TAKE IT or LEAVE IT:

THE ROLE OF SELF-EFFICACY, PERSONALITY, NEED FOR ACHIEVEMENT AND NEGATIVE MOTIVATIONAL GRAVITY ON INTENTION TO LEAVE

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Table of Contents

List of Tables

List of Figures

Abstract

This research explored the potential influences of negative motivational gravity work environments, and whether the threshold for intending to leave could be predicted by individual differences. The sample consisted of 114 undergraduate and postgraduate students located at the Albany Campus of Massey University. The research explored quantitative and qualitative data, collected through a three part questionnaire. Part One used scenarios and asked participants to imagine how much negative motivational gravity they would probably tolerate before seriously thinking about leaving. Part Two included questions measuring individual differences relating to (a) self-efficacy (Sherer et al's., (1982) General Self-efficacy Sub-scale), (b) personality (Goldberg's (1999) International Personality Item Pool) and (c) need for achievement (Cassidy & Lynn's (1989) Achievement Motivation Questionnaire). Part Three collected demographic data. Although relationships were evident between the General Self-efficacy Sub-scale; the agreeableness, extraversion and neuroticism factors of the International Personality Item Pool; the mastery and acquisitiveness sub-scales of the Achievement Motivation Questionnaire; and tolerance threshold for negative motivational gravity, the results indicate that individual difference is not a strong predictor of tolerance threshold. The qualitative data is consistent with the quantitative data in so far as the dominant themes were rational, emotional, environmental and strategic related rather than associated with individual differences. The research has both theoretical implications, and implications for organisations to address negative motivational gravity to help reduce employee turnover. Limitations and recommendations for future research are also considered.

Introduction

"When a valuable employee leaves, it's a signal that something in the system needs fixing"

Frederick Reicheld
Harvard Business School

Preamble

Today throughout much of the Western World there is an expectation that people will spend the greater proportion of their lives in paid employment (Kirschenbaum & Weisberg, 2002), with their job also giving them status, rank and esteem (Steers, Porter, & Bigley, 1996). Wherever people are employed it is to be expected that some will leave their jobs (Kirschenbaum & Weisberg, 2002). Some employees will be asked or told to leave whilst others will choose voluntarily to leave. The turnover literature offers a range of reasons employees voluntarily leave their jobs. There are indications that dissatisfaction both with the workplace (Cohen, 1997; Cotton & Tuttle, 1986; Mowday, Porter, & Steers, 1982; Price, 1977) and with other workers (Carr & Powell, 1996; Hulin, 1968; Ley, 1966; Telly, French, & Scott, 1971) has a part to play in influencing an employee's intention to leave. Often these complaints are directed at the negative behaviour and discouraging actions (Bedeian, 1995), also known as negative motivational gravity (Carr & MacLachlan, 1997), of their work colleagues.

People react to negative work environments differently. Some experience declining levels of job satisfaction (Schweiger & Denisi, 1991). Some are affected by stress (Schaubroeck, Cotton, & Jennings, 1989). Some proactively seek out other options, like staying in their jobs, but only by refusing to work with their problem managers (De Dreu, Harinck, & Van Vianen, 2001). Some stay in the workplace and 'take it', others choose to 'leave it' and seek new employment (Parker, 1993).

If, an employee has a choice, either to 'take it' or 'leave it', what choice does the organisation have? Even though up to 80% of turnover is preventable (Boxall & Rasmussen, 2001), many organisations ignore the issue (Harvey & Napier, 2002; Middleton, 2002). This is demonstrated by Branham's (2001) belief

that although as many as 75% of senior executives recognise the exit of employees as being problematic, only 15% of them introduce policies and strategies to address turnover. This gives reason to the assumption that employees leaving their job as a result of discouraging behaviour is not addressed adequately by management.

However, recognising turnover as problematic, some organisations give as much attention to retaining valuable employees as is given to the recruitment and selection process (Middleton, 2002), by introducing staff retention strategies (Parker, 2000). These strategies often involve benefits or 'perks', as basic as increased pay, time off, free haircuts and manicures, access to meditation rooms, and free massages (Middleton, 2002). Other benefits include free motor vehicles, emergency use of the corporate jet, performance bonuses, shares, health plans, and retirement packages. One company, Pfizer, even distributes free medication to its staff, including Viagra!

Do retention policies work? Woolworths New Zealand saved $NZ6 million dollars by reducing their staff turnover by 7.94% (McNaughton, 2000). However, according to a recent long-term research project by Gallup (Middleton, 2002), increasing pay levels and offering attractive perks in attempt to get employees to stay with the organisation is *not* the most productive way to reduce turnover. In fact, Gallup established that the *boss and employee relationship* is a far more significant factor in employee turnover. Indeed, Middleton suggests that employees *leave their bosses rather than leaving their organisation.*

Modern organisations tend to view their employees as a disposable resource (Vansina, 1998), and do not seek understanding of hierarchical staff relationships (Middleton, 2002). These organisations instead tend to focus on reducing staff levels and concentrating on company productivity, often without considering the impact of increased staff workloads and reduced resources (Harvey & Napier, 2002) resulting in the need for employees to produce at higher levels whilst resources are reduced (Bassman & London, 1993). This, in turn, can result in abusive behaviour, workplace envy (Bedeian, 1995), and discouraging behaviour at all hierarchical levels, leading to, or contributing to, employees

deciding to leave (Mobley, Griffeth, Hand, & Meglino, 1979). This thesis will focus on *how much* of this discouraging behaviour employees are prepared to take before forming an intention to leave their employment.

Turnover

Turnover is expensive (Branham, 2001; Cascio, 2000; Mitchell, Holtom, Lee, Sablynski, & Erez, 2001). Employee turnover is considered to be one of the main reasons for slow organisational growth and declining profitability (Boxall & Rasmussen, 2001; Kay, 2001; Mowday et al., 1982). Turnover also results in increased recruitment (Branham, 2001), training (Cascio, 2000) and administration costs (Hatton et al., 2001). Other, larger costs may be associated with an employee leaving. For example, a resignation payment of $NZ4.2 million dollars was paid to the recently departed Air New Zealand Chief Executive Officer (Cleave, 2002). The individual also faces costs. Although changing jobs can be advantageous, often an individual faces loss of seniority, unreimbursed relocation expenses, a possible increase in living expenses (Mowday et al., 1982), potential disruption of family life, strained relationships with previous co-workers, and personal stress (Griffeth & Hom, 2001). Research that establishes the reasons why some employees stay and some leave is important so that organisations can ensure that unnecessary costs are minimised (Hatton et al., 2001).

Over the years, there has been considerable research on employee turnover (e.g., Boxall & Rasmussen, 2001; Callister, 1997; Kirschenbaum & Weisberg, 2002; Mowday et al., 1982; Muchinsky & Tuttle, 1979). Although research has looked at some of the factors that contribute to turnover, relatively little research has addressed *how* employees react in discouraging workplaces, including the role individual differences play in employee turnover. By looking at how the characteristics of self-efficacy, personality and need for achievement influence a worker's choice to stay in or leave a discouraging workplace, this thesis will help to fill the gap in turnover research.

Employee turnover has been of interest to researchers for almost a hundred years (Bernays, 1910, as cited in Mowday et al., 1982), with over 1,000 studies

being completed by the early 1980's (Cotton & Tuttle, 1986). These studies have established the prevalence (e.g., Boxall & Rasmussen, 2001; Branham, 2001; Callister, 1997; Clark, 1999) and cost of turnover (e.g., Branch, 1998; Branham, 2001; Cascio, 2000; March & Simon, 1993; Mitchell et al., 2001), and identified common factors that are associated with employees leaving (e.g., Boxall & Rasmussen, 2001; Buckingham & Coffman, 1999; Griffeth & Hom, 2000; Kirschenbaum & Weisberg, 2002; Lum, Kervin, Clark, Reid, & Sirola, 1998; Tan & Tan, 2000). The studies have also examined the process through which an employee forms an intention to stay in or leave an organisation (e.g., Kalliath & Beck, 2001; Mobley, 1977; Sager & Menon, 1994; Zenger, 1992). However, these studies have only just 'scraped the surface', with less than 20% of turnover variance being effectively accounted for (Mowday et al., 1982). Contemporary research is yet to provide an answer to the turnover problem.

A significant amount of criticism has been directed at the way in which turnover studies have been conducted (e.g., Boxall & Rasmussen, 2001; Kirschenbaum & Weisberg, 2002; March & Simon, 1993; Mowday et al., 1982; Muchinsky & Tuttle, 1979), with a lack of standardised measurements being used (Callister, 1997). This has made it difficult for researchers to both compare data and establish accurate national and global turnover rates (Boxall & Rasmussen, 2001; Callister, 1997; Mobley et al., 1979).

Prevalence of turnover

Problems in research methodology, content and operationalisation aside, turnover research reports disturbing numbers of people leaving their jobs. A considerable amount of the turnover literature focuses on employment in the United States of America, with Zenger (1992) grading turnover rates of 8 to 9% as moderate, and 15 to 18% as quite high. Using Zenger's classification there are many examples of turnover greater than 'quite high'. For example a recent study into the annual turnover rates of employees working for American Community providers established a turnover rate of between 50 to 70% (Cohen, 1997). A TMP Worldwide Six-monthly Job Index Survey reported 19% of the New

Zealand companies surveyed had turnover rates higher than 15%, and levels of 51% were reported in some cases (McAuley, 2001, as cited in Middleton, 2001).

American research conducted in 1995 estimated six million employees (one in ten) voluntarily left their jobs each year (Branham, 2001; Clark, 1999). By the year 2000, this number increased by 183% to 17 million (one in seven). Local research estimates 49% of New Zealand employees are believed to change their jobs every five years, and that as many as 55% of employees think of leaving, or plan to leave their jobs within the next year (Boxall & Rasmussen, 2001).

Turnover levels are all the more worrying when population trends are taken into consideration. By the year 2008 it is expected that 161 million jobs will exist in the United States and the available labour force will only total 154 million (Branham, 2001). This means a shortfall of seven million employees. Senior executives, who continue to ignore the implications of turnover (Harvey & Napier, 2002) and do not establish strategies to address it (Branham, 2001), will have to face the prospect of trying to obtain suitable replacement staff from a dwindling market place. As it is probable a similar trend will occur in New Zealand, current research into the numbers of New Zealanders leaving their jobs is important, as too is research into *why* New Zealand employees leave their jobs.

Factors associated with turnover

A number of research studies have identified the same or similar factors associated with employee turnover. Two of these factors, personal and work-related correlates identified by Pettman (1973, as cited in Cotton & Tuttle, 1986) are considered in this thesis.

Personal correlates of turnover

Research has generally accepted a link between age and turnover. In their review of the literature, Mobley et al. (1979) found that all but one of the studies carried out established that the older an employee is the less the likelihood of she or he leaving the organisation. However the variance shown was only 7%. Younger employees are less likely to transfer to another position in an organisation, preferring to leave the organisation altogether (Kirschenbaum &

Weisberg, 2002). This could confirm that they feel more marketable than their older colleagues. The trend of younger employees leaving their jobs at a higher rate than older employees has also been confirmed in a New Zealand sample (Boxall & Rasmussen, 2001; Callister, 1997). With the tendency of younger New Zealand employees leaving their jobs at a higher rate than their older counterparts it is reasonable to assume that the rates of younger participants in this research will form an intention to leave a discouraging work environment at a higher rate than the older participants.

Research into gender and turnover has had mixed results. Mobley et al. (1979), although citing a Japanese study that showed higher turnover rates amongst Japanese females, reported that almost all studies show that there is no gender difference in employee turnover. Griffeth and Hom (2000) also found that there was little difference in the leaving rates of female and male employees. March and Simon (1993), although recognising little difference in the rates, suggest that males have higher rates of turnover, and reason that as they are more mobile than females, males are also more able to access opportunities that involve a change of location. If, as March and Simon propose, males are more mobile and change locations more easily than females, this may suggest that male employees facing discouraging behaviour in the workplace may form an intention to leave the work place sooner than their female counterparts.

Work-related correlates of turnover

Work-related correlates relating to turnover include, for example, factors like job pay, job satisfaction and dissatisfaction, and workplace climate. Research into job pay and turnover is inconclusive. Some researchers say that a consistent, albeit small, negative relationship exists (e.g., Lum et al., 1998; Porter & Steers, 1973; Price, 1977), whilst others (e.g., Mobley et al., 1979) believe that a relationship between the two is yet to be proven. Buckingham & Coffman (1999) have a different view, firmly believing that whilst good remuneration attracts employees to positions in an organisation, it does not help to retain them.

The early work of Adams (1963, as cited in Telly et al., 1971) established that inequity in the workplace led to tension, which in turn, if not adequately

addressed by the effected employee, led to an intention to leave. Telly et al. (1971) confirmed this process concluding that the most important factors leading to inequity and subsequent turnover in the workplace came from supervisors and leadmen [*sic*], who had poor judgement, were unapproachable, inconsiderate and unsupportive. The mid 1980's saw recognition of a relationship between dissatisfaction (Hom et al., 1979), unfair work practices (e.g., Hodson, 1998; Greenberg, 1987, as cited in Aquino & Griffeth, 1997; Price & Mueller, 1986, as cited in Aquino & Griffeth, 1997), and in a recent study on a New Zealand sample poor supervisor support (Kalliath & Beck, 2001), and turnover.

These results suggest, for example, that the relationship between supervisor support and possibly other motives have some kind of impact on voluntary turnover behaviour. In their recent study of trust in supervision and trust in the organisation, Tan and Tan (2000) established that organisational trust was a more important factor in contributing to an employee forming an intention to leave than trust in supervision was. However, as Tan and Tan also believe that trust comes in part from interactions with supervisors, the role a supervisor plays in establishing organisational trust and the prevention of employee turnover should not be underrated.

The impact of other relationships within the organisational setting should also not be underestimated. Poor relationships with peers and subordinates are known to result in a similar way to poor employee/manager relationships, with, for example, lower job satisfaction and employee alienation (Farris, 1971), and, in a local setting, a higher likelihood of an employee making a decision to leave their job (Kalliath & Beck, 2001).

Intention to leave

The collection of actual turnover data is problematic as adequate and appropriate samples can be difficult to obtain. For this reason researchers investigating relationships associated with turnover, as in this research, often substitute actual data with a participant's intention to leave.

Intention to leave an organisation is a complex construct (Mobley et al., 1979). Vroom (1964) proposed a model that the probability of an employee leaving or staying in a job is determined as a result of two opposing forces, the force to remain, or the force to leave. Fishbein's (1967, as cited in Mobley, Horner, & Hollingworth, 1978) model of attitudes, intentions and behaviour, and Locke's (1968, as cited in Mobley et al., 1978) task motivation model presented intention to leave as the immediate precursor of quitting. Atchinson & Lefferts (1972) found that the higher the frequency of thinking of leaving, the higher the chance of an employee actually leaving.

More recent research suggests that an individual's thoughts and intentions are the strongest predictors of turnover (e.g., Cotton & Tuttle, 1986; Hatton et al., 2001; Lee & Mowday, 1987; Sager & Menon, 1994; Rosin & Korabik, 1991) with most researchers agreeing that employees who think about leaving their job will act on their intentions.

In order to address turnover, it is necessary to understand how discouraging work behaviours by individuals, at all hierarchical levels of the organisation, impact on an employee's intention to leave (Hatton et al., 2001). This research seeks to establish the maximum number of bosses, peers, and subordinates exhibiting discouraging behaviour an employee is prepared to tolerate (tolerance threshold) before signalling an intention to leave. The theory of Motivational Gravity can help to explain the effect of discouragement in the workplace.

Motivational Gravity

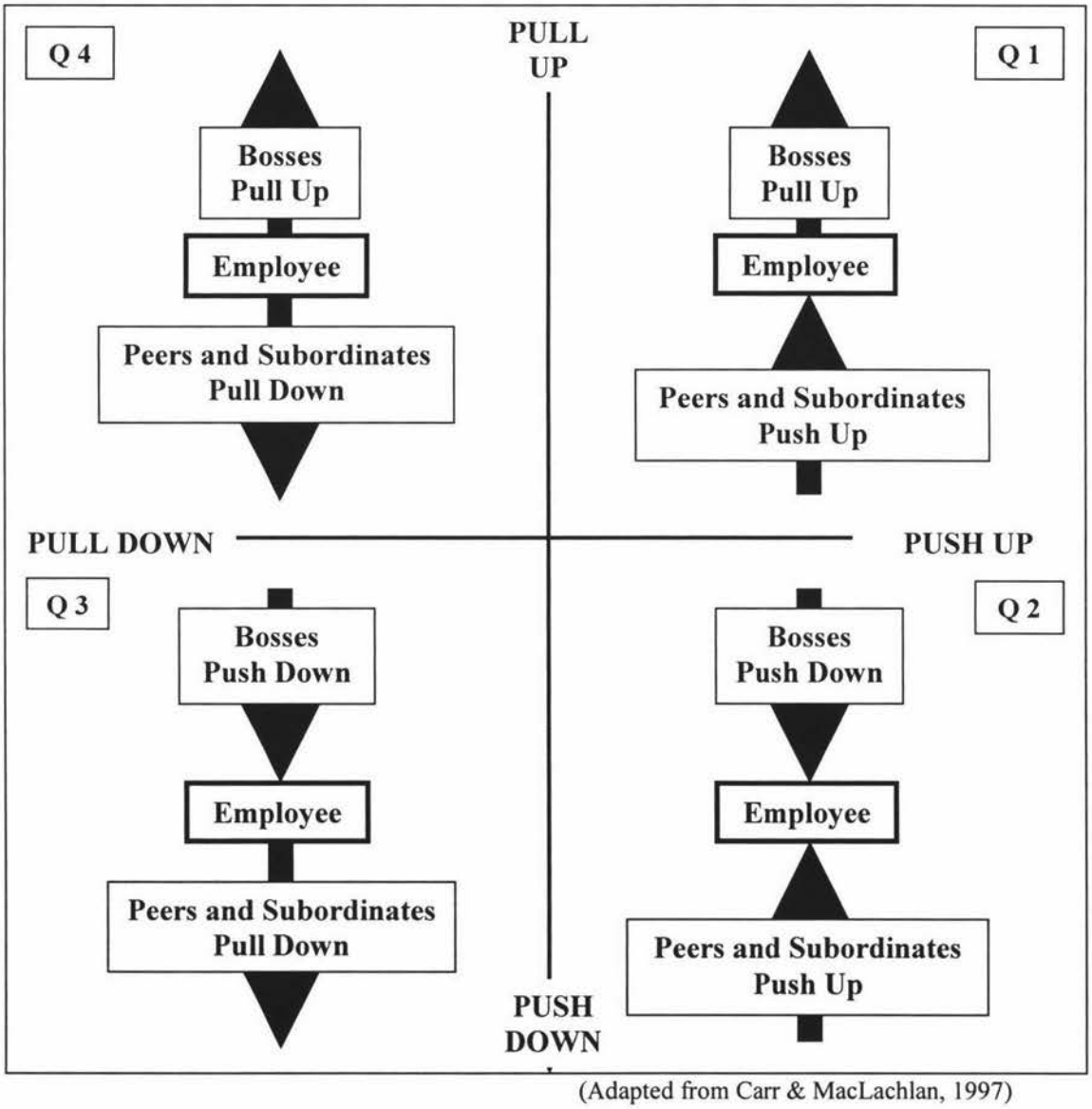
Interpersonal relationships are important to the overall success of an organisation (Cascio, 2000). However, not all relationships between employees are positive. Early studies into employee turnover established a relationship between turnover and both supervision styles (Porter & Steers, 1973) and inequitable management (Telly et al., 1971). Over the intervening years, turnover and supervision style attracted little research (Falbe & Yukl, 1992). However, a number of contemporary researchers (e.g., Carr, 1994; Carr & MacLachlan, 1997; Carr, Pearson, & Provost, 1996; Carr & Powell, 1996; Feather, Volmer, &

McKee, 1991; Kalliath & Beck, 2001; Parker, 1993) have shown an interest in employee behaviour and workplace relationships, and also the effect of unfair procedures (e.g., Bassman & London, 1993), injustice (e.g., Hodson, 1998), poor supervisor support (Kalliath & Beck, 2001), and dissatisfaction on workers (e.g., Carr, 1994: Carr & MacLachlan, 1997; Robertson & Callinan, 1998), and their possible link to employee turnover.

It is thought that employees have a desire to improve their standing in an organisation and therefore seek ways in which to advance (Carr & MacLachlan, 1997). To encourage advancement and employee development, many organisations introduce formal programmes to ensure that employees are treated fairly and with respect (Bassman & London, 1993). However, some workers, possibly as a result of feelings of insecurity and envy (Carr & Powell, 1996), or their own history of both personal and work abuse (Bassman & London, 1993) deliberately impair the work performance and advancement of other staff (Bassman & London, 1993; Carr & Powell, 1996; Feather et al., 1991). Research by Smith (1988, as cited in Bassman & London, 1993) suggested as many as 45% of managers are "abusive, intolerant, and dictatorial" (p. 19). Other research suggests that this behaviour is not limited to managers as employees also clash with both their peers and their subordinates (Quine, 1999).

Encouraging and discouraging behaviour by employees create what Carr (1994) describes as a "motivational force field" (p. 34). This force field, constructed of positive and negative gravity by bosses and peers, contributes to a construct called Motivational Gravity. Motivational Gravity theory suggests that discouragement at work will foster intentions to leave, but has not so far commented on individual differences. The concept of Motivational Gravity was based on studies of employees from Africa, Asia, Australia, and the South Pacific (Carr & MacLachlan, 1997). From this research a four-quadrant grid was created (see Figure 1, overleaf). The Motivational Gravity Grid has to date incorporated three levels, bosses, the "would-be achiever", and peers (Carr, 2003, p.119). The current research addresses four levels, by separating out peers and subordinates into two distinct sub-groups.

Quadrant 1 of the Grid illustrates the 'perfect' or desirable work situation where senior colleagues (bosses) encourage a junior employee (would-be achiever) to improve their performance. This is shown on the Grid by a pull up process. Peers and subordinates, by encouraging actions, also work to improve an individual's performance, shown by a push up process. Such encouragement is termed positive motivational gravity. The opposite, negative motivational gravity, demonstrated by acts of discouragement by bosses and peers and subordinates, is illustrated in Quadrant 3. Where negativity motivational gravity exists an employee's performance is sabotaged by the push down actions of a boss, and/or the pull down actions of a peer or a subordinate.



(Adapted from Carr & MacLachlan, 1997)

Figure 1. Motivational Gravity Grid

Push down

Carr, MacLachlan, Zimba, and Bowa (1995) describe the push down effect as management or supervisors trying to stop employees at lower levels of the organisation "rising up towards them" (p. 659). Negative motivational gravity behaviours may result from a "self-serving form of revenge" (Carr, 2003, p. 382), where a manager holds the philosophy that what she or he has worked hard for should not be given easily to others. Jealousy, envy (Bedeian, 1995) and job insecurity (Cooper, 2000) are also motivators for managers to engage in negative motivational gravity behaviours.

Managers displaying negative behaviour towards their staff are easy to find (Bassman & London, 1993). Bedeian (1995) records an example of push down behaviour, where strong criticism by two senior staff directed at a well respected, newly appointed staff member resulted in the staff member feeling his work and personal integrity so devalued, was unable to continue employment with the organisation. Also, a quick classroom survey by Bassman and London established that all of the students in one of their classes had experienced at least one incident of negative motivational gravity from a manager. In another study, using a sample of junior doctors, Quine (1999) established 54% of participants reported the most common person to bully junior staff was a senior or line manager.

Many employees are subject to abusive supervisor and manager relationships. This push down behaviour often involves public ridicule and disrespect, (Bassman & London, 1992), bullying, (Quine, 1999), ostracism, (Carr, 1994), career blocking (Bassman & London, 1992; Carr, 1994), and envy (Bedeian, 1995; Carr, 1994). Other discouraging behaviours are favouritism and discrimination (Carr & MacLachlan, 1997), taking credit for another person's work (Bassman & London, 1992), failure of bosses to share ideas and power (Carr, & MacLachlan, 1997; Colling, 1972, as cited in Carr & MacLachlan, 1997), and bosses consolidating power (McCarthy, 1996, as cited in Carr & MacLachlan, 1997). Negative behaviour by managers may result in employee stress, the undermining of relationships, reduced employee performance

(Remondet & Hansson, 1991), and also limit an employee's professional growth (Bassman & London, 1993).

Pull down

A pull down action is described by Carr et al. (1995) as where an employee from the same or similar level (in this research a peer or a subordinate) tries to stop other workers advancing higher in performance and or position in the hierarchy than themselves. Negative motivational gravity behaviours may result from feelings of jealousy and envy, and perceived injustice and violations of psychological contract (Carr, 2003).

Peer relationships are important (Porter & Steers, 1973) with co-workers having the power to make a job "a blessing or a curse" (Hodson, 1998, p. 267). Positive relationships ensure the cohesion of work groups (Hodson, 1998; Farris, 1971), whilst poor relationships can result in lower job satisfaction, poor employee/management relationships, employee alienation (Farris, 1971; Porter & Steers, 1973), and subsequent propensity to leave (Hodson, 1998; Porter & Steers, 1973).

In an attempt to 'outshine' others, some employees use pull down techniques. This negative motivational gravity goes past the "kidding" and "ridicule" associated with apprentice initiation (Hass, 1972, as cited in Hodson, 1998, p. 269), and involves conflict and infighting (Hodson, 1998), alienation (Porter & Steers, 1973), taunting (Seider, 1984, as cited in Hodson, 1998), bullying (Bedeian, 1995; Quine, 1999), and deliberate unkind (Graham, 1995) and "mean-spirited" acts (Seider, 1984, as cited in Hodson, 1998, p. 277). A recent study in the health sector reported that 34% of the participants who admitted to bullying intimidated workers at the same level as themselves, and 12% admitted to bullying a subordinate (Quine, 1999).

Some pull down behaviour is addressed by management in line with organisational fairness and equity policies (Bassman & London, 1993). However, there are times when management actively condones discouraging behaviours

amongst employees. Graham (1995) describes incidents in the Japanese automobile industry in America, where unkind and discouraging acts designed to both control employee behaviour and allow teams to punish and individual member's poor performance were deliberately ignored and in some cases actively encouraged by management.

In an attempt to explain aspects of inter and intra-group power influences on achievement motivation Carr and MacLachlan (1997) have used Motivational Gravity Theory. Recent research using the concept has examined employee perceptions of the prevalence of push down and pull down behaviours by bosses and peers (e.g., Carr, 1994; Carr & Powell, 1996). To date however, the research has *not* investigated either the role that individual differences plays in Motivational Gravity, or the extent (tolerance threshold) to which an employee is prepared to tolerate the push down or pull down behaviour of others before forming an intention to leave their job. Both of these outstanding questions are addressed in the current research.

Individual Differences

It has long been recognised that people are different from one another, and that these differences extend beyond physical features to individual characteristics and traits (Anastasi & Urbina, 1997). As organisations seek to find new ways to reduce the costs incurred as a result of voluntary turnover, it is all the more necessary for organisational researchers to find the role that individual difference plays in an employee's working life, and particularly how individuals behave at work (Robertson & Callinan, 1998). The majority of individual difference research has focussed on intelligence. However other variables like self-efficacy, personality and need for achievement have also received attention. These variables in measuring an individual's self-competency (Bandura, 1986), fundamental personality traits (Robertson & Callinan, 1998), and achievement striving (Cassidy, 2000) are appropriate constructs to establish how individual difference relates to an employee forming an intention to leave a discouraging, negative motivational gravity, work environment.

Self-efficacy

Self-efficacy, the "belief in one's ability to perform a task or more specifically to execute a specified behavior successfully" (Bandura, 1977b, p.79), is seen in contemporary psychology as an important underlying factor in work motivation (Eden & Kinnar, 1991). Self-efficacy has been linked to both the prediction and improvement of work performance (Gist & Mitchell, 1992) and an individual's belief about personal competence (Maddux, 1995). Thus, self-efficacy might, in theory, act as a safeguard against negative motivational gravity from other employees and so create fluctuations in the tolerance threshold of negative gravity before turnover occurs.

Self-efficacy influences motivation, achievement and competence, and also the degree to which an individual is prone to apprehension, apathy, or despair (Bandura, 1986). It also influences the amount of effort an individual applies to a problem (Bandura, 1977a), even to the extent of whether the individual is confident and self-assured or hesitant and insecure (Bonnett & Stickel, 1992).

Although some researchers consider self-efficacy to be a personality trait (e.g., Sherer et al., 1982) others are more consistent with Bandura's (1977a) thoughts that it is a belief system generated by an individual's experience and thought processes (e.g., Maddux, 1991). Even so, the way that self-efficacy is measured is similar to the process used in the study of personality (Bandura, 1995). As with personality, self-efficacy too is believed to be relatively stable over time (Sherer et al., 1982), however, as an individual continues to experience both success and failure, the strength of perceived efficacy is likely to fluctuate (Gist & Mitchell, 1992; Shelton, 1990).

The construct self-efficacy has three dimensions, magnitude, strength and generality (Bandura, 1977a), all of which are incorporated and measured in Sherer et al's. (1982) General Self-efficacy scale.

The first dimension, magnitude, refers to the individual's personal beliefs in relation to their performance in situations where there are increasing levels of

task difficulty. To illustrate magnitude, Maddux (1995) uses the example of a person trying to stop smoking. This person whilst able to abstain in relaxing conditions may not be so confident of abstinence in stressful situations. A similar reaction may occur in a work environment, where an employee who is usually able to competently manage their work environment is suddenly unable to cope with the difficulties presented by a negative motivational gravity situation. The potential inability to manage poses the question of where an employee is faced with negative gravity, will she or he stay in their job and 'take it' or choose to 'leave it'?

The second dimension of self-efficacy is strength. This encompasses the ability to maintain behaviour despite obstacles that may appear (Bandura, 1977a). Using Maddux's (1995) smoking example, two smokers, by having different experiences of persistence in relation to barriers to performance, are likely to feel different levels of conviction or confidence in refraining from 'lighting up'. This dimension too may be related to a work environment. As the 'going gets tough' will an employee choose to stay or go?

Generality the third dimension refers to how widely the expectation can be generalised across all situations (Bandura, 1977a). Again using Maddux's (1995) smoking analogy the reformed smoker, who has 'survived' a difficult or high risk situation, is able to transfer those feelings of efficacy to other difficult or high risk situations not yet experienced. This can be related to employees who have in the past left a job due to negative motivational gravity, and the question of their likelihood to stay or leave the workplace if again faced with negative gravity.

In addition to the three dimensions described above, Bandura (1977a) cites four information cues that influence efficacy. These are, in order of importance, enactive mastery; vicarious experience; verbal persuasion; and emotional (physiological) arousal. Enactive mastery is defined as repeated performance accomplishments (Bandura, 1982), and is believed to be the strongest cue that enhances self-efficacy (Gist, 1987). The ongoing task performance successes of an individual promote enactive mastery, which in turn enhances self-efficacy. Conversely, task performance failures ultimately reduce an individual's self-

efficacy. Some individuals, maybe as a result of fear or incapacity, are not as successful at exposing themselves to opportunities which increase enactive mastery. In a negative motivational gravity environment, employees whose performance is poor may also have low levels of self-efficacy.

The second information cue, vicarious experience, is where individuals learn by observing, modelling, and imitating others. Though slightly less influential than enactive mastery, vicarious experience may be an appropriate cue for those individuals for whom enactive mastery is not successful (Gist, 1987). Vicarious experience is more successful where the person modelling the behaviour is similar in terms of capability, age and other personal characteristics. Also, vicarious experience contributes more effectively to levels of self-efficacy where an individual experiences success, particularly where that success has been achieved after overcoming difficulties rather than as a result of experiencing easy situations. Therefore the strengthening of an employee's self-efficacy through vicarious experience is reliant on good role-modelling. In a negative motivational gravity work setting, an employee is less likely to have access to positive role models. The lack of such role models may result in lower levels of self-efficacy, and subsequent decisions to leave.

Verbal persuasion, the third information cue is described by Bandura (1977a) as where an individual is convinced by another party that she or he is capable of performing a task and is less influential to self-efficacy than cues that result from personal experience (Stumpf, Brief, & Hartman, 1987). Verbal persuasion is only thought to work in some situations (Gist, 1987). The success of verbal persuasion is dependant on whether the source is attractive and trustworthy, and considered to be an expert in the field (Maddux, 1995). As an employee facing a negative motivational gravity situation is unlikely to experience positive interpersonal relationships, the effectiveness of verbal persuasion as a cue to improving self-efficacy is probably limited, and it is likely the employee will have a low tolerance threshold and leave.

The last information cue is emotional or physiological arousal (Bandura, 1977a). Firstly, an individual's emotional state contributes to perceptions of

efficacy. For example, an individual who has feelings of anxiety or depression is likely to have low self-efficacy beliefs (Maddux, 1995). Physiological states also underpin self-efficacy. Individuals exposed to pleasant and comfortable physiological arousal are more likely to manage situations confidently, whilst those who feel apprehensive will usually associate those feelings with poor behavioural performance. Factors like fatigue and pain (or the absence of) also influence perceptions of self-efficacy. A negative motivational gravity environment, by exposure to varying levels of threat which may result in feelings of apprehension and lack of confidence, in turn may negatively impact on an employee's level of self-efficacy.

Self-efficacy research has sought answers to the question of why individuals respond to challenging situations in different ways (Shelton, 1990). It is believed that self-efficacy underlies work motivation (Eden & Kinnar, 1991), and both the prediction and improvement of work performance (Gist & Mitchell, 1992). For example, managers who have high levels of self-efficacy are believed to use systematic strategies, put more effort into, and persist longer when faced with difficult situations (Wood, Bandura, & Bailey, 1990). Highly efficacious managers are also more likely to productively use their skills and efforts, and set higher goals than their low efficacy counterparts, who are also more likely to adopt avoidance strategies, such as turnover behaviour.

Further to the association of self-efficacy on work motivation and improvement of work performance, the influence of raising levels of self-efficacy has also been examined. Improving self-efficacy has been successful in reducing worker absenteeism (Frayne & Latham, (1987), idea generation among managers (Gist 1989), job training (Wolfe, Nordstrom, & Williams, 1998) and in improving job placement rates of long-term unemployed (Eden & Aviram, 1990, as cited in Eden & Kinnar, 1991). As levels of self-efficacy have been shown to influence an individual's perception that their actions will be effective (Bandura, 1986), self-efficacy, may therefore be linked to turnover, possibly by way of a mechanism such as motivational gravity.

The amount of effort or persistence an individual puts into an attempt to achieve a target or a goal, in turn, contributes to the individual's level of self-efficacy (Bandura, 1995). When faced with a difficult task or situation an individual's expectation of personal efficacy is determined firstly by whether or not a coping intention will be made, and then by how much time and effort will be put into a solution (Bandura, 1977b). Consequently positive effort results in an upward spiral as corrective experiences lead to the elimination of, for example, fears and defensive behaviour, to an increased level of personal conviction of ability, and high self-efficacy (Bandura, 1995). This high self-efficacy then allows the individual to, in the future, successfully master more challenging goals.

Individuals who have low levels of self-efficacy are usually steeped in self-doubt and personal deficiencies, which ultimately result in impaired cognitive functioning, and where for example, difficulties are perceived to be bigger than they actually are (Wood et al., 1990). Eden & Kinnar (1991) believe that low self-efficacy results in the avoidance of barriers like difficult tasks and situations.

In an organisational setting Parker (1993) investigated one such barrier, the relationship between perceived control, dissent, self-efficacy, and employee exit within a conflicting work environment. Parker believes that leaving a secure job is "a risky behavior" (p. 951) requiring considerable psychological resources such as confidence. She proposed that an employee leaving a job is more likely to do so when their perception of self-efficacy is high, thus suggesting a positive relationship between exit and self-efficacy. However, as the research did not confirm that self-efficacy predicted intention to leave, Parker's hypothesis was not supported.

If as Eden and Kinnar (1991) suggest employees with low levels of perceived self-efficacy when faced with difficult situations invoke avoidance tactics, and if negative motivational gravity is a barrier which an employee with low self-efficacy may choose to avoid, raises the question will the employee have 'what it takes' to form an intention to leave?

Thus, in discouraging work environments employees face many situations where it is necessary to decide on an action, either to stay and 'take it' or to cut their losses and 'leave it'. This research sets out to explore the link between self-efficacy and turnover in the context of negotiating barriers to achievement at work, and to establish if individuals with high levels of self-efficacy are prepared to tolerate more negative motivational gravity than individuals who have low levels of self-efficacy.

Personality

There has always been interest in the human psyche, particularly in the area of personality (Anastasi & Urbina, 1997). Current interest in personality focuses on patterns, behaviours and the prediction of the ways in which people act. Although personality by itself is not an absolute, standalone, predictor of behaviour, it is reasonable to assume that people's personalities to some degree influence behaviour when working with others (Robertson & Callinan, 1998). It is generally accepted that personality is reasonably stable over time (Matthews & Deary, 1998). This is particularly so with the individual profiles of the big five personality constructs which were found to be constant over several decades, particularly for people over the age of 30 years (McCrae & Costa, 1987, 1990, 1994, as cited in Salgado, 1997; Matthews & Deary, 1998).

The way in which personality is measured has varied overtime. McDougall (1932, as cited in Barrick & Mount, 1991) first proposed the idea that personality could be apportioned into five factors which he named intellect, character, temperament, disposition and temper. The idea of McDougall's five factors attracted the attention of other researchers (e.g., Cattell, 1943, 1948, as cited in Barrick & Mount, 1991; Costa & McCrae, 1988; Goldberg, 1999; Norman, 1963, as cited in Barrick & Mount, 1991; Tupes and Christal, 1963, as cited in Salgado, 1997). The contemporary five factor model was developed from trait attributions based on peer ratings (Conn & Ramanaiah, 1990) and is the best researched and utilised instrument to measure personality (Briggs, 1992; Goldberg & Saucier, 1995). The five factor model is considered to be a highly stable structure (Salgado, 1997).

The composition and labelling of the five factors in use today varies amongst researchers (Barrick & Mount, 1991). Even so, the factors identified by McDougall, and the ones used in the early stages of the development of the five factor model namely surgency, emotional stability, agreeableness, dependability and culture, are very similar to the five factors (extraversion, neuroticism, agreeableness, conscientiousness, and openness to experience) used in contemporary research (Barrick & Mount, 1991).

There is general acceptance for the first of the five factors, extraversion, which is also known as surgency. Although separated into two parts by Hogan (1986, as cited in Barrick & Mount, 1991), namely ambition (initiative, ambition, impetuousness and surgency), and sociability (sociability, exhibitionism, and expressiveness), most five factor models see extraversion as being uni-dimensional. Extraversion is commonly made up of traits such as gregariousness, assertiveness, talkativeness, activity and sociability (Barrick & Mount, 1991) versus reversed, timid and quiet (Salgado, 1997). A consistent relationship between leadership effectiveness and high extraversion has been established. Also, a relationship exists between extraversion and high levels of satisfaction (Robertson & Callinan, 1998). Extraversion is thought to be a valid predictor of performance within the management and sales occupational groups. In a recent meta analysis, Salgado (2002) concluded that a high level of extraversion is "predictive" (p.121) of lack of turnover. As low extraversion is linked with low levels of job satisfaction and a predisposition to exit, it is likely these employees will form an intention to leave a negative gravity work environment sooner than employees with higher levels of extraversion. That is, their tolerance threshold of negative motivational gravity will be relatively low.

The second factor, neuroticism is also generally agreed upon. Neuroticism is also known as stability, emotionality or emotional stability. This factor describes traits of anxiety, depression, anger, emotion, embarrassment, worry and insecurity (Barrick & Mount, 1991) as opposed to calmness, coolness, and self confidence (Salgado, 1997). Lower levels of satisfaction (Robertson & Callinan, 1998) and job performance (Barrick & Mount, 1991) are associated with low levels of neuroticism. Low levels of neuroticism are also believed to be associated

with poor accomplishment of job tasks. In a recent meta analysis, Salgado (2002) concluded that a high level of neuroticism is a "major determinant" (p. 121) in predicting lack of turnover. It is expected therefore that employees with high levels of neuroticism will have a higher tolerance to negative motivational gravity.

The third of the five factors has been given a number of different labels. It is generally known as agreeableness or likeability. It is also known as friendliness, social conformity, or love. The traits described in this factor are courteousness, flexibility, trust, good-naturedness, cooperation, forgiveness, soft-heartedness, and tolerance (Barrick & Mount, 1991), compared to coldness, disagreeableness and antagonism (Salgado, 1997). A positive relationship between job performance amongst occupations like management and sales, and job performance and task accomplishment and the factor agreeableness has been established (Barrick & Mount, 1991). In a recent meta analysis, Salgado (2002) concluded that a high level of agreeableness is "major determinant" (p. 121) in predicting lack of turnover. As employees with low levels of agreeableness would therefore form an earlier intention to leave than those with higher levels of agreeableness, it is also expected that employees who have low levels of agreeableness facing negative motivational gravity will also leave sooner.

Factor four is mainly known as conscientiousness or conscience, but is also known as conformity and dependability. This factor measures traits associated with dependability, thoroughness, organisational ability and planning, hard work, achievement orientation, and perseverance (Barrick & Mount, 1991), as opposed to laziness, disorganisation, and unreliability (Salgado, 1997). High levels of conscientiousness have been associated with leadership effectiveness (Robertson & Callinan, 1998), job performance and task accomplishment (Barrick & Mount, 1991). Individuals who score high on conscientiousness are believed to centralise power and make use of formal organisational structures such as policy and procedures, and effectively monitor and control performance (Robertson & Callinan, 1998). Individuals with high levels of conscientiousness demonstrate a strong sense of purpose, persistence and obligation, job performance and task accomplishment (Barrick & Mount, 1991, p. 18), and typically perform to a higher level. Barrick and Mount express confidence in conscientiousness being

generalisable across all occupation types. In a recent meta analysis, Salgado (2002) concluded that a high level of conscientiousness is a "major determinant" (p. 121) in predicting lack of turnover. Low levels of control and sense of purpose are generally associated with low conscientiousness. As control, purpose and conscientiousness are also positively associated with lack of employee turnover, it is expected that employees facing negative gravity would form an earlier intention to leave than their colleagues who have high levels of conscientiousness.

There has been difficulty in identifying factor five, with some researchers naming it openness to experience or culture and others naming it intellect or intellectence. Associated traits are imagination, cultured, curiousness, originality, broad-mindedness, intelligence and artistic sensitivity (Barrick & Mount, 1991) in comparison to practicality and associated narrow interest levels (Salgado, 1997). Individuals with high levels of openness to experience are more likely to have positive attitudes towards learning experiences (Barrick & Mount, 1991). In a recent meta analysis, Salgado (2002) concluded that a high level of openness to experience is "predictive" (p.121) of lack of turnover. As employees with low levels of openness to experience are less likely to have positive attitudes to learning experiences it is likely these employees will form an intention to leave a negative gravity work environment sooner than employees who score higher levels of openness to experience.

Learning experiences have also been associated with other individual difference measures, including need for achievement.

Need for Achievement

The concept of humankind striving to achieve self-imposed goals which result in feelings of well-being can be traced back to the work of William James (1890, as cited in Fineman, 1977). This construct, commonly known as need for achievement or achievement motive, has generally been accepted as an important component of personality and has received a lot of attention over the years (Cassidy & Lynn, 1989).

As with most psychological constructs variation in definition exists. Murray (1938, in Fineman, 1977) defined need for achievement as:

> "...the desire or tendency to do things as rapidly and/or as well as possible. To accomplish something difficult. To master, manipulate and organise physical objects, human beings or ideas. To do this as rapidly and independently as possible. To overcome obstacles and attain a high standard. To excel one's self. To rival and surpass others. To increase self-regard by the successful exercise of talent" (p. 1).

Contemporary psychologists generally agree that need for achievement is "the striving of individuals to attain goals important to them in their social environment" (Orpen, 1995, p. 159), and in doing so also seek ways to achieve occupational success (McClelland, 1985, as cited in Reeve, 1992). Some employees more readily achieve this success than others, with some persevering longer in the face of difficulty than others (Reeve, 1992).

The concept of need for achievement comes principally from the studies of Murray (1938, as cited in Reeve, 1992). Murray believed that human behaviour stemmed from a basic, physiologically sourced universal set of needs, which were influenced by either internal processes or by external events that resulted in "a tension in the person" (p. 286). In order to reduce this tension an individual works to satisfy the need. Murray reviewed the work of personality theorists and established a set of what he believed were the 28 most important, universal human needs (Reeve, 1992). Murray believed that these 28 needs coordinated with one another, and so pairing of the items was important. For example, there are opposite needs like dominance and deference, conflicting needs like autonomy and affiliation, and facilitative needs like counteraction and achievement.

Following on from Murray's work, McClelland (1951, 1955, as cited in Fineman, 1977) developed a psychoanalytic based achievement motivation theory. Further study resulted in McClelland, Atkinson, Clark, and Lowell (1953, as cited in Fineman, 1977) defining need for achievement as "The positive or negative affect aroused in situations that involve competition with a standard of excellence, where performance in such situations can be evaluated as successful or unsuccessful" (p. 1).

Atkinson (1957, 1964, as cited in Fineman, 1977) further developed his early work with McClelland. Atkinson saw need for achievement as a link between pride and accomplishment. With this approach Atkinson believed that not only were individuals motivated to achieve, they were also motivated to avoid failure.

Interest in need for achievement continued, both building on Murray's early work and moving into new areas (Fineman, 1977). By the late 1970's twenty-two need for achievement instruments were readily available. A decade later Cassidy and Lynn (1989) proposed a multifactorial research instrument (Achievement Motivation Questionnaire) based on the most commonly discussed factors associated with need for achievement. Their study identified seven factors.

The first factor, work ethic, was based on the Weberian concept of Protestant work ethic, and was sourced from the work of Lynn, Hampson, and Magee (1983) and Spence and Helmreich (1983). This sub-scale measures an individual's values, behaviour and attitudes, particularly the desire to work hard towards personal and organisational goals. The second factor identified pursuit of excellence. Excellence explains the striving of an individual in an effort to consistently perform to their own personal best. Excellence stemmed from the work of Murray (1938, as cited in Cassidy & Lynn, 1989) who saw pursuit of excellence as the "basis of all intrinsic achievement motivation" (p. 302). The excellence measure originated from research by Jackson, Ahmed and Heaphy (1976), and McClelland et al. (1953, as cited in Cassidy & Lynn, 1989).

Status aspiration, the third factor, related to an individual's need to both increase their social standing and the desire to seek dominant leadership roles. As a result of their study, Cassidy and Lynn (1989) established sufficient distinction between the two constructs and therefore separated it into two factors, status aspiration and dominance. The basis of both the status aspiration and dominance sub-scales was the work of Lynn et al. (1983) and Jackson et al. (1976). The fifth factor competitiveness originated from sociological and ethological roots. The competitiveness sub-scale measures the extent to which an individual enjoys competing with others, particularly in beating others who are striving for the same

goals (Cassidy & Lynn, 1989). The competitiveness sub-scale was based on the research of Jackson et al. (1976) and Spence and Helmreich (1983).

The next factor, acquisitiveness for money and material wealth, was based on Maslow's hierarchy of needs and measures an individual's desire for material rewards. The sub-scale source was Jackson et al. (1976). Acquisitiveness measures the amount of effort an individual expends in seeking these rewards. The last factor mastery comprises problem solving, "tackling" challenging tasks and persistence with difficult tasks (Cassidy & Lynn, 1989, p. 303). Cassidy and Lynn define mastery as a form of competitiveness, but separate it from the sub-scale competitiveness in that competitiveness associated with mastery focuses on *how* an individual competes with others. The mastery sub-scale originated from the work of Spence and Helmreich (1983).

Although the concept of need for achievement is defined, reported and discussed in contemporary texts (e.g., Aamondt, 1999; Reeve, 1992), there is a scarcity of relevant, contemporary literature (outside of the education sector), particularly in relation to the impact of managerial (Falbe & Yukl, 1992) or co-worker behaviour on employee achievement (Carr, 1994).

Early organisational studies established that the task performance of high need for achievement individuals is more effective than individuals with low achievement motivation (Atkinson & Raphelson, 1956, as cited in Vroom, 1964). Early work also established a relationship between occupational preference and need for achievement (McClelland, 1955, as cited in Vroom, 1964), with high achievement motivation individuals showing a preference for work involving a moderate degree of risk and attainment (Vroom, 1964). Reeve (1992) confirms that high need for achievement is still associated with a preference for moderate difficulty over easy or high difficulty situations. In an organisational setting this indicates that although an employee with high levels of need for achievement has high task performance, she or he will avoid high risk and high difficulty situations.

In line with the work of Ketz (1967, as cited in Nathawat & Singh, 1997) who theorised that acceptance of failure was socially indoctrinated into individuals with low need for achievement, a number of studies have been conducted linking need for achievement to Attribution Theory. Attribution theory explains that individuals tend to take the credit for their successes, thereby internalising success, and externalise failure by avoiding self-blame (Meyers, 1999; Vaughan & Hogg, 1995). An early educational sector study (Weiner & Potepan, 1970) found that students with high levels of need for achievement were more likely to attribute their success internally (i.e., their own ability and efforts), and attribute failure externally (i.e., task difficulty). Scapinello (1989) also found a relationship between attribution and achievement motive, finding high need for achievement participants less accepting of failure. More recently, Nathawat and Singh (1997) explored the relationship between attribution and low levels of need for achievement. In contrast to Weiner & Potepan's study, Nathawat and Singh found that participants with low need for achievement were more likely to attribute failure internally rather than externally.

Individual persistence is clearly associated with need for achievement (e.g., Feather et al., 1991; Weiner, 1980, as cited in Reeve, 1992). Even though the literature suggests that individuals with high levels of need for achievement are more likely to accept a moderate degree of risk or difficulty, high need for achievement individuals are believed to persist longer without seeking support and/or assistance when faced with difficult situations (Feather et al., 1991; Weiner, 1980, as cited Reeve, 1992), and a have a lower likelihood to quit in the face of failure (Cassidy & Lynn, 1989).

It is therefore reasonable to assume that high need for achievement individuals, when faced with negative motivational gravity from bosses, peers or subordinates will report a higher tolerance threshold than those with lower need for achievement.

List of Hypotheses

It is hypothesised that in a negative motivational gravity environment, tolerance thresholds for both push down and pull down will be positively associated with:

H_1

self-efficacy

H_2

extraversion

neuroticism

agreeableness

conscientiousness

openness to experience

H_3

need for achievement

Method

Participants

A non-random, convenience sample of undergraduate and postgraduate students from Massey University Albany took part in this study. Participants were restricted to respondents who reported having had some work experience as an employee, at any level of an organisation. This was not difficult, as one in two students at the Albany Campus is over the age of 25 years (Massey University). Using a student sample ensured that a relatively wide range of both organisational culture and employment type was represented in the study. A total of 275 questionnaires were distributed with 114 useable questionnaires returned. This represented a response rate of 41.5%, which is 11.5% above the typical return rate of 30% (Shaughnessy & Zechmeister, 1990).

Participant demographic characteristics are presented in Table 1 overleaf. The participants were predominantly women (71.9%). The age of the participants ranged from 18 to 61 years, with an average age of 33 years. The average age for the female participants was 32.5 years, and for the males 34.16 years. Sixty-nine percent of the sample was over the age of twenty-five years. Of the 111 participants who completed the ethnicity section, the majority (79.3%) identified as European/Pakeha, with the next highest group identifying as Asian (9.9%). Only three of the participants reported having no formal qualification prior to their current university study and 41% had a secondary school qualification. Almost 52% of the sample had either an undergraduate or postgraduate degree or diploma.

Table 1
Participant Demographics

Variable		Frequency	% of total
Gender (n = 114)			
	Female	82	71.9
	Male	32	28.1
Age (n =114)			
	18 – 19	15	13.1
	20 – 24	20	17.6
	25 –29	13	12.3
	30 – 34	19	16.7
	35 – 39	10	8.8
	40 – 44	11	9.7
	45 – 49	14	12.2
	50 – 54	8	7.0
	55 – 59	2	1.8
	60 and over	1	0.8
Ethnic group (n = 111)			
	Asian	11	9.9
	European/Pakeha	88	79.3
	Maori	8	7.2
	Pacific Island	1	0.9
	Other	3	2.7
Born in New Zealand (n =113)			
	Yes	75	66.4
	No	38	33.6
Marital Status (n = 113)			
	Single	54	47.8
	Married	38	33.6
	Living with partner	12	10.6
	Other	9	8.0
Educational Qualification (n =110)			
	No formal qualification	3	2.7
	Secondary school qualification	45	41.0
	Undergraduate diploma or degree	40	36.3
	Postgraduate diploma or degree	17	15.5
	Other	5	4.5

Participant demographic characteristics related to work are shown in Table 2 overleaf. The length of time participants reported being in paid employment ranged from 1 to 40 years, with an average of 13.9 years. Forty-six per cent of the participants who gave details of their most recent employment gave their job type as customer services, sales and merchandising, or clerical/administration. The other 54% represented a wide range of job-types.

The type of job the participant recalled whilst completing the three scenarios followed the same theme as for the job in most recent employment, with the exception of marketing which was not mentioned. Of the 51 participants who

recorded the status for the job thought about when completing the scenario component of the questionnaire, 57% reported being a team member whilst 43% described themselves as managers.

Table 2
Participant Employment Characteristics

Variable	Frequency	% of total
Period in paid employment (n = 114)		
1 – 4 years	17	14.9
5 – 9 years	35	30.7
10 – 14 years	17	14.9
15 – 19 years	14	12.0
20 – 24 years	9	7.8
25 – 29 years	7	6.0
30 – 34 years	11	9.5
35 – 39 years	4	3.5
over 40 years	1	0.7
Type of job in most recent employment (n =110)		
Customer services	27	24.5
Sales and merchandising	12	10.9
Clerical/administration	12	10.9
Health	8	7.3
Managerial	7	6.4
Teaching	6	5.5
Consultancy	6	5.5
Technical	6	5.5
Hospitality	5	4.5
Marketing	5	4.5
Support services	3	2.7
Accountancy	3	2.7
Art	2	1.8
Miscellaneous	8	7.3
Scenario response related to a particular job (n = 107)		
Yes	61	57.0
No	46	43.0
Type of job thought about during scenario response (n = 54)		
Customer services	7	13.0
Sales and merchandising	9	16.7
Clerical/administration	4	7.4
Health	2	3.7
Managerial	6	11.1
Teaching	2	3.7
Consultancy	4	7.4
Technical	4	7.4
Hospitality	9	16.7
Marketing	0	0
Support services	2	3.7
Accountancy	1	1.9
Art	1	1.9
Miscellaneous	3	5.6
Status of job thought about during scenario response (n = 51)		
Manager or team leader	22	43.1
Team member	29	56.9

Materials

The study used a self-administered questionnaire. This method has several advantages. Firstly, self-administered questionnaires are more likely than interviews to obtain valid responses from participants (Sheatsley, 1983), particularly when asking questions of a personal nature that may be seen by a participant as embarrassing or sensitive (Bradburn, 1983). This is partly because questionnaires ensure the anonymity of a participant (Goddard & Villanova, 1996). Secondly, the survey is considered to be a relatively economical use of time with which to collect a large amount of data from participants (Schweigert, 1994).

An information sheet (see Appendix A) explained to participants that any data collected would respect all aspects of participant confidentiality and anonymity, and the participant's right to decline to take part in the study. The sheet advised that participants had the right to decline to answer any particular question(s), and that the mailing of the questionnaire to the researcher implied consent. The information sheet also advised participants that the information collected from the research would be aggregated, analysed, and written up to meet the requirements of a masterate thesis. It also advised the data might eventually form the basis of an article for publication in a Psychological Journal.

The questionnaire contained three major parts. Part One included scenarios which outlined negative gravity situations carried out by bosses, peers and subordinates, and also asked participants to explain their reason for selecting their tolerance threshold. Part Two was made up of questions establishing individual differences using three widely recognised psychometric instruments. These instruments assessed self-efficacy, measured the Big Five personality traits, and need for achievement. The questionnaire also included a social desirability scale that was blended into the personality questions. Part Three collected demographic information.

Part One: Scenarios

The scenario method is the predominant instrument of choice among psychologists measuring the construct of motivational gravity (Carr et al., 1995; Carr & Powell, 1996), and was therefore used in this study. Using scenarios (a short, real, hypothetical or simulated event) to gather data first became popular in the early 1950's (Gould, 1996). Since then scenarios have often been used in consumer research (e.g., Marquis & Filiatrault, 2002), educational studies (e.g., Rose & Asher, 1999), nursing (Gould, 1996), and psychology (e.g., Mandel & Lehman, 1999). Scenarios are considered a valid method (Robinson & Clore, 2001) to obtain participant opinion or knowledge (Gould, 1996). For example a participant's response is often comparable to the displayed behaviour that would be expected if the hypothetical situation actually occurred (Chung & Asher, 1996). Recent research suggests that motivational gravity data collected through scenarios is less likely than non-scenario based self-administered questionnaires to be influenced by social desirability (Carr & Powell, 1996). Nevertheless, as an added screening device against participants knowingly or unknowingly answering the questionnaire in a socially desirable way, the Balanced Inventory of Desirable Responding (Version 6-Form 40) measure was added as a statistical filter (see Appendix G).

The use of scenarios ensures standardisation in that all participants respond to the same situation (Gould, 1996). Importantly, ethical issues are addressed by scenarios, by allowing the participants to answer a questionnaire in relative safety, particularly where, like the current one, potentially unpleasant or conflicting situations are described (Johnson, LaVoie, Eggenburg, Mahoney, & Pounds, 2001), or where sensitive data is being collected (Gould, 1996). The use of scenarios also ensures the control of research variables (Bitner, 1990), and allows data to be collected quickly and efficiently (Johnson et al., 2001).

Three scenarios were written by the researcher (see Appendix B), and were evenly rotated in Part One of the questionnaires to avoid order effects. For each scenario the participant was asked to imagine working in a general office position for a large organisation, which had high numbers of bosses, peers, and

subordinates. A general office position in a large organisation was selected as a setting for each scenario because it was considered that most individuals would easily relate to that type of workplace which is relatively common in New Zealand.

The first scenario portrayed negative motivational gravity or push down behaviours of a boss. Negative motivational gravity by a boss was described as:

"...they may fail to acknowledge your efforts, privately or publicly undermine you and your performance, claim your ideas as your own, or always be 'on your back' about something."

The second and third scenarios followed a similar theme of negative motivational gravity or pull down behaviour emanating from peers or subordinates respectively as follows. Discouragement by peers was described as:

"...they may ignore you or be rude to you, privately or publicly undermine you and your performance, or claim your ideas as your own";

and discouragement by subordinates was described as:

"...they may refuse to do what you ask, privately or publicly undermine you and your performance, claim your ideas as their own, or be disrespectful of you and your position."

Each of these explanations of discouraging behaviour was followed by:

"There are probably other similar situations that you can think of."

Each participant was asked to read all three scenarios and imagining that they were experiencing discouraging behaviour from, in turn, each of the three organisational groups, were asked to identify, as a percentage, the number of bosses, peers, or subordinates they would be prepared to tolerate before seriously forming an intention to leave their jobs. Intention to leave was described as

'thinking about leaving, planning to look for a new job over the next twelve months and/or actively searching for a new job in another organisation'.

Each participant was then asked to give an unprompted, brief explanation of *why* the cut-off point for each sub-group was chosen. This information was gathered as a means to establish if common themes relating to the selection of the cut-off points existed. Participants were also asked to indicate, by a 'yes' or 'no' answer, if they had ever left a position as a result of discouraging behaviour by a boss, a peer, or a subordinate.

Part Two: Psychometric Instruments

Three psychometric measures, self-efficacy, personality, and need for achievement were used to assess individual differences. A social desirability scale to assess over and under-reporting was also used.

Self-efficacy

Following on from the work of Bandura (1977b), and using an American sample of 376 psychology students and 150 inpatients from a medical centre for alcohol treatment, Sherer et al. (1982) constructed a 23 item Self-efficacy Instrument. The instrument is made up of two sub-scales, General Self-efficacy and Social Self-efficacy. As the Social Self-efficacy sub-scale was considered irrelevant to an organisational setting, the General Self-efficacy Sub-scale (see Appendix C), a unidimensional instrument (Bosscher & Smit, 1998) only was used in this study.

Based on the complexity of assessment and the conceptualisation and operationalisation within Social Cognitive Theory, Bandura (1997), is critical of the use of global and general self-efficacy measures. Never the less, general and domain specific self-efficacy instruments have been, and still are, comprehensively researched (Stanley & Murphy, 1997), and frequently used in research (e.g., Jex & Bliese, 1999; Stanley & Murphy, 1997; St George, 1997; Velde, 2000). The construct general self-efficacy has been used in a New Zealand setting, for example, educational research (e.g., St George, 1997; Velde, 2000) and psychology (e.g., Barrow, 1999; Selak, 1999).

There are a total of 17 items in the General Self-efficacy Sub-scale, which are scored on a likert scale of 7 ranging from 'very strongly disagree' to 'very strongly agree'. Some of the questions are reverse scored. Internal consistency and reliability on an American sample of psychology students was $\alpha = 0.86$. Test-retest reliability, also on an American sample, replicated the Cronbach Alpha value of greater than 0.80 Recent research on New Zealand samples was Cronbach Alpha = 0.88 on a sample of Massey University staff (Selak, 2000), and 0.79 on early childhood educators (Barrow, 1999).

The General Self-efficacy Sub-scale was correlated with six personality measures. These correlations are shown in Table 3 below. Criterion validity was determined by using a sample of war veteran inpatients (Sherer et al., 1982) where general self-efficacy was positively associated with educational level and military rank.

Table 3
Pearson Correlation Coefficients of the General Self-efficacy and Measures of Personality

Personality Characteristics	**Researcher**	**General Self–efficacy**
Internal-External Control scale	Rotter (1966)	-.287
Personal Control sub-scale of the Internal-External Control scale	Gurin et al. (1969)	-.355
Marlowe-Crowne Social Desirability scale	Marlowe & Crowne (1964)	.431
Ego Strength scale	Barron (1953)	.290
Interpersonal Competency scale	Holland & Baird (1968)	.451
Self-esteem scale	Rosenberg (1965)	-.510

Note: References all as cited in Sherer et al. (1982)

Personality

The selection criteria for a personality inventory were that it was freely and readily available, and short to ensure a minimum response burden. Goldberg's (1999) International Personality Item Pool met these criteria in that it is available on the Internet (http://ipip.ori.org/ipip), and there is a 50-item research version (see Appendix G). Goldberg established the current form of the International

Personality Item Pool from a pool of 1252 items, using a large (unspecified) adult sample.

The International Personality Item Pool is designed to measure the Big Five personality domains of extraversion, neuroticism, agreeableness, conscientiousness, and openness to experience. The instrument consists of 50 items scored on a likert scale ranging from 1 very inaccurate to 5 very accurate and includes negatively keyed items. The instrument has a mean-item intercorrelation between .25 and .30 and scale reliability between .79 and .87 (see Table 4, below). It has been compared with other well-established inventories such as the NEO-Personality Inventory-Revised, the 16 Personality Form, and the Californian Personality Inventory, with corrected correlations of between .85 and .95 (Goldberg, 1999).

Table 4
Factor Description and Reliability of the International Personality Item Pool

Big Five Domain	**Measures**	**Reliability**
Extraversion	Sociability, activity, assertiveness gregariousness and talkativeness	$\alpha = 0.87$
Neuroticism	Anxiety, depression, anger, embarrassment, worry, and insecurity	$\alpha = 0.86$
Agreeableness	Courteousness, flexibility, trust, good nature, co-operation, forgiveness, soft-heartedness, and tolerance	$\alpha = 0.82$
Conscientiousness	Dependability, care, thoroughness, responsibility, organisation, and planning	$\alpha = 0.79$
Openness to experience	Imagination, culture, curiosity, originality, broad-mindedness, intelligence, and artistic sensitivity	$\alpha = 0.84$
Total/Mean	50 Items	$\alpha = 0.84$

As with other self-report measures, personality inventories are prone to faking (Berry & Houston, 1993), so to account for over and under-reporting the Balanced Inventory of Desirable Responding Version 6-Form 40 was also used.

Need for Achievement

The 1930's work of Murray, and more latterly the work of McClelland and Atkinson have heavily influenced measures of need for achievement (Fineman, 1977). Instruments measuring need for achievement fall into three main categories. The first group, Projective Measures, were based on an acknowledgment that the use of 'fantasy' was important in determining need for achievement. The most well-known projective measure is Murray's (1943, as cited in Fineman, 1977) Thematic Apperception Test. As a result of criticism directed both at its consistently low psychometric properties and cost to run, the Thematic Apperception Test is longer as popular as it once was. A large number of projective measures are based on the Thematic Apperception Test, where need for achievement is measured on the content of a story written by the participant in response to a series of photographs. Use of a scale based on the Thematic Apperception Test was considered unsuitable for this research because both the training of scorers and the evaluation of the data are very time consuming. Also inter-scorer reliability is poor (Lynn, 1969).

The second type of need for achievement instrument includes tests that form part of another measure, usually as a component of, for example, a personality test. A number of personality tests that include a need for achievement measure exist, including the Edward's Personal Preference Schedule the California Personality Inventory and the Personality Research Form (Fineman, 1977).

Finally there are a number of measures that have been designed specifically to measure need for achievement. Specific measures vary in size, from the eight, yes-no response questions of the Lynn Achievement Motivation Scale (Lynn, 1969) to the 92 item Hermans' Achievement Motive Questionnaire (Hermans, 1970). Although a significant number of these questionnaires are used in an educational setting measuring classroom achievement (e.g., Aronson, 2002; Mehrabian, 1969; O'Connor & Atkinson, 1962; Sherwood, 1966; Wigfield & Eccles, 2002), need for achievement measures have also been used in association with economic development (e.g., Frey, 1984), entrepreneurship (e.g.,

McClelland, 1965), health (e.g., Cassidy, 2000), locus of control (e.g., Bedeian, & Hyder, 1977; Chan, 1999), midlife work accomplishments (e.g., McClelland & Franz, 1992), performance (e.g., Cooper, 1983), risk preference (e.g., Atkinson, 1957, as cited in Cassidy, 2000), tall poppies (e.g., Feather et al., 1991), and immigration and labour turnover in New Zealand (e.g., Hines, 1973, 1974).

It took some time to locate a measure that was suitable for this research. A number of questionnaire measures were scrutinised and rejected. The education sector has a strong interest in measuring need for achievement (e.g., Sherwood, 1966), but these measures are learning rather than workplace focussed and they were therefore rejected. Other questionnaires contained items irrelevant to this study, for example questions like 'do you like getting drunk' (Achievement Motivation Scale; Lynn, 1969), and these too were also rejected. Finally, the Achievement Motivation Questionnaire (Cassidy & Lynn, 1989) was located (see Appendix D). The scale (also known as the Multifactorial Achievement Scale) covers all of the previously identified factors relevant to need for achievement (Cassidy & Lynn, 1989; Orpen, 1995). Moreover, the questions used in the scale are appropriate for work environments, and therefore has good face validity. For these reasons, the Achievement Motivation Questionnaire was selected for use in this study.

The psychometric properties of Achievement Motivation Questionnaire are somewhat contentious. The Achievement Motivation Questionnaire was first tested by Cassidy and Lynn over three studies using an American sample of 427 university students, 230 college students and a 450 non-student sample. Over three studies the number of items was reduced from 102 to 49. In Study One, six factors were used, but as the results found seven identifiable factors with Eigenvalues above 2.0, a seventh factor was established. A brief description of the final seven sub-scales, the original authors on whose work the sub-scales were based, and reliability are outlined in Table 5, overleaf. The scale has 49 items, with seven questions in each of the seven sub-scales.

Yet, some doubt exists over the number of factors in the Achievement Motivation Questionnaire. Orpen (1995), using a small sample of managers

($N = 69$), and six (the dominance sub-scale was excluded) of the published sub-scales, has reservations that the instrument is multidimensional. Orpen conducted a factor analysis using principal components analysis and varimax rotation (as did Cassidy & Lynn, 1989), with the extraction factors set to six yielded one factor that accounted for 61.4% of the total variance, and two other factors which accounted for a further 24.8% (19.6%; 5.2%). No other 'factor' accounted for more than 4.1% of the total variance. Nevertheless, Orpen concluded that the Achievement Motivation Questionnaire was more likely to be a unidimensional measure.

Table 5
Description and Source of the Seven Sub-scales, Reliability, and Retest Reliability of the Achievement Motivation Questionnaire

Sub-scale	Brief Description	Original Authors	Reliability
Work ethic	Based on the Weberian concept of Protestant work ethic. Includes individual attitudes and values.	Lynn et al. (1983) Spence & Helmreich (1983)	$\alpha = 0.76$ $r_{xx'} = 0.69$
Excellence	Belief that individual reward is motivated by an individual being able to perform to their personal best and on the philosophy that the pursuit of excellence is the source of all intrinsic motivation.	Jackson et al. (1976) McClelland et al. (1953, as cited in Cassidy & Lynn, 1993)	$\alpha = 0.55$ $r_{xx'} = 0.52$
Dominance	The aspiration for leadership and or dominance.	Lynn et al. (1983) Cassidy & Lynn (1989)	$\alpha = 0.77$ $r_{xx'} = 0.70$
Status Aspiration	Emanated from both ethological and sociological ideologies of human social behaviour in terms of hierarchical 'pecking orders'.	Jackson et al. (1976) Lynn et al. (1983)	$\alpha = 0.76$ $r_{xx'} = 0.75$
Competitive-ness	Based on an individual enjoying competition when striving against others. Competitiveness stems from sociological and ethological roots.	Jackson et al. (1976) Spence & Helmreich (1983)	$\alpha = 0.67$ $r_{xx'} = 0.62$
Acquisitive-ness	Material reward (based on Maslow's hierarchy of needs) is seen as being the underpinning of motivation.	Jackson et al. (1976)	$\alpha = 0.66$ $r_{xx'} = 0.67$
Mastery	Where an individual tackles difficult tasks and is able to succeed against all odds.	Spence & Helmreich (1983)	$\alpha = 0.60$ $r_{xx'} = 0.55$

In this research the participants were asked to respond to the questions for the Achievement Motivation Questionnaire as a forced choice, i.e., Yes-No. The score (1) was given to the answer Yes, and (0) for the answer No. Where participants had marked in the middle, that is, erroneously given a neutral rather than Yes or No answer, the item was treated as missing data[1]. Some of the questions were reverse scored (see Appendix H).

Each of the seven sub-scales of the Achievement Motivation Questionnaire was correlated with the appropriate sub-scales of the similarly named Lynn et al's. (1983) Achievement Motivation Scale, and the Work Family Orientation scale of Spence & Helmreich (1983). The correlations are positive and significant as shown in Table 6 below.

Table 6
Pearson Correlation Coefficients of the Achievement Motivation Questionnaire

	Lynn et al (1983) sub-scales		**Spence & Helmreich (1983)**		
Achievement Motivation Questionnaire	**Work Ethic**	**Status Aspiration**	**Work**	**Competitive-ness**	**Mastery**
Work ethic	0.63	0.04	0.53	0.02	0.30
Excellence	0.19	0.09	0.71	0.07	0.21
Dominance	0.14	0.93	0.11	0.39	0.32
Status Aspiration	0.05	0.79	0.08	0.41	0.18
Competitive-ness	0.04	0.42	0.02	0.89	0.16
Acquisitiveness	0.11	0.30	0.04	0.33	0.05
Mastery	0.38	0.30	0.32	0.29	0.89

Even though forced choice questionnaires, like the Achievement Motivation Questionnaire, are considered to be less susceptible than other self-report measures to social desirability, Fineman (1977) recommends the introduction of a social desirability measure to ensure possible over and under-reporting are accounted for. To this end the Balance Inventory of Desirable Responding Version 6-Form 40 was also used.

[1] The marking of the Achievement Motivation Questionnaire is at variance to Cassidy and Lynn (1989). The correct scoring schedule for the Achievement Motivation Questionnaire is outlined in Appendix F.

Social desirability

All self-report scales are theoretically susceptible to response biases, where participants have a tendency to either knowingly or unknowingly answer research questions in a way that they feel is more socially acceptable than the truth (Jackson, Wroblewski, & Ashton, 2000; Paulhus, 1991). It is important to statistically account for these social desirable responses, to ensure that the data collected for research is a true reflection of the variables being measured. Because the three individual difference scales collect participant data by a self-report method which is prone to social desirability effects (Fisher & Katz, 2000), the Balanced Inventory of Desirable Responding Version 6-Form 40 scale was used (see Appendix G). The Balanced Inventory of Desirable Responding was constructed by Paulhus using an American sample of 511 undergraduate students over two studies. It has 40 items that are scored on a likert scale of 7 ranging from 1 not true to 7 very true, and includes negatively keyed items.

The Balanced Inventory of Desirable Responding inventory has two sub-scales, self-deception and impression management (see Table 7, below).

Table 7
Reliability and Test-Retest Reliability of the Balanced Inventory of Desirable Responding

Sub-scale	**Reliability**	**Brief description**
Self-deception	α = 0.68 to 0.80 $r_{xx'}$ = 0.69	Participant unknowingly presents self more favourably than is warranted.
Impression management	α = 0.75 to 0.86 $r_{xx'}$ = 0.65	Participant deliberately presents self more favourably than is warranted.

The self-deception sub-scale measures the degree to which a participant unknowingly over-represents himself or herself in a more favourable way to the researcher than is actually warranted. The impression management sub-scale also measures over or under-reporting, but differs from the self-deception component in that it focuses on a conscious, deliberate action by a participant to present themselves more favourably to the researcher.

Concurrent validity of the sum of all 40 questions correlates at 0.71 with the Marlowe-Crowne Social Desirability Scale and 0.80 with the Multidimensional Social Desirability Inventory (Paulhus, 1984). Instead of including the Balanced Inventory of Desirable Responding as a separate set of questions in the questionnaire, the researcher blended it into the personality inventory. This blending was done by an equally distributed interleave (see Appendix H). The blending necessitated a change in the way the Balanced Inventory of Desirable Responding was scored.

Although both instruments use a likert scale for scoring, the Balanced Inventory of Desirable Responding usually employs a 7-point scale whereas the International Personality Item Pool usually operates with a 5-point scale. Therefore the likert scale maximum score for the Balanced Inventory of Desirable Responding was reduced from 7 to the 5-point maximum of the International Personality Item Pool. This meant that an extreme score on the Balanced Inventory of Desirable Responding was also reduced to 5. The blending also necessitated changes in the statement descriptions of the likert scale. The Balanced Inventory of Desirable Responding statement descriptions of 'not true', 'somewhat true', and 'very true' were changed to match the International Personality Items Pool statements of 'very inaccurate'; 'moderately accurate'; 'neither inaccurate nor accurate'; 'moderately accurate'; and 'very accurate'.

Scoring for the Balanced Inventory of Desirable Responding involves one point being added for each extreme response (wit h all other responses being assigned a zero score), thereby giving a possible total score range for both sub-scales from 0 to 20 (Paulhus, 1984).

Part Three: Demographic data

This part of the questionnaire collected basic participant biographical and demographic information (see Appendix J). Questions 1, 2, 5 and 6 collected personal information that relate to correlates that have been established as being associated with employee turnover. Questions 3 and 4 related to country of birth and ethnicity and were included to establish if there were differences in the data

between participants born in New Zealand or Overseas. Questions 7 – 9 gathered data that related to the participant's work history.

To categorise the most recent employment type given by the participants in answer to Question 8 all of the returned questionnaires were scrutinised by the researcher. Fourteen common themes were identified. These themes were also used to report on the type of job recalled during the scenario response (Question 9).

Procedure

Ethics Approval

An application was submitted to the Massey University Human Ethics Committee at Albany Campus. Approval was granted under Protocol MUAHEC 02/027.

Pilot Study

Friends and colleagues (N = 15) of the researcher were asked to volunteer to take part in the pilot. The same procedures were used in both the pilot study and the main research. The only addition to the research questionnaire in the pilot study was a series of questions that specifically requested feedback on the construction and wording of the research questionnaire, and a request for the length of time it took to complete the questionnaire. The pilot study confirmed that the information sheet, scenarios, and participant instructions were easy to follow, and the demographic section was easily understood and completed. It was established that the questionnaire could be completed within 30-35 minutes. As a result of the pilot study, minor changes were made to the information sheet and the questionnaire.

Obtaining Participants

The participants in this study were students at Massey University, Albany Campus. They were approached in two ways. Firstly the researcher, with the permission of individual lecturers at Massey University Albany, spoke to

undergraduate and postgraduate students from the Colleges of Humanities and Social Science; Business; and Sciences at the conclusion of a lecture or tutorial to recruit volunteers. Participants took questionnaires from the back of the lecture rooms. The questionnaires were anonymously completed by interested students, who then sent it in a reply paid envelope, to the researcher through the Psychology Department at Albany Campus. The researcher also randomly approached students individually and left questionnaires with them. The participants were asked to then complete the questionnaire and return it in the reply paid envelope provided.

Analysis

The analysis of the data collected in this research involved two main processes. The first involved statistical analysis of the quantitative data using the Statistical Package for Social Sciences, Version 11. The second process analysed the qualitative data collected in Part One (scenarios) and Part Three (demographics) of the questionnaires.

Results

Quantitative Data

Data entry

The data from the 114 completed questionnaires was coded and entered using the Statistical Package for Social Sciences (SPSS), Version 11. Data entry, including reverse coded items, was checked (both by the researcher and an independent observer) against both the hard copies of the questionnaires, and the coding instructions of scale authors. These checks confirmed the accuracy of the data entry, and also enabled scanning for manifestly extreme cases/response sets, of which there were none.

Missing data

As missing data poses problems for data analysis (Tabachnick & Fidell, 2001), it was necessary to establish how much data in the current research was missing, and where and why it was missing. To ascertain the extent and pattern of missing data, an investigation using SPSS Missing Values Analysis was conducted. This analysis uses univariate and multivariate statistics to establish the location and extent of missing values, and whether the pattern of values is random (i.e., that no systematic pattern of missing data exists across either participants, scale or sub-scale).

Although there are no definitive rules describing an acceptable ratio of missing data in relation to each scale, Tabachnick & Fidell (2001) recommend that 5% or less of missing data, provided that the data is randomly missing throughout the sample, is acceptable.

The percentage of missing data across all scales or sub-scales in the current sample ranged from 0.9 to 6% (see Table 25, Appendix J). With one exception, the SPSS Missing Values Analysis showed that no pattern or relationship existed between the missing data in the current sample, therefore

allowing the missing data to be considered random. However, within the Achievement Motivation Questionnaire, seven participants failed to give a direct yes or no answer by marking some of the items neutral (see Table 26, Appendix J). These items were classified as missing data. This and all other missing data was considered to be random, and therefore the default option on SPSS was set to automatically exclude these participants from the scale or sub-scale accordingly.

The majority of missing data was well within the recommended level (0.9 to 4%). The missing data from three sub-scales of the Achievement Motivation Questionnaire (ranging from 5 to 6%) was only just above the recommended level.

Psychometric Properties of Instruments

The first task was to reduce the raw data to composite measures of the core conceptual variables, at the instrument level. The main technique used was factor analysis. Given the exploratory nature of this study, the relatively modest sample size, and the use of a largely experimental instrument set on a New Zealand sample, it was decided to use Exploratory rather than Confirmatory factor analysis. An exploratory factor analysis, in turn, was only conducted if basic factorability statistics were minimally satisfactory.

Under Rule 1 two key statistics were used to decide factorability for any one scale. Firstly a Bartlett's Test of Sphericity, which tests that the correlations within a correlation matrix are zero, was used. Secondly, a Kaiser-Meyer-Olkin statistic (KMO) was used. This statistic measures the appropriateness of conducting a factor analysis by explaining the degree to which common factors account for the observed correlations among variables (Tabachnik & Fidell, 2001, p. 173). The normal range for the KMO is from 0 to 1.0, and the closer the value is to 1.0, the more appropriate a common-factor model is for the research data. Although a KMO value of between .500 and .700 is considered to be 'mediocre' (Tabachnik and Fidell, 2001), Field (2000) recommends that factor analysis may be attempted where KMO values are above .500. Thus, if for any particular multidimensional instrument a Bartlett's Test statistic had $p < .01$, and a KMO

statistic was > .500, an initial exploratory factor analysis, based on principal components analysis, was conducted. The number of factors extracted in each analysis was preset to the expected number of factors based on the theoretical structure of that instrument (see Method).

If it was appropriate to proceed with an exploratory factor analysis based on the above criteria, the next step was to verify that the factor solution was similar to the proposed theoretical structure. Provided there was some degree of overlap between the theoretical structure and the one obtained using exploratory factor analysis on the data, a series of further objective decision-making rules for reducing the raw dataset to clear and distinctive conceptual components were followed.

As an added check on factor structure, Rule 2 was introduced to help with the decision of which items to delete or retain. The correlation between the item scores in the sub-scale of an instrument, and their respective corrected total scores for that sub-scale, were examined. If any correlation coefficient did not reach statistical significance ($p < .01$), then the item was discarded and the item corrected total score correlation coefficients were recalculated. This process was repeated until all items met the criterion of statistical significance ($p < .01$).

In addition to the second decision-making process above, under Rule 3 Coefficient Alpha (α) for each theoretical sub-scale of each measurement instrument was calculated. If α was suppressed by the inclusion of an item (i.e., with the item deleted, the value of α was greater than if it was included), then that item was deleted from the sub-scale.

When decision-making Rules 1 to 3 were completed, the factor solution for the multidimensional instruments was examined under Rule 4, where the factor solution for any multidimensional instrument was checked for items that loaded on the wrong theoretical factor or loaded higher on a factor other than its theoretical target, or did not load specifically on any factor in the solution.

Once decision-making Rules 1 to 4 had been applied, and some items deleted, and if it was appropriate under the first of the rules, multifactorial instruments were again factor analysed. This enabled an inspection of the revised instrument for factorial coherence and integrity.

For each instrument, once all four decision-making rules had been satisfactorily followed, the item scores for each sub-scale were added to create a composite measure for the constructs being measured.

General Self-efficacy Sub-scale

A review of the literature suggests the 17 items that form the General Self-efficacy component of the of the Sherer et al. (1982) Self-efficacy Scale represent one sub-scale within the full instrument, and as such should constitute a uni-dimensional measure. Bartlett's Test of Sphericity and the KMO statistic on the current sample was computed. This resulted in values of .000 and .800 respectively. Since these values meet the first decision-making rule, an exploratory factor analysis, based on principal components analysis was conducted.

The scree diagram for this analysis (see Figure 4, Appendix K) clearly suggested the presence of one main factor (Eigenvalues > 1.00 = 5.584; 1.723; 1.418; 1.228; 1.115). Although the first factor accounts for just 32.845% of the total variance, the remaining 'factors' (variance = 10.1%; 8.3%; 7.2%; 6.5%) did not appear to have any conceptual coherence, either with an orthogonal (varimax) rotation or an oblique (oblimin) rotation to allow for inter-factorial correlation. The only possible exception consisted of four particular items (see Table 28, Appendix K) which emerged, beyond Factor 1, regardless of the statistical form of rotation. From Table 28 (Appendix K) these four items (Items 7, 12, 14, and 17) conceivably reflect a coherent sub-component of self-efficacy – 'confidence'. In subsequent analyses involving self-efficacy this 'confidence' sub-component may be used in combination with the full General Self-efficacy measure. Otherwise, however, it was felt appropriate to proceed with creating a composite measure of self-efficacy under decision-making rules 2-4 above.

All 17 items in the General Self-efficacy Sub-scale correlated significantly and positively with their respective corrected total scores (p <.01).

Coefficient Alpha for the 17 items was 0.87. No single item, if removed, increased α above this figure.

All relevant rules considered therefore, a composite variable for self-efficacy, consisting of the summed total for each participant, of the 17 items of General Self-efficacy Sub-scale, was created.

As an extra consideration, items in the General Self-efficacy Sub-scale were double checked, visually, against the other measures, to see if any item content overlap was conceivable. The only possible crossover between measures, in terms of content, appeared to be between the General Self-efficacy Sub-scale and seven items theoretically constituting a 'mastery' sub-scale of the Cassidy & Lynn (1989) Achievement Motivation Questionnaire.

To check the potential overlap between the General Self-efficacy and mastery sub-scales empirically, it was decided to run a combined exploratory factor analysis of the General Self-efficacy Sub-scale and the mastery sub-scale of the Achievement Motivation Questionnaire. For this combined instrument subset Bartlett's Test of Sphericity was .000 and the KMO statistic was .784. The scree diagram (see Figure 5, Appendix K) for this analysis again produced a clear unifactorial shape (Eigenvalues > 1.0 = 6.5; 1.9; 1.6; 1.5; 1.3; 1.1; 1.0).

In an attempt to separate General Self-efficacy from mastery, an orthogonally rotated factor analysis with the factor number set to two produced a contrived solution. Items for both the General Self-efficacy Sub-scale and mastery inter-mingled evenly across the two factors (see Table 29, Appendix K). Rather than delete many of the items from each instrument sub-scale in order to force two 'pure' measures of self-efficacy versus mastery, it was decided to retain both the General Self-efficacy scale and the mastery sub-scale, and proceed on the understanding that the two instruments were not entirely distanced from each other in psychological terms.

International Personality Item Pool

A review of the literature suggests the 50 items of the research version of Goldberg's (1999) International Personality Item Pool should, in theory, constitute five distinct factors. Bartlett's Test of Sphericity and the KMO statistic on the current sample was computed. This resulted in values of .000 and .593 respectively. Although the KMO value of .593 is relatively low, it is still above the minimal guideline in the decision-making rules for conducting an exploratory factor analysis.

In that subsequent factor analysis, based on principal components and varimax rotation, the number of factors was preset to five. This number of factors was also suggested by the number of Eigenvalues above 2.0. The scree diagram (see Figure 6, Appendix L) suggests the presence of five factors (Eigenvalues > 1.00 = 7.3; 5.0; 3.7; 3.6; 2.9 / 1.9; 1.6; 1.5; 1.4; 1.3; 1.2; 1.2; 1.0; 1.0; 1.0; 1.0). The factor solution accounted for 45.360% of the total variance (14.6%; 10%; 7.4%; 7.2%; 5.9%). There is very little factor overlap, and the items fit reasonably into the five factors expected on the basis of the scale's theoretical foundation (see Table 32, Appendix L).

Two items in the five sub-scales (agreeableness 3; openness to experience 9) did not correlate significantly and positively with their respective corrected total scores (p <.01), and were subsequently deleted from the item pool. Coefficients Alpha for the five sub-scales then ranged from .79 to .87. Only one item (agreeableness 10) suppressed α, and it too was therefore deleted from the item pool.

A further exploratory factor analysis, again set to extract five factors, on the remaining 47 items, was computed. Bartlett's Test of Sphericity was .000 and the KMO statistic was .606. The scree diagram (see Figure 7, Appendix L) again indicated the presence of five factors (Eigenvalues > 1.0 = 7.2; 4.9; 3.6; 3.5; 2.9 / 1.9; 1.5; 1.4; 1.2; 1.2; 1.2; 1.1; 1.0). The first five factors accounted for 47.166% of the total variance (variance = 15.3%; 10.4%; 7.7%; 7.4%; 6.2%). In the resulting varimax rotated factor solution, one item (conscientiousness 4) scored

higher on a factor other than its theoretical target. Under rule four this item was therefore deleted in preparation for a final exploratory factor analysis.

The Bartlett's Test produced a test statistic $p < .01$ and a KMO statistic of .606. The scree diagram (see Figure 8, Appendix L) clearly suggested the presence of five factors (Eigenvalues > 1.0 = 7.0; 4.8; 3.6; 3.4; 2.9 / 1.8; 1.4; 1.3; 1.2; 1.2; 1.1; 1.0; 1.0). The final factor solution is presented in Table 8, overleaf.

From Table 8 the first five factors in the solution accounted for 47.589% of the total variance (variance = 15.4%; 10.5%; 7.8%; 7.4%; 6.3%). The communalities are good, and there is almost no overlap in the factor loadings.

As an extra consideration, items in the International Personality Item Pool were double checked, visually, against the other measures, to see if any item content overlap was conceivable. No such overlap was observed.

All rules considered therefore, and with the items that did not correlate significantly and positively with respective corrected total scores ($p < .01$), and the item that suppressed α deleted, five composite variables for the five sub-scales of the International Personality Item Pool were created.

Table 8
Final Factor Solution of the International Personality Item Pool

Item number	1	2	3	4	5	Com
E 4 I keep in the background	**.744**					.560
E 9 I don't mind being the centre of attention	**.720**					.627
E 2 I don't talk a lot	**.707**					.533
E 7 I talk to a lot of different people at parties	**.699**					.581
E 5 I start conversations	**.675**		.321			.563
E 8 I don't like to draw attention to myself	**.663**					.521
E 6 I have little to say	**.662**					.534
E 10 I am quiet around strangers	**.652**					.508
E 1 I am the life of the party	**.624**					.467
E 3 I feel comfortable around people	**.569**					.471
N 6 I get upset easily		**.737**				.534
N 8 I have frequent mood swings		**.727**				.521
N 10 I often feel blue		**.717**				.508
N 3 I worry about things		**.711**				.471
N 7 I change my mood a lot		**.685**				.581
N 5 I am easily disturbed		**.670**				.563
N 1 I get stressed out easily		**.668**				.467
N 9 I get irritated easily		**.620**				.627
N 2 I am relaxed most of the time		**.601**				.533
N 4 I seldom feel blue		**.514**				.560
A 4 I sympathise with others' feelings			**.758**			.601
A 5 I am not interested in other people's...	.308		**.696**			.584
A 1 I feel little concern for others			**.623**			.411
A 7 I am not really interested in others			**.609**			.442
A 9 I feel others' emotions			**.605**			.469
A 8 I take time out for others			**.600**			.383
A 6 I have a soft heart			**.600**			.395
A 2 I am interested in people	.387		**.508**			.416
O 1 I have a rich vocabulary				**.714**		.545
O 2 I have difficulty understanding...				**.652**		.464
O 3I have a vivid imagination				**.643**		.516
O 8 I use difficult words				**.641**		.506
O 5 I have excellent ideas				**.599**		.416
O 10 I am full of ideas				**.582**		.432
O 4 I am not interested in abstract ideas				**.550**		.369
O 7 I am quick to understand things				**.539**		.435
O 6 I do not have a good imagination				**.451**		.300
C 5 I get chores done right away					**.748**	.607
C 6 I often forget to put things back in...					**.690**	.498
C 2 I leave my belongings around					**.646**	.511
C 7 I like order					**.634**	.441
C 9 I follow a schedule					**.625**	.467
C 10 I am exacting in my work					**.624**	.449
C 1 I am always prepared					**.478**	.466
C 3 I pay attention to details					**.468**	.403
C 8 I shirk my duties					**.431**	.279
Eigenvalues	7.097	4.838	3.624	3.412	2.920	Tot Var
% of variance	15.248	10.517	7.878	7.418	6.348	47.589

Legend: E = Extraversion; N = Neuroticism; A = Agreeableness; O = Openness to experience; C = Conscientiousness; Tot Var = total variance; Com = Communality

Note: Loadings < .3 have been suppressed

Achievement Motivation Questionnaire

Although Cassidy and Lynn (1989) proposed a 49 item, seven sub-scale measure, recent communication from Professor Tony Cassidy (personal correspondence, November 14, 2002, see Appendix F) warned of ceiling effects in the excellence sub-scale, that may indicate only six sub-scales are useable. The Cassidy and Lynn (1989) Achievement Motivation Questionnaire data showed the excellence sub-scale to be positively skewed with the means for the seven items restricted in range (0.91 to 1.0) as forecast by Cassidy. This indicated that participants were unlikely to assess themselves as less than excellent. The excellence sub-scale also presented a significantly non normal distribution (kurtosis = 3.1), and was significantly skewed (-1.8). Based on these results and the advice of Cassidy, the excellence sub-scale was removed from the instrument. The other six sub-scales showed reasonably normal distributions and means.

A Bartlett's Test of Sphericity and the KMO statistic for the remaining 42 items of the six sub-scales, on the current sample was computed. This resulted in test statistics of .000 and .574 respectively. Although the KMO value of .574 is relatively low, as it is still above the minimal guideline in the decision-making rules an exploratory factor analysis was conducted.

The subsequent factor analysis used principal components analysis and varimax rotation after Cassidy and Lynn (1989). As a result of the deletion of the excellence sub-scale from the instrument, the number of factors was preset at six. The slope of the scree plot (see Figure 9, Appendix M) indicates six factors as proposed for the theoretical scale (Eigenvalues > 1.0 = 5.9; 4.3; 2.6; 2.2; 1.9; 1.8 / 1.6; 1.4; 1.4; 1.3; 1.2; 1.2; 1.1; 1.0; 1.0). The first six factors accounted for 44.857% of the total variance (14.1%; 10.3%; 6.2%; 6%; 4.6%; 4.3%). There was significant cross-loading between the sub-scales, and the items did not clearly fall into the six factors expected on the basis of the scale's theoretical foundation (see Table 34, Appendix M). An oblimin (oblique) rotation was also conducted which resulted in similar patterns of cross-loading. Never the less there was a potentially significant pattern, and a reduction process was undertaken to remove interfering items.

Three items (competitiveness 5; mastery 2 and 7) did not correlate significantly and positively with respective corrected total scores (p <.01), and were deleted from the analysis. Coefficient Alpha for the five sub-scales ranged from .59 to .74. Three items (work ethic 2; dominance 7; and competitiveness 1) suppressed the value α so were also deleted from the item pool.

A further exploratory factor analysis was computed on the 36 remaining items. Bartlett's Test of Sphericity was .000 and the KMO statistic was .636. The slope of the scree diagram (see, Figure 10, Appendix M) suggested four factors (Eigenvalues > 2.0) with the possibility of two more as per the theoretical structure of the instrument (Eigenvalues > 1.0 = 5.7; 3.8; 2.4; 2.0; 1.8; 1.7 / 1.4; 1.3; 1.2; 1.1; 1.0; 1.0), accounting for 48.681% of the total variance (15.8%; 10.6%; 6.7%; 5.5%; 5.1%; 4.7%).

The factor solution (see Table 34, Appendix M) for the six sub-scales showed items that cross-loaded onto other factors. As per Rule 4, items that had scores that were higher on another factor or did not score on the theoretical sub-scale reported by the authors of the measure were, in turn, deleted from the analysis. This process resulted in eight items (dominance 1; acquisition 2 and 7; work ethic 4; status aspiration 5 and 7; mastery 4 and 5) being deleted from the item pool of 36 items.

Another exploratory factor analysis, again set to extract six factors, was computed on the final 28 items. Bartlett's Test of Sphericity was .000 and the KMO value was .638. The scree diagram (see Figure 11, Appendix M) suggested three factors with Eigenvalues > 2.0 (Eigenvalues > 1.0 = 4.5; 3.0; 2.0; 1.9; 1.6; 1.5 / 1.3; 1.1; 1.0). The final factor solution is presented in Table 9, overleaf. Although the Achievement Motivation Questionnaire did not clearly offer six factors, there was no indication for the researcher to deviate from the theoretical structure of the scale. Following the theoretical structure the instrument the first six factors accounted for 52.251% of the total variance (variance = 16.2%; 10.9%; 7.1%; 6.9%; 5.7%; 5.3%).

Table 9
Final Factor Solution of the Achievement Motivation Questionnaire

Item number	1	2	3	4	5	6	Com
A 5 I frequently think about what...	**.722**						.649
A 4 As long as I'm paid for my work...	**.631**						.428
A 1 If there is an opportunity to earn...	**.580**						.426
A 6 It is important to me to make lots...	**.569**						.469
A 3 The kind of work I like is the one...	**.511**			.404			.430
C 2 C 2 I try harder when I'm in...		**.676**					.488
C 6 To be a real success I feel I have to...		**.626**				.371	.614
C 7 It is important to me to perform...		**.622**			.364		.469
C 3 I judge my performance on...		**.617**					.490
C 4 If I get a good result, it doesn't...		**.555**					.548
D 3 I think I am usually a leader in my...			**.767**				.603
D 2 If given the chance I would make...			**.690**				.512
D 5 I like to give orders and get things...		.386	**.605**				.579
D 4 I enjoy planning things and...			**.539**				.464
D 6 People take notice of what I say			**.486**	.335			.563
SA 4 I like to be admired for my...				**.827**			.701
SA 6 I like to have people come to me...				**.702**			.581
SA 2 I like talking to people who are...	.389		.317	**.467**			.488
SA 1 I would like an important job...	.439		.336	**.449**			.534
SA 3 I want to be a really important...	.391			**.428**			.468
WE 2 I can easily sit for a long time...					**.647**		.574
WE 6 I easily get bored if I have...					**.633**		.482
WE 3 I must admit I often do as little...					**.604**		.577
WE 1 Hard work is something I...					**.589**		.589
WE 7 I like to work hard					**.463**	.302	.387
M 1 I would rather do something at...						**.703**	.604
M 3 If I'm not good at something I...						**.358**	.469
M 5 I more often attempt tasks that I...						**.609**	.444
Eigenvalues	4.547	3.055	1.989	1.954	1.603	1.485	Total Var
% of variance	16.241	10.911	7.105	6.967	5.724	5.303	52.251

Legend: WE = Work Ethic; A = Acquisitiveness; D = Dominance; C = Competitiveness; SA = Status Aspiration; M = Mastery; Var = variance; Com = Communality

From Table 9 Communality for the items was above .25, ranging from .387 to .649. This indicates the extracted components represent the variables well. All rules considered therefore, six composite variables for the Achievement Motivation Questionnaire were created.

Balanced Inventory of Desirable Responding

A review of the literature suggested that the 40 items of the research version of the Paulhus (1984) Balanced Inventory of Desirable Responding Personality Item Pool Version 6-Form 40 should, in theory, constitute two factors, impression management and self-deception. Bartlett's Test of Sphericity and the KMO statistic on the current sample was computed. Bartlett's Test of Sphericity was .000 and the KMO value was .587 respectively. Although the KMO value of

.587 is relatively low, it is still above the minimal guideline in the decision-making rules for conducting an exploratory factor analysis.

In a subsequent factor analysis, based on principal components analysis and varimax rotation, the number of factors was preset to two. The slope of the scree diagram (see Figure 12, Appendix N) clearly shows two factors which is confirmed in the rotated component matrix (see Table 38, Appendix N). There is a possibility of two further factors (Eigenvalues > 1.0 = 5.6; 2.6; 2.0; 2.0 / 1.7; 1.7; 1.6; 1.4; 1.4, 1.3, 1.2; 1.2; 1.1; 1.1; 1.0; 1.0). The factor solution accounted for 20.678% of the total variance (14.1%, 6.5%). There was some factor overlap and the items do not fall as clearly into the two factors as expected on the basis of the scale's theoretical foundation (see Table 38, Appendix N).

Coefficient Alpha for each of the sub-scales was calculated separately. All 20 items in the impression management sub-scale correlated significantly and positively with their respective corrected total scores (p <.01). No items suppressed value α.

The correlation between items and corrected total score for nine of the 20 items in the self-deception sub-scale (see Table 39, Appendix N) did not reach statistical significance (p <.01). These items were deleted from the item pool. With the deletion of these items, no items suppressed the value α.

Bartlett's Test of Sphericity and the KMO statistic were re-calculated, yielding values of .000 and .677, respectively. The scree diagram (Figure 13, Appendix N) more clearly suggested the presence of two factors (Eigenvalues > 1.0 =5.5; 2.4 / 1.9; 1.6; 1.5; 1.5; 1.2; 1.1; 1.1; 1.0). These two factors accounted for 25.5% (17.8%; 7.7%) of the total variance. A further factor analysis, again set to extract two factors, was computed on the remaining 31 items of the Balanced Inventory of Desirable Responding.

Under decision-making Rule 4 the factor solution (see Table 40, Appendix 15) was examined for items that either cross-loaded with a higher or similar value, or that did not load onto the theoretical target. This resulted in a further four items

(impression management 2, 14, 15; and self-deception 4) being deleted from the item pool.

Bartlett's Test of Sphericity and the KMO statistic were again recalculated which yielded values of .000 and .685 respectively. The scree diagram (see Figure 14, Appendix N) suggested the presence of two factors (Eigenvalues > 4.7; 2.3 / 1.9; 1.5; 1.4; 1.3; 1.1; 1.0; 1.0). These two factors accounted for 26.373% of the total variance (17.7%; 8.6%). Another factor analysis, again set to extract two factors, was computed on the final 27 items. The resulting final factor solution is presented in Table 10, below.

Table 10
Final Factor Solution of the Impression Management and Self-deception Sub-scales of the Balanced Inventory of Desirable Responding Scale

Item number	1	2	Communality
IM 9 I have received too much change from a sales...	**.584**		.343
IM 17 I have taken sick-leave from work even...	**.555**		.352
IM 6 I always obey laws, even if I'm unlikely to...	**.552**		.316
IM 13 I sometimes drive faster than the speed limit	**.536**		.287
IM 3 There have been occasions when I have taken...	**.536**		.300
IM 12 I have never dropped litter on the street	**.534**		.321
IM 11 When I was young I sometimes stole things	**.527**		.303
IM 10 I always declare everything at customs	**.525**		.284
IM 1 I sometimes tell lies if I have to	**.478**	.361	.359
IM 8 When I hear people talking privately, I avoid...	**.468**		.253
IM 7 I have said something bad about a friend...	**.441**		.215
IM 18 I have never damaged a library book or store ...	**.412**		.187
IM 16 I never take things that don't belong to me	**.407**		.234
IM 20 I don't gossip about other people's business	**.406**		.228
IM 4 I never swear	**.399**		.233
IM 19 I often feel blue	**.384**		.185
IM 5 I sometimes try to get even rather than...	**.373**		.224
S-d 11 I never regret my decisions		**.569**	.338
S-d 10 Its hard for me shut off a disturbing thought		**.555**	.319
S-d 18 I have sometimes doubted my ability as a...		**.552**	.380
S-d 15 I am a completely rational person		**.480**	.235
S-d 9 I am fully in control of my own fate		**.472**	.223
S-d 17 I am very confident of my judgements		**.432**	.205
S-d 20 I don't always know the reasons why I do...		**.425**	.256
S-d 6 When my emotions are aroused it biases my...		**.423**	.235
S-d 5 I always know why I like things		**.386**	.166
S-d 14 My parents were not always fair when they...		**.371**	.212
Eigenvalues	4.790	2.330	Total variance
% of variance	17.741	8.631	26.373

Legend: IM = Impression Management; S-d = Self-deception
Note: Cross-loading items < .3 have been suppressed

All rules considered therefore, two composite variables (impression management and self-deception) for the Paulhus (1984) Balanced Inventory of Desirable Responding Scale were created.

Following the instructions for the application of the Balanced Inventory of Desirable Responding Scale (Paulhus, 1984), the participants who had *extreme scores* (i.e., repeatedly used the end of the likert scale for individual questions for the impression management and/or the self-deception sub-scales) were identified, to ascertain those who may have been intentionally or unintentionally 'faking good' (see Figure 2, below).

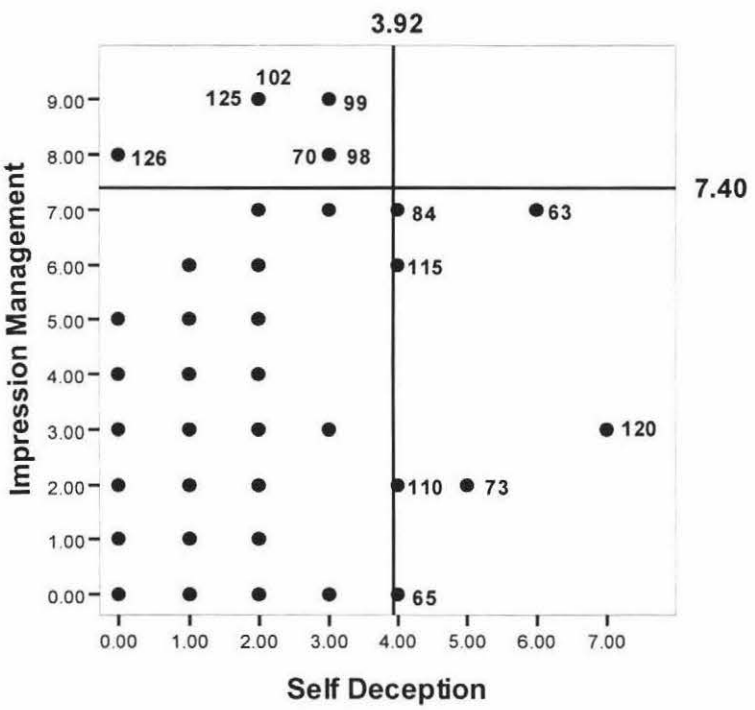


Figure 2. Scatterplot identifying cases with extreme scores on the impression management and self-deception sub-scales and the cut-off lines for cases two standard deviations from the mean

From Figure 2, and following Paulhus (1991) there are outliers at the extremes of both the impression management and self-deception sub-scales. It was therefore decided to identify cases whose scores either on impression management or self-deception exceeded two standard deviations from the mean (i.e., the top 2.3% of the normal distribution). This decision-making rule identified thirteen cases which needed to be treated with some suspicion and caution. In

order to address this concern the thirteen cases were removed from the dataset, and all analysis of data was performed on this 'screened dataset'.

Scenario Scale

The distributions of the tolerance thresholds with respect to negative motivational gravity from bosses, peers, and subordinates were examined (see Figures 15 – 17, Appendix O). If the measure is sensitive to organisational power for instance, there should be a tendency for tolerance threshold to increase as the source of negative gravity changes from bosses, to peers, to subordinates.

The means of the frequency distributions of the raw scores for the three scenario scales are presented in Figure 3, below.

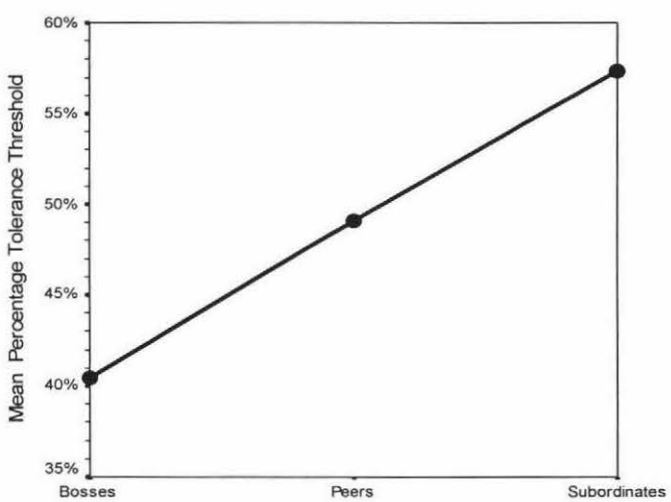


Figure 3. Mean tolerance threshold of negative motivational gravity from bosses, peers, and subordinates

From Figure 3, when faced with the prospect of negative motivational gravity, participants self-predict a progressively lower tolerance threshold for negative gravity from bosses, than for peers and than for subordinates. Paired samples *t* tests (2-tailed) on the tolerance threshold means show the observed differences in means to be statistically significant both between bosses and peers ($t = -4.302$, $p < .01$), and between peers and subordinates ($t = -3.627$, $p < .01$), (see Table 41, Appendix O).

Thus, the scenario scale appears to be sensitive to the level of organisational power in the relationship between an individual and the people with whom they work.

Summary of predictive measures

Having reduced the raw data to composite measures of the core conceptual variables and removed the cases with extreme impression management and/or self-deception-scores, the screened dataset was analysed as follows.

Level of Significance

Research into the construct of motivational gravity has not previously addressed the effect of individual differences such as self-efficacy, personality and need for achievement, and might therefore warrant an Alpha level set at $p < .10$, in order to avoid prematurely closing the field through Type II error (Grimm, 1993). However, in order to reduce the elevated likelihood, through multiple comparisons, of accepting invalid relationships (Type I errors), the researcher followed research convention and conservatively set the level of significance – in this case to the stricter $p < .05$ – to give a reasonable balance of risk between the likelihood of Type I and Type II errors.

H_1: Self-efficacy

The relationship between self-efficacy, the previously identified sub-component of self-efficacy named confidence (see p. 48), and the tolerance threshold of negative motivational gravity was examined. A test of correlation between tolerance threshold, the General Self-efficacy Sub-scale, and the confidence sub-scale was conducted. The correlation was computed using the SPSS bivariate analysis.

There was no significant correlation between self-efficacy at the $p < .05$ level, the confidence sub-scale, and the tolerance threshold scores for negative motivational gravity emanating from bosses, peers, or subordinates (see Table 30, Appendix K).

A post hoc examination of actual experience of negative motivational gravity from bosses, peers, or subordinates, which resulted in a participant leaving a job, was conducted (see Table 11, below). From Table 11, experience of leaving a job as a result of negative motivational gravity was reported at a higher rate where the negative gravity originated from bosses (41%), than from peers (9%) or from subordinates (4%). It was therefore decided that future analysis using experience as a variable would *only* include cases where a participant had indicated having experience of leaving versus not having left a job because of negative motivational gravity from bosses.

Table 11
Experience of Negative Motivational Gravity Resulting in Leaving a Job

Source of Negative Motivational Gravity	***N***	**Number left**	**Percentage left as a result of Negative Motivational Gravity**
Bosses	97	40	41.2
Peers	97	9	9.3
Subordinates	99	4	4.0

A test of correlation between tolerance threshold, the self-efficacy sub-scale and the confidence sub-scale was conducted using cases where participants indicated previous experience of negative motivational gravity from bosses which had resulted in leaving a job. No significant relationship at the $p < .05$ level, between self-efficacy, confidence and the tolerance threshold scores for bosses, peers, or subordinates was evident (see Table 31, Appendix K).

Post hoc however, when the correlations were examined on cases where participants indicated *no* experience of negative motivational gravity from a boss, a significant relationship emerged at the $p < .05$ level (see Table 12, overleaf).

From Table 12, there was a significant positive correlation ($p < .05$) between the tolerance threshold for negative motivational gravity from peers and both the General Self-efficacy and confidence sub-scales for participants who had *not* previously left a position because of negative gravity. Specifically, greater self-efficacy was associated with a higher threshold for negative motivational gravity from bosses.

Table 12
Pearson Correlation Coefficients of the General Self-efficacy Scale, Confidence, Tolerance Threshold and No Experience of Negative Motivational Gravity Resulting in Leaving a Job

Instrument	Tolerance Threshold Bosses	Tolerance Threshold Peers	Tolerance Threshold Subordinates	*n*
General Self-efficacy *r*	.048	**.288***	.156	56
Confidence *r*	.027	**.229***	.198	57

Note: * Correlation is significant at the 0.05 level (1-tailed)

Multivariate Hypotheses (personality and need for achievement)

Multiple regressions assessing a possible predictive relationship between tolerance threshold for negative motivational gravity and the variables of the personality and need for achievement instruments were conducted.

Assumption testing for multiple regressions

Following Stevens (1992), the researcher kept the predictor variables for the personality and need for achievement instruments as separate groups in the multiple regression analysis. Standardised residuals for the significant models were checked to ensure that the residuals scattered randomly about a horizontal line defined by $r_i = 0$ when plotted against the predicted values. Model validation was established by the use of adjusted R^2. Collinearity was not expected to be an issue, given the use of mainly orthogonal factors. Nonetheless the presence of multi-collinearity was tested by using the SPSS collinearity diagnostics section of the regression output for the presence of conditioning indices of > .30 for any given dimension, and two or more variance proportions > .50 for that dimension (Belsey, Kuh, & Welsh, 1980, as cited in Tabachnick & Fidell, 2001).

The ratio of the number of cases to the number of independent variables should typically be greater than or equal to 15 where p^2 (squared population multiple correlation) is .50, as generally accepted for research in the social sciences (Stevens, 1992). Even so, given the exploratory nature of this research and accepting the loss of predictive power, smaller ratios and/or a lower p^2 value may be accepted.

The multiple regression analyses were conducted using the SPSS 'enter' method, where all of the variables were entered in a single step. This model was preferred by the researcher because this is an exploratory study and SPSS makes the fewest assumptions about the data (Tabachnik & Fiddell, 2001).

H_2: Personality

A series of multiple regression analyses were conducted on models using all the five factors of the Goldberg (1999) International Personality Item Pool as predictors tolerance threshold for negative motivational gravity emanating from bosses, peers, and subordinates.

The first regression analysis explored personality as a predictor of tolerance threshold for negative motivational gravity emanating from each of bosses, peers, and subordinates. There was a significant negative relationship at the $p < .05$ level between agreeableness and tolerance threshold for negative motivational gravity from bosses. The model accounts for 6.2% of the variance, however the model itself ($F = (5, 93) = 1.172$) fails the significance test at the $p < .05$ level. Thus none of the five factors, in combination, predicts tolerance threshold for negative motivational gravity from bosses, peers, or subordinates.

A post hoc examination of the influence of actual experience of negative motivational gravity emanating from bosses that resulted in a participant leaving a job on tolerance threshold for negative motivational gravity was conducted. Although the ratio of the number of cases to independent variables were less than the number ($n = 40 < 75$) proposed by Stevens (1992), as noted in the assumption testing guidelines (see p. 62), by accepting the loss of predictive power, firstly, a regression analysis investigated personality as a predictor of tolerance threshold where participants indicated previous experience of negative motivational gravity from bosses. The model accounts for 14.3% of the variance. However, the model itself ($F = (5, 35) = .999$) fails the significance test at the $p < .05$ level. Thus none of the five personality factors, in combination, predicts tolerance threshold for negative motivational gravity from bosses, peers, or subordinates.

Again, although the ratio of the number of cases to independent variables were less than the number ($n = 57 < 75$) recommended by Stevens (1992), a further regression analysis explored personality as a predictor for tolerance threshold for negative motivational gravity where participants indicated *no* experience of negative motivational gravity from bosses resulting in leaving a job (see Table 13, below).

Table 13
Linear Regression Analysis of the International Personality Item Pool and No Experience of Negative Motivational Gravity Resulting in Leaving a Job

Instrument	Tolerance Threshold Bosses Beta	Tolerance Threshold Peers Beta	Tolerance Threshold Subordinates Beta
Extraversion	.027	.148	.304
Agreeableness	**-.422****	**-.419****	**-.295***
Conscientiousness	-.146	-.231	-.240
Neuroticism	.188	.268	**.300***
Openness to experience	.205	.121	.076
R	.406	.438	.448
R^2	.165	.192	.201
Adjusted R^2	.078	.108	.117

Note: ** Correlation is significant at the 0.01 level (1-tailed)
* Correlation is significant at the 0.05 level (1-tailed)

From Table 13, the models combining the five factors acting as predictors for tolerance threshold of negative motivational gravity originating from both bosses and peers show a significant negative relationship at the $p < .01$ level for the agreeableness component. However the models themselves ($F = (5, 53) = .895$) and $F = (5, 53) = 2.282$) respectively are not significant at $p < .05$ level, and therefore fail the significance test.

The linear combination of the five factors as a predictor of tolerance threshold for negative motivational gravity from subordinates shows a significant negative relationship at the $p < .05$ level for the agreeableness component and a significant positive relationship at the $p < .05$ level for the neuroticism component. The five factor model ($F = (5, 53) = 2.411$) accounts for 20% of the variance, and is significant at the $p < .05$ level. Although the last dimension has a condition index (34) which exceeds the rule of a maximum value of 30 as no dimension has more than one variance proportion > .50 collinearity is not an issue

(Belsely et al., 1980, as cited in Tabachnick & Fidell, 2001). The residual plot was examined, and found to be randomly distributed, thus indicating the validity of the model as per Stevens (1992).

H_3: Need for Achievement

A series of regression analyses using the SPSS were conducted using the six factors of the Cassidy and Lynn (1989) Achievement Motivation Questionnaire as predictors for tolerance threshold for negative motivational gravity from negative motivational gravity originating from bosses, peers, or subordinates.

The first regression analysis investigated need for achievement as a predictor of tolerance threshold for negative motivational gravity (see Table 14, below).

Table 14
Linear Regression Analysis of the Achievement Motivation Questionnaire and Tolerance Threshold for Negative Motivational Gravity

Instrument	Tolerance Threshold Bosses Beta	Tolerance Threshold Peers Beta	Tolerance Threshold Subordinates Beta
Work ethic	.030	-.038	-.124
Acquisitiveness	.012	-.042	-.082
Dominance	.063	-.055	.090
Competitiveness	.017	.111	.111
Status Aspiration	.123	.215	.183
Mastery	-.116	.136	**.332****
R	.195	.264	.420
R^2	.038	.070	.176
Adjusted R^2	-.032	.002	.116

Note: ** Correlation is significant at the 0.01 level (1-tailed)

From Table 14, the models containing the six factors acting as predictors for tolerance threshold for negative motivational gravity emanating from bosses and peers show no significant relationships at the $p < .05$ level. The linear combination of the six factors acting as predictors for the tolerance threshold for negative motivational gravity emanating from subordinates shows a significant positive relationship at the $p < .01$ level for the mastery component. The six factor model ($F = (6, 88) = 2.926$) accounts for 17.6% of the variance, and is statistically

significant at the $p < .05$ level. Although the last dimension has more than one variance proportion (.51 and .69) > .50, the maximum value of the condition index (12) is less than the limit of 30 rule (Belsely et al., 1980, as cited in Tabachnick & Fidell, 2001), therefore collinearity is not an issue. The residual plot was examined, and found to be randomly distributed, thus indicating the validity of the model as per Stevens (1992).

A post hoc examination of the influence of actual experience of negative motivational gravity emanating from bosses that resulted in a participant leaving a job on tolerance threshold for negative motivational gravity was conducted. Although the ratio of the number of cases to independent variables were less than the number ($n = 40 < 90$) proposed by Stevens (1992), as noted in the assumption testing guidelines (see p. 62), by accepting the loss of predictive power, a regression analysis investigated need for achievement as a predictor of tolerance threshold where participants indicated previous experience of negative motivational gravity from bosses. The combination of the six factors did not show significant predictive power of tolerance threshold for negative motivational gravity emanating from bosses, peers, and subordinates.

Again, although the ratio of the number of cases to independent variables were less than the number ($n = 57 < 90$) within the Stevens' (1992) guidelines, further regression analyses investigated need for achievement as a predictor of tolerance threshold for negative motivational gravity emanating from bosses, peers, and subordinates where participants indicated *no* experience of negative motivational gravity from bosses resulting in leaving a job. The six factor model ($F = (6, 50) = 1.440$) although accounting for 16.4% of the variance fails the significance test at the $p < .05$ level. Thus none of the six need for achievement factors predicts tolerance threshold for negative motivational gravity from bosses, peers, or subordinates.

Post Hoc Analysis of Individual Differences and Tolerance Threshold

One possible reason for the generally non significant findings in the previous sections is that the criterion measures, being 'single' items, were somewhat 'noisy' in terms of random error. The researcher therefore looked to see if there was any statistical justification for creating a composite measure over all three dimensions of the motivational gravity grid. The inter-correlations between the three criteria bosses, peers and subordinates tolerance threshold scores show the presence of a statistically significant (at the $p < .001$ level) amount of inter-linkage ($r_{boss/peer} = .590$; $r_{boss/subordinate} = .480$, $r_{peer/subordinate} = .501$), so on a post hoc and explanatory basis, a composite threshold measure, 'MG threshold', was created by adding together each individual's raw score for each of the three scenarios.

To avoid the possibility of prematurely closing the field through Type II error (Grimm, 1993) the alpha level $p < .10$ was considered as indicating significance during analyses using the MG Threshold composite.

Self-efficacy, Confidence, Personality, and Need for achievement

A test of correlation on the self-efficacy scale, the confidence, personality and need for achievement sub-scales and a composite comprising the sum of the individual scores for tolerance threshold for negative motivational gravity from bosses, peers and subordinates was conducted (see Table 15, overleaf). The correlation was computed using the SPSS bivariate analysis.

From Table 15, a significant correlation between the agreeableness ($p < .05$) and extraversion ($p < .10$) sub-scales of the International Personality Item Pool and tolerance threshold for negative motivational gravity were observed. A significant correlation between the dominance ($p < .05$), status aspiration ($p < .05$), acquisitiveness ($p < .10$), and mastery ($p < .10$) sub-scales of the Achievement Motivation Questionnaire and tolerance threshold for negative motivational gravity were also evident.

Table 15
Pearson Correlation Coefficients (r) Between MG Threshold and the Key Predictor Variables

Conceptual Variable	Instrument	MG Threshold	Significance	*N*
Efficacy	General Self-efficacy	NS		100
	Confidence	NS		101
Big Five	Agreeableness	**-.192***	.028	100
(Personality)	Extraversion	**.146**	.075	99
	Conscientiousness	NS		99
	Neuroticism	NS		99
	Openness to experience	NS		100
Need for	Status aspiration	**.201***	.024	97
Achievement	Dominance	**.196***	.026	99
	Mastery	**.159**	.060	97
	Acquisitiveness	**.152**	.069	97
	Work ethic	NS		100
	Competitiveness	NS		98
Achievement Motivation	Sub-scales combined	**.234***	.014	89

Legend: NS = Not Significant at the $p < .05$ level (1-tailed)
Note: * Correlation is significant at the 0.05 level (1-tailed)

A composite Achievement Motivation measure was created by adding together each individual's raw score for each of the six Achievement Motivation Questionnaire sub-scales. This composite was then correlated with the tolerance threshold for negative motivational gravity. A significant positive relationship at the $p < .05$ level was evident.

An exploration of the influence of actual experience of negative motivational gravity emanating from bosses that resulted in a participant leaving a job on tolerance threshold for negative motivational gravity was also conducted on the Achievement Motivation composite. Firstly a test of correlation between tolerance threshold for negative motivational gravity, the self-efficacy scale, and the confidence, the personality and need for achievement sub-scales was conducted on cases where participants indicated having previously left a job as a result of negative motivational gravity from bosses (see Table 16, overleaf).

From Table 16, where participants reported previous experience of negative motivational gravity, a significant negative relationship at the $p < .10$ level between the tolerance threshold for negative motivational gravity and the agreeableness sub-scale of the International Personality Item Pool was observed.

There was a significant positive relationship at the p <.05 and p <.10 level between the tolerance threshold for negative motivational gravity and both the status aspiration and the acquisitiveness sub-scales of the Achievement Motivation Questionnaire respectively.

Table 16
Pearson Correlation Coefficients (*r*) Between MG Threshold, the Key Predictor Variables and Experience of Negative Motivational Gravity Resulting in Leaving a Job

Conceptual Variable	**Instrument**	**MG Threshold**	**Significance**	***n***
Efficacy	General Self-efficacy	NS		40
	Confidence	NS		40
Big Five	Agreeableness *r*	**-.252**	.061	39
(Personality)	Extraversion	NS		40
	Conscientiousness	NS		39
	Neuroticism	NS		39
	Openness to experience	NS		39
Need for	Status Aspiration *r*	**.316***	.025	39
Achievement	Acquisitiveness *r*	**.218**	.091	39
	Mastery	NS		38
	Dominance *r*	NS		40
	Competitiveness *r*	NS		38
	Work ethic	NS		40
Achievement Motivation	Sub-scales combined	**.279**	.052	35

Legend: NS = Not Significant at the $p < .05$ level (1-tailed)
Note: * Correlation is significant at the 0.05 level (1-tailed)

The Achievement Motivation composite was also correlated with the key predictor variables, and where there was previous experience of negative motivational gravity from bosses resulting in leaving a job a positive relationship at the $p < .10$ level was evident.

A test of correlation between tolerance threshold for negative motivational gravity, the self-efficacy scale, and the confidence, personality and need for achievement sub-scales was conducted on cases where participants indicated *no* experience of negative motivational gravity from a boss (see Table 17, overleaf).

From Table 17, a significant correlation between the neuroticism ($p < .05$), and agreeableness ($p < .10$) sub-scales of the International Personality Item Pool and tolerance threshold for negative motivational gravity were observed. A relationship between the dominance ($p < .10$), and work ethic ($p < .10$) sub-scales

of the Achievement Motivation Questionnaire and tolerance threshold for negative motivational gravity were evident.

Table 17
Pearson Correlation Coefficients (*r*) Between MG Threshold, the Key Predictor Variables and No Experience of Negative Motivational Gravity Resulting in Leaving a Job

Conceptual Variable	Instrument	MG Threshold	Significance	*n*
Efficacy	Confidence	**.215**	.071	57
	General Self-efficacy	**.199**	.054	56
Big Five (Personality)	Neuroticism	**.273***	.021	56
	Agreeableness	**-.212**	.057	57
	Extraversion	NS		40
	Conscientiousness	NS		39
	Openness to experience	NS		39
Need for Achievement	Dominance	**.208**	.064	55
	Work ethic	**.177**	.093	57
	Status Aspiration	NS		54
	Acquisitiveness	NS		55
	Competitiveness	NS		56
	Mastery	NS		55
Achievement Motivation	Sub-scales combined	**.191**[1]	.090	51

Legend: NS = Not Significant at the $p < .05$ level (1-tailed)
Note: * Correlation is significant at the 0.05 level (1-tailed)

The Achievement Motivation composite was also correlated with the key predictor variables, and where there was previous experience of negative motivational gravity from bosses resulting in leaving a job a positive relationship. A positive relationship at the $p < .10$ level was evident.

Although none of the individual correlation statistics are particularly impressive, the overall pattern is. Two (agreeableness and extraversion) of the five International Personality Item Pool and four of the six (status aspiration, dominance, mastery, and acquisitiveness) Achievement Motivation Questionnaire dimensions show either significance or borderline significance at the $p < .05$ level.

Personality and MG Threshold

A series of regression analyses were conducted on models using the two significant personality factors of the International Personality Item Pool, identified in the correlations above, as predictors of tolerance threshold for negative motivational gravity, using the MG Threshold composite. In the first regression analysis the agreeableness and extraversion factors were investigated as a predictor of tolerance threshold for negative motivational gravity (see Table 18, below).

Table 18
Linear Regression of the Extraversion and Agreeableness Sub-scales of the International Personality Item Pool and Tolerance Threshold for Negative Motivational Gravity

Instrument	**MG Threshold Beta**	**Significance**
Extraversion	.198	.052
Agreeableness	**-.245***	.017
R	.279	
R^2	.078	
Adjusted R^2	.059	

Note: * Correlation is significant at the 0.05 level (1-tailed)

The linear combination of the two factors as a predictor of tolerance threshold for negative motivational gravity shows a significant negative relationship at the $p < .05$ level for the agreeableness component and a borderline positive relationship for the extraversion component. The two factor model ($F = (2, 97) = 4.023$) accounts for 7.8% of the variance, and is significant at the $p < .05$ level. The last dimension has a condition index (20) which does not exceed the rule of a maximum value of 30 and as no dimension has more than one variance proportion > .50 collinearity is not an issue (Belsely et al., 1980, as cited in Tabachnick & Fidell, 2001). The residual plot was examined, and found to be randomly distributed as per Stevens (1992).

An exploration of the influence of actual experience of negative motivational gravity emanating from bosses that resulted in a participant leaving a job on tolerance threshold for negative motivational gravity was also conducted

using the extraversion and agreeableness sub-scales of the International Personality Item Pool as predictors of the MG Threshold composite. Firstly a regression analysis between extraversion and agreeableness and tolerance threshold for negative motivational gravity was conducted on cases where participants indicated previous experience of negative motivational gravity from a boss which resulted in leaving a job. No significant relationship was observed (see Table 33, Appendix L).

A further regression analysis investigated extraversion and agreeableness as a predictor of tolerance threshold for negative motivational gravity where participants indicated *no* experience of negative motivational gravity from bosses which resulted in leaving a job. The linear combination of the two factors as a predictor of tolerance threshold for negative motivational gravity shows a significant negative relationship at the $p < .05$ level for the agreeableness component. The two factor model ($F = (2, 54) = 3.112$) accounts for 10.7% of the variance, has a borderline significance value of .053 (see Table 19, below).

Table 19
Linear Regression Analysis of the Extraversion and Agreeableness Sub-scales of the International Personality Item Pool, Tolerance Threshold and No Experience of Negative Motivational Gravity Resulting in Leaving a Job

Instrument	Tolerance Threshold Beta	Significance
Extraversion	NS	NS
Agreeableness	**-.302***	.032
R	.327	
R^2	.107	
Adjusted R^2	.073	

Legend: NS = Not Significant at the $p < .05$ level (1-tailed)
Note: * Correlation is significant at the 0.05 level (1-tailed)

Need for achievement and MG Threshold

A series of regression analyses were conducted on models using the four significant need for achievement factors of the Achievement Motivation Questionnaire, identified in the correlations above, as of predictors of tolerance threshold for negative motivational gravity, using the MG Threshold composite. The first regression analysis investigated status aspiration, dominance, mastery,

and acquisitiveness as predictors of tolerance threshold for negative motivational gravity. A borderline significant relationship was evident between status aspiration (significance of .083) and tolerance threshold for negative motivational gravity. However the model ($F = (4, 90) = 2.037$) giving a significance of .096 is of borderline (see Table 35, Appendix M).

An exploration of the influence of actual experience of negative motivational gravity emanating from bosses that resulted in a participant leaving a job on tolerance threshold for negative motivational gravity was also conducted using the status aspiration, dominance, mastery, and acquisitiveness sub-scales of the Achievement Motivation Questionnaire as predictors of the MG Threshold composite. A regression analysis investigated status aspiration, dominance, mastery, and acquisitiveness as a predictor of tolerance threshold for negative motivational gravity where participants indicated experience of negative motivational gravity from bosses resulting in leaving a job. A borderline significant relationship was evident between status aspiration (significance of .090) and tolerance threshold for negative motivational gravity (see Table 37, Appendix M). Howev er the model ($F = (4, 36) = 1.361$) fails the test of significance at the $p < .10$ level.

A further regression analysis investigated status aspiration, dominance, mastery, and acquisitiveness as a predictor of tolerance threshold for negative motivational gravity where participants indicated *no* previous experience of negative motivational gravity from bosses resulting in leaving a job. No significant relationships were observed (see Table 37, Appendix M).

Demographic Analysis

Although the sample is this research is small, an exploratory analysis of age, gender and country of origin in relation to tolerance threshold for negative motivational gravity, and using SPSS, was undertaken.

Age

To determine the possible effect of age on the tolerance threshold for negative motivational gravity the participant data was divided into two sub-

groups, under 30 years and those 30 years and above. A comparison of the means of the tolerance threshold using a two-tailed t test was conducted. The means (under 30 group M = 146; over 30 group M = 142) showed no significant difference between the two groups.

Gender

A One-way ANOVA analysis was conducted to examine the effects of gender on tolerance threshold for negative motivational gravity. The mean tolerance threshold for negative motivational gravity for males (47.35) is significantly different at the p <.05 from that of women (37.25) with males selecting a mean tolerance threshold that was 10% higher than for females. This suggests that men would tolerate *more* negative motivational gravity than females. A relationship at the p <.10 level (two-tailed) was also evident when the combination of tolerance threshold for negative motivational gravity from bosses, peers, and subordinates was used. When the cases were split into experience or no experience of negative motivational gravity from bosses resulting in leaving, no significant difference was observed.

Country of Origin

To test for any differences in the data between participants who were born in New Zealand or those who were born overseas, the mean tolerance threshold for negative motivational gravity was examined for difference using a One-way ANOVA. The mean tolerance threshold for negative motivational gravity for the New Zealand born participants was M = 141 and for the participants born overseas M = 146, therefore no significant differences were observed.

Qualitative Data

Missing data

A number of participants chose to not complete some or all three of the open-ended statements explaining the reason for the selection of the tolerance threshold for negative motivational gravity emanating from bosses, peers, and subordinates collected in Part One of the questionnaires (see Table 27, Appendix J). All completed statements were included in the analysis. Two participants reported difficulty in imagining the three scenarios, and thus their data was not included in the qualitative analysis.

Scenarios

The open-ended statements explaining the reason for the tolerance threshold selected for each of the three sub-groups bosses, peers, and subordinates were scrutinised by the researcher to identify common responses. This scrutiny initially identified eleven common responses for each of the bosses, peers, and subordinates scenarios (see Tables 42-44; Appendix P). These common responses were then reviewed to establish any themes underlying the responses, and also to meet guidelines that suggest more than six categories may result in problems with rating discrimination (Kirkman, 2000). This review resulted in condensing the eleven common responses into four major themes, descriptively labelled the 'Rationalist', the 'Emotionalist', the 'Environmentalist', and the 'Strategist'.

In order to check consistency in the coding of the participant responses, an independent observer repeated the allocation of data into the four themes. A comparison of the allocation to each theme was computed using Cohen's Kappa (χ), which resulted in $\chi = .90$ for the bosses scenario; $\chi = .88$ for the peers scenario; and $\chi = .89$ for the subordinates scenario. These scores reflect a level of agreement between observers normally defined as 'excellent' (Robson, 1993).

Qualitative Analysis

The frequency of the four identified themes is shown in Table 20, overleaf. From Table 20 the rank order of the frequency for the reasons given for the

selection of tolerance threshold for negative motivational gravity from bosses and peers shows a consistent pattern, in that participants predominately rationalised their reaction to negative motivational gravity. A smaller number reacted emotionally or associated negative gravity with the working environment, and fewer sought specific coping strategies. The pattern in responding to negative motivational gravity from subordinates again showed a predominance of rationalisation, but then differed in that participants were more likely to seek a strategy to deal with negative motivational gravity rather than reacting emotionally, or relating the negative motivational gravity to the environment.

Table 20
Frequency and Rank Order of the Four Themes Associated With the Open-ended Statements Explaining the Selection of the Tolerance Threshold for Negative Motivational Gravity

Variable	Theme	Rank Order of Frequency	Frequency	% of total
Bosses	Rationalist	1	52	50.5
	Emotionalist	2	23	22.3
	Environmentalist	3	17	16.5
	Strategist	4	11	10.7
Peers	Rationalist	1	42	40.5
	Emotionalist	2	26	25.0
	Environmentalist	3	22	21.5
	Strategist	4	14	13.5
Subordinates	Rationalist	1	51	48.6
	Emotionalist	3	12	11.4
	Environmentalist	4	11	10.5
	Strategist	2	31	29.5

The Rationalist

The participants given the label the Rationalist offered a reasoned or logical response to the tolerance threshold selected. Although different explanations were given, the main principle for allocating participant's explanations to the theme the Rationalist was that the participants put forward a considered, rationalised statement of why their specified tolerance threshold was selected. Three of the original eleven themes, balance, ratio, and career blocking

contributed to the theme the Rationalist. Participant explanations that represent the subject theme the Rationalist are shown in Table 21, below.

The Rationalist theme accounted for the majority of participant statements with similar proportions evident for each sub-group with 50% for the bosses scenario; 40% for the peers scenario; and 48% for the subordinates scenario (see Table 20).

Table 21
Open-ended Statements Representative of the Rationalist Theme

Explanations offered by the Rationalist
If half of my subordinates were against me, there would still be half of my subordinates working with me
I could cope with hostility from 3 in 10 bosses
50% is tolerable, 60% is difficult, 70% would be untenable
... new jobs may be hard to find
There are plenty of jobs out there
As long as I knew I was doing a good job I would be OK [I would] just get on with things
...not be willing to waste my skills and energy
It would be difficult to get your job done if there was anymore than 50% [of subordinates discouraging]

The Emotionalist

The label the Emotionalist was given where participants responded in emotional terms when explaining the reason for the selection of their tolerance threshold. For example, comments were made about being unhappy, stressed or undervalued, and mention made of feelings of rejection and limited self-worth. Five of the original eleven themes, will not tolerate that behaviour, could not put up with that behaviour, situation personally troubling, hard to tackle a boss and self-blame contributed to the Emotionalist theme. Representative explanations for the Emotionalist are shown in Table 22, overleaf.

The Emotionalist was the second most common theme, with 22% for the bosses scenario; 25% for the peers scenario; and a lower rate of 11% for the subordinates scenario (see Table 20).

Table 22
Open-ended Statements Representative of the Emotionalist Theme

Explanations offered by the Emotionalist
...I would feel I was not needed or valued
I would be unhappy which is unnecessary
...I would as a consequence suffer intense and harmful stress
... not prepared to put up with negative behaviour or harassment of any kind
That is about the limit of my tolerance
...at some point if there is more than one person doing this you should consider if your own behaviour is at fault
I think that I could handle avoiding 3/10 people, anymore would be too depressing
Beyond this level [30%] personal/emotional well-being would be deleteriously affected

The Environmentalist

The participant responses covered by the label the Environmentalist specifically referred to the physical working environment. Two of the original eleven themes, bosses need to be supportive, and need a positive work environment contributed to the theme the Environmentalist. Participant explanations that represent the theme are shown in Table 23 overleaf.

The Environmentalist was the third most popular theme for the bosses and peers scenario (17% and 22% respectively). However, for the subordinate scenario the Environmentalist (11%) was the least popular (see Table 20).

Table 23
Open-ended Statements Representative of the Environmentalist Theme

Explanations offered by the Environmentalist
The environment in that workplace would be terrible to stand
Something wrong with the working environment if 80% [of your subordinates] are against you
Life is too short to be in a job where the environment is negative
Not worth working in a negative environment
Because a negative environment gets on top of you and those (colleagues) putting these negative feelings towards you will bring you down eventually
If half of the people you work with are negative, that is an unpleasant work environment
... simply the environment was negative due to other things beyond my control
I think the environment you work in should be a happy and positive environment because most of your day is spent at work

The Strategist

The Strategist theme participants, although sometimes responding in both a rational or emotional way, differed from the Rationalist and the Emotionalist in that they specifically offered an option and/or strategy to *manage* the negative motivational gravity in the workplace. Three of the original eleven themes, try to resolve; ignore the behaviour; and control the behaviour; contributed to the Strategist. Participant explanations that represent the theme the Strategist are shown in Table 24, overleaf.

The theme the Strategist accounted for 11% and 13% for the bosses and peers scenarios respectively. However, a significantly larger percentage (29%) was evident in responses for the subordinate scenario (see Table 20).

Table 24
Open-ended Statements Representative of the Strategist Theme

Explanations offered by the Strategist
As long as I knew I was doing a good job I would be okay [I would] just get on with things
If people at your level are becoming negative you can choose to rise above it and prove their immaturity
I would be able to ignore criticism from those who were junior to me
I would find out what the problem is – confront and deal with it
If subordinates report to you, you can take [a] counselling or coaching approach or ask other management team members to also focus on the negative behaviour
I'd keep working mainly just to irritate the bosses more
Subordinates are subordinates. If they become a threat, either make them be on your side or give them a hard time and make them leave
In general it is easier to deal with subordinates negative behaviour – you can discipline, transfer or fire them

Discussion

This research examined motivational gravity theory and using individual difference measures investigated how much negative motivational gravity would be tolerated before an individual would signal an intention to leave a job. The research also extended the hierarchical interaction proposed in the existing motivational gravity theory, by separately identifying peers and subordinates in the pull down dimension of the motivational gravity grid.

Self-efficacy and Negative Motivational Gravity

It was expected that participants with high levels of self-efficacy would be prepared to tolerate more negative motivational gravity in the workplace, and would therefore report high tolerance thresholds. However, the data are not entirely consistent with the hypothesis.

The data suggests that as self-efficacy increases, so too does the tolerance threshold for negative motivational gravity, but *only* where participants indicated *no* previous experience of negative motivational gravity from bosses which resulted in leaving a job. Hence as the level of self-efficacy increases so too does the tolerance threshold for negative motivational gravity. The non significance of the relationships between self-efficacy and tolerance threshold for negative motivational gravity where experience is not separated out, and also where participants had previous experience of negative motivational gravity resulting in them leaving a job was unexpected.

Firstly, as self-efficacy research has established that individuals with high self-efficacy put more effort into and persist longer at dealing with difficult situations (Wood et al., 1990) that "test their mettle" (Eden & Kinnar, 1991, p. 777), and low self-efficacy is associated with both self-doubt (Wood et al., 1990), and the avoidance of barriers such as negative motivational gravity (Eden & Kinnar, 1991), it seemed reasonable to expect that participants with high self-efficacy would tolerate more negative motivational gravity and therefore report high tolerance thresholds. Secondly, as individuals with high levels of self-efficacy are also believed to have higher levels of confidence of being successful

in 'fixing' organizational injustice (Parker, 1993), in this research negative motivational gravity, it again seemed reasonable to expect highly efficacious participants to report a higher tolerance threshold than participants with lower levels of efficacy.

The positive relationship between self-efficacy and tolerance threshold for negative motivational gravity for cases *only* where participants indicated *no* previous experience of negative motivational gravity from bosses may have occurred as a result of the way the questions associated with the scenarios were asked. Participants were asked about *experience* of negative motivational gravity, *but only* in relation to the negative motivational gravity which resulting in them leaving a job. Therefore, cases that reported *no* experience *may* have actually experienced negative motivational gravity *but* did *not* leave the job where negative motivational gravity was experienced. This may indicate that these participants have higher levels of negative motivational gravity which resulted in them reporting higher tolerance thresholds, than the participants who in the past had left a job when the 'going got tough'.

Self-efficacy is considered to be an integral part of an individual's motivation to perform (Eden & Kinnar, 1991), with the level of self-efficacy seen to determine an individual's belief that their actions will be effective (Bandura, 1986). In challenging situations (like a negative motivational gravity environment) it is expected that individuals will respond in different ways (Shelton, 1990). Self-efficacy theory suggests that individuals with high levels of self-efficacy will persist longer and exert more effort to meet the challenge (Bandura, 1986). Therefore, the introduction of programmes that improve levels of self-efficacy may also improve an individual's ability to cope with situations like negative motivational gravity.

A number of studies have used programmes designed to improve self-efficacy levels (e.g., Eden and Aviram, 1990, as cited in Eden & Kinnar, 1991); Eden & Kinnar, 1991; Frayne and Latham, 1987; Gist, 1989; Gist, Schwoerer, and Rosen, 1989, as cited in Eden & Kinnar, 1991).These studies all reported success in increasing self-efficacy. However, as self-efficacy is considered to be "the

product of a lifetime of experience" (Eden & Kinnar, 1991, p. 772), and is considered to be relatively stable overtime (Sherer et al., 1982), the introduction of short-term self-efficacy training programmes may not be the appropriate intervention. The alternative then may be for organisations to seek other methods to increase the self-efficacy of their employees.

Ideally the improvement of employee self-efficacy could be achieved by "piggybacking" existing training programmes (Eden & Kinnar, 1991, p. 778), like, for example, coaching for performance. Improvement of efficacy can be achieved through coaching for performance by improving enactive mastery through employees' success at achieving goals; addressing vicarious experience through the observation of appropriate role modelling; and using persuasion through the use of simple statements like 'you can do it' (Locke, 1990).

However, coaching for performance relies on a 'reasonable' relationship between manager and employee (Foster & Seeker, 1997). This is important in the negotiation of performance goals, within the coaching component, and then in the completion of performance evaluation. Therefore attempts to improve self-efficacy through the use of a 'boss' who engages in push down behaviour are unlikely to be successful. Eden and Kinnar (1991) suggest that employee self-efficacy can be improved without reliance on managers, instead using non-supervisory agents such as psychologists or the employee's peers. The use of peers suggests that peer-mentoring programmes may be successful for improving self-efficacy through role-modelling and verbal persuasion.

Personality and Negative Motivational Gravity

A positive relationship between the individual Big Five personality factors (extraversion, neuroticism, agreeableness, conscientiousness, and openness to experience) and tolerance threshold for negative motivational gravity was hypothesised. The results, however, although indicating relationships between the factors extraversion, neuroticism and agreeableness; and tolerance threshold for negative motivational gravity, are not entirely consistent with this hypothesis.

According to Salgado (2002) the Big Five factors associated with personality are predictors of lack of turnover, hence, a stronger relationship between all five factors and tolerance threshold for negative motivational gravity could have been expected. The negative relationship between agreeableness and tolerance threshold for negative motivational gravity was surprising. As individuals who are high in agreeableness are considered to be courteous, flexible, good-natured, cooperative, soft-hearted and tolerant (Barrick & Mount, 1991), it seemed likely that these participants would choose higher tolerance thresholds than those with low levels of agreeableness, so a positive relationship was expected. The results suggest that participants with high levels of agreeableness, when faced with negative motivational gravity, seem unlikely to challenge the push down and pull down behaviours of bosses, peer and subordinates, and instead would leave a job sooner. The reason for the lower tolerance thresholds is unclear. However an individual may consider leaving a job in preference to addressing the negative motivational gravity because of lack of personal confidence, or an internal attribution that the fault of the situation lies within.

Also as theory (although accepting that other influences exist) clearly suggests that personality characteristics are a prime source of behaviour (Robertson & Callinan, 1998) the result that personality was not a good predictor of tolerance threshold for negative motivational gravity was surprising. This result does, however, contribute to the debate on the degree of strength of the relationship between personality and behaviour (Endler, Rutherford, & Denisoff, 1997). Although personality traits are believed to predispose individuals to behave in certain ways (Pervin, 2003), human behaviour is also influenced by situational factors (Robertson & Callinan, 1998). Robertson and Callinan consider the behaviour of other individuals contributes to the choices people make. Hence, it is possible that, when faced with negative motivational gravity, the tolerance threshold is influenced by situational factors (e.g., push down and pull down behaviours) rather than inherent personality traits.

Need for Achievement and Negative Motivational Gravity

Need for achievement theory suggests that individuals with high levels of need for achievement are likely to persist longer (Feather et al., 1991; Weiner,

1980, as cited Reeve, 1992), and a have a lower likelihood to quit in the face of failure (Cassidy & Lynn, 1989). Therefore it was considered that participants with high levels of need for achievement would be prepared to tolerate more negative motivational gravity, and would therefore report higher tolerance thresholds than participants with low need for achievement.

The results suggest that as levels of need for achievement, mastery and to a more limited degree status aspiration, increases, so too does the tolerance threshold for negative motivational gravity which is consistent with the research hypothesis and is generally consistent with need for achievement theory. Individuals with high need for achievement are believed to have higher levels of perseverance when confronting difficult situations than those with low levels (Feather et al., 1991; Reeve, 1992), thus, when faced with negative motivational gravity the high need for achievement individual appears likely to report a higher tolerance threshold. High levels of need for achievement have also been associated with a lower likelihood to quit (Feather et al., 1991), and the motivation to avoid failure (Atkinson, 1957, 1964, as cited in Fineman, 1977) so again when faced with negative motivational gravity the high need for achievement individual appears more likely to report a higher tolerance threshold.

The positive relationship between the status aspiration and mastery sub-scales and tolerance threshold is generally consistent with the theoretical structure of the Achievement Motivation Questionnaire. The status aspiration sub-scale measures the extent to which an individual enjoys competing with others who are striving for the same goals (Cassidy & Lynn, 1989). Therefore, this competitive spirit may be indicative of an inherent means by which individuals with high levels of status aspiration manage negative motivational gravity. As the mastery sub-scale assesses the extent of an individual's persistence at, and tackling of, difficult and challenging tasks, it was expected participants with high levels of mastery who were facing negative motivational gravity would be more likely to report higher tolerance thresholds for negative motivational gravity originating from all three groups, i.e., bosses, peers, or subordinates. However, contrary to expectations, higher tolerance thresholds were only reported where negative motivational gravity emanated from subordinates, the reasons for which are

uncertain. As an individual may perceive an ability to control subordinates more easily than bosses or peers, organisational power may be a contributory factor.

Participant Responses to Negative Motivational Gravity Situations

Four themes were identified in participant responses to negative motivational gravity situations. These themes were consistent with the individual differences result in that personality and other individual differences were not considered to play a major role in the prediction of tolerance threshold to negative motivational gravity. The stronger and more frequent themes underlying the participants' responses appear to be situational rather than individually based.

One theme, Rationalist, predominated with the majority of participants responding to negative motivational gravity in a reasoned or rational way. Other themes, Emotionalist and Environmentalist, by firstly, reporting factors of being unhappy and feelings of not being needed or valued, and secondly, wanting management to provide them with support and associating negative motivational gravity with unpleasant work environments, appear to attribute responses to negative motivational gravity internally and externally respectively. The effect of internal and external attribution on an individual's response to negative motivational gravity is an area that warrants further investigation.

Implications for Further Research

In recognising the possibility of the influence of occupational and organisational culture on individual responses relating to negative motivational gravity a convenient, student sample drawn from a wide range of occupations and working environments was used. Generalisation to an organisational environment should therefore be made cautiously.

The current research into individual differences and negative motivational gravity is limited to the cross-sectional nature of the studies and the use of a relatively small number of volunteers from an educational setting. Future research should include larger samples, longitudinal, and workplace-based studies.

The use of scenarios is customary in the measurement of motivational gravity (Carr et al., 1995; Carr & Powell, 1996). This research method is reliant on a participant being able to anticipate behaviour responses to a hypothetical situation (Bitner, 1990). Although Rose and Asher (1999) argue that these responses are similar to real life situations, other researchers (e.g., Laursen, 1993 as cited in Johnson et al., 2001) believe that individuals are more likely to respond in a way they think others want them to. In some instances participants, by guessing the research hypotheses, may respond in ways they think appropriate, rather than honestly. These demand effects may also occur in responses to scenarios in instances where a participant is able to guess the research hypotheses. In addition, potential misunderstanding of the scenario may occur. Future scenario-based research will need to address these issues by considering demand characteristics and the methods used when presenting scenarios to ensure participant understanding.

Future research is also needed to clarify some of the issues identified in the present study. For instance, no effects were found for age, contrary to the findings of Boxall and Rasmussen (2001). Age effects on negative motivational gravity deserve further attention. The finding that males appear more likely to tolerate higher levels of negative motivational gravity also suggests that gender effects on tolerance threshold to negative motivational gravity is worthy of further examination.

The current findings on the role of individual differences highlight the need for better understanding of the role of self-efficacy, personality and need for achievement factors on an employees' response to discouraging behaviours i.e., negative motivational gravity in the workplace.

Conclusion

From an organisational perspective employee turnover is expensive. Costs are incurred both through lost productivity and the replacement of staff who have left (Branham, 2000; Mitchell et al., 2001). Staff retention is therefore an important factor for organisations to address. This is particularly so in the context of the expected reduction in labour force numbers making it increasingly difficult for valuable employees to be readily replaced (Branham, 2001).

From an employees' perspective turnover is also expensive. An individual's job provides status, rank and esteem (Kischenbaum & Weisberg, 2002), and one of the most frequently reported reasons for an individual choosing to leave a job, and the status it provides, is to "maximise the quality of their working life" (Parker, 1993). As negative motivational gravity in the form of workplace bullying, envy and discouraging behaviours by bosses, peers and subordinates is becoming increasingly recognised as being unacceptable, it seems likely that more and more people, in an attempt to ensure a good quality working life, will leave their jobs.

Further research that investigates the organisational and employee costs associated with negative motivational gravity, and that seeks ways to address the push down and pull down behaviours of bosses, peers and subordinates is necessary. Organisations can no longer persist in a 'take it' or 'leave it' attitude towards their staff. Similarly, employees deserve better than being placed in a situation of having to choose whether to 'take it' or to 'leave it'.

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Appendices

List of Appendices

Appendix A: Participant Information Sheet.

Massey University
COLLEGE OF HUMANITIES & SOCIAL SCIENCES

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AN EMPLOYEE'S INTENTION TO LEAVE AN UNSATISFACTORY WORK ENVIRONMENT

INFORMATION SHEET

The Massey University Human Ethics Committee has approved this Research.

Who is doing the Research?

Hi, my name is Anne Rundle and I am currently a Masters student at Massey University, Albany Campus. This year I am conducting research in preparation for writing my thesis. I will collect information, analyse the data, and then I will write a report.

How will the Research information be used?

The collected information will be written into a thesis, and possibly published in a Psychological Journal. The Research will add to the literature on staff turnover, assist in staff selection and provide management with information that will lead to strategies to help reduce unsatisfactory work environments.

What happens to the questionnaires during and at the end of the Research?

All questionnaires will be stored in a locked cabinet until the thesis has been graded and then will be destroyed. The statistical data held on electronic disks will be held for five years and then destroyed.

Will anyone who reads the Research know who you are?

No. As you are asked to anonymously complete the questionnaires, no one will know you took part. No names or information that might identify you or any organisation you have been employed in will be used in any report written.

What rights do you have?

You have the right to decline to take part in this research, the right to decline to answer any particular question(s), and you have the right to ask questions about the study at any time. As a Participant in this Research you also have the right to have access to a summary of the findings of the study when it is concluded. A one-page summary will be placed on the student notice board in the Atrium, Study Centre, Quadrangle B, and the Library, and will be available from the Psychology Department at Albany. Where appropriate, classroom presentations will be given.

How do you give consent to be involved in the Research?

It is assumed that the completion and submission of the questionnaire to the Psychology Department means that you have given consent to take part in this Research.

What is my Research about?

Staff turnover is expensive to both Organisations and employees. I would like to establish factors that play a part in an employee's intention to either leave or remain in an unsatisfactory work environment.

What does taking part in the Research involve?

The study consists of a three-part 'pencil and paper' test that should not take longer than 15 to 20 minutes to complete. In Part One you will be asked to read three scenarios and imagine the situation and people described. You will be asked to mark a position on a line that best describes the number of negatively behaving people you would willingly put up with before you would consider leaving a job, and answer some easy questions. Part Two consists of a series of questions that will help me to find out if there are any similar themes mentioned by the other the Participants. Part Three asks you to provide brief demographic data. Finally you will be asked to send your questionnaire, anonymously, (in a provided reply paid envelope) to the Psychology Department at Massey University Albany.

What if these questions remind you of something?

In the unlikely event that the way in which you are asked questions, or the information you are asked for causes you distress in any way, support systems are available to you. As a student of Massey University you are able to access the Health and Counseling Centre for assistance and support. The Centre can be contacted on 09 443 9783.

What if you want to contact my Supervisor or me?

If you have any questions or concerns about any aspect of this research you have the right to contact me. My e-mail address is <rundle_gardiner@xtra.co.nz>. Alternatively you can contact my Supervisor Dr Stuart Carr at the Psychology Department at Massey University, Albany. He can be contacted on 09 4439700 extension 9073, or at his e-mail address<S.C.Carr@massey.ac.nz>.

Thank you for taking the time to read this information. Your support with my Research project is greatly appreciated.

Appendix B: Questionnaire Part One: Scenarios

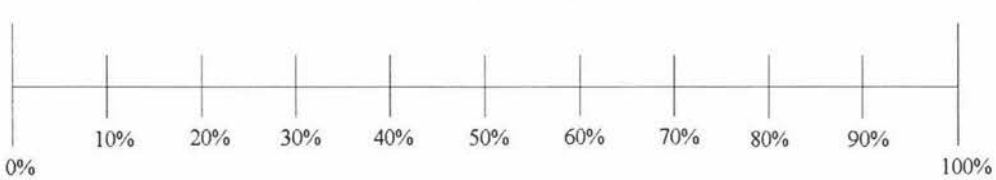
Whilst reading the three scenarios that appear below, I would like you to imagine that you are working in a general office position for a large organisation. In this organisation there are lots of bosses (colleagues senior to you), lots of subordinates (colleagues junior to you), and lots of peers (colleagues at the same level as you). In each scenario, I also ask that you further imagine that some of the bosses, subordinates or peers are not very encouraging to you, that in fact they may be holding back your efforts to achieve in a number of ways. Some examples of this are given below.

In each scenario I would like you to estimate (as a percentage) how many of the bosses, subordinates, or peers, who display negative behaviour towards you, that you would be willing to tolerate before you would seriously think about leaving the job. It is important to remember there is no 'right' answer. The percentage that you choose may range anywhere between 1% to 100%.

Scenario 1

Please now imagine that some of your bosses (senior colleagues), are discouraging your efforts to achieve in your job. The bosses may be doing this in a number of ways. For example, they may fail to acknowledge your efforts, privately or publicly undermine you and your performance, claim your ideas as their own, or may always be 'on your back' about something.
There are probably other similar situations that you can think of.

Imagine that this is happening in your job right now. On the line below I would like you to show, as a percentage, the number of bosses showing negative behaviour towards you that you would probably be prepared to put up with before you would seriously think about leaving the job. By considering leaving the job, I mean, you would think about leaving, plan to look for a new job over the next 12 months and/or would actively search for a new job in another organisation. Please feel free to choose any point from the 100 percentage points listed.



Can you please give a brief explanation <u>why</u> you have chosen the cut-off point that you have.

_____

_____

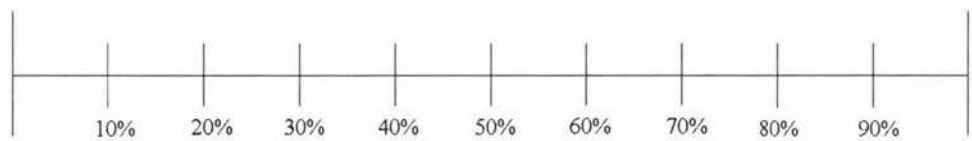
_____

If you feel comfortable telling me, have you ever left a position because of the negative behaviour of your senior colleagues? Yes No

Scenario 2

Please now imagine that some of your subordinates (junior colleagues) are discouraging your efforts to achieve in your job. The subordinates may be doing this in a number of ways. For example they may refuse to do what you ask, privately or publicly undermine you and your performance, claim your ideas as their own, or be disrespectful of you and your position.
There are probably other similar situations that you can think of.

Imagine that this is happening right now. On the line below I would like you to show, as a percentage, the number of subordinates (junior colleagues) showing negative behaviour towards you that you would be prepared to put up with before you would seriously think about leaving the job. By considering leaving the job, I mean, you would think about leaving, plan to look for a new job over the next 12 months and/or would actively search for a new job in another organisation. Please feel free to choose any point from the 100 percentage points listed.



0% 100%

Can you please give a brief explanation <u>why</u> you have chosen the cut-off point that you have.

_____

_____

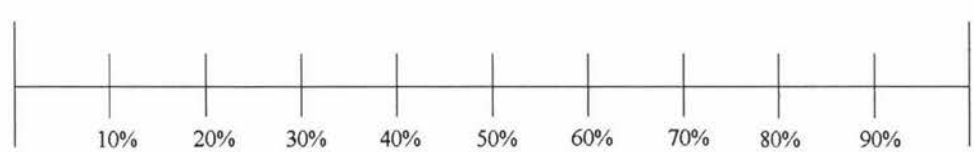
_____

If you feel comfortable telling me, have you ever left a position because of the negative behaviour of your junior colleagues? Yes No

Scenario 3

Please now imagine that some of your peers (colleagues at the same level) are discouraging your efforts to achieve in your job. The peers may be doing this in a number of ways. For example they may ignore you or be rude to you, privately or publicly undermine you and your performance, or claim your ideas as their own.
There are probably other situations that you can think of.

Imagine that this is happening right now. On the line below I would like you to show, as a percentage, the number of peers (colleagues at the same level) showing negative behaviour towards you that you would be prepared to put up with before you would seriously think about leaving the job. By considering leaving the job, I mean, you would think about leaving, plan to look for a new job over the next 12 months and/or would actively search for a new job in another organisation. Please feel free to choose any point from the 100 percentage points listed.



0% 100%

Can you please give a brief explanation <u>why</u> you have chosen the cut-off point that you have.

_____

_____

_____

If you feel comfortable telling me, have you ever left a position because of the negative attitudes of your peers? Yes No

Appendix C: Questionnaire Part Two: General Self-efficacy Sub-scale Questionnaire

The following 17 questions concern your personal beliefs. In particular, how your beliefs relate to both past and future task performance. Please remember there are no right or wrong answers. Please be honest, remember I will not know who completed this form.

Using the scale below as a guide, circle the number on the line of the statement which best indicates how much you agree with the statement.

1 very strongly disagree	2 strongly disagree	3 disagree	4 neither agree nor disagree	5 agree	6 strongly agree	7 very strongly agree

1	When I make plans, I am certain I can make them work.	1	2	3	4	5	6	7
2	One of my problems is that I can not get down to work when I should.	1	2	3	4	5	6	7
3	If I can't do a job the first time, I keep trying until I can.	1	2	3	4	5	6	7
4	When I set important goals for myself, I rarely achieve them.	1	2	3	4	5	6	7
5	I give up on things before completing them.	1	2	3	4	5	6	7
6	I avoid facing difficulties.	1	2	3	4	5	6	7
7	If something looks too complicated, I will not even bother to try it.	1	2	3	4	5	6	7
8	When I have something unpleasant to do, I stick to it until I finish it.	1	2	3	4	5	6	7
9	When I decide to do something, I go right to work on it.	1	2	3	4	5	6	7
10	When trying to learn something new, I soon give up if I am not initially successful.	1	2	3	4	5	6	7
11	When unexpected problems occur, I don't handle them well.	1	2	3	4	5	6	7
12	I avoid trying to learn new things when they look too difficult for me.	1	2	3	4	5	6	7
13	Failure just makes me try harder.	1	2	3	4	5	6	7
14	I feel insecure about my ability to do things.	1	2	3	4	5	6	7
15	I am a self-reliant person.	1	2	3	4	5	6	7
16	I give up easily.	1	2	3	4	5	6	7
17	I do not seem to be capable of dealing with most problems that come up in life.	1	2	3	4	5	6	7

General Self-efficacy Sub-scale Marking Schedule

Positive = 1, 3, 8, 9, 13, 15 Negative = 2, 4, 5, 6, 7, 10, 11, 12, 14, 16, 17

Appendix D: Questionnaire Part Two: Achievement Motivation Questionnaire

The following statements relate to how you see yourself.
For each of these statements please circle yes if the statement mostly describes you, or circle no if the statement mostly does not describe you.

	Yes Statement describes me	No Statement does not describe me	
1	It is important to me to perform better than others on a task.	Yes	No
2	I like to be busy all the time.	Yes	No
3	I like talking to people who are important.	Yes	No
4	I try harder when I'm in competition with other people.	Yes	No
5	I dislike being the centre of attention.	Yes	No
6	I would rather do something at which I feel confident and relaxed than something which is challenging and difficult.	Yes	No
7	I easily get bored if I don't have something to do.	Yes	No
8	I would never allow others to get the credit for what I have done.	Yes	No
9	I like to give orders and get things going.	Yes	No
10	To be a real success I feel I have to do better than everyone I come up against.	Yes	No
11	It is no use playing a game when you are playing with someone as good as yourself.	Yes	No
12	The most important thing about a job is the pay.	Yes	No
13	I am basically a lazy person.	Yes	No
14	I think I am usually a leader in my group.	Yes	No
15	I feel like giving up quickly when things go wrong.	Yes	No
16	I can easily sit for a long time doing nothing.	Yes	No
17	I like to be admired for my achievements.	Yes	No
18	If there is an opportunity to earn money, I am usually there.	Yes	No
19	Part of the satisfaction in doing something comes from seeing how good the finished product looks.	Yes	No
20	When a group I belong to plans an activity I would rather direct it myself than just help out and have someone else organise it.	Yes	No
21	I like to have people come to me for advice.	Yes	No
22	I find satisfaction in having influence over others because of my position in the community.	Yes	No
23	It annoys me when other people perform better than I do.	Yes	No
24	People take notice of what I say.	Yes	No

	Yes Statement describes me	No Statement does not describe me	
25	I hate to see bad workmanship.	Yes	No
26	The kind of work I like is the one that pays top salary for top performance.	Yes	No
27	I more often attempt tasks that I am not sure I can do than tasks I know I can do.	Yes	No
28	As long as I'm paid for my work, I don't mind working while others are having fun.	Yes	No
29	I find satisfaction in exceeding my previous performance even if I don't outperform others.	Yes	No
30	I enjoy planning things and deciding what other people should do.	Yes	No
31	If I'm not good at something I would rather keep struggling to master it than move on to something I may be good at.	Yes	No
32	I like to work hard.	Yes	No
33	I want to be an important person in the community.	Yes	No
34	I frequently think about what I might do to earn a great deal of money.	Yes	No
35	It is important to me to make lots of money.	Yes	No
36	I must admit I often do as little work as I can get away with.	Yes	No
37	If I get a good result, it doesn't matter if others do better.	Yes	No
38	I get a sense of satisfaction out of being able to say I have done a very good job on a project.	Yes	No
39	Hard work is something I like to avoid.	Yes	No
40	I would be willing to work for a salary that was below average if the job was pleasant.	Yes	No
41	I find satisfaction in working as well as I can.	Yes	No
42	If given the chance I would make a good leader of people.	Yes	No
43	There is satisfaction in a job well done.	Yes	No
44	I would rather learn easy fun games than difficult thought games.	Yes	No
45	I would like an important job where people look up to me.	Yes	No
46	I often put off until tomorrow things I know I should do today.	Yes	No
47	I prefer to work in situations that require a high level of skill.	Yes	No
48	I judge my performance on whether I do better than others rather than on just getting a good result.	Yes	No
49	I think I would enjoy having authority over other people.	Yes	No

Appendix E: Factor Marking Schedule for Achievement Motivation Questionnaire

Form Q #	Source Q #	Statement	Factor	Direction
1	35	It is important to me to perform better than others on a task	Com	
2	48	I like to be busy all the time	Mast	
3	37	I like talking to people who are important	SA	
4	29	I try harder when I'm in competition with other people	Com	
5	40	I dislike being the centre of attention	SA	Reverse
6	43	I would rather do something at which I feel confident and relaxed than something which is challenging and difficult	Mast	Reverse
7	6	I easily get bored if I don't have something to do	WE	
8	33	I would never allow others to get the credit for what I have done	Com	
9	19	I like to give orders and get things going	Dom	
10	34	To be a real success I feel I have to do better than everyone I come up against	Com	
11	24	It is no use playing a game when you are playing with someone as good as yourself	Exc	Reverse
12	14	The most important thing about a job is the pay	Acq	
13	4	I am basically a lazy person	WE	Reverse
14	17	I think I am usually a leader in my group	Dom	
15	49	I feel like giving up quickly when things go wrong	Mast	Reverse
16	2	I can easily sit for a long time doing nothing	WE	Reverse
17	39	I like to be admired for my achievements	SA	
18	8	If there is an opportunity to earn money, I am usually there	Acq	
19	23	Part of the satisfaction in doing something comes from seeing how good the finished product looks	Exc	
20	21	When a group I belong to plans an activity I would rather direct it myself than just help out and have someone else organise it	Dom	
21	41	I like to have people come to me for advice	SA	
22	42	I find satisfaction in having influence over others because of my position in the community	SA	
23	30	It annoys me when other people perform better than I do	Com	
24	20	People take notice of what I say	Dom	
25	22	I hate to see bad workmanship	Exc	
26	10	The kind of work I like is the one that pays top salary for top performance	Acq	
27	47	I more often attempt tasks that I am not sure I can do than tasks I know I can do	Mast	
28	11	As long as I'm paid for my work, I don't mind working while others are having fun	Acq	
29	27	I find satisfaction in exceeding my previous performance even if I don't outperform others	Exc	
30	18	I enjoy planning things and deciding what other people should do	Dom	
31	45	If I'm not good at something I would rather keep struggling to master it than move on to something I may be good at	Mast	
32	7	I like to work hard	WE	
33	38	I want to be an important person in the community	SA	

Form Q #	Source Q #	Statement	Factor	Direction
34	12	I frequently think about what I might do to earn a great deal of money	Acq	
35	13	It is important to me to make lots of money	Acq	
36	3	I must admit I often do as little work as I can get away with	WE	Reverse
37	32	If I get a good result, it doesn't matter if others do better	Com	Reverse
38	25	I get a sense of satisfaction out of being able to say I have done a very good job on a project	Exc	
39	1	Hard work is something I like to avoid	WE	Reverse
40	9	I would be willing to work for a salary that was below average if the job was pleasant	Acq	Reverse
41	26	I find satisfaction in working as well as I can	Exc	
42	16	If given the chance I would make a good leader of people	Dom	
43	28	There is satisfaction in a job well done	Exc	
44	44	I would rather learn easy fun games than difficult thought games	Mast	Reverse
45	36	I would like an important job where people looked up to me	SA	
46	5	I often put off until tomorrow things I know I should do today	WE	Reverse
47	46	I prefer to work in situations that require a high level of skill	Mast	
48	31	I judge my performance on whether I do better than others rather than on just getting a good result	Com	
49	15	I think I would enjoy having authority over other people	Dom	

Legend: Com = Competitiveness; Mast = Mastery; SA = Status Aspiration; WE =Work Ethic; Dom = Dominance; Exc = Excellence; Acq = Acquisitiveness;

Appendix F: Personal correspondence with Professor Tony Cassidy, November 14th, 2002

Anne Rundle

From: Prof Tony Cassidy [tony.cassidy@tvu.ac.uk]
Sent: Thursday, 14 November 2002 2:44 a.m.
To: Anne Rundle
Subject: RE: Achievement Motivation Scale

Dear Anne,

I attach a copy of the scale and the scoring details - I hope this clarifies the issue. The Excellence factor is problematic - and tends to suffer from restricton of range - ie. scores tend to be positively skewed. I guess you could include in between scores as 0.5.
Let me know how you get on

regards

Tony

Professor Tony Cassidy
DPhil CPsychol AFBPsS FRSA
Head of Psychology
The Wolfson Faculty of Health and Human Sciences
Thames Valley University
St Mary's Road
Ealing
London W5 5RF
Tel: 0208 231 2769
"It is a much better thing to travel hopefully than it is to arrive"

For the following questions please circle True if you agree, False if you disagree, and ? if you are in between. There are no right or wrong answers. Thank you for your time.

1.	Hard work is something I like to avoid	True	?	False
2.	If there is an opportunity to earn money I am usually there	True	?	False
3.	I think I would enjoy having authority over other people	True	?	False
4.	I hate to see bad workmanship	True	?	False
5.	I try harder when I'm in competition with other people	True	?	False
6.	I would like an important job where people looked up to me	True	?	False
7.	I would rather do something at which I feel confident and relaxed than something that is challenging and difficult	True	?	False
8.	I can easily sit for a long time doing nothing	True	?	False
9.	I would be willing to work for a salary that was below average if the job was pleasant	True	?	False
10.	If given the chance I would make a good leader of people	True	?	False
11.	Part of the satisfaction of doing something is seeing how good the finished product looks...	True	?	False
12.	It annoys me when others perform better than I do	True	?	False
13.	I like talking to people who are important	True	?	False
14.	I would rather learn easy fun games than difficult thought games	True	?	False
15.	I must admit I often do as little work as I can get away with	True	?	False
16.	The kind of work I like is the one that pays top salary for top performance	True	?	False
17.	I think I am usually a leader in my group	True	?	False
18.	It is no use playing a game when you are playing with someone as good as yourself.	True	?	False
19.	I judge my performance on whether I do better than others rather than on just getting a good result	True	?	False
20.	I want to be an important person in the community	True	?	False
21.	If I am not good at something I would rather keep struggling to master it than move on to something I may be good at	True	?	False
22.	I am basically a lazy person	True	?	False
23.	As long as I am paid for my work, I don't mind working while others are having fun	True	?	False
24.	I enjoy planning things and deciding what others should do	True	?	False
25.	I get a sense of satisfaction out of being able to say I have done a very good job on a project	True	?	False

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26.	If I get a good result it doesn't matter if others do better	True	?	False
27.	I like to be admired for my achievements.	True	?	False
28.	I prefer to work in situations that require a high level of skill.	True	?	False
29.	I often put off until tomorrow things I know I should do today	True	?	False
30.	I frequently think about what I might do to earn a great deal of money.	True	?	False
31.	I like to give orders and get things going.	True	?	False
32.	I find satisfaction in working as well as I can	True	?	False
33.	I would never allow others to get the credit for what I have done	True	?	False
34.	I dislike being the centre of attention	True	?	False
35.	I more often attempt tasks that I am not sure I can do than tasks I know I can do	True	?	False
36.	I easily get bored if I don't have something to do	True	?	False
37.	It is important to me to make lots of money.	True	?	False
38.	People take notice of what I say	True	?	False
39.	I find satisfaction in exceeding my previous performance even if I don't out perform others	True	?	False
40.	To be a real success I feel I have to do better than everyone I come up against	True	?	False
41.	I like to have people come to me for advice.	True	?	False
42.	I like to be busy all the time	True	?	False
43.	I like to work hard.	True	?	False
44.	The most important thing about the job is the pay	True	?	False
45.	When a group I belong to plans an activity, I would rather direct it myself than just help out and have someone else organise it	True	?	False
46.	There is satisfaction in a job well done	True	?	False
47.	It is important to perform better than others on a task.	True	?	False
48.	I would find satisfaction in having influence over others because of my position in the community	True	?	False
49.	I feel like giving up quickly when things go wrong	True	?	False

Scoring the Cassidy-Lynn Achievement Motivation Questionnaire

For questions

2,3,4,5,6,10,11,12,13,16,17,19,20,21,23,24,25,27,28,30,31,32,33,35,36,37,38,39,40, 41,42,43,44,45,46,47,48

True=2 ?=1 False=0

For questions

1,7,8,9,14.15,18,22,26,29,34,49

True=0 ?=1 False=2

To get scores for individual factors just sum the scores for the 7 questions relating to the factor as indicated below.

Work Ethic	Questions 1,8,15,22,29,36,43
Acquisitiveness	Questions 2,9,16,23,30,37,44
Dominance	Questions 3,10,17,24,31,38,45
Excellence	Questions 4,11,18,25,32,39,46
Competitiveness	Questions 5,12,19,26,33,40,47
Status aspiration	Questions 6,13,20,27,34,41,48
Mastery	Questions 7,14,21,28,35,42,49

Appendix G: Questionnaire Part Two: Combined International Personality Item Pool and the Balanced Inventory of Desirable Responding Questionnaire

On the following pages, there are some statements describing people's behaviour.

Please use the rating scale below to describe how accurately each statement describes ***you***. Describe yourself as you generally are now, not as you wish to be in the future. Describe yourself as you honestly see yourself, in relation to other people you know of the same gender as you, and roughly your same age.

Remember I will not know who filled in this form, so please describe yourself in an honest manner.

Please read each statement carefully, and then circle the number on the line of the statement that best describes you based on the rating scale.

1 Very Inaccurate	2 Moderately Inaccurate	3 Neither Inaccurate nor Accurate	4 Moderately Accurate	5 Very Accurate

1	I am the life of the party.	1	2	3	4	5
2	My first impressions of people usually turn out to be right.	1	2	3	4	5
3	I feel little concern for others.	1	2	3	4	5
4	I am always prepared.	1	2	3	4	5
5	It would be hard for me to break any of my bad habits.	1	2	3	4	5
6	I get stressed out easily.	1	2	3	4	5
7	I don't care to know what other people really think of me.	1	2	3	4	5
8	I have a rich vocabulary.	1	2	3	4	5
9	I have not always been honest with myself.	1	2	3	4	5
10	I don't talk a lot.	1	2	3	4	5
11	I always know why I like things.	1	2	3	4	5
12	I am interested in people.	1	2	3	4	5
13	I leave my belongings around.	1	2	3	4	5
14	When my emotions are aroused, it biases my thinking.	1	2	3	4	5
15	I am relaxed most of the time.	1	2	3	4	5
16	Once I've made up my mind, other people can seldom change my opinion.	1	2	3	4	5
17	I have difficulty understanding abstract ideas.	1	2	3	4	5
18	I am not a safe driver when I exceed the speed limit.	1	2	3	4	5
19	I feel comfortable around people.	1	2	3	4	5
20	I am fully in control of my own fate.	1	2	3	4	5

1 Very Inaccurate	2 Moderately Inaccurate	3 Neither Inaccurate nor Accurate	4 Moderately Accurate	5 Very Accurate

21	I insult people.	1	2	3	4	5
22	I pay attention to details.	1	2	3	4	5
23	It's hard for me to shut off a disturbing thought.	1	2	3	4	5
24	I worry about things.	1	2	3	4	5
25	I never regret my decisions.	1	2	3	4	5
26	I have a vivid imagination.	1	2	3	4	5
27	I sometimes lose out on things because I can't make up my mind soon enough.	1	2	3	4	5
28	I keep in the background.	1	2	3	4	5
29	The reason I vote is because my vote can make a difference.	1	2	3	4	5
30	I sympathise with others' feelings.	1	2	3	4	5
31	I make a mess of things.	1	2	3	4	5
32	My parents were not always fair when they punished me.	1	2	3	4	5
33	I seldom feel blue.	1	2	3	4	5
34	I am a completely rational person.	1	2	3	4	5
35	I am not interested in abstract ideas.	1	2	3	4	5
36	I rarely appreciate criticism.	1	2	3	4	5
37	I start conversations.	1	2	3	4	5
38	I am very confident of my judgements.	1	2	3	4	5
39	I am not interested in other people's problems.	1	2	3	4	5
40	I get chores done right away.	1	2	3	4	5
41	I have sometimes doubted my ability as a lover.	1	2	3	4	5
42	I am easily disturbed.	1	2	3	4	5
43	It's all right with me if some people happen to dislike me.	1	2	3	4	5
44	I have excellent ideas.	1	2	3	4	5
45	I don't always know the reasons why I do the things I do.	1	2	3	4	5
46	I have little to say.	1	2	3	4	5

1 Very Inaccurate	2 Moderately Inaccurate	3 Neither Inaccurate nor Accurate	4 Moderately Accurate	5 Very Accurate

47	I sometimes tell lies if I have to.	1	2	3	4	5
48	I have a soft heart.	1	2	3	4	5
49	I often forget to put things back in their proper place.	1	2	3	4	5
50	I never cover up my mistakes.	1	2	3	4	5
51	I get upset easily.	1	2	3	4	5
52	There have been occasions when I have taken advantage of someone.	1	2	3	4	5
53	I do not have a good imagination.	1	2	3	4	5
54	I never swear.	1	2	3	4	5
55	I talk to a lot of different people at parties.	1	2	3	4	5
56	I sometimes try to get even rather than forgive and forget.	1	2	3	4	5
57	I am not really interested in others.	1	2	3	4	5
58	I like order.	1	2	3	4	5
59	I always obey laws, even if I'm unlikely to get caught.	1	2	3	4	5
60	I change my mood a lot.	1	2	3	4	5
61	I have said something bad about a friend behind his or her back.	1	2	3	4	5
62	I am quick to understand things.	1	2	3	4	5
63	When I hear people talking privately, I avoid listening.	1	2	3	4	5
64	I don't like to draw attention to myself.	1	2	3	4	5
65	I have received too much change from a salesperson without telling him or her.	1	2	3	4	5
66	I take time out for others.	1	2	3	4	5
67	I shirk my duties.	1	2	3	4	5
68	I always declare everything at customs.	1	2	3	4	5
69	I have frequent mood swings.	1	2	3	4	5
70	When I was young I sometimes stole things.	1	2	3	4	5
71	I use difficult words.	1	2	3	4	5
72	I have never dropped litter on the street.	1	2	3	4	5

1 Very Inaccurate	2 Moderately Inaccurate	3 Neither Inaccurate nor Accurate	4 Moderately Accurate	5 Very Accurate

73	I don't mind being the centre of attention.	1	2	3	4	5
74	I sometimes drive faster than the speed limit.	1	2	3	4	5
75	I feel others' emotions.	1	2	3	4	5
76	I follow a schedule.	1	2	3	4	5
77	I never read sexy books or magazines.	1	2	3	4	5
78	I get irritated easily.	1	2	3	4	5
79	I have done things that I don't tell other people about.	1	2	3	4	5
80	I spend time reflecting on things.	1	2	3	4	5
81	I never take things that don't belong to me.	1	2	3	4	5
82	I am quiet around strangers.	1	2	3	4	5
83	I have taken sick leave from work or school even though I wasn't really sick.	1	2	3	4	5
84	I make people feel at ease.	1	2	3	4	5
85	I am exacting in my work.	1	2	3	4	5
86	I have never damaged a library book or store merchandise without reporting it.	1	2	3	4	5
87	I often feel blue.	1	2	3	4	5
88	I have some pretty awful habits.	1	2	3	4	5
89	I am full of ideas	1	2	3	4	5
90	I don't gossip about other people's business.	1	2	3	4	5

Appendix H: Factor Marking Schedule for the Combined International Personality Item Pool and the Balanced Inventory of Desirable Responding Questionnaire

Form Q #	Source Scale	Source Q #	Statement	Factor, Direction
1	IPIP	1	I am the life of the party.	1+
2	BIDR	1	My first impressions of people usually turn out to be right.	S-d+
3	IPIP	2	I feel little concern for others.	2-
4	IPIP	3	I am always prepared.	3+
5	BIDR	2	It would be hard for me to break any of my bad habits.	S-d-
6	IPIP	4	I get stressed out easily.	4-
7	BIDR	3	I don't care to know what other people really think of me.	S-d+
8	IPIP	5	I have a rich vocabulary.	5+
9	BIDR	4	I have not always been honest with myself.	S-d-
10	IPIP	6	I don't talk a lot.	1-
11	BIDR	5	I always know why I like things.	S-d+
12	IPIP	7	I am interested in people.	2+
13	IPIP	8	I leave my belongings around.	3-
14	BIDR	6	When my emotions are aroused, it biases my thinking.	S-d-
15	IPIP	9	I am relaxed most of the time.	4+
16	BIDR	7	Once I've made up my mind, other people can seldom change my opinion.	S-d+
17	IPIP	10	I have difficulty understanding abstract ideas.	5-
18	BIDR	8	I am not a safe driver when I exceed the speed limit.	S-d-
19	IPIP	11	I feel comfortable around people.	1+
20	BIDR	9	I am fully in control of my own fate.	S-d+
21	IPIP	12	I insult people.	2-
22	IPIP	13	I pay attention to details.	3+
23	BIDR	10	It's hard for me to shut off a disturbing thought.	S-d-
24	IPIP	14	I worry about things.	4-
25	BIDR	11	I never regret my decisions.	S-d+
26	IPIP	15	I have a vivid imagination.	5+
27	BIDR	12	I sometimes lose out on things because I can't make up my mind soon enough.	S-d-
28	IPIP	16	I keep in the background.	1-
29	BIDR	13	The reason I vote is because my vote can make a difference.	S-d+
30	IPIP	17	I sympathise with others' feelings.	2+
31	IPIP	18	I make a mess of things.	3-
32	BIDR	14	My parents were not always fair when they punished me.	S-d-
33	IPIP	19	I seldom feel blue.	4+
34	BIDR	15	I am a completely rational person.	S-d+
35	IPIP	20	I am not interested in abstract ideas.	5-
36	BIDR	16	I rarely appreciate criticism.	S-d-
37	IPIP	21	I start conversations.	1+
38	BIDR	17	I am very confident of my judgements.	S-d+
39	IPIP	22	I am not interested in other people's problems.	2-
40	IPIP	23	I get chores done right away.	3+

Form Q #	Source Scale	Source Q #	Statement	Factor, Direction
41	BIDR	18	I have sometimes doubted my ability as a lover.	S-d-
42	IPIP	24	I am easily disturbed.	4-
43	BIDR	19	It's all right with me if some people happen to dislike me.	S-d+
44	IPIP	25	I have excellent ideas.	5+
45	BIDR	20	I don't always know the reasons why I do the things I do.	S-d-
46	IPIP	26	I have little to say.	1-
47	BIDR	21	I sometimes tell lies if I have to.	IM-
48	IPIP	27	I have a soft heart.	2+
49	IPIP	28	I often forget to put things back in their proper place.	3-
50	BIDR	22	I never cover up my mistakes.	IM+
51	IPIP	29	I get upset easily.	4-
52	BIDR	23	There have been occasions when I have taken advantage of someone.	IM-
53	IPIP	30	I do not have a good imagination.	5-
54	BIDR	24	I never swear.	IM+
55	IPIP	31	I talk to a lot of different people at parties.	1+
56	BIDR	25	I sometimes try to get even rather than forgive and forget.	IM-
57	IPIP	32	I am not really interested in others.	2-
58	IPIP	33	I like order.	3+
59	BIDR	26	I always obey laws, even if I'm unlikely to get caught.	IM+
60	IPIP	34	I change my mood a lot.	4-
61	BIDR	27	I have said something bad about a friend behind his or her back.	IM-
62	IPIP	35	I am quick to understand things.	5+
63	BIDR	28	When I hear people talking privately, I avoid listening.	IM+
64	IPIP	36	I don't like to draw attention to myself.	1-
65	BIDR	29	I have received too much change from a salesperson without telling him or her.	IM-
66	IPIP	37	I take time out for others.	2+
67	IPIP	38	I shirk my duties.	3-
68	BIDR	30	I always declare everything at customs.	IM+
69	IPIP	39	I have frequent mood swings.	4-
70	BIDR	31	When I was young I sometimes stole things.	IM-
71	IPIP	40	I use difficult words.	5+
72	BIDR	32	I have never dropped litter on the street.	IM+
73	IPIP	41	I don't mind being the centre of attention.	1+
74	BIDR	33	I sometimes drive faster than the speed limit.	IM-
75	IPIP	42	I feel others' emotions.	2+
76	IPIP	43	I follow a schedule.	3+
77	BIDR	34	I never read sexy books or magazines.	IM+
78	IPIP	44	I get irritated easily.	4-
79	BIDR	35	I have done things that I don't tell other people about.	IM-
80	IPIP	45	I spend time reflecting on things.	5+
81	BIDR	36	I never take things that don't belong to me.	IM+
82	IPIP	46	I am quiet around strangers.	1-
83	BIDR	37	I have taken sick-leave from work or school even though I wasn't really sick.	IM-
84	IPIP	47	I make people feel at ease.	2+

Form Q #	Source Scale	Source Q #	Statement	Factor, Direction
85	IPIP	48	I am exacting in my work.	3+
86	BIDR	38	I have never damaged a library book or store merchandise without reporting it.	IM+
87	IPIP	49	I often feel blue.	4-
88	BIDR	39	I have some pretty awful habits.	IM-
89	IPIP	50	I am full of ideas	5+
90	BIDR	40	I don't gossip about other peoples business.	IM+

Legend: 1 = Extraversion, 2 = Agreeableness, 3 = Conscientiousness, 4 = Neuroticism, 5 = Openness to experience; S-d = Self-deception; IM = Impression Management

Appendix I: Questionnaire Part Three: Participant Demographics

1. Are you: ☐ Female ☐ Male

2. Age: _____

3. Which ethnic group do you identify with?

   ☐ European/Pakeha ☐ Maori ☐ Pacific Island

   ☐ Asian ☐ Other – please specify _____

4. Were you born in New Zealand? ☐ Yes ☐ No

5. Which marital status do you identify with?

   ☐ Single ☐ Married ☐ Living with a partner

   ☐ Other – Please specify _____

6. What is your highest educational qualification?

   _____

7. Altogether, how many years have you worked in paid employment including part-time work?

   _____

8. What type of job did you have in your most recent employment? (E.g. customer services officer, technician, accountant, secretary, etc.)

   _____

9. When you completed this questionnaire was there one job in particular that you thought about more than others?

   ☐ Yes ☐ No

If yes, what kind of job was it? Please also include whether or not you were a team leader, team member, or other.

_____

Thank you for taking the time to complete this questionnaire.

Please place the questionnaire in the attached reply paid envelope and post to me at the Department of Psychology, Albany Campus, Massey University.

Appendix J: Missing Data

Table 25
Summary of Missing Data for the Four Psychometric Instruments Used

Scale or sub-scale	Number of participants	Number of items in the (sub) scale	Number of items missing	Percentage of missing items
General Self-efficacy	112	17	2	1.75
International Personality Item Pool				
Extraversion	111	10	3	2.63
Agreeableness	112	10	2	1.75
Conscientiousness	112	10	2	1.75
Neuroticism	111	10	3	2.63
Openness to Experience	113	10	1	.87
Achievement Motivation Questionnaire				
Work Ethic	112	7	2	1.75
Acquisitiveness	109	7	5	4.38
Dominance	108	7	6	5.26
Excellence	113	7	1	.87
Competitiveness	111	7	3	2.63
Status Aspiration	107	7	7	6.14
Mastery	107	7	7	6.14
Balanced Inventory of Desirable				
Impression Management	110	20	4	3.50
Self-deception	111	20	3	2.63

Table 26
Cases From the Achievement Motivation Questionnaire With Neutral Answers Treated as Missing Data

Participant	Items marked neutral
52	27, 31, 35
64	27, 44, 46, 48
67	23, 24, 35
73	30, 45
91	7, 27, 32, 35
99	17
113	6, 49

Table 27
Missing Data From the Open-ended Explanations for the Selection of the Tolerance Threshold for Negative Motivational Gravity

Subject group	Number of participants	Number of explanations missing	Percentage of missing items
Bosses	114	11	9.65
Peers	114	10	8.77
Subordinates	114	9	7.89

Appendix K: Analysis of the General Self-efficacy Sub-scale

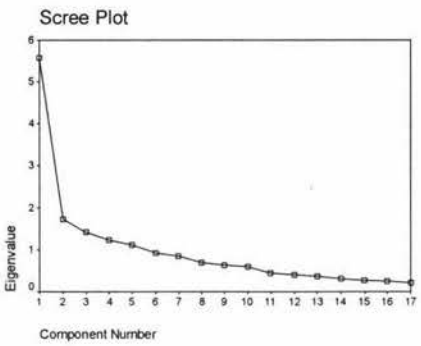

Figure 4. Scree plot for the 17 items of the General Self-efficacy Sub-scale using principal components analysis and oblimin (oblique) rotation

Table 28
Pattern Matrix of the General Self-efficacy Items Forming the Sub-scale Confidence

Item number	Item question	Varimax Rotation	Oblimin Rotation
7	When I set important goals for myself, I rarely achieve them	.679	-.572
12	I avoid facing difficulties	.671	-.561
14	Failure just makes me try harder	.616	-.611
17	I often give up on things before completing them	.691	-.667

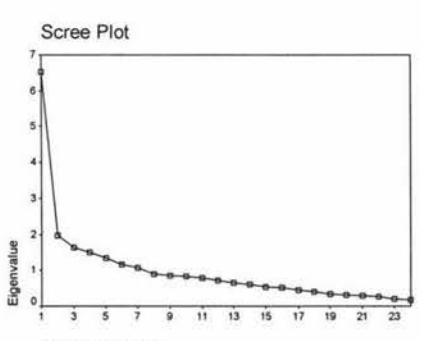

Figure 5. Scree plot for the 17 items of the General Self-efficacy Sub-scale and the 7 items of the mastery sub-scale of the Achievement Motivation Questionnaire

Table 29
Rotated Component Matrix Including Initial Eigenvalues, and Percentage of Variance Using Principal Components Analysis and Oblimin Rotation for the 17 Items of the General Self-efficacy Sub-scale and the 7 Items of the Mastery Sub-scale of the Achievement Motivation Questionniare

Item	1	2
S-e 1 When I make plans, I am certain I can...	.382	
S-e 2 One of my problems is that I can not...		.622
S-e 3 If I can't do a job the first time, I keep...		.374
S-e 4 When I set important goals for myself, I...		.365
S-e 5 I give up on things before completing...		.470
S-e 6 I avoid facing difficulties	.498	.334
S-e 7 If something looks too complicated, I...	.671	
S-e 8 When I have something unpleasant to...		.673
S-e 9 When I decide to do something, I go...		.498
S-e 10 When trying to learn something new, I...	.450	
S-e 11 When unexpected problems occur, I...	.608	
S-e 12 I avoid trying to learn new things when...	.757	
S-e 13 Failure just makes me try harder...		.587
S-e 14 I feel insecure about my ability to do...	.581	
S-e 15 I am a self-reliant person	.407	
S-e 16 I give up easily	.672	
S-e 17 I do not seem to be capable of dealing...	.729	
M 1 I would rather do something at which I...		.595
M 2 I would rather learn easy fun games than...	.544	
M 3 If I am not good at something I would...		.575
M 4 I prefer to work in situations that require...		
M 5 I more often attempt tasks that I am not...		.573
M 6 I like to be busy all the time		.465
M 7 I feel like giving up quickly when things...	.532	

Legend: S-e = Self-efficacy; M = Mastery

Table 30
Pearson Correlation Coefficients (*r*) of the General Self-efficacy Scale, the Confidence Sub-scale and Tolerance Threshold for Negative Motivational Gravity

Instrument	Tolerance Threshold Bosses	Tolerance Threshold Peers	Tolerance Threshold Subordinates	*n*
General Self-efficacy *r*	-.035	.122	.068	100
Confidence *r*	-.029	.109	.065	101

Table 31
Pearson Correlation Coefficients (r) of the General Self-efficacy Scale, the Confidence Sub-scale, Tolerance Threshold and Experience of Negative Motivational Gravity Resulting in Leaving a Job

Instrument	Tolerance Threshold Bosses	Tolerance Threshold Peers	Tolerance Threshold Subordinates	*n*
General Self-efficacy *r*	-.114	-.031	-.011	40
Confidence *r*	-.080	-.052	-.020	40

Appendix L: Analysis of the International Personality Item Pool

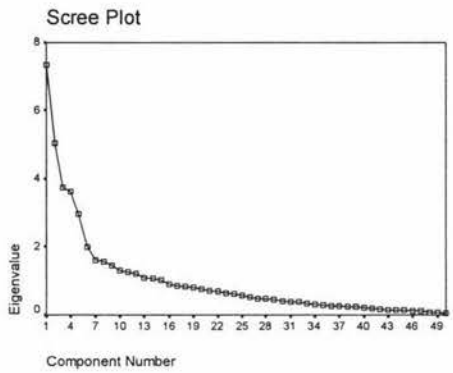

Figure 6. Scree plot for the 50 items of the International Personality Item Pool

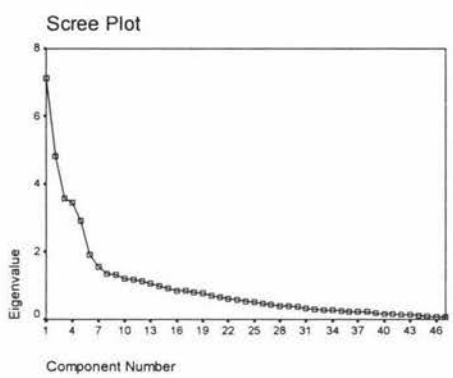

Figure 7. Adjusted scree plot showing 47 items of the International Personality Item Pool

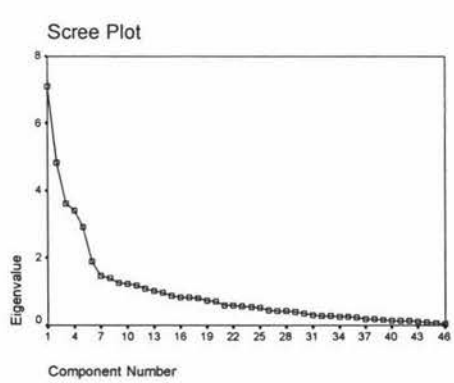

Figure 8. Scree plot for the final 46 items of the International Personality Item Pool

Table 32
Rotated Component Matrix Including Initial Eigenvalues, Percentage of Variance, and Communalities Using Principal Components Analysis and Varimax Rotation for the 50 Items of the International Personality Item Pool

Item number	1	2	3	4	5	Communality
N 6 I get stressed out easily	**.729**					.558
N 8 I have frequent mood swings	**.726**					.541
N 10 I often feel blue	**.712**					.538
N 3 I worry about things	**.703**					.536
N 7 I change my mood a lot	**.689**					.518
N 5 I am easily disturbed	**.678**					.483
N 1 get stressed out easily	**.663**					.460
N 9 I get irritated easily`	**.645**					.521
N 2 I am relaxed most of the time	**.589**					.379
N 4 I seldom feel blue	**.506**					.353
C 4 I make a mess of things	.421					.334
E 4 I keep in the background		**.747**				.565
E 9 I don't mind being the centre of attention		**.726**				.626
E 2 I don't talk a lot		**.714**				.542
E 7 I talk to a lot of different people at parties		**.689**				.577
E 5 I start conversations		**.666**				.568
E 8 I don't like to draw attention		**.665**				.523
E 6 I have little to say		**.660**				.520
E 10 I am quiet around strangers		**.643**				.513
E 1 I am the life of the party		**.632**				.462
E 3 I feel comfortable around people		**.562**				.475
A 4 I sympathize with others' feelings			**.756**			.596
A 5 I am not interested in other people's...			**.704**			.592
A 6 I have a soft heart			**.608**			.408
A 8 I take time out for others			**.605**			.395
A 7 I am not really interested in others			**.592**			.418
A 9 I feel others' emotions			**.591**			.454
A 1 I feel little concern for others			**.589**			.371
A 2 I am interested in people			**.511**			.414
O 9 I spend time reflecting on things						.240
A 3 I insult people						.217
A 10 I make people feel at ease						.141
O 1 I have a rich vocabulary				**.715**		.547
O 2 I have difficulty understanding abstract...				**.650**		.564
O 3 I have a vivid imagination				**.646**		.512
O 8 I use difficult words				**.635**		.408
O 5 I have excellent ideas				**.587**		.503
O 10 I am full of ideas				**.573**		.421
O 4 I am not interested in abstract ideas				**.568**		.374
O 7 I am quick to understand things				**.522**		.433
O 6 I do not have a good imagination				**.468**		.295
C 5 I get chores done right away					**.732**	.586
C 6 I often forget to put things back in their...					**.678**	.479
C 2 I leave my belongings around					**.651**	.527
C 10 I am exacting in my work					**.642**	.479
C 9 I follow a schedule					**.632**	.462
C 7 I like order					**.624**	.423
C 1 I am always prepared					**.467**	.266
C 3 I pay attention to details					**.456**	.410
C 8 I shirk my duties					**.406**	.255
Eigenvalues	7.334	5.036	3.735	3.618	2.956	Total Variance
% of Variance	14.669	10.072	7.470	7.237	5.912	45.360

Legend: N = Neuroticism; C = Conscientiousness; E = Extraversion; A = Agreeableness; O = Openness to Experience

Table 33
Linear Regression Analysis of the Extraversion and Agreeableness Sub-scales of the International Personality Item Pool, Tolerance Threshold and Experience of Negative Motivational Gravity Resulting in Leaving a Job

Instrument	**MG Threshold Beta**	**Significance**
Extraversion	.174	.280
Agreeableness	-.261	.109
R	.306	
R^2	.094	
Adjusted R^2	.043	

Note: * Correlation is significant at the 0.05 level (1-tailed)

Appendix M: Analysis of the Achievement Motivation Questionnaire

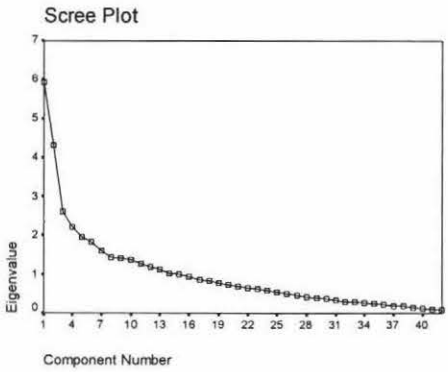

Figure 9. Scree plot for the final 42 items of the Achievement Motivation Questionnaire

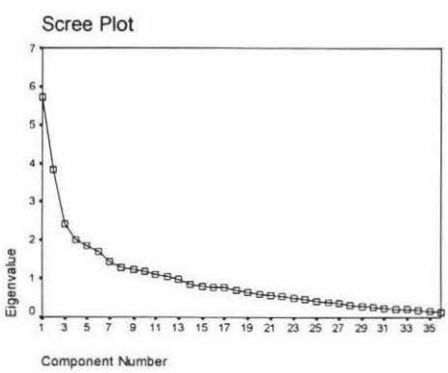

Figure 10. Adjusted scree plot for the 36 items of the Achievement Motivation Questionnaire

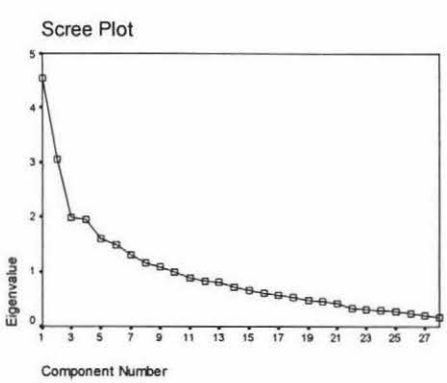

Figure 11. Scree plot for the final 28 items of the Achievement Motivation Questionnaire

Table 34
Rotated Component Matrix Including Initial Eigenvalues, Percentage of Variance, and Communalities, Using Principal Components Analysis, and Varimax Rotation for the 42 Items of the Achievement Motivation Questionnaire

Item number	1	2	3	4	5	6	Com
D 1 I think I would enjoy having...	.698						.570
SA 4 I like to be admired for my...	.679						.492
SA 6 I like to have people come to me...	.613						.433
SA 1 I would like an important job...	.552						.504
SA 2 I like talking to people who are...	.528						.421
A 3 The kind of work I like is the one...	.488						.474
SA 3 I want to be a really important...	.457						.439
SA 5 I dislike being the centre of...	.447	.365					.377
D 4 I enjoy planning things and...	.435	.418					.395
D 6 People take notice of what I say	.409	.390					.503
WE 4 I am basically a lazy person	.342			.310	-.321		.414
D 3 I think I am usually a leader in my...		.677					.522
D 2 If given the chance I would make...		.622					.426
M 4 I prefer to work in situations...		.524					.468
D 7 When a group I belong to plans...		.518					.305
M 2 I would rather learn easy fun...		.505					.394
A 7 The most important thing about...		-.463					.402
D 5 I like to give orders and get things...	.347	.457	.373				.494
C 2 I try harder when I'm in...			.693				.487
C 6 To be a real success I feel I have to...			.687				.554
C 3 I judge my performance on...			.577				.422
C 7 It is important to me to perform...			.533				.428
C 4 If I get a good result, it doesn't...			.460	.347			.434
M 7 I feel like giving up quickly when...		.358	-.392				.338
C 1 I try harder when I am in...			.374				.260
WE 2 I can easily sit for a long time...				.692			.549
WE 6 I easily get bored if I have...				.666			.527
C 5 To be a real success I feel I have to...				-.509			.357
WE 1 Hard work is something I...		.331		.476		.331	.559
SA 7 I find satisfaction in having...	.374		.324	-.450			.528
WE 3 I must admit I often do as little...				.433			.507
WE 7 I like to work hard				.355			.410
WE 5 I often put off until tomorrow...							.258
A 5 I frequently think about what...					.744		.618
A 4 As long as I'm paid for my work...					.629		.401
A 1 If there is an opportunity to earn...					.524		.443
A 6 It is important to me to make lots...			.335		.515		.462
M 1 I would rather do something at...						.686	.590
M 3 If I'm not good at something I...						.567	.339
M 5 I more often attempt tasks that I...						.557	.371
M 6 I like to be busy all the time				.629		.308	.509
A 2 I would be willing to work for a...					.356	-.404	.456
Eigenvalues	5.928	4.316	2.603	2.216	1.955	1.822	Total Var
% of variance	14.155	10.276	6.197	5.277	4.655	4.338	44.857

Legend: D = Dominance; SA = Status Aspiration; A = Acquisitiveness; WE =Work Ethic; M = Mastery; C = Competitiveness; Com = Communality; Var = variance

Table 35
Linear Regression Analysis of the Status Aspiration, Dominance, Mastery, and acquisitiveness Sub-scales of the Achievment Motivation Questionnaire and Tolerance Threshold for Negative Motivational Gravity

Instrument	**MG Threshold Beta**	**Significance**
Status Aspiration	.217	.083
Dominance	.075	.520
Mastery	.126	.231
Acquisitiveness	-.034	.763
R	.294	
R^2	.087	
Adjusted R^2	.044	

Note: * Correlation is significant at the 0.05 level (1-tailed)

Table 36
Linear Regression Analysis of the Status Aspiration, Dominance, Mastery, and Acquisitiveness Sub-scales of the Achievment Motivation Questionnaire, Tolerance Threshold and Experience of Negative Motivational Gravity Resulting in Leaving a Job

Instrument	**MG Threshold Beta**	**Significance**
Status Aspiration	.350	.090
Dominance	.074	.686
Mastery	.019	.917
Acquisitiveness	-.024	.899
R	.381	
R^2	.145	
Adjusted R^2	.039	

Note: * Correlation is significant at the 0.05 level (1-tailed)

Table 37
Linear Regression Analysis of the Status Aspiration, Dominance, Mastery, and acquisitiveness Sub-scales of the Achievment Motivation Questionnaire, Tolerance Threshold and No experience of Negative Motivational Gravity Resulting in Leaving a Job

Instrument	**MG Threshold Beta**	**Significance**
Status Aspiration	.148	.401
Dominance	.114	.489
Mastery	.113	.437
Acquisitiveness	-.067	.670
R	.248	
R^2	.062	
Adjusted R^2	-.020	

Note: * Correlation is significant at the 0.05 level (1-tailed)

Appendix N: Analysis of the Balanced Inventory of Desirable Responding

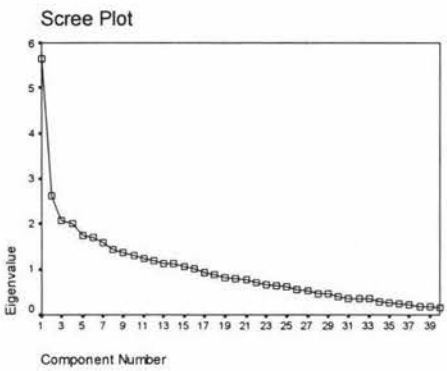

Figure 12. Scree plot for the 40 items of the Balanced Inventory of Desirable Responding Scale

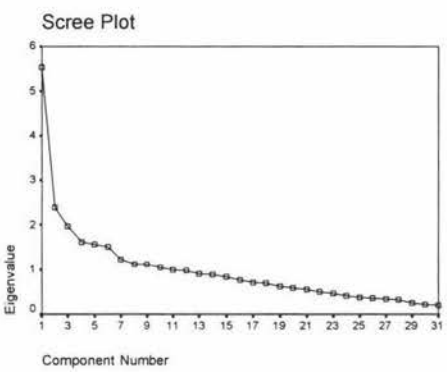

Figure 13. Adjusted scree plot for the 31 items of the Balanced Inventory of Desirable Responding Scale

Table 38

Rotated Component Matrix Including Initial Eigenvalues, Percentage of Variance, and Communalities, Using Principal Components Analysis, and Varimax Rotation for the 40 Items of the Balanced Inventory of Desirable Responding Scale

Item number	1	2	Communality
S-d 1 My first impressions			.329
S-d 2 It would be hard for me to break any of my ...			.113
S-d 3 I don't care to know what other people...			.306
S-d 4 I have not always been honest with myself	.445	.392	.229
S-d 5 I always know why I like things		.380	.156
S-d 6 When my emotions are aroused it biases my...		.459	.302
S-d 7 Once I've made up my mind, other people...			.195
S-d 8 I am not a safe driver when I exceed the speed...			.210
S-d 9 I am fully in control of my own fate		.459	.359
S-d 10 Its hard for me shut off a disturbing thought		.565	.285
S-d 11 I never regret my decisions		.557	.261
S-d 12 I sometimes lose out on things because I...		.394	.327
S-d 13 The reason I vote is because my vote can...			.304
S-d 14 My parents were not always fair when they...			.108
S-d 15 I am a completely rational person		.499	.337
S-d 16 I rarely appreciate criticism			.179
S-d 17 I am very confident of my judgements		.470	.316
S-d 18 I have sometimes doubted my ability as a...		.510	.137
S-d 19 It's alright with me if some people happen to...			.155
S-d 20 I don't always know the reasons why I do...		.370	.201
IM 1 I sometimes tell lies if I have to	.510		.080
IM 2 I never cover up my mistakes...			.060
IM 3 There have been occasions when I have...	.548		.104
IM 4 I never swear	.417		.351
IM 5 I sometimes try to get even rather than...	.335		.171
IM 6 I always obey laws, even if I'm unlikely to	.546		.292
IM 7 I have said something bad about a friend...	.436		.001
IM 8 When I hear people talking privately, I avoid	.427		.111
IM 9 I have received too much change from a sales	.598		.211
IM 10 I always declare everything at customs	.531		.339
IM 11 When I was young I sometimes stole things	.491		.336
IM 12 I have never dropped litter on the street	.524		.165
IM 13 I sometimes drive faster than the speed limit	.548		.050
IM 14 I never read sexy books or magazines			.167
IM 15 I have done things that I don't tell other...	.461	.353	.250
IM 16 I never take things that don't belong to me	.369		.010
IM 17 I have taken sick-leave from work even...	.551		.231
IM 18 I have never damaged a library book or store	.365		.266
IM 19 I often feel blue	.350		.044
IM 20 I don't gossip about other people's business	.409		.213
Eigenvalues	5.657	2.614	Total variance
% of variance	14.143	6.535	20.678

Legend: S-d = Self-deception; IM = Impression Management

Table 39
Items for the Self-deception Sub-scale that Failed to Meet Statistical Significance ($p < .01$)

Item number	Item number
1 My first impressions	12 I sometimes lose out on things because...
2 It would be hard for me to break any of...	13 The reason I vote is because my vote...
3 I don't care to know what other people...	16 I rarely appreciate criticism
7 Once I've made up my mind, other...	19 It's alright with me if some people...
8 I am not a safe driver when I exceed the...	

Table 40
Rotated Component Matrix Including Initial Eigenvalues, Percentage of Variance and Communalities, Using Principal Components Analysis, and Varimax Rotation for the 31 Items of the Balanced Inventory of Desirable Responding Scale

Item number	1	2	Communality
IM 9 I have received too much change from...	.584		.350
IM 6 I always obey laws, even if I'm unlikely...	.545		.311
IM 13 I sometimes drive faster than the speed...	.544		.296
IM 12 I have never dropped litter on the street	.543		.326
IM 17 I have taken sick-leave from work even...	.534		.327
IM 11 When I was young I sometimes stole...	.533		.299
IM 3 There have been occasions when I have...	.533		.315
IM 10 I always declare everything at customs	.517		.290
IM 1 I sometimes tell lies if I have to	.455	.371	.344
IM 8 When I hear people talking privately, I...	.454		.233
IM 7 I have said something bad about a friend...	.429		.198
IM 16 I never take things that don't belong to...	.420		.222
IM 18 I have never damaged a library book or...	.415		.179
IM 20 I don't gossip about other people's...	.388		.201
IM 4 I never swear	.388	.301	.241
IM 19 I often feel blue	.369		.178
IM 5 I sometimes try to get even rather than...	.346		.185
S-d 11 I never regret my decisions		.613	.384
S-d 10 Its hard for me shut off a disturbing...		.561	.322
S-d 18 I have sometimes doubted my ability...		.509	.268
S-d 15 I am a completely rational person		.494	.252
S-d 9 I am fully in control of my own fate		.468	.221
S-d 6 When my emotions are aroused it biases...		.462	.265
IM 15 I have done things that I don't tell other...	.379	.446	.342
S-d 7 Once I've made up my mind, other...		.442	.220
S-d 4 I have not always been honest with myself	.407	.424	.345
S-d 20 I don't always know the reasons why...		.395	.220
S-d 5 I always know why I like things		.387	.161
S-d 14 My parents were not always fair when...		.361	.190
IM 2 I never cover up my mistakes...			.116
IM 14 I never read sexy books or ...			.124
Eigenvalues	5.539	2.388	Total variance
% of variance	17.867	7.703	25.570

Legend: IM = Impression Management; S-d = Self-deception

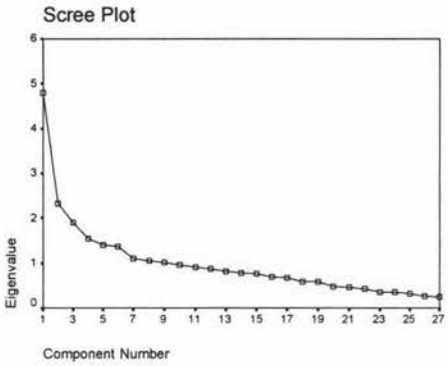

Figure 14. Scree plot for the final 27 items of the self-deception and impression management sub-scales of the Balanced Inventory of Desirable Responding Scale

Appendix O: Analysis of the Scenario Scales

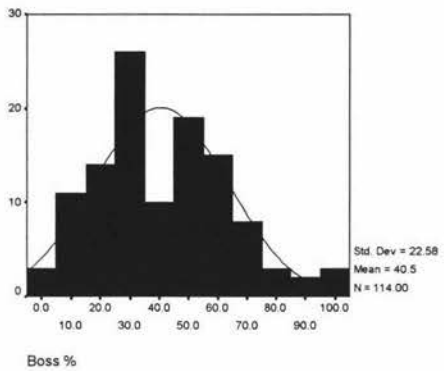

Figure 15. Histogram showing the distribution of tolerance threshold for negative motivational gravity emanating from bosses

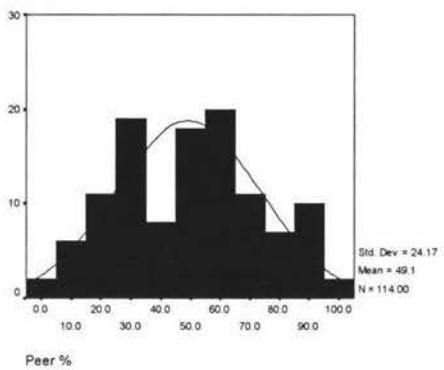

Figure 16. Histogram showing the distribution of tolerance threshold for negative motivational gravity emanating from peers

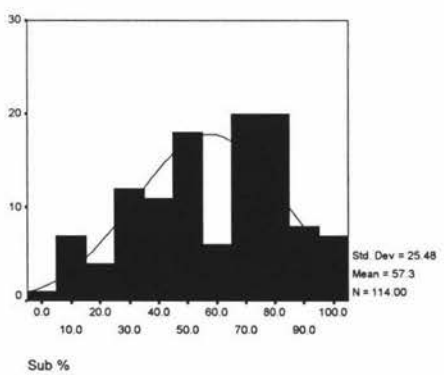

Figure 17. Histogram showing the distribution of tolerance threshold for negative motivational gravity emanating from subordinates

Table 41

Paired Samples *T* Test for Tolerance Threshold for Negative Motivational Gravity Emanating from Bosses, Peers, and Subordinates

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	Boss % - Peer %	-8.64	21.444	2.008	-12.62	-4.66	-4.302	113	.000
Pair 2	Peer % - Sub %	-8.20	24.141	2.261	-12.68	-3.72	-3.627	113	.000
Pair 3	Boss % - Sub %	-16.84	24.668	2.310	-21.42	-12.26	-7.290	113	.000

Appendix P: Analysis of the Qualitative Data

Table 42
Frequency of the Eleven Common Responses Relating to the Selection of the Tolerance Threshold for Negative Motivational Gravity for the Bosses Scenario

Theme for Bosses (n = 106)	**Frequency**	**% of total**
Bosses need to be supportive	24	22.6
Balance – 50% against me, but 50% for me	16	15.1
Ratio – Some against me, some for me	15	14.2
Will not tolerate that behaviour	12	11.3
Situation personally troubling	10	9.4
Try to resolve	8	7.5
Career blocking	7	6.6
Hard to tackle or influence a boss	4	3.8
Ignore the behaviour	4	3.8
Miscellaneous	4	3.8
Situation personally troubling	2	1.9

Table 43
Frequency of the Eleven Common Responses Relating to the Selection of the Tolerance Threshold for Negative Motivational Gravity for the Peers Scenario

Theme for Peers (n = 104)	**Frequency**	**% of total**
Ignore the discouraging behaviour	19	18.3
Ratio – Some against me, some for me	14	13.5
Try to resolve the situation	13	12.5
Will not tolerate that behaviour	12	12.5
Could not put up with that behaviour	12	11.5
Need positive work environment	12	11.5
Balance – 50% against me, but 50% for me	9	7.7
Need support from boss	6	5.8
Miscellaneous	3	2.9
Control discouraging behaviour	2	1.9
Self-blame	2	1.9

Table 44
Frequency of the Eleven Common Responses Relating to the Selection of the Tolerance Threshold for Negative Motivational Gravity for the Bosses Scenario

Theme for Subordinates (n = 104)	**Frequency**	**% of total**
Control discouraging behaviour	20	19.2
Try to resolve the situation	19	18.3
Ignore the discouraging behaviour	15	14.4
Ratio – Some against me, some for me	11	10.6
Balance – 50% against me, but 50% for me.	7	6.7
Need support from boss	7	6.7
Self-blame – It is my fault this is happening	7	6.7
Could not put up with that behaviour from a subordinate	6	5.8
I need a positive environment to work in	4	3.8
I would not take that type of behaviour from a subordinate	4	3.8
Miscellaneous	4	3.8