature of the job demand and the contextual factors should therefore be clear so that the point of ‘switching over’ is, in turn, clear as well.

A consequence of the unravelling of WI from work engagement requires new research in the form of investigating work engagement and studying it in relation to other WI-associated concepts. The nature of work engagement (as distinct from WI), and the position of work engagement in a possible sequential WI process, are two specific areas of enquiry which could be embarked upon. A possible third avenue may be to investigate the possible nesting effects of WI facets or identification foci. It was already suggested (see section 2.2.4.1), for example, that professional or career identification is nested in a larger organisational identification. There may be similar effects with facets of WI.

While the main elements of the research model played important roles in relation to WI, the control variables, age, level of education, and nationality affected the covariance structure significantly. The effects of educational levels and culture upon elements of the JDR model require further study to determine their effects on the formation of WI.

However, further studies about cultural impact should go further than the variables in a research model. The social concepts were not uniformly perceived across cultures as varying patterns of skewness in the dataset indicated. However, the potential effects of the research methods on the responses of respondents were not accounted for in this study. Future research could therefore explore respondent biases towards different research methodologies in this setting.
6.8 Closing Comments

The research objectives of the study were achieved. A process model of causes and consequences of WI in multicultural work settings was presented. By means of achieving this objective, worthwhile new knowledge was gained to forward the progress of theory and practice of concepts such as WI, work engagement, and the JDR model. As is expected when studying a ‘young’ WI, or indeed any ‘young’ concept, the study also opened up new questions for further research.

The highlighted facets of WI may have given an impression that the entitativity of WI looked unsure and this may, in turn, have threatened the integrity of the new construct soon after its inception. Low entitativity may even have been acceptable as long as the core of the multifaceted WI concept was securely rooted in social identity at work, such as in Schaufeli and Bakker’s (2001) solution of a concentrically formed concept (refer to section 2.2.2.1). However, several arguments were consistently presented in research literature, and confirmed in the findings here, to support WI and the continued research thereof. Firstly, WI (and indeed social identity) is by nature not a static concept, but a dynamic process. The very argument for the existence of WI is based upon the fact that a single locus for identity at work is untenable. Many authors argued this point based upon their research findings and called for further research to clarify the idea (Ashforth & Johnson, 2001; Hirschfeld & Feild, 2000; Kanungo, 1982; Kreiner & Ashforth, 2004; Walsh & Gordon, 2008). As work is such an encompassing aspect of many people’s lives, the hierarchy of identities contained in people’s WI, may be the most extensive and pervasive identity cluster in their lives. However, the study of dynamic concepts requires a different thinking approach, which leads on to the second argument.

The second argument for the entitativity of WI progresses the dynamic premise of the first argument substantially. This argument affects (probably, the key) understanding of WI and suggests that the way in which we study WI, and other such complex concepts, must match the intrinsic qualities of these concepts. For example, regression analyses in this study provided several significant results about bivariate relationships. However, the more complex combination of the variables in a covariance structure model of WI could not capture the perceptions of a multicultural
sample. This second argument is elegantly presented by Bauman (2004), who explained:

…if anything, it [identity] should be seen as a process, as should its understanding and analysis…. in a society that has made social, cultural, and sexual identities uncertain and transient, any attempt to ‘firm up’ that which has become liquid through a politics of identity would inevitably lead critical thought up a blind alley. (p. 5 & 6)

The very idea of WI, or any of the many WI-related concepts, as a fixed result predicted in a singular construct, seems inadequate. An increasing trend for using dimensions or continua to explain complex ideas of this nature, including WI-related constructs, was observed (for example Bakker & Demerouti, 2007; Roodt, Bester, & Boshoff, 1994; Schaufeli et al., 2002). Such an approach acknowledges and moves towards thinking in terms of processes, rather than in terms of a construct (an assembled idea). This may be an important (but not necessarily new) thinking requirement which was not always widely recognised in the prevailing paradigm of scientific enquiry into WI-associated concepts. However, De Bono (2008) suggested that, at least, thinking like designers\(^3\), should replace a 2,400 year old judgemental or closure-seeking thinking based upon Socrates, Plato and Aristotle. The argument for process orientation also forms part of the methodology of SEM, used in this study. The process argument recognises that the either-or thinking inherent in bivariate comparisons should be replaced by process models which allow for what-if reasoning. The entitativity of a dynamic concept is better observed if process thinking is applied.

The third argument adds another layer of complexity to the understanding of WI. Different culture groups may think in substantially different ways about WI and the importance of WI in their lives. This may affect observers’ views of WI. In the context of Dubai and the Gulf States, foreigners enter this region without the option to be fully assimilated into the social system of the new nation. The region is widely

\(^3\) De Bono’s design thinking: recognising the reality of the asymmetric systems of our existence in our descriptions thereof.
recognised as a transient context. This context offered an opportunity to study WI outside of many shared identity categories, except their work and/or the workplace. The findings of the study confirmed that despite the construction of an acceptable WI model for multicultural work settings, there were substantial differences in WI from the perspectives of different culture groups. When the data from different nationality groups were separately entered, the data from UAE respondents fitted the research model adequately, but the model fit became a progressively worse fit for more remote cultures (refer to section 4.4). On the one hand, it is not surprising that culture has a strong impact upon WI, as both “define and build upon each other in an ongoing cycle of mutual constitution” (Markus & Kitayama, 2010, p. 420). The impact of culture seems to be consistently underestimated in the design and application of theories despite the assertion that there is no culture-free theory of management (Hofstede, 1983). Furthermore, some authors, such as Ali (1995), lamented translations of American textbooks and appointment of foreign professors to Middle Eastern business schools as a cause of cultural discontinuity. However, despite this apparent discontinuity, this study showed that a culture-free application of the variables was not available in this study. Therefore, the results of this study also support the observation that there are cognitive differences between culture groups (Keating & Abramson, 2009). This idea also applies to WI.

4 However, there are now third-generation foreigners (children of ‘temporary’ contract workers) who were born in the UAE. The opportunities that this region offers to study the identity of outsiders and transience as an enduring state could provide topics for other research projects.
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# Appendix A: Regional Studies

## Table A

### Regional Studies about Concepts Related to WI

<table>
<thead>
<tr>
<th>Factors</th>
<th>Instrument (Data analysis method)</th>
<th>Key finding(s)</th>
<th>Sample</th>
<th>Location</th>
<th>Citation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Work beliefs</strong></td>
<td>Beliefs about Work Questionnaire by Dickson &amp; Buchholz, 1977; Buchholz, 1978; Puffer, McCarthy &amp; Naumov, 1997. ($\alpha = \text{above .60, in included scales}$)</td>
<td>Compared to similar studies in Russia, Scotland and the USA, higher egalitarianism and greater gender differences were found. Saudi work beliefs were different from Kuwaiti and Omani beliefs.</td>
<td>365 managers</td>
<td>Saudi Arabia, Kuwait and Oman</td>
<td>Robertson, Al-Khatib, Al-Habib, &amp; Langue, 2001</td>
</tr>
<tr>
<td><strong>Organisational commitment</strong></td>
<td>Organisational commitment scale (Meyer &amp; Allen, 1991)</td>
<td>Affective and continuance commitment were distinct factors; normative commitment measures were found to be inappropriate for the research settings.</td>
<td>783 employees in 3 industrial companies</td>
<td>Jordan</td>
<td>Suliman &amp; Iles, 2000</td>
</tr>
<tr>
<td><strong>Psycho-social factors predicting organisational commitment:</strong> discipline, concern, updating, age, tenure, salary, education, gender, manager's nationality, marital status.</td>
<td>Organisational commitment scale (Alnajjar, 1994, 1996) ($\alpha = .81$)</td>
<td>Job satisfaction, salary and education level related significantly to commitment. The presence of Emirati management increased employees’ discipline and concern; married employees were more disciplined. Organisational commitment measures appeared not to have cross-cultural validity.</td>
<td>479 UAE employees in government and private companies</td>
<td>UAE</td>
<td>Alnajjar, 1999</td>
</tr>
<tr>
<td>Factors</td>
<td>Instrument (Data analysis method) (Internal consistency measure, where available)</td>
<td>Key finding(s)</td>
<td>Sample</td>
<td>Location</td>
<td>Citation</td>
</tr>
<tr>
<td>---------------------------------</td>
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</tbody>
</table>
| Individualism and collectivist decision-styles | Work Individualism Scale (Ali, 1988)  
Individualism Scale (Triandis, 1990; Triandis, Bontempo, Villarea, Asai, & Lucca, 1984); Work Collectivism Scale (Flowers, Hughes, Myers, & Myers, 1975; Ali, 1982, 1988); Collectivism Belief Scale (Buchholz, 1977; Ali 1989); Decision Styles Scale (Ali 1989) | Participative and consultative decision styles were strongly preferred; collectivism beliefs were high. | 307 Kuwaiti and Arab managers | Kuwait | Ali, Abdul, & Krishnan, 1997 |
<p>| Work-family conflict            | General index of well-being (Quinn &amp; Shepard, 1974) plus work-family conflict scale (Pleck, Staines, &amp; Lang, 1980) (Correlations analysed &amp; step-wise multiple regression) (α = .90) | Work-family conflict reduced job satisfaction and, in turn, life satisfaction. | 82 married female researchers in research organisations | Malaysia | Ahmad, 1996 |
| Managerial value systems        | Biodata: Education, age, income, social class, organisation size, managerial experience and country of education; Values for working questionnaire (Flowers, Hughes, Myers, &amp; Myers, 1975) in French. (Descriptive statistics) | Income, country of education, managerial level and father’s occupation (social class) affected manager’s work orientations. | 236 managers in 4 different cities | Morocco | Ali &amp; Wahabi, 1995 |</p>
<table>
<thead>
<tr>
<th>Factors</th>
<th>Instrument (Data analysis technique) (Internal consistency measure, where available)</th>
<th>Key finding(s)</th>
<th>Sample</th>
<th>Location</th>
<th>Citation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organisational commitment and job satisfaction</td>
<td>Organisational commitment questionnaire (Mowday, Steer &amp; Porter, 1979), and Job descriptive index (Smith, Kendall, &amp; Hulin, 1969) (Discriminant analysis)</td>
<td>Commitment and job satisfaction were positively related and had strong relationships with decisions to leave or to stay. Pay (a job satisfaction factor) did not discriminate between employees who left or who stayed.</td>
<td>205 employees of UAE University</td>
<td></td>
<td>Alkhamiri, 1992</td>
</tr>
<tr>
<td>Work beliefs</td>
<td>Beliefs about work questionnaire (Dickson &amp; Buchholz, 1977; Buchholz, 1978) (Descriptive statistics)</td>
<td>Income, gender, origins, and education study fields influenced work beliefs. &quot;Marxist&quot; (labour theory of value) work beliefs were strong.</td>
<td>203 managers Iraq</td>
<td></td>
<td>Ali &amp; Schaupp, 1984</td>
</tr>
<tr>
<td>Leadership identities</td>
<td>(Discourse analysis)</td>
<td>General theories of identity formation were confirmed (Holland et al., 1998; Beijaard, Meijer &amp; Verloop, 2004)</td>
<td>48 Master of Educational Leadership students UAE</td>
<td></td>
<td>Harold &amp; Stephenson, 2009</td>
</tr>
<tr>
<td>Turnover causes</td>
<td>Survey (Descriptive statistics) (α = .87)</td>
<td>Tenure, gender and age had influence on work attitude; gender and education affected promotion; education, gender age and tenure affected attitude towards organisational resources. Age affected turnover.</td>
<td>495 employees Saudi Arabia</td>
<td></td>
<td>Achoui &amp; Mansour, 2007</td>
</tr>
</tbody>
</table>
## Appendix B: Survey with means

### Table B

**WI Survey with Means**

<table>
<thead>
<tr>
<th>JOB RESOURCES: Organisational reputation</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Generally I think my company has a good reputation in the community.</td>
<td>4.02</td>
</tr>
<tr>
<td>2. Generally I think my company is actively involved in the community.</td>
<td>3.91</td>
</tr>
<tr>
<td>3. Generally I think my company is known to be a good place to work.</td>
<td>3.80</td>
</tr>
<tr>
<td>4. Generally I think my company has a good reputation among its customers.</td>
<td>3.77</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>JOB RESOURCES: Need for organisational identification</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>5. Without an organisation to work for, I would feel incomplete.</td>
<td>3.55</td>
</tr>
<tr>
<td>6. I would like to work in an organisation where I would think of its success and failures as being my successes and failures.</td>
<td>4.14</td>
</tr>
<tr>
<td>7. An important part of who I am would be missing if I did not belong to an organisation.</td>
<td>3.41</td>
</tr>
<tr>
<td>8. Generally I feel a need to identify with an organisation that I am working for.</td>
<td>3.45</td>
</tr>
<tr>
<td>9. Generally, the more my goals, values and beliefs overlap with those of my employer, the happier I am.</td>
<td>4.04</td>
</tr>
<tr>
<td>10. I would rather say we than they when talking about an organisation I work for.</td>
<td>4.17</td>
</tr>
<tr>
<td>11. No matter where I work, I’d like to think of myself as representing what that organisation stands for.</td>
<td>4.10</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>JOB RESOURCES: Task-level resources</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>12. Can you decide yourself how you do your work?</td>
<td>3.95</td>
</tr>
<tr>
<td>13. Does your job offer you the opportunity to learn new things?</td>
<td>3.79</td>
</tr>
<tr>
<td>14. Can you ask your colleagues for help if necessary?</td>
<td>4.18</td>
</tr>
<tr>
<td>15. On your job, do you have freedom to decide how you do your work?</td>
<td>3.61</td>
</tr>
<tr>
<td>16. Do you have enough possibilities to develop yourself at work?</td>
<td>3.54</td>
</tr>
<tr>
<td>17. Can you depend on your colleagues when you face difficulties at work?</td>
<td>3.74</td>
</tr>
<tr>
<td>18. How much say do you have about decisions at work?</td>
<td>3.39</td>
</tr>
<tr>
<td>19. Can you rely on your work supervisor to be supportive?</td>
<td>3.67</td>
</tr>
<tr>
<td>20. Do you receive enough training and development?</td>
<td>3.22</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>JOB RESOURCES: Remuneration perceptions</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>21. How good salaries do you think your organisation pay?</td>
<td>3.10</td>
</tr>
<tr>
<td>22. How comfortably can you live on your pay?</td>
<td>3.16</td>
</tr>
<tr>
<td>23. Are you paid enough for the work that you do?</td>
<td>3.04</td>
</tr>
<tr>
<td>24. How much does your job offer you the possibility to progress financially?</td>
<td>2.96</td>
</tr>
</tbody>
</table>
Table B/Continued

**JOB DEMANDS: Breach of psychological contract**

<table>
<thead>
<tr>
<th>Question</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>25. Do you feel that almost all the promises made by your employer during recruitment have been kept so far?</td>
<td>3.21</td>
</tr>
<tr>
<td>26. Do you feel your employer did well in fulfilling the promises made to you when you were hired?</td>
<td>3.22</td>
</tr>
<tr>
<td>27. Do you feel so far your employer has done an excellent job in fulfilling its promises to you?</td>
<td>3.24</td>
</tr>
<tr>
<td>29. Did you receive everything promised to you in exchange for your contributions?</td>
<td>3.39</td>
</tr>
<tr>
<td>30. Did your employer break many of its promises to you even though you have kept your side of the deal?</td>
<td>3.15</td>
</tr>
</tbody>
</table>

**JOB DEMANDS: Work-family conflict**

<table>
<thead>
<tr>
<th>QUESTION: How often does it happen that…</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>31. ... you are irritable at home because your work is demanding?</td>
<td>2.82</td>
</tr>
<tr>
<td>32. ... you find it difficult to fulfil your home responsibilities because you are constantly thinking about work?</td>
<td>2.78</td>
</tr>
<tr>
<td>33. ... you have to cancel appointments with your family/friends due to work?</td>
<td>2.76</td>
</tr>
<tr>
<td>34. ... your work schedule makes it difficult for you to fulfil your home responsibilities?</td>
<td>2.70</td>
</tr>
<tr>
<td>35. ... you do not have the energy to do leisure activities with your family/friends because of your job?</td>
<td>2.92</td>
</tr>
<tr>
<td>36. ... you work so hard that you do not have time for any of your hobbies?</td>
<td>2.91</td>
</tr>
<tr>
<td>37. ... your work responsibilities make it difficult for you to relax at home?</td>
<td>2.72</td>
</tr>
<tr>
<td>38. ... your work takes up time that you would have liked to spend with family/friends?</td>
<td>2.85</td>
</tr>
</tbody>
</table>

**Work identity**

<table>
<thead>
<tr>
<th>Question</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>39. How much of your identity is based on your occupation?</td>
<td>3.37</td>
</tr>
<tr>
<td>40. How much do you see your job as your whole life?</td>
<td>3.19</td>
</tr>
<tr>
<td>41. How much is your occupation the most important activity in your life?</td>
<td>3.40</td>
</tr>
<tr>
<td>42. How much do you base the best description of 'who you are' on your career?</td>
<td>3.45</td>
</tr>
<tr>
<td>43. How central does the organisation that you work for stand in your life?</td>
<td>3.28</td>
</tr>
<tr>
<td>44. To what extent will your life be valueless without your job?</td>
<td>3.22</td>
</tr>
<tr>
<td>45. How much is your own identity based on your job?</td>
<td>3.24</td>
</tr>
<tr>
<td>46. How much do you think of work as the most important aspect of your life?</td>
<td>3.44</td>
</tr>
<tr>
<td>47. How directly related are all your achievements to your work?</td>
<td>3.47</td>
</tr>
<tr>
<td>48. How much does your work determine your value as a person?</td>
<td>3.40</td>
</tr>
<tr>
<td>49. How much is the best description of 'who you are' related to the organisation that you work for?</td>
<td>3.25</td>
</tr>
<tr>
<td>50. How big a part of 'who you are' is your work?</td>
<td>3.33</td>
</tr>
<tr>
<td>51. How much do you see yourself as part of the organisation that you work for?</td>
<td>3.57</td>
</tr>
<tr>
<td>52. How much meaning does work add to your life?</td>
<td>3.81</td>
</tr>
<tr>
<td>Question</td>
<td>Mean</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>53. How are people valued, based on their contribution to work?</td>
<td>3.46</td>
</tr>
<tr>
<td>54. How much do you give to your job?</td>
<td>4.05</td>
</tr>
<tr>
<td>55. How personally insulted do you feel when someone criticises the organisation that you work for?</td>
<td>3.61</td>
</tr>
<tr>
<td>56. How embarrassed do you feel when the media criticises the organisation that you work for?</td>
<td>3.63</td>
</tr>
<tr>
<td>57. How interested are you in what others think about the organisation that you work for?</td>
<td>3.80</td>
</tr>
<tr>
<td>58. How much do you think of the organisation's successes as your own?</td>
<td>3.84</td>
</tr>
<tr>
<td>59. Does it feel like a personal achievement when someone praises the organisation that you work for?</td>
<td>3.84</td>
</tr>
<tr>
<td>60. How often do you say &quot;we&quot; rather than &quot;they&quot; when you talk about the organisation you work for?</td>
<td>3.91</td>
</tr>
<tr>
<td>61. How much does your job allow for the achievement of personal goals?</td>
<td>3.42</td>
</tr>
<tr>
<td>62. How much does your job prevent you from being yourself or becoming who you want to be?</td>
<td>3.40</td>
</tr>
<tr>
<td>63. How rewarding is the work in itself as an activity?</td>
<td>3.41</td>
</tr>
<tr>
<td>64. We assume your job have high standards. How easily can you identify with the high standards of your job?</td>
<td>3.78</td>
</tr>
<tr>
<td>65. How much are your values the same as the values of the organisation that you work for?</td>
<td>3.57</td>
</tr>
<tr>
<td>66. How much are you able to maintain your own values at the organisation where you work?</td>
<td>3.83</td>
</tr>
</tbody>
</table>

**CONSEQUENCES: Work engagement**

<table>
<thead>
<tr>
<th>Question</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>67. When I get up in the morning, I feel like going to work.</td>
<td>3.57</td>
</tr>
<tr>
<td>68. At work I feel that I have a lot of energy.</td>
<td>3.63</td>
</tr>
<tr>
<td>69. At my work I always keep going on even when things do not go well.</td>
<td>3.89</td>
</tr>
<tr>
<td>70. I can continue working for long periods of time.</td>
<td>3.84</td>
</tr>
<tr>
<td>71. At my job, I am very focused mentally.</td>
<td>3.89</td>
</tr>
<tr>
<td>72. At my job I feel very strong and active.</td>
<td>3.80</td>
</tr>
<tr>
<td>73. To me, my job is challenging.</td>
<td>3.75</td>
</tr>
<tr>
<td>74. My job inspires me.</td>
<td>3.55</td>
</tr>
<tr>
<td>75. I am enthusiastic about my job.</td>
<td>3.74</td>
</tr>
<tr>
<td>76. I am proud of the work that I do.</td>
<td>4.03</td>
</tr>
<tr>
<td>77. I find the work that I do full of meaning and purpose.</td>
<td>3.83</td>
</tr>
<tr>
<td>78. When I am working, I forget about everything else around me.</td>
<td>3.48</td>
</tr>
<tr>
<td>79. Time flies when I am working.</td>
<td>3.89</td>
</tr>
<tr>
<td>80. I get carried away when I am working.</td>
<td>3.52</td>
</tr>
<tr>
<td>81. It is difficult to remove myself from my job.</td>
<td>3.41</td>
</tr>
</tbody>
</table>
Table B/Continued

82. I am absorbed in my work. 3.62
83. I feel happy when I am working intensely. 3.89

**CONSEQUENCES: Turnover intentions**

<table>
<thead>
<tr>
<th>Question</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>84. How likely is it that you will be working at the same organisation this time next year?</td>
<td>2.25</td>
</tr>
<tr>
<td>85. How likely is it that you will take steps during the next year to find a job at a different company?</td>
<td>3.02</td>
</tr>
<tr>
<td>86. How likely is it that you will be working at the same organisation five years from now?</td>
<td>2.89</td>
</tr>
<tr>
<td>87. How likely is it that you will probably look for a job at a different organisation in the next year?</td>
<td>2.95</td>
</tr>
</tbody>
</table>
Appendix C: Histograms

Figure C1. Histogram: Organisational reputation.

Figure C2. Histogram: Need for organisational identification.
Figure C3. Histogram: Task resources.

Figure C4. Histogram: WI work centrality.
Figure C5. Histogram: WI person-organisation fit.

Figure C6. Histogram: Work engagement.