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Testing a need satisfaction approach to organizational citizenship behaviours and counterproductive work behaviours

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Testing a Need Satisfaction Approach to Organizational Citizenship Behaviours and

Counterproductive Work Behaviours

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ABSTRACT

Although need theories traditionally were considered as a very important part of psychology, they soon lost their appeal due to the lack of enough empirical support. More recently however, newer need theories have been proposed by scholars that have gained a fair amount of empirical support in various domains. Despite their popularity in different domains, more research is needed to establish the validity of such theories in the organizational field. The purpose of this study therefore was to test the utility and strength of need theories in predicting two major organizational outcomes, Organizational Citizenship Behaviours (OCB) and Counterproductive Work Behaviours (CWB), and to investigate the possible mechanisms through which satisfaction of psychological needs in the workplace might lead to those outcomes. In so doing, Self-Determination Theory (SDT) and the SCARF model were used as the need theories in this study. The sample was consisted of 294 participants who were recruited from Amazon Mechanical Turk, which is an online crowdsourcing platform for recruiting research participants. Hierarchical Multiple Regression Analyses showed that SDT was the more parsimonious need theory in predicting both OCB and CWB. Additionally, the role of employees' Emotional States and Workgroup Identification (WID) were tested as two mediating variables involved in the relationship between need satisfaction and outcomes. Results of a Parallel Mediation Analysis showed that Positive and Negative Emotional States mediated the relationship of need satisfaction to OCB and CWB respectively. However, contrary to the hypothesis, WID did not mediate this relationship. Results of this study provide further support for the validity and strength of SDT as a leading contemporary need theory in the workplace, and give researchers a deeper insight into the possible

mechanisms involved in the relationship between need satisfaction and work

outcomes. Implications are discussed and directions for future research are suggested.

DEDICATION

To my parents,

who introduced me to the fascinating world of psychology.

To my siblings,

who inspired me to start this journey and continue it with passion.

To Dr.Catherine T. Kwantes,

who made this journey an exceptionally delightful and rewarding experience.

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CHAPTER I

INTRODUCTION

Humans' psychological needs have been the cornerstone of psychology and specifically motivation theories for a long time as they are believed to drive much of human behaviours (Alderfer, 1972; Maslow, 1970; McClelland, Atkinson, Clark, & Lowell, 1953; Murray, 1938; White, 1959). Motivation theories that were based on need satisfaction once dominated the field of industrial and organizational psychology. However, need theories over time have generally fallen out of the field of organizational science. Currently, such need theories are considered more for their historical value than for their theoretical or practical implications. The major reason for this extinction is that need theories have not fared well in empirical studies (e.g., Betz, 1984; Neher, 1991; Rauschenberger, Schmitt, & Hunter, 1980; Wahba & Bridwell, 1976). Recently however, there have been newer psychological need theories proposed by scholars that in general have gained more empirical support (Bandura, 1996; Baumeister & Leary, 1995; Deci & Ryan, 1985, 2000). These contemporary need theories have sparked new interest and started a new wave in the investigation of human needs by proving promising results mainly in domains such as education, health, sports, and relationships (e.g., Bartholomew, Ntoumanis, Cuevas, & Lonsdale, 2014; Kanat-Maymon, Benjamin, Stavsky, Shoshani, & Roth, 2015; Grolnick, 2015; Russell & Bray, 2010; Sweet, Fortier, Strachan, Blanchard, & Boulay, 2014). Although there also have been sporadic studies of needs in the workplace (e.g., Mueller & Lovell, 2015; Vansteenkiste et al, 2007), the utility of a need framework in explaining important workplace outcomes has not been investigated extensively and comprehensively yet compared to other domains. It is yet to be established how useful need theories are in providing explanation for

organizational phenomena, what the most important and relevant needs are for the workplace, and how their satisfaction in the workplace might lead to different organizational outcomes.

There are different contemporary need theories that could potentially be applied in the workplace. Two of the most applicable ones in terms of the established validity in other domains and relevance to the workplace are Self-Determination Theory (SDT) and the SCARF model. SDT by far is the most widely validated need theory in a variety of domains (e.g., Bartholomew et al, 2014; Britton, Patrick, Wenzel, & Williams, 2011; Costa, Ntoumanis, & Bartholomew, 2015; Di Domenico, Fournier, Ayaz, & Ruocco, 2013; Lavergne, Sharp, Pelletier, & Holtby, 2010) and posits that the most important human psychological needs are Autonomy, Competence, and Relatedness (Deci & Ryan, 2000). According to SDT, individuals have an *innate* tendency to be pro-social and to engage in positive and productive behaviours, and satisfaction of their basic psychological needs provides the necessary energy for that. On the other hand, lack of proper fulfillment of these needs hinder this process and leads to an array of negative outcomes (Deci & Ryan, 2000; Ryan & Deci, 2000).

Interestingly enough, the needs mentioned in SDT correspond to various factors mentioned in the literature as antecedents of positive organizational outcomes. For example SDT's Relatedness corresponds to the quality of relationship between coworkers, supervisors and subordinates - all of which have been shown to be important factors in relation to positive work outcomes such as work effort, satisfaction, commitment, and prosocial behaviours (e.g., Bligh, Kohles, Pearce, Justin, & Stovall, 2007; Bono, Foldes, Vinson, & Muros, 2007; Gilbreath, 2004; Miner, Glomb, & Hulin, 2005; Mathieu, Fabi, Lacoursière, Raymond, 2016). Additionally, organizational constraints which has been shown to be an important

factor affecting employees' behaviour corresponds to the need for Autonomy (e.g., Britt, Mckibben, Greene-Shortridge, Odle-Dusseau, & Herleman, 2012; Hershcovis et al, 2007). The need for Competence overlaps with self-efficacy (Bandura, 1996), which has been shown to be an important antecedents of different positive organizational outcomes work engagement, work stress, and job satisfaction (e.g., Carlson, 2009; Tudor, 1997). Therefore, it appears that investigating SDT's usefulness in the workplace as a need theory is a promising research direction.

Although SDT argues that these three needs are the most important and influential basic needs of all human beings and are major motivating sources for most human behaviours, there are other organizational factors in the literature of industrial and organizational psychology as antecedents of work outcomes that are not specifically addressed in SDT. For example, perceived justice or clear role expectations are among the factors that are not exactly discussed and investigated within SDT's framework. Therefore, it is worth examining other need theories that are more comprehensive than SDT and capture a wider range of organizational antecedents of employee behaviours to see if they provide increased utility for understanding workplace behaviour.

The SCARF model (Rock, 2008) is a fairly new neuroscientific need-based framework that could serve this purpose as, in addition to the needs mentioned in SDT, it incorporates other basic needs that pertain to a broader range of organizational antecedents of work behaviours. Specifically, the SCARF model argues that in addition to the SDT's proposed basic needs, the needs for Status, Certainty, and Fairness are also equally important as they are strongly associated with work outcomes. According to the SCARF model, satisfaction of these psychological needs (Status, Certainty, Autonomy, Relatedness, and Fairness) results in the activation of

individuals' brain's *reward system*. Once in the reward state, individuals will experience higher engagement, higher alertness and higher levels of energy, all of which could arguably lead to more positive outcomes and fewer negative outcomes. On the other hand, dissatisfaction of these needs puts individuals in the *threat state* which will be associated with an array of negative and non-optimal behaviours and emotions such as higher levels of fear and anxiety and lower levels of task engagement (e.g., Rock, 2012).

Although SDT is a more widely recognized need theory, given the more comprehensiveness of the SCARF model and especially the importance of incorporating neurobiological based theories in the explanation of human behaviours as argued by many scholars (e.g., Ryan, Kuhl, Deci, 1997), in this research the SCARF model will be compared with SDT to explore if adding it to the SDT model would increase the power of the model in predicting employee' outcomes.

Thus far, need satisfaction in the workplace has been studied in relation to outcomes such as task performance, job satisfaction, job stress, and psychological well-being among others (e.g., Bandura & Locke, 2003; Chen, Spector, & Jex, 1995; Ilardi, Leone, Kasser, and Ryan,1993). Despite one of the major tenets of need theories, specifically SDT, that need satisfaction essentially motivates individuals to act more prosocially and be more concerned for the welfare of others and themselves (Deci & Ryan, 1985; Grant, 2008), few studies have investigated needs specifically in relation to prosocial and positive discretionary behaviours (i.e., citizenship behaviours) in the workplace. The only studies in this regard have been mostly on the relationship between need satisfaction and narrower instances of citizenship behaviours such as volunteerism (e.g., Haivas, Hofmans, & Pepermans, 2013). SDT not only asserts that need satisfaction leads to more prosocial and productive

behaviours, but also emphasizes that lack of proper satisfaction of psychological needs leads to more self-oriented and non-optimal behaviours (Gagne, 2003; Ryan & Deci, 2000). There are even fewer empirical studies, however, that have examined the relationship between need satisfaction and negative discretionary behaviours in the workplace (Moller & Deci, 2009).

Given the predictions of need theories regarding the relationship between need satisfaction and positive and negative behaviours, and the preliminary support for this relationship in the workplace, it is expected that need satisfaction will be related to more general constructs pertaining to positive and negative discretionary behaviours as well. The current research, therefore, aims to expand the on the extant literature by examining the utility of need theories in predicting Organizational Citizenship Behaviour (OCB) as a comprehensive construct pertaining to the overall positive discretionary behaviours of employees, and Counterproductive Work Behaviours (CWB) as a comprehensive construct pertaining to the overall negative discretionary behaviours in the workplace. Investigating these two constructs simultaneously lets researchers compare how psychological needs might be related to OCB and CWB differently and delve deeper into the nature of psychological needs and their relationship with OCB and CWB.

Although previous research on need theories has given scholars some insight about the usefulness of need theories in predicting outcomes in different domains, it comes short of providing an explanation of the motivational mechanisms involved. Any found association between need satisfaction and outcomes does not necessarily explain *why* those needs relate to those outcomes. Understanding mediating variables is important (Rucker, Preacher, Tormala & Petty, 2011) as they give researchers a more accurate understanding of the nature of the constructs and mechanisms involved,

which further could help them design and implement more efficient interventions. With respect to OCB and CWB as outcomes, some scholars have provided probable explanations about why certain organizational factors (e.g., organizational justice) lead to OCB/CWB (e.g., Cropanzano et al., 2001; Cropanzano & Mitchell, 2005). These explanations, however, have been predominantly from the social exchange theory perspective (Blau, 1964). According to this theory, employees' negative or positive behaviours mainly reflect their deliberate striving to reciprocate or retaliate what they feel they get from their organization. Based on this approach, one would argue that if need satisfaction in the workplace relates to positive or negative behaviours, it is because individuals want to reciprocate the level of their needs satisfaction in the workplace towards their organization or supervisors. One of the main assumptions of this theory is that individuals decide to engage in certain activities only if they believe that the result of their actions is more beneficial for them than costly. In other words, self-interest is the main motive of employees to engage in their activities in the workplace.

Despite its popularity and its role in guiding research, some scholars have questioned the reliance on social exchange or other self-interest based theories as the dominant explanatory approach in organizational science (Bolino, Turnley, & Niehoff, 2004; Rioux & Penner, 2000; Snape & Redman, 2010; Zellars & Tepper, 2003). Some have even argued that explanatory models that rely on reciprocity principles or assumptions of the social exchange theory are largely flawed and are not proper models to explain behaviours in the workplace (e.g., Haslam, 2005), as other sub-conscious motives and forces beyond people's control and awareness also could contribute to individuals' positive and negative behaviours in the workplace.

Therefore, investigating other approaches to OCB/CWB that do not rely on these assumptions is warranted.

Given that both SDT and SCARF indicate that satisfaction of psychological needs put individuals in a positive emotional state indicated by higher levels of vitality, energy, alertness, and joy among others (Deci & Ryan, 1985; Rock & cox, 2012), and empirical evidence on the relationship between emotional states and different outcomes (e.g., Gagne & Deci, 2005; Grant & Shin, 2011), it may be that this positive emotional state is a mechanism through which satisfaction of psychological needs leads to positive outcomes. Additionally, given the relationship between need dissatisfaction and a negative emotional state (e.g., fear, anxiety) and contribution of such negative emotions to negative work behaviours (e.g., Lisa & Spector, 2005), a negative emotional state could be a mechanism through which lack of psychological need satisfaction leads to negative behaviours in the workplace.

In addition to emotional states, individuals' level of identification with their workgroup could be another major mechanism involved in the relationship between need satisfaction and outcomes. Workgroup Identification (WID) is a specific form of identification with social groups (i.e., social identification) which refers to the strength of individuals' feeling of oneness and belonging to their workgroup (Ashforth & Mael, 1989) and previous research has evidenced its relationship with OCB/CWB (Abrams, Ando, & Hinkle, 1998; Mael & Ashforth, 1992). Research also suggests that when individuals' basic psychological needs are satisfied in the workplace they are more likely to become psychologically attached to and identify with it (e.g., Gillet, Colombat, Michinov, Pronost & Fouquereau, 2013). Consequently, the role of both Emotional States and WID as mediating variables between need satisfaction and OCB/CWB is investigated in this study.

The current study provides empirical support for the applicability of need theories in the workplace, differential importance of each need in relation to OCB and CWB, and possible mechanisms through which need satisfaction might affect individuals' willingness to engage in OCB and CWB. Given that this area of research is still growing, results of this study provide a wide range of directions for future research for interested researchers.

CHAPTER II

REVIEW OF THE LITERATURE

Organizational Citizenship Behaviours (OCB)

Definition and importance. Organizational Citizenship Behaviours (OCB) have been defined as "individual behaviour that is discretionary, not directly or explicitly recognized by the formal reward system, and that in the aggregate promotes the effective functioning of the organization" (Organ, 1988, p.4). OCB was introduced due to lack of attention paid to a very important part of the job performance domain in organizational research and practice (Motowidlo, 2000). More specifically, practitioners and researchers conventionally focused on actual job tasks and activities performed by workers and less attention was paid to activities that could enhance the context and the environment that employees worked in. The first type of performance is referred to as *task performance* whereas the second type is referred to as *contextual performance, organizational citizenship behaviours, or pro-social work behaviours* among others (Borman & Motowidlo, 1993).

OCB has significant consequences for organizations (Podsakoff, Ahearne, & MacKenzie 1997; Walz & Niehoff, 1996; Podsakoff & MacKenzie, 1994). Scholars have argued that OCB could contribute to organizational effectiveness by facilitating work activities in workgroups, and by causing the organization to adapt to the changes in its environment more rapidly (e.g., Podsakoff et al., 1997; Allen & Rush, 1998). A related line of research (e.g., Podsakoff et al., 1997; MacKenzie, Podsakoff, & Ahearne, 1996) argued that OCB could contribute positively to the effectiveness of organizations by keeping all workgroups in the organization highly cohesive and by enhancing social capital in the organization.

Several other studies have demonstrated significant relationships between OCB and the organization's profitability, efficacy and work quality (MacKenzie et al., 1998; Podsakoff et al., 1997; Podsakoff & MacKenzie, 1997). Walz and Niehoff (1996) for example showed that OCB was related to customer service quality. In another study George and Bettenhausen (1990) showed that OCB was positively related to the number of store sales. It has also been found that OCB is positively associated with organizational efficiency and flexibility, perhaps due to higher coordination and lower maintenance needs that can result from higher degrees of OCB (Podsakoff & MacKenzie,1997).

Dimensions and related constructs. OCB sometimes is interchangeably used with Contextual Performance (CP) Borman and Motowidlo (1993, p.73) defined Contextual Performance as ''behaviours that support the broader organizational, social, and psychological environment in which the technical core must function.'' According to Motowidlo (2000), although OCB and CP are conceptually very similar, there were initially some important differences in their definitions. Specifically, unlike Organ's (1988) definition that suggested that OCB must be non-rewarded and discretionary (not prescribed by job description), CP does not need to be discretionary. Some years after his original definition of OCB, Organ (1997) noted some issues related to the conceptualization of OCB. Specifically, he argued that what is discretionary could be different for different individuals and in different situations. Consequently, he redefined OCB as behaviours that contribute "to the maintenance and enhancement of the social and psychological context that supports task performance" (Organ, 1997, p. 91). This new definition of OCB made it virtually no different from what Borman and Motowidlo (1993) labelled as CP, and as a result these two terms have been used interchangeably since then in the academic literature

(Motowidlo, 2000). In the current study, given that the term OCB is more prevalent than CP, OCB will be used to refer to all positive behaviours that pertain to the conceptualization of OCB, including CP related behaviours and other pro-social work behaviours.

Some scholars have considered different dimensions for OCB and CP. For example, originally OCB included two dimensions namely altruism and general compliance (Smith, Organ, & Near, 1983). Altruism, refers to "behaviors that directly and intentionally aimed at helping a specific person in face to face situations" (Smith, et al., 1983, p. 657). General compliance, which was later renamed by Organ (1988) as conscientiousness, is considered more impersonal than altruism as it is targeted at the whole organization or the workgroup rather than other individuals. Conscientiousness is about compliance with organizational norms such as being on time, and not wasting organizational resources (Smith, et al., 1983). Later, Organ (1988) added three dimensions to conscientiousness and general compliance. Those were civic virtue, courtesy, and sportsmanship. Civic virtue refers to being engaged in constructive in organizational matters in a constructive way. Examples include expressing opinions about different organizational issues, attending meetings, and keeping up to date on organizational matters. Courtesy refers to the behaviours that help prevent various interpersonal conflicts. Examples include consulting others before taking any action if that action might affect them in any way, giving them prior notice in case their time or help is needed, and not engaging in actions that might make others' work harder (Organ, 1990). Sportsmanship refers to "a person's desire not to complain when experiencing the inevitable inconveniences and abuse generated in exercising a professional activity" (Organ, 1990, p. 96). It involves being tolerant of difficulties in the workplace and not complaining about trivial matters.

Van Dyne, Graham, and Dienesch (1994) suggested that OCB is a global concept that consists of all positive behaviours done by individuals that could affect organizational performance. They proposed three dimensions, namely obedience, loyalty, and participation. Organizational obedience was conceptually very similar to general compliance (Organ, 1988), as it was defined as complying with organizational rules and regulations. Organizational loyalty was described as "identification with and allegiance to organizational leaders and the organization as a whole, transcending the parochial interests of individuals, work groups and departments (Graham, 1991). Organizational participation was defined as engaging in such behaviours as attending all meeting even if they are not required, and sharing information with coworkers. Organizational participation therefore could be seen as analogous to the concept of civic virtue (Organ, 1988).

Moorman and Blakely (1995) proposed four dimensions for OCB namely loyal boosterism, interpersonal helping, individual initiative, and personal industry. Loyal boosterism refers to employees' desire and actions to promote their organization to others. Interpersonal helping is about engaging in altruistic behaviours such as helping others when they need help with their job tasks. Individual initiative refers to employees' efforts to improve their own performance as well as their group performance. Personal industry refers to behaviours that go beyond minimal expectations.

Rather than dimensions based on types of behaviours, Williams and Anderson (1991) proposed dimensions based on the target of behaviours. They suggested that OCB could be categorized into behaviours that are directed to other individuals and behaviours that are directed to the organization. They called the first group of behaviours Interpersonal OCB (OCB-I) and the latter Organizational OCB (OCB-O).

Example behaviours falling under the category of OCB-I are altruism and in general helping behaviours. Examples of OCB-O are conscientiousness and civic virtue as they are targeted at the organization as a whole rather than specific individuals in the workplace.

Different dimensions have also been proposed for CP. Motowidlo and Van Scotter (1994) proposed two dimensions for CP namely interpersonal facilitation and job dedication. Interpersonal facilitation is related to having healthy relationships with other workers and helping them in various ways. Job dedication is essentially the motivational facet of CP and relates to persisting in the face of adversity or even asking for additional work.

More specifically, interpersonal facilitation other than helping behaviours or, in other words, *altruism* in the workplace (Smith et al., 1983), also refers to volitional behaviours that enhance morale, facilitate cooperation between coworkers, and help other workers perform their job activities (Motowidlo & Van Scotter, 1994).Therefore, interpersonal facilitation includes various interpersonal behaviours that could indirectly contribute to organizational effectiveness and performance.

Job dedication, on the other hand, includes behaviours such as following rules and regulations, working hard, and striving to solve problems in the workplace (Motowidlo & Van Scotter, 1994). Job dedication therefore could be seen as the force behind job performance.

OCB and CP have been treated as identical constructs in the literature. The Motowidlo and Van Scotter' (1994) model however, although proposed within the CP framework, might be most appropriate to measure OCB. As a matter of fact, there may be some issues about how OCB has been measured in the literature as the scales

used to measure OCB are not exactly in accordance with the conceptualization of OCB and behaviours that promote the effective functioning of the organization. For instance, it is not exactly clear how Loyal Boosterism, a dimension of an OCB scale developed by Moorman and Blakely (1995), that involves promoting the organization to others, would help the effective functioning of workgroups in the organization. Moreover, in contrast to the proposition of OCB as a construct that includes different separate dimensions (e.g., civic virtue, sportsmanship, etc.), many scholars have noted that OCB is an aggregate construct and there is no value in measuring its different dimensions separately and as a result, many researchers have aggregated the scores of different facets of OCB and treated it as a unidimensional (e.g., Chen, Hui, & Sego, 1998; Allen & Rush, 1998; Netemeyer, Boles, McKee, & McMurrian, 1997). The reasoning behind this aggregation is that behavioural dimensions of OCB are highly correlated and aggregating the scores would probably make the best sense in terms of the principle of parsimony.

The model proposed by Van Scotter and Motowidlo (1996) however, could be seen as an aggregate construct (Motowidlo, 2000). Similar to job performance that Motowidlo, Borman, and Schmit (1997) defined as the aggregated value to the organization of the behavioural episodes performed by individuals over time that have positive or negative consequences for the organization, this model defines CP/OCB as the aggregated value to the organization of all the behavioural episodes that have effects on the social, organizational, and psychological context of the organization's technical core (Motowidlo, Borman, & Schmit, 1997). Hence, this conceptualization is more congruent with how researchers have been treating such positive organizational behaviours (i.e., OCB, CP, etc.) in their research.

Counterproductive Work Behaviours (CWB)

   Definition and importance. It has long been established that organizational

effectiveness is, at least in part, the result of employees' willingness to go beyond

their job prescriptions, or in other words, their citizenship behaviours or contextual

performance (Katz, 1964). However, it could also be argued that high performance is

not only about going the extra mile on tasks and taking additional responsibilities, but

also entails not engaging in counterproductive work behaviours. Accordingly, to

identify true citizens of an organization both contextual performance indicators and

counterproductive behaviours should be taken into account together.

   Although negatively related to OCB, CWB is a separate construct and it is possible

that a person with a high degree of OCB may also engage in some CWB (Spector,

Bauer, & Fox, 2010). In fact, Sackett, Berry, Wiemann, and Laczo (2006) conducted a

confirmatory factor analysis on nine hundred participants and showed that a two-

factor model consisting of OCB and CWB fit the data significantly better than a single

factor model. These authors also showed that the Big Five personality traits (Cosat &

McCrae, 1992) related to OCB and CWB differently.With an exception for Openness

to Experience, all other Big Five personality traits were significantly and positively

correlated with OCB and negatively correlated with CWB. Openness to Experience

was not significantly related to CWB although it was significantly and positively

related to OCB. Statistically significant differences were found between each of the

Big Five personality traits' correlations with OCB versus CWB. The finding that

OCB and CWB relate to personality traits differently could indicate that they are not

two ends of a single dimension. In a similar vein, Dalal (2005) conducted a meta-

analysis and showed that although OCB and CWB were related, the correlation

between them was too low to warrant considering them as one single construct.

Counterproductive Work Behaviours (CWB) have received much attention in the field of human resource management and industrial/organizational psychology (Bowling & Eschleman, 2010). These behaviors are defined as voluntary acts which violate organizational norms and have a negative impact on the well-being of employees and organizations (Robinson & Bennett, 1995). CWB includes acts in the workplace such as harassment, theft, drug and alcohol use, withdrawal behaviors and tardiness (e.g., Bennett & Robinson, 2000). Preventing these deviant behaviours is critical because of the negative impact they have on organizations. In fact, costs associated with CWB are estimated in the billions of dollars annually (Bennett & Robinson, 2000). According to Hollinger and Davis (2002), employee theft in the US alone costs retail stores around $40 million a day. Other research shows that almost half of fast food restaurants' employees admit to stealing cash (Wimbush & Dalton, 1997). Jones, Slora, and Boye, (1990) reported that employees in supermarkets steal over a thousand dollars' worth of property or cash every year on average. Harris and Ogbonna's (2002) interviews' results showed that 85% of employees in the hospitality industry engage in some sort of sabotage against their employers or clients every week. Regarding workplace harassment, more that 20% of managers indicated that they had multiple cases of physical violence in their workplace during past three years (Romano, 1994). Also, one in five female workers report being victim of some sort of unwanted sexual attention from their supervisors in academic settings (O'Connell & Korabik, 2000).

CWB has been shown to affect the performance of organizations and work units as well as individuals. For example, Dunlop and Lee (2004) showed that there was a significant negative relation between CWB and team performance as rated by supervisors in fast food restaurants. In a similar vein, Detert, Trevino, Burris, &

Andiappan, (2007) showed that CWB was negatively related to restaurant performance even after turnover and training were controlled for.

As shown, while OCB helps the organization to become more productive and reach its goals more rapidly and efficiently, CWB hinders productivity and organizational performance (Motowidlo, 2003). Therefore, for an employee to contribute to a positive work environment, it is not only important to go the extra mile, putting extra effort into the job, and helping, but also it is essential to avoid counterproductive behaviours in the workplace.

For a behaviour to be considered counterproductive a few conditions must be met. First, behaviours are called counterproductive if they are done intentionally (Gruys & Sackett, 2003; Marcus & Schuler, 2004). As a matter of fact, people may inadvertently engage in some behaviours that might have some negative consequences for other employees or the organization but such behaviours will not fall under the category of counterproductive behaviours as they have not been done intentionally. Further, even if counterproductive behaviours do not lead to any harm, they will still be considered counterproductive as they are potentially harmful (Marcus & Schuler, 2004). For example, an employee may consume drugs at work but may not be affected with it strongly while working on his or her tasks that day. In that case, drug consumption still should be considered as a counterproductive behaviour. Moreover, it is noteworthy to add that counterproductive behaviours could be targeted at other individuals in the workplace, such as acting rudely towards them, as well as to the organization, such as wasting organizational resources (Bennett & Robinson, 2000).

Dimensions. There have been controversies regarding the underlying factors of CWB. Some scholars have argued that CWB is a single general factor (e.g., Sackett,

2002). However, other scholars have considered several facets for CWB (e.g., Bennett & Robinson, 2000; Gruys & Sackett, 2003). For example, Hollinger and Clark (1982) proposed two facets for CWB namely, property deviance and production deviance. They defined property deviance as "instances where employees acquire or damage the tangible property or assets of the work organization without authorization" (Hollinger & Clark, 1982, p. 333), such as theft or sabotage. They defined production deviance as "behaviours, which violate the formally proscribed norms delineating the minimal quality and quantity of work to be accomplished" (Hollinger & Clark, 1982, p. 333), such as doing work carelessly and with poor quality. Robinson and Bennett (1995) later suggested four categories of counterproductive behaviours, two of which were the same as the ones that Hollinger and Clark (1982) had suggested namely, production deviance and property deviance, plus two new dimensions which they labelled political deviance and personal aggression. Personal aggression refers to "behaving in an aggressive or hostile manner towards other individuals" (Robinson & Bennett, 1995, p.566) such as sexual harassment and verbal abuse towards other coworkers. Political deviance refers to "engagement in social interactions that puts other individuals at a personal or political disadvantage" (Robinson & Bennett, 1995, p.566) such as gossiping about other coworkers or showing favouritism.

Proponents of multifactor models of CWB argue that although the correlations between CWB factors are high, different antecedents predict different facets of CWB, suggesting that those dimensions are distinctive (e.g., Spector et al., 2006). Other scholars who advocate the general CWB factor argue that there are sufficiently high positive correlations between different facets of CWB that regarding CWB as a general factor that includes all counterproductive behaviours is reasonable (e.g., Sackett, 2002). In accordance with this argument, research has shown that different

facets of CWB are similarly related to different antecedents (e.g., Berry, Ones, & Sackett 2007), indicating that these facets may not be distinct from each other.

Sackett (2002) suggested that the choice of treating CWB as a higher-level or lower-level construct should depend on the goals of the research. That is to say, if the goal is to predict CWB in general, then a considering CWB as a higher-level construct is warranted, but, if the goal is to predict finer grained forms of CWB, then the focus should be on lower-level constructs related to CWB such as theft, sabotage, etc. It is worth mentioning that the extant literature shows that most researchers have used the summed scores of different facets in their studies rather than the scores on each facet separately (e.g., Dalal, 2005; Spector et al., 2010; Zettler & Hilbig, 2010), meaning that CWB has been mostly treated as a single general construct in previous research.

There are several advantages to viewing CWB as a single construct. When CWB is tested as a broad single construct, researchers will be better able to develop a general theory about the antecedents and consequences of CWB (Marcus & Schuler, 2004). Moreover, by treating CWB as a single construct, researchers are better able to address the problems associated with low base rates of some counterproductive behaviours (Detert et al, 2007). That may be because when CWB is viewed as a single construct researchers are able to aggregate different counterproductive behaviours and therefore there will be a higher chance of detecting CWB (Hollinger & Clark, 1983). In line with these arguments, in the current research CWB will be treated as a single construct.

Organizational Citizenship Behaviours: Antecedents

Both individual and contextual factors could affect OCB. Individual factors include different demographic variables, personality characteristics and dispositions

while contextual factors encompass different elements of the work environment such as leaders' behaviours towards employees and task characteristics among others.

Individual factors. With regard to individual differences, personality traits have been the most widely studied in the literature. Previous research on the relationship of personality traits to OCB indicate that conscientiousness and agreeableness are the strongest personality dimensions predicting OCB. The finding of agreeableness as an antecedent of OCB is consistent with the conceptualization of agreeableness, as agreeable individuals tend to be friendly, helpful and generous (Organ & Ryan, 1995). Conscientiousness is also a personality trait characterized by being hardworking and tending to conform to social norms and abide by rules. According to Costa and McCrae (1992), conscientiousness is a tendency to be self-disciplined and dutiful. People who score high on this dimension show a preference for planned behaviours rather than acting on impulses (Costa & McCrae, 1992). Since conscientious behaviours constitute a major part of OCB, trait conscientiousness should be associated with OCB. Both conscientiousness and agreeableness, however, have been found to be modest predictors of OCB (Borman, Penner, Allen & Motowidlo, 2001; Organ & Ryan, 1995). Organ and Ryan (1995) found that although the correlation between conscientiousness and altruism- an important facet of OCB- was positive and significant ($r=.22$), when studies with self-rated OCB were excluded from the analysis this correlation became nonsignificant ($r=.04$). In accord with the argument of Podsakoff and Organ (1986) regarding the problem of common method variance in organizational research, it could be argued that even this modest relationship of conscientiousness and agreeableness to OCB might be largely due to the common method variance. More specifically, the items that typically are used to measure general conscientiousness such as being hard working, organized, or on time, might

prime respondents to think about their workplace and to provide answers to those items having their work life in mind. Therefore, items on conscientiousness scales may not exactly measure individuals' level of *general* or *trait* conscientiousness, rather they measure concepts related to contextual performance at work.

In addition to the commonly used Big Five personality traits in the literature, the Dark Triad of personality has also been studies in relation to certain aspects of OCB. The Dark Triad includes Machiavellianism, narcissism, and psychopathy. Machiavellianism refers to a manipulative personality, and is characterized by a willingness to manipulate, lie to, and exploit others (Christie & Geis, 1970). Those scoring high in Machiavellianism tend to focus solely on their own interests and goals and have a tendency to gain pleasure from deceiving others (Wu & LeBreton, 2011; Jones & Paulhus, 2009). Narcissism is a sub-clinical version of the narcissistic personality disorder (Raskin & Hall, 1979). As a result, narcissism contains the same facets as those mentioned for its personality disorder, namely entitlement, grandiosity, dominance, and superiority. Individuals who score high on narcissism have a tendency to engage in self-enhancement and as a result may seem likeable in initial contacts however overtime narcissists lose their care and respect for others which could lead to instable, low quality relationships (Raskin, Novacek, & Hogan, 1991; Morf & Rhodewalt, 2001). Psychopathy is characterized by a lack of self-conscious emotions such as guilt, embarrassment and conscience (Hare, 1999). People scoring high on psychopathy are extremely impulsive and seek immediate gratification of their needs (Cleckley, 1976; Hare, 1999). They tend to not feel fear or anxiety as much as other people do and for that reason they rarely learn from their mistakes or wrongdoings.

Narcissism is expected to be negatively related to OCB. As narcissism relates to grandiosity, exploitation of others, and inflated self-views (Campbell Hoffman, Campbell, & Marchiso, 2011), narcissists probably would not help others or engage in any kind of OCB unless they are sure that would benefit themselves. There has been some evidence that this is in fact the case. For example, Judge, LePine and Rich (2006) found a significant and negative relationship between narcissism and OCB. Interestingly, narcissism seems to be unrelated to task performance (Blair, Hoffman, & Helland 2008).

Machiavellianism has also been shown to negatively predict OCB towards both the organization and towards other individuals in the organization (Becker & O'Hair, 2007). One reason given for this is that those with high levels of Machiavellianism tend to be primarily self-interested, so although those scoring high on this trait may engage in impression management with others, they simply do not invest themselves in being concerned with the organization as an entity (Becker & O'Hair, 2007). There is also some evidence regarding the relationship of psychopathy to organizational outcomes as research has shown that the presence of psychopathic individuals in leadership positions would result in poor organization social responsibility and reduced organizational support for employees (Boddy, Ladyshewsky, & Galvin, 2010).

Although there is some preliminary evidence regarding the relationship of the Dark Triad of personality to certain aspects of OCB, the literature is still scarce on the relationship of these personality traits to OCB. Moreover, there has been some research showing that in fact there are no significant relationships between the Dark Triad traits and OCB (O'Boyle, Forsyth, Banks & Mc Daniel, 2012).

Positive affectivity is another dispositional trait that has been linked to OCB in some studies (Miles, Borman, Spector, & Fox 2002; Lee & Allen, 2002). Positive affectivity refers to the propensity to experience a positive emotion or mood such as happiness across situations and time (Watson, Clark, & Tellegen 1988). Organ and Ryan (1995), however, showed that the correlation between positive affectivity and certain aspects of OCB changed from significant ($r = .15$) to non-significant ($r = .08$) after common method bias was controlled for. Additionally, it was found in a meta-analysis study that positive affectivity did not have any significant relationship with OCB (Organ & Ryan, 1995). Therefore, the literature on the importance of trait positive affectivity in predicting OCB is still rather inconclusive.

Gender may also play a role in relation to OCB, as men and women may contribute to organizational effectiveness in different ways. Research suggests that women are more likely to engage in helping behaviours and other interpersonal OCB than men, whereas men are more likely to engage in more organizational OCB such as civic virtue (Farrel & Finkelstein, 2007).

Organizational tenure is another demographic variable that affects the desire of employees to engage in OCB. In relation to organizational tenure, a study by Pettit, Donohue & Cieri (2004) showed that career stage was related to employees' desire to engage in different citizenship behaviours. That is to say, typically in later stages of career, people feel a higher need to reciprocate what they get from their organization and are more willing to help others in their workplace.

Contextual factors. Leaders' behaviours and the way they treat employees and design their workplace are the most widely studied and important contextual factors that influence employees' level of OCB. Treating employees fairly, being supportive

of them, and the amount of limitations and control put on employees are especially important in this regard (Organ & Ryan, 1995). Research has shown that limiting employees' choices and decision makings through task routinization has a negative relationship with OCB (Podsakosff, MacKenzie, Paine, & Bachrach, 2000). On the other hand, job autonomy and intrinsically satisfying jobs have been shown to be positively related OCB (Podsakosff et al., 2000; Farh, Podsakoff, & Organ 1990).

The quality of relationships with coworkers also predicts OCB (Bowler & Brass, 2006; Ng & Van Dyne, 2005; Van der Vegt, Bunderson, & Oosterhof, 2006). Several studies have shown that relationship quality, level of friendship, and group cohesiveness are positively related to OCB (Andersen & Williams, 1996; Ng & Van Dyne, 2005). In a similar vein, Kamdar and Van Dyne (2007) indicated that the quality of the relationship with coworkers is a strong predictor of OCB that could decrease the effect of personality traits on OCB. They reasoned that having positive relationships with others in the workplace is a very strong reward contingency that would restrain the expression of personal dispositions and traits, and asserted that personality traits would affect OCB only when there is not a high quality relationship between coworkers.

Additionally, the quality of relationship with supervisors is equally important in relation to OCB. Research has shown that leaders' and supervisors' behaviours towards their employees have a significant effect on the employees' level of OCB. Podsakosff (2000), for instance, showed that perceived organizational support and supportive behaviour from the leader are important factors that are positively and strongly related to various aspects of OCB.

As much as high quality relationships could increase the level of OCB, low quality relationships could hinder it. For example, Ng and Van Dyne (2005) showed that task

conflicts between group members negatively affected OCB in work teams. Also, Twenge, Baumeister, DeWall, Ciarocco, and Bartels (2007) showed that employees with higher perceived social exclusion showed fewer instances of OCB in the workplace.

Fairness, or justice perception, is another factor that is related to OCB. Fairness, or justice, refers to whether or not employees feel organizational decisions are made equitably and with enough inputs from employees. This kind of justice usually is called procedural justice (Greenberg, 1990). Another kind of justice called distributive justice refers to whether or not employees perceive that they are fairly rewarded proportionate to their level of training, tenure, responsibility or workload (Leventhal, 1980; Greenberg, 1990). Perceptions of justice and fairness in general are positively related to OCB (Adam, 1965; Moorman, 1991). For example, Blakely, Andrews, and Moorman (2005) found that having a positive perception of leaders' fairness increases employees' level of OCB.

Another factor affecting OCB is the level of role clarity. Research has shown that role conflict and role ambiguity are significantly and negatively related to OCB. On the other hand, role clarity has been shown to be significantly and positively related to OCB, perhaps due to its effect in making people in general more satisfied and happy in their job (Podsakoff et. al., 2000).

Different aspects of the job affect the degree to which employees feel happy and satisfied about their job as a whole, which in turn influences important organizational outcomes such as absenteeism and turnover (Davis, 1992). Job satisfaction has consistently been shown to be one of the strongest predictors of OCB in the workplace (Ilies, Scott, & Judge, 2006; Brown, 1993; Podsakoff et al., 2000). Organ and Ryan (1995) argued that job satisfaction along with employees' level of affective

commitments towards their organization, their perceptions of fairness, and the support received from their supervisors comprise employees' "morale" which in turn influences their level of OCB.

Counterproductive Work Behaviours: Antecedents

Similar to OCB, both individual and contextual factors could affect CWB. In fact, given the relationship between OCB and CWB it may be expected that similar individual and contextual factors relate to CWB as well, although in the reverse direction.

 Individual factors. Similar to OCB, conscientiousness and agreeableness are the two personality traits which have the most robust relationships with CWB, albeit in a negative way (Salgado, 2002). The negative relation of conscientiousness to CWB could be attributed to individuals' higher ability in controlling their impulses (Marcus & Schuler, 2004). Also, the negative relationship between agreeableness and CWB could be due to the fact that people high on agreeableness tend to avoid any conflicts in the workplace and keeping the harmony in the group has the highest priority for them (e.g., Costa, & McCrae, 1992).

In addition, some researchers have pointed out the relationship of Dark Triad personality traits to different forms of CWB (e.g., O'Boyle, et al, 2012). For example, a meta-analytic study suggested that there is a positive relationship between all three dark traits and CWB. More specifically the strongest relationship has been found to be between narcissism and CWB, followed by Machiavellianism and psychopathy (O'Boyle, et al., 2012).

DeShong, Grant, and Mullins-Sweatt (2015) used the Big Five personality traits and the Dark Triad traits together in predicting CWB using path analysis to find out

which model was the most parsimonious and at the same time the best fitting one. They compared the fitness of these two models while controlling for correlations between them. Their results showed that the Big Five model was a much better fit for their data. Additionally, it was found that those who scored low in agreeableness and conscientiousness were more likely to engage in CWB. Furthermore, they argued that low agreeableness and conscientiousness associated with the Dark Triad traits might be the reason that those traits lead to CWB.

Nonetheless, as argued in the previous section, a significant negative correlation might be found between conscientiousness and CWB but that may not mean that individuals with the *trait* conscientiousness are less likely to engage in CWB. That may be due to the fact that when individuals self-report on their level of conscientiousness they might think about their workplace and might report their work behaviours rather than their personality. For example, some items of CWB scales measure the extent to which individuals keep their workplace clean (vs. trashed), follow the rules (vs. break the rules), are on time, etc.. These concepts are also closely measured by conscientiousness items on personality scales. The same argument could be made for agreeableness as well. That is to say for example, when responding to an agreeableness item such as "Likes to cooperate with others" or "Can be distant and cold towards others" (Morizot, 2014), individuals might heavily rely on the quality of their interactions with their coworkers. That may especially be the case when their workplace is salient in their mind such as when they complete the survey in the workplace, and more so when they know that the survey is actually about their work behaviours. As a result, the reported level of agreeableness in a workplace survey may not necessarily reflect their trait agreeableness that is generalized to all domains of their life.

Another individual factor that is related to CWB is trait anger, which is a narrow trait with a strong relation to CWB. It is defined as the tendency to experience the emotional state of anger when encountering frustrating conditions (Spielberger, 1988; Spielberger & Sydeman, 1994). Individuals high on trait anger are more likely to perceive different situations as anger-inducing. Moreover, compared to those scoring low on trait anger, individuals high on this trait feel anger with a higher intensity and frequency (Spielberger & Sydeman,1994; Spielberger, Krasner, & Solomon, 1988), and tend to express their anger in less constructive ways (e.g., Deffenbacher, et al, 1996). Fox and Spector (1999) reported that trait anger was the strongest predictor of of all personality traits. That said, anger is a very narrow trait and arguably might be more strongly associated with those facets of CWB that involve aggression.

Positive and negative affectivity have also been shown to be only modestly related to CWB (e.g., Miles at al., 2002). However, the relationship between positive or negative affectivity and CWB has not been consistent in the literature. For example, Lee and Allen (2002) showed that neither positive nor negative affect was related to CWB while Duffy, Ganster, and Shaw (1998) suggested that individuals with higher positive affectivity might even be more likely to engage in CWB as they become more frustrated if their job is not satisfying enough for them.

There is an overall lack of consensus regarding which individual differences are related to OCB and CWB. This might be due to the limited personality traits that have been so far studied in relation to OCB (Borman, et al., 2001) and the fact that the study of individual differences in relation to CWB has mainly focused on specific CWB behaviors such as theft, sabotage, turnover or alcohol abuse which has made it harder to generalize the found results to overall CWB. However, research has shown that, similar to OCB, CWB is related to certain demographic variables, albeit in a

different manner. For example, unlike the positive relationship between age and OCB, age has been shown to be negatively related to CWB (Ng & Fieldman, 2008). Also, males usually report engaging in more counterproductive behaviours in the workplace than women do (Spector & Zhou, 2013). However, unlike OCB, research has not found a consistent and significant relationship between organizational tenure and CWB (Ng & Feldman, 2010).

Contextual factors. As with OCB, certain contextual factors such as supervisors' supportiveness, fairness and amount of control and limitations put on employees affect CWB. Research has shown, for example, that poor leadership as defined by low level of employee support and putting extra control and limitations on employees creates a work environment that can have a negative impact on employees' well-being and productivity (Fitzgerald, 2002; Fitzgerald & Eijnatten, 2002) which could in turn lead to higher levels of CWB (Duffy, Ganster, & Pagon, 2002).

One important finding regarding the effect of supervisors' behaviours on employees' CWB is the relationship between poor leadership practices and aggression directed at supervisors (Hershcovis et al., 2007). There is some evidence that poor leadership, abusive supervision, and hostile behaviours towards subordinates are related to instances of CWB such as aggression directed at supervisors, incivility, and theft (Inness, Barling, & Turner, 2005; Anderson & Pearson, 1999; Mitchell & Ambrose, 2007). Feeling controlled by a supervisor has specifically been shown to be an important result of poor leadership that can lead to perceptions of poor interpersonal treatment, and as a result lead to aggression aimed at the supervisor (Greenberg & Barling, 1999; Inness, Barling, & Turner, 2005).

Another line of research has shown that perception of justice and fairness is an important factor that influences CWB (e.g., Fox, Spector, & Miles, 2001; Colquitt, Noe, & Jackson, 2002). Different forms of organizational justice, namely distributive, procedural, and interactional, have been discussed in the literature (see Ghazi & Hejri, 2015; Silva & Caetano, 2013). *Distributive justice* refers to the perceptions of justice regarding what employees get from their organization, including pay, promotions, or other rewards (Adams, 1963, 1965). According to the Equity Theory, when comparing one's inputs and outputs with those of others is perceived as fair, employees' motivation and performance increases. On the other hand, if rewards are perceived as inequitable, demotivation may be the result (Adams, 1965). Perceptions of inequity can cause employees to engage in CWB towards other coworkers, supervisors or the organization in general (Spector et al., 2006). That includes but is not limited to violence, theft, sabotage, and withdrawal behaviours (Ambrose, Seabright, & Schminke, 2002; Fox, Spector, & Miles, 2001; Greenberg, 1990; Greenberg, 1993; Lim, 2002). These acts might be performed for the purpose of restoring what employees think they lost due to the perceived inequity (Atwater & Elkins, 2009).

Procedural justice refers to the perceived justice about the procedures in the organization that are used to determine different types of outcomes (Leventhal, 1980; Thibaut & Walker, 1975). To be perceived as fair, Leventhal (1980) argued that procedures should be ethical and be applied consistently without any error or bias. Additionally, fair procedures should include opportunities for all employees to appeal and voice their opinions. Research has found negative relationships between procedural justice and CWB directed towards the organization (e.g., trying to look busy while doing nothing, or coming to work late without permission), and

individuals (e.g., acting rudely towards others, or starting arguments with coworkers on trivial matters) (Fox, Spector, & Miles, 2001). Other studies indicate that perception of procedural injustice is associated with, sabotage, theft, withdrawal behaviors, and cyberloafing (Colquitt, Noe, & Jackson, 2002; Lim, 2002; Schwarzwald, Koslowsky, & Shalit, 1992; Spector et al., 2006).

Interactional justice refers to employees' perceptions of how they are treated in the workplace by their managers. Interactional justice includes two facets: informational and interpersonal (Colquitt, 2001). Informational justice is the extent to which a manager or supervisor is perceived to be honest and provides enough explanation for outcomes, whereas interpersonal justice simply is about being treated respectfully by one's manager. Research has showed that perceived interactional injustice specifically is related to aggression towards individuals in the organization (Hershcovis et al., 2007). Given this evidence regarding the relationship between different forms of perceived justice to different aspects of CWB, it could be that perceived justice or fairness is an important predictor of CWB.

Self-Determination Theory (SDT)

Definition and core tenets. Self Determination Theory (SDT) is one of the most widely studied and validated need theories in different domains (e.g., Bartholomew et al, 2014; Britton, Patrick, Wenzel, & Williams, 2011; Costa, Ntoumanis, & Bartholomew, 2015; Di Domenico, Fournier, Ayaz, & Ruocco, 2013). According to SDT, people have an *innate* motivation to move towards their fullest potential, and to relate and contribute to other people in various ways (Deci & Ryan, 2002). Specifically, Deci and Ryan (2000) postulated that "humans are active, growth-oriented organisms who are naturally inclined toward integration of their psychic

elements into a unified sense of self [i.e., Autonomy] and integration of themselves into larger social structures [i.e., Homonomy]" (p.229). According to Deci and Ryan (2002), it is a part of human beings' adaptive design to create interconnections with other people in their social world and also to live in an environment that lets them engage in activities that they find interesting, meaning those activities that let them grow and exercise their capacities and at which they can maintain their self-integration and autonomy. Perhaps such interesting activities are those that individuals are best at and could most easily thrive with, and that might be why such activities would help individuals adapt to their environment and thrive. To be more specific, an activity would be perceived as interesting if individuals feel competent at it and if they feel autonomous doing it (i.e., being consistent with one's true self, talents, values and interests). Further, if that activity does not interfere negatively with individuals' relationships with others, that will be when they could experience full integration as well. The natural desire of individuals for this integration and unification would cause them to seek and gravitate to environments that let them experience such integration. Although, this is a natural tendency of human beings, the social environment has a crucial impact on helping this process by satisfying individuals' need for *Autonomy, Competence, and Relatedness*. On the other hand, unfulfillment (lack of proper fulfillment) of these needs could hinder this process.

SDT defines *Autonomy* as behaving with a sense of volition, endorsement, willingness, and choice. The need for autonomy is about the desire to be the causal agent and to act in harmony with one's self. However, Deci and Ryan (2000) argued that autonomy is not the same as independence. Rather, Autonomy refers to a sense of free will or behaving in congruence with one's own interests, values, and other aspects of self. Autonomy does not necessarily mean being free from any kinds of

constraints, as one could agree to necessity of certain constraints and still feel autonomous. For example, one might feel restricted by certain rules or regulations, but at the same time believe that those rules are important and should be followed to prevent chaos or irregularities. *Competence* refers to the desire to have control over and mastery of the environment and outcomes, and the experience of behaviour as effectively enacted. It is the feeling of being effective in interactions with different elements of the social environment and to be able to exercise capacities and grow by overcoming optimal challenges. Competence therefore is a "felt sense of confidence and effectance in action" (p.7) rather than an acquired skill. Finally, *Relatedness* refers to the feeling of being related to others in some ways. It deals with the desire to "interact with, be connected to, and experience caring for other people" (Gagné & Deci, 2014). The need for Relatedness captures the homonomy aspect of integration and is more about "the psychological sense of being with others in secure communion or unity" (p.7), rather than obtaining a certain outcome or a status within a group (Deci & Ryan, 2002).

Although these three needs have been examined both separately and together in previous research (see Deci and Ryan 2000 for a review), they correlate highly. Therefore, in combination they are viewed as an indicator of overall *psychological need satisfaction* (e.g., Baard, Deci, & Ryan, 2004; Lian, Ferris, & Brown, 2012; Sheldon & Niemiec, 2006; Uysal, Lin & Knee, 2010).

It is noteworthy to mention that the concept of need in SDT's view is not equated with conscious or unconscious desires, wants, goals or values. Rather, it refers to the nutriments or conditions that are essential to an entity's growth and integrity. Just as a plant needs sunlight and water to grow, individuals have some basic psychological needs, and the satisfaction of these needs leads to psychological well-being, higher

vitality, energy, growth and integrity within self and with others (Deci & Ryan, 2000). In SDT's view, many of the conscious desires and goals are not considered *real* needs if they somehow interfere with the satisfaction of these basic psychological needs. For example, one may follow a goal because it is normative and not necessarily what the person is interested in. Even if that goal may provide him or her with some benefits, it will most likely contribute to his or her ill-being (as opposed to well-being) as it interferes with the need for Autonomy.

Individual differences in need strength and their universality. SDT asserts that the three basic psychological needs are universal and that the satisfaction of all is important for optimal functioning in any given domain (e.g., Deci & Ryan 2002). SDT acknowledges that there might be individual differences in each of these needs but argues that studying the strength of innate needs may not be the most important direction of research. Similar to the fact that people have innate differences in their need for food, it is possible that there are innate differences in individuals' needs for Autonomy, Relatedness and Competence. Nevertheless, scholars do not usually study innate individual differences in need for food (i.e., hunger), rather they focus on the impacts that food deprivation may have on individuals. Likewise, although there may be individual differences in individuals' needs for Competence, Autonomy, and Relatedness, in SDT's view these innate differences are not of the most importance (Deci & Ryan, 2000).

That said, there are some indications that the importance of these needs for all people may not be equal. Specifically, the universality of the need for Autonomy was challenged by Iyengar and Lepper (1999) who showed that the choices made by students themselves were more motivating for Anglo American children, but the choices made by in-group others (mothers or classmates) were more motivating for

Asian American children. These authors argued that the lack of choice did not decrease the Asian American children's motivation because their self-construal was different from that of the Anglo American children. The results of this study contradict the assertion of Self-Determination Theory regarding the universality of the need for Autonomy. However, Kagticibasi (2005) explained these conflicting findings by arguing that Iyengar and Lepper regarded Autonomy as equal to freedom of choice which is not precisely how SDT conceptualizes Autonomy. Although freedom of choice could contribute to individuals' satisfaction of their need for Autonomy, in SDT's view Autonomy is more about approving and accepting a decision or behaviour even if that decision or behaviour is initially against one's personal interest. Therefore, Kagticibasi (2005) argued that Iyengar and Lepper's (1999) findings do not contradict the SDT's assertion that basic psychological needs are universal.

Consequences of basic psychological need satisfaction. According to SDT, basic need satisfaction *per se* provides the necessary fuel to orient people towards paying more attention to others, showing pro-social behaviours, and being more engaged in general (Gagne, 2003). In other words, satisfaction of these psychological needs essentially provides the resources that energize individuals, direct their behaviours, and help them maintain their behaviours (Gagne & Deci, 2005). These resources therefore would directly contribute to psychological well-being (Deci & Ryan, 2008).

When basic psychological needs are satisfied, people see a series of positive outcomes including higher persistence, better performance in their activities, positive emotions, more fulfilling relationships, and in essence overall psychological health (Chirkov, Ryan, & Sheldon,2011; Deci & Ryan, 2002). All the above mentioned positive consequences of need satisfaction could arguably lead to different aspects of OCB as they could be seen as related to putting extra effort into the job, persisting on

job tasks, helping others and building more positive relationships with them. Interestingly, the findings regarding the relationship of these psychological needs to well-being has also been confirmed by studies that have used psychobiological markers of well-being. More specifically, need frustration has been shown to be related to elevations in S-IgA, which is an immunological protein related to the anticipation of acute stressors (Bartholomew, Ntoumanis, Ryan, Bosch, & Thøgersen-Ntoumani, 2011).

In a seminal study, Sheldon, Elliot, Kim, & Kasser (2001) examined the basic psychological needs as proposed by SDT and empirically compared them with seven different needs mentioned in other need theories including needs for pleasure and stimulation, money and luxury, security, self-esteem, self-actualization and meaning, popularity and influence, and finally physical thriving. They found the needs proposed by SDT were the only ones that invariably resulted in feelings of well-being in different countries and different cultures. Other research has similarly showed that SDT's basic psychological need satisfaction has the same effect on well-being and motivation in both individualistic and collectivistic cultures (Deci et al. 2001). These studies all yet again support the assertion of SDT that these needs are universal and innate, and their satisfaction leads to higher well-being, more positive attitudes and better performance.

Consequences of dissatisfaction of basic psychological needs. As much as satisfaction of these needs is beneficial for individuals, their lack of satisfaction is detrimental to psychological well-being and proper functioning and can lead to several negative consequences. As Ryan and Deci (2000) argued, although individuals have an innate tendency to be prosocial and growth oriented, if enough nurturing does not happen (lack of fulfillment of basic psychological needs), they will not be

motivated to engage in such positive behaviours and may, in fact, opt for less prosocial behaviours.

The most immediate consequence of unfulfillment of basic psychological needs is higher levels of ill-being, including anxiety, depressive symptoms, lower levels of self-control, aggression and in general non-optimal functioning (Vansteenkiste & Ryan, 2013). There are, however, other long term consequences as well. SDT points to certain coping strategies that people use to deal with chronic unfulfillment of these needs which unfortunately will not help individuals overcome the negative consequences of need unfullfilment, and in fact maintain a situation of need frustration which could ultimately lead to more non-optimal functioning. One such coping strategies is developing need substitutes and engaging in compensatory behaviors (Deci & Ryan, 2000; Ryan, Deci, Grolnick, & La Guardia, 2006).

As defined by SDT, these *need substitutes* are basically goals that individuals engage in, in order to compensate for their needs frustration (Deci & Ryan, 2000; Ryan, Sheldon, Kasser, & Deci, 1996). One specific way of doing so is to put very high value on and opt for *extrinsic goals* rather than *intrinsic goals* (Kasser & Ryan, 1996). Extrinsic goals refer to such goals as gaining popularity, wealth, prestige and attractiveness. *Intrinsic goals*, on the other hand refer to such goals as personal growth, creating intimate relationship with others, and contributing to the community (Deci & Ryan, 2000).

The reason that dissatisfaction of psychological needs is theorized to lead to the pursuit of need substitutes is that the chronic experience of need frustration generates feelings of insecurity in individuals, and this insecurity would in turn motivate them to look for external indicators of worth and self-esteem, such as going after extrinsic

goals (Deci & Ryan, 2000; Ryan et al., 1996). Those goals would provide more immediate relief from feelings of being unworthy and the associated negative emotions as they are more tangible and obvious indicators of worth.

In accord with this assertion, several studies have found that those who have been raised in families with low levels of need support are more likely to value and pursue extrinsic goals (e.g., Thøgersen-Ntoumani, Ntoumanis, & Nikitaras, 2010). Likewise, need frustration in the workplace could arguably have the same effect on employees, that is, making them pursue goals or engage in activities that have themselves in centre, favour themselves, and help them push themselves up among other employees.

Given the discussion above, developing need substitutes could be seen as individuals' unconscious compensatory attempts to self-soothe when experiencing negative feelings due to chronic need frustration. Therefore, coping with need frustration in this way could be regarded as an emotion focused coping method, as this approach temporarily restores positive emotions without resolving the problem. However, although in the traditional emotion focused coping that was discussed earlier individuals *decide* to, for example, leave their workplace to diminish their exposure to a *particular* stressful situation (conscious decision making to soothe themselves), in this case, individuals are not aware that going after need substitutes is in fact their unconscious effort to compensate for their *chronic* unfulfillment of their needs. Thus, coping in the latter case is a more unconscious and long term strategy to deal with that accumulated experiences of need unfulfillment, as opposed to the former which is more about deliberately deciding to take actions in order to reduce the level of negative emotions experienced due to some particular stressors.

It is important to reiterate that coping with needs frustration in this way, by going after such extrinsic goals, could only provide a fleeting sense of gratification and in the long run could interfere with the satisfaction of basic psychological needs and consequently true well-being (e.g., Sebire, Standage, & Vansteenkiste, 2009; Kasser & Ryan, 1996). Pursuing such goals may make people separate themselves from others, compete with them rather than cooperate (Sheldon & McGregor, 2000), and focus on themselves rather than others, which is contrary to the satisfaction of the need for Relatedness. Moreover, such goals in many cases are not necessarily the ones most congruent with one's true self and real talents (against the satisfaction of the need for Autonomy). It could therefore be argued that unfulfillment of the basic psychological needs in the workplace would make individuals prone to engage in CWB and refrain from OCB by making them focus on themselves rather than others.

Another way that dissatisfaction of basic psychological needs could consequently lead to CWB is the finding regarding the negative relationship between need frustration and self-control- a personal characteristic that arguably could prevent individuals from engaging in certain types of CWB. According to SDT, need frustration leads to lower self-control as it erodes energy resources (Moller, Deci, & Ryan, 2006). In fact, when an activity is carried out autonomously (in congruence with one's real talents and desires), when the person engaging in that activity feels competent in doing that activity, and when that activity does not interfere with the need for Relatedness, that activity will be carried out smoothly without requiring much pressure to complete, and will therefore not use up a large amount of mental resources. This is in contrast to when an activity is not exactly congruent with one's self (related to the need for Autonomy), the person is theorized to be doubtful about his or her ability to do it competently (related to the need for Competence), and he or

she believes that activity might result in being less accepted by others (related to the need for Relatedness). In the latter case, the person must put pressure on himself or herself to execute that action and as a result more energy resources will be used up (see Deci & Ryan, 1985). This happens due to the fact that when basic psychological needs are satisfied in any given domain, individuals would not run out of mental energy, and indeed would experience more vitality and energy (Ryan & Deci, 2008) - the same energy that could make them more likely to put more effort into their job or even help their coworkers in their jobs. On the other hand, when basic psychological needs are not satisfied, emotional resources would be eroded which would result in lower levels of self-control which in turn could result in certain counterproductive behaviours in the workplace.

Other consequences of need frustration that have been found are alcohol abuse (Knee & Neighbors, 2002), smoking (Williams, Niemiec, Patrick, Ryan, & Deci, 2009), and binge eating (Schüler & Kuster, 2011) all of which are in fact different instances of negative behaviours on the job as measured by some CWB measures (Spector et al., 2006). These associations are likely due to both lack of self-control in people with frustrated needs and the immediate and easy relief and pleasure that these behaviours could provide individuals with.

Another line of research suggests that insufficient fulfillment of the basic psychological needs are associated with anger and fear (Reis, Sheldon, Gable, Roscoe, & Ryan 2000; Miserandino, 1996; Tong et al., 2009) which could also arguably lead to different forms of counterproductive behaviours in the workplace, especially those associated with aggressive behaviours and hostility towards others.

Basic psychological needs satisfaction in the workplace: Empirical evidence.
There is some empirical evidence attesting to the positive relationship between satisfaction of these three basic needs and pro-social behaviours at work, higher job effort, and between thwarting of these needs and deviant work behaviours. For instance, the satisfaction of employees' basic psychological needs has been positively associated with job satisfaction, work engagement and performance, and negatively with poor psychological health, burnout, and turnover intentions (Fernet, Austin, Trépanier, & Dussault, 2013; Gagné & Deci, 2005; Ilardi, Leone, Kasser, & Ryan, 1993; Van den Broeck, Vansteenkiste, De Witte, Soenens, & Lens, 2010). Others have shown that needs satisfaction is associated with higher intrinsic work motivation (Gagne, Senecal, & Koestner, 1997; Richer, Blan- chard, & Vallerand, 2002), job performance, psychological well-being (Baard, Deci, & Ryan, 2004; Deci et al., 2001), and employee commitment (Gagne, Chemolli, Forest, & Koestner, 2008). Moreover, there is other research noting that need satisfaction relates to less emotional exhaustion in employed adults (e.g., Van der Elst, Van den Broeck, De Witte, & De Cuyper 2012), and less anger and anxiety (e.g., Klassen, Perry, & Frenzel, 2012).

There is also some evidence regarding the mediating role of need satisfaction in the relationship between organizational factors or work environment and employees' behaviours in the workplace. For example, basic psychological needs satisfaction has been found to play a mediating role between quality of relationships with colleagues and well-being (Fernet et al., 2013; Van den Broeck, Vansteenkiste, De Witte, & Lens, 2008). Further, supervisory and leadership practices, such as the extent to which supervisors support their employees' autonomy, have been associated with higher basic needs satisfaction and consequently higher workers' well-being (e.g., Baard, Deci, & Ryan 2004; Gillet, Fouquereau, Forest, Brunault, & Colombat, 2012). In a study conducted by Deci et al. (2001) practices aimed at increasing the level of autonomy support in the

workplace were found to contribute to the satisfaction of basic psychological needs which, in turn, predicted employees' psychological well-being. Such practices include providing employees with opportunities to make choices, make them feel that opinions and views are accepted or at least acknowledged and providing them with constructive positive feedback. Psychological well-being indicators used in that research included self-esteem, work engagement and level of anxiety. In a similar vein, Boezemann and Ellemers (2007) showed that respectful messages from supervisors cause employees to feel more competent and motivate them to do more voluntary work. Similarly, Kokko, Tremblay, Lacourse, Nagin and Vitaro, (2006) showed that satisfaction of basic psychological needs is associated with pro-social and citizenship behaviours in the workplace.

As much as satisfaction of basic psychological needs is related to positive outcomes in the workplace, need frustration relates to negative outcomes. There is some preliminary evidence in this regard. Although some of these studies have not been conducted within the SDT framework, they all have addressed organizational factors that are conceptually almost identical to the three basic needs mentioned in SDT. For instance, studies on interpersonal control indicate that when individuals' need of Autonomy has been unfulfilled, they react in an uncivilized and antisocial way (Gagné, 2003; Duriez, Vansteenkiste, Soenens, & De Witte, 2007). Also, results of a meta-analysis indicated that situational constraints in organizations, such as unavailability of different kinds of resources, are related to aggressive behaviours targeted at the organization (Hershcovis et al., 2007). Other research has shown that those who have been frustrated with limitation in their workplace are more likely to engage in negative behaviours such as sabotage, hostility, theft, and withdrawal behaviours (Spector et al., 2006).

Similarly, Deci and Ryan (2000) argued that lack of good interpersonal interactions, controlling behaviours, and criticism are negatively related to the satisfaction of

employees' basic psychological needs, which in turn leads to negative outcomes such as lower psychological well-being. In a study conducted by Lian et al. (2012), it was found that need satisfaction mediated the relationship between abusive supervision and employees' deviant behaviours. Interestingly, their study showed that satisfaction of the three basic psychological needs mediates this relationship even after the perception of justice and social exchange theory were controlled for. In a similar vein, Gillet et al. (2012) found that employees' perceptions of supervisors' controlling behaviour was negatively related to satisfaction of their psychological needs, which in turn was associated with their lower well-being as indicated by their low level of happiness, and job satisfaction.

Generally speaking, there have been fewer studies on the relationship between basic psychological needs frustration and organizational outcomes than there have been between need satisfaction and those outcomes. As a result, there should be more studies on the dark side of organizational behavior- that is the effect of non-optimal organizational characteristics and managerial practices on basic need satisfaction and negative work outcomes. This is especially important as, although a positive work environment would lead to better need satisfaction and higher well-being, the dark and negative aspects of the work environment could have a much larger negative effect on employees' well-being and functioning. That is consistent with Baumeister, Bratslavsky, Finkenauer, and Vohs's (2001) argument that bad events have a much greater power than the good ones as they are processed more thoroughly and felt more strongly by individuals. In fact, related to this, research has shown that effects of being exposed to workplace bullying has such a strong effect on employees' stress, mental and physical health that the effect of other positive workplace experiences such as receiving recognition from others on those outcomes goes away almost entirely (Hoobler et al, 2010).

All the above mentioned research points to the relationship of satisfaction of psychological needs of Autonomy, Competence, and Relatedness to positive and negative work outcomes. However, despite the evidence regarding the relationship between satisfaction of the three basic psychological needs and mainly narrower positive or negative work outcomes (e.g., volunteerism, violence), these needs have not been investigated sufficiently in relation to employees' OCB as a single comprehensive construct related to the overall positive discretionary behaviours of employees. Similarly, although there is some evidence regarding the relationship between dissatisfaction of basic psychological needs and different instances of deviant behaviours in the workplace (e.g., Mueller & Lovell, 2015; Vansteenkiste et al, 2007), these needs have not been explored in relation to Counterproductive Work Behaviours as a single comprehensive construct related to the overall negative discretionary behaviours. Therefore, the following is hypothesised:

> *Hypothesis1a:* Satisfaction of the basic psychological needs of Autonomy, Competence and Relatedness is significantly and positively related to OCB (Figure 1).
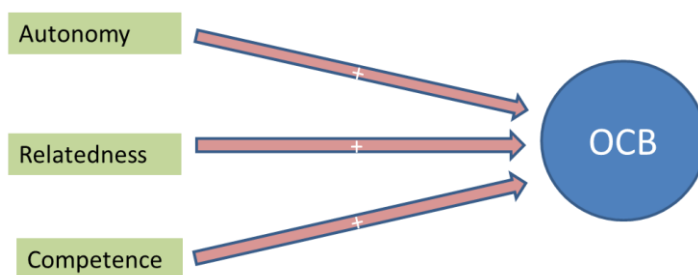
Figure1. The hypothesised relationship between SDT's needs satisfaction and OCB.

Hypothesis1b: Satisfaction of the basic psychological needs of Autonomy, Competence and Relatedness is significantly and negatively related to CWB (Figure 2).
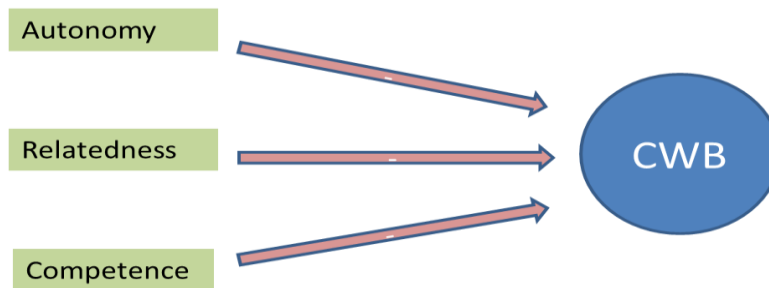
Figure 2. The hypothesised relationship between SDT's needs satisfaction and CWB.

Although SDT argues that these three needs are the most important needs of human beings that are associated with important outcomes, it does not exactly address all the contextual antecedents of OCB. For example, perceived organizational justice or role clarity are not directly addressed in SDT, yet research has shown that they are in fact important predictors of behaviours in the workplace (e.g., Colquitt, Noe, & Jackson, 2002; Podsakoff et. al., 2000). Therefore, it is worth considering if there are other basic human needs that would capture other contextual antecedents of OCB/CWB as well in order to develop a more comprehensive and significantly stronger need based model in predicting OCB/CWB.

The SCARF model: An alternative need satisfaction approach to work outcomes. The SCARF model although greatly overlapping with SDT, includes additional needs that arguably pertain to a wider range of contextual antecedents of OCB and CWB. In SCARF terminology, the most important domains of social

experience in which individuals seek to maximize their rewards and minimize threats are Status, Certainty, Autonomy, Relatedness and Fairness. These domains could be seen as psychological needs that their satisfaction activates the primary reward system of the brain and their dissatisfaction activates the primary threat system of the brain. Similar to SDT, the SCARF model proposed by David Rock (2008) provides some explanations in regard to why satisfaction of certain needs in the workplace would automatically lead to series of positive organizational outcomes and dissatisfaction of them would lead to some negative work behaviours, without relying on the assumptions of reciprocity principle or self-interest motives. The SCARF model however, takes a neuroscientific approach in explaining these relationships. Taking into account neuroscientific mechanisms in explaining human behaviour has been suggested by founders of SDT themselves as well. More specifically, Ryan, Kuhl, and Deci (1997) criticized the current status quo in the field of psychology that most psychologists tend to leave the biochemical and neurological underpinnings of behaviours completely out of the picture, as if considering the knowledge acquired from the field of neuroscience in explanation of behaviours is reductionism and should be condemned.

The field of neuroscience, in fact, could provide us with some insights about the deeper mechanisms through which human beings behave, think and feel. Interestingly, social experiences draw on the same networks in the brain that are used in the regulation of more basic needs, such as the need for food (Lieberman & Eisenberger, 2008). A positive social experience or satisfaction of a psychological need activates the same brain regions as satisfaction of a physical need such as having a delicious food does. Therefore, it has been suggested that the literature acquired through years

in the field of neuroscience could well be drawn on to explain and predict human beings' social behaviours (Lieberman, 2007).

According to the literature on social neuroscience, much of humans' motivation for social behaviours is governed by the principle of minimizing/stopping threat and maximizing/continuing reward (Gordon, 2000). This principle is more overarching and general than theories that discuss maximizing reward in much specific ways such as maximizing benefits in social relationships as social exchange theory posits (Blau, 1964). This principle and many other similar concepts have in fact long been at the core of many psychological theories. For example, James (1890) described pleasure and pain as "springs of action," specifying that pleasure is a "tremendous reinforcer" of behaviour and pain a "tremendous inhibitor" of behaviour (pp. 549–559). Freud (1915) also indicated that seeking pleasure (i.e., rewarding stimuli) and avoiding pain (i.e., threatening stimuli) are the underlying motivational forces behind every human behavior. It has been discussed that approaching rewarding stimuli and avoiding threatening stimuli is in fact crucial for human beings' adaptation and has an evolutionary root (Tooby & Cosmides, 1990). Going after rewarding stimuli help humans grow and thrive whereas avoiding threats helps them survive (e.g., Elliot, 2006).

SCARF suggests that satisfaction of the needs for Status, Certainty, Autonomy, Relatedness, and Fairness put individuals in the reward state. In the reward state there are high levels of Dopamine in certain regions of the brain associated with a series of positive emotions, higher engagement, higher creativity, better self-regulation and self-control, and better connection and collaboration with others (e.g., Rock & Cox, 2012; Rock, 2008). Simply put, when individuals are exposed to rewarding stimuli, the level of Dopamine in the brain's Dopaminergic pathways increases. Some of these

pathways project to the regions of the brain involved in memory and some others to the Pre-Frontal Cortex (PFC) which is responsible for attention and motivation. Memory will be involved in this mechanism so individuals remember that the stimulus is pleasurable and rewarding and they could approach it in the future for further rewarding experiences (consistent with the principle of maximizing/continuing the reward). The PFC will also be influenced by the increased level of Dopamine resulting in the pleasurable stimulus gaining salience in consciousness. When this happens, going after that stimulus gains urgency in one's consciousness which would then result in a higher level of motivation to seek out that stimulus. After being exposed to that rewarding stimulus frequently, that stimulus becomes conditioned with its associated pleasure. From that point on, being exposed to any cue of that stimulus (e.g., sight of the drug) triggers those pleasures as they have been recorded in memory. Though the remembered pleasure not strong as the actual pleasure, it will still increase the level of Dopamine in the PFC which would result in the stimulus capturing one's attention and causing him or her to strongly seek out the stimulus (craving in the case of drug consumption) (see Bromberg-Martin, Matsumoto, & Hikosaka, 2010; Powledge, 1999; Avena, Rada, & Hoebel, 2007). The same mechanisms could also be seen to be involved in the case of more psychological pleasures such as the satisfaction of SCARF needs.   Dissatisfaction of the SCARF needs on the other hand, puts individuals in a threat state. In the threat state there will be a higher activity in the brain's threat circuitry (e.g., amygdala) which will be associated with an array of negative emotions which in turn will lead to less productivity, feelings of fear, anger and frustration. Specifically, perception of the situation as threatening, results in a decrease in the resources at disposal of the PFC for executive functioning and there will be a tendency to ignore opportunities, as they

may be perceived to be more dangerous than what they really are. In the threat state, individuals react more defensively to even small negative stimuli and small problems may be perceived as insurmountable problems (e.g., Phelps, 2006; Rock, 2008).

SCARF needs and their relation to SDT. As seen, two of the needs mentioned in SCARF are exactly the same as two of the needs proposed by SDT (i.e., Autonomy and Relatedness). However, according to SCARF there are other needs (status, certainty, fairness) that are worth being addressed separately. *Status* refers to one's sense of importance relative to others in a group. When one's sense of status goes up one would feel superior to others and the primary reward circuitry will be activated. On the other hand, the perception of a reduction in one's status results in a threat response which interestingly enough activates the same brain parts that are involved in physical pain (Eisenberger, Lieberman, & Williams, 2003). The perception of lower status in the group is associated with decreased activation of the PFC, lower cognitive capacity, and increased activation of the amygdala which is responsible for perception of fear and other negative emotions (Kishida, Yang, Quartz, Quartz, & Montague, 2012). Status could be viewed as similar to the SDT's need for Relatedness. Specifically, if Relatedness entails being accepted, respected and treated warmly in the group by others, then higher status would probably indicate a stronger case of being accepted and respected by others. However, the converse is also plausible. That is, some may have higher status in the group but may not necessarily perceive higher warmth or regard from others. Therefore, status could in fact be seen as a separate need. As opposed to SDT that does not consider status as a basic psychological need, in the SCARF model it is believed that having importance relative to others is another important human need that should be considered as a separate need (Rock, 2008; Rock & Cox, 2012).

Certainty refers to one's need for clarity and the ability to make predictions about different events. Without prediction, the brain needs to use more mental energy, to process all the events occurring in every moment (Rock, 2008). This is against humans' innate tendency to be *cognitive misers* (Fisk & Taylor, 1999) and spend as less energy as possible in their interaction with their social world. In fact, Fiske and Taylor (1991) argued that human beings' mental processing resources are limited and highly valued, and therefore they tend to save time, effort, and mental energy when trying to understand their social world.

Even small uncertainties trigger an error response in the brain which directs the attention from one's main tasks to the error (Hedden & Garbrielli, 2006). Larger uncertainties, such as an inability to know one's supervisor's expectations can be very frustrating and make it harder to focus on other tasks. Creating certainty in any way when the situation is ambiguous increases the Dopamine level in the brain which would lead to a reward response (Schultz, 1999). Arguably, Certainty could have some relationship with SDT's need for Competence. That is, less ambiguity would be related to greater feelings of having control over the environment which is at the core of conceptualization of Competence (Ryan & Deci, 2002). However, there could be a difference between uncertainty regarding what will exactly happen next or how things will be done, and uncertainty about one's ability to handle the situation well. In other words, it is consistent with SDT to assume that being uncertain about how to handle a situation and being in doubt about whether one can overcome obstacles is in fact related to the need for Competence. On the other hand, it could be argued that once one knows that he or she will, one way or another, overcome the obstacles and do the work well (having a rooted feeling of competence and confidence), it may not be that crucial for him or her to know how *exactly* things will go or to predict all the possible

incidences at the work. Nevertheless, the SCARF model considers the need to predict patterns- Certainty- as an important need which should be regarded as a separate need.

According to the SCARF model, *Autonomy* refers to the perception of having choices and exerting control over the environment; it is the feeling that one's behavior has an effect on one's situation. In this sense, the conceptualization of Autonomy in the SCARF model captures both Autonomy and to some extent the concept of Competence in SDT as it incorporates feeling of control over the environment as well. An increase in Autonomy is rewarding whereas a decrease in it activates a threat response (Rock, 2008).

The conceptualization of Relatedness in the SCARF model is much like that of SDT. *Relatedness* refers to one's sense of connection to others and feeling secured when being with them. It is associated with the perception of whether another person is friend or foe. Rock and Cox (2012) however, incorporated perceived *similarity* into the conceptualization of Relatedness. In other words, they posited that the degree to which individuals perceive similarity between themselves and those around them determines if their interaction with them will happen in a safe and rewarding environment or in a threatening one. According to the SCARF model when the need for Relatedness is not properly fulfilled, different circuits in the brain are activated than when those feelings of connectedness and similarity to others exist (Mitchell, Macrae, & Banaji, 2006; Mitchell, 2009). Perceiving someone as a foe, competitor or out-group, puts individuals in a threat state which would be associated with inability to empathize with others among many other negative consequences (Singer et al, 2006).

Fairness refers to just and unbiased exchange between individuals (Rock, 2008). For example one needs to feel that one's effort is being acknowledged and rewarded proportionally. Fair interactions are rewarding, while unfair interactions have a significant effect on the activation of the threat system (Tabibnia & Lieberman, 2007). In this sense, fairness as defined by SCARF is much similar to the assertions of the Equity Theory. According to the Equity Theory (Adams, 1965), employees seek to maintain equity between their inputs to their organization and the outcomes that they get from it, compared to the inputs and outcomes of other employees (Adams, 1965). Perception of unfairness sometimes activates a region in the brain (insular) which is responsible for feeling of strong negative emotions like disgust (Rock, 2008). When people perceive someone as unfair, they tend to not care about his or her pain or emotions and even may feel rewarded when they are punished in some ways (Singer et al, 2006).

In SDT's view, Fairness is not considered as a separate basic psychological need. However, arguably, Fairness could be similar to the need for Relatedness. That is, if individuals perceive they are being treated unfairly by their supervisors or by their colleagues in some ways, it is unlikely that they will report high quality connections with others in the workplace. In other words, perception of being treated fairly is at the core of having good relationships with others. That said, it is also plausible that individuals perceive unfairness of some sort in their workplace towards them but still have strong connections with most of their coworkers. More specifically, they may admit that for example procedures or regulations are not designed in a fair manner but despite that, they may have close relationships with others in the workplace. Consequently it may be, in fact, reasonable to consider fairness as a separate need in the workplace. Nevertheless, from SDT's perspective those warm connections with

others (i.e., Relatedness) trump the perception of Fairness, and along with the other two basic psychological needs would provide the necessary energy for individuals to thrive in the workplace.

Consequences of SCARF satisfaction in the workplace. Given the above discussion regarding the characteristics of reward and threat states (e.g., being more alert and energetic in the reward state and more fearful and frustrated in the threat state), it could be argued that in the reward state employees will show higher levels of OCB and will be less likely to show CWB. The opposite will be true when individuals are in the threat state. Moreover, it is conceivable that the needs proposed by both SDT and SCARF affect outcomes through the same mechanisms, that is, the activation of the reward or threat circuitry. What SCARF adds to SDT however, are the needs for Status, Certainty, and Fairness. The need for Status has gained less attention in the literature than the other needs. Although there is consensus on the notion that people like status and strive to heighten their status (Troyer & Younts, 1997), its effects on positive and negative organizational outcomes have not yet been investigated sufficiently. The relation of Certainty and Fairness to work outcome however have been investigated before as discussed in previous sections. Certainty is somewhat related to the concept of role and task ambiguity which, as discussed, has negative and positive relationships to OCB and CWB respectively (e.g., Podsakoff et. al., 2000). Fairness is also basically identical to the perception of organizational justice which, as discussed above, has a positive relationship to OCB and a negative relationship to CWB (e.g., Moorman, 1991; Colquitt, Noe, & Jackson, 2002). Accordingly, it is hypothesised that addition of the needs mentioned in the SCARF model that are not included in SDT (i.e., Status, Certainty, Fairness) to the previous

model including only Autonomy, Competence, and Relatedness, would significantly improve the model's predictive power of OCB and CWB.

Before testing this hypothesis though, the issue of slight difference between the conceptualization of Relatedness in SDT and SCARF should be addressed. In other words, before comparing the SDT model (Autonomy, Competence, Relatedness) with the full need satisfaction model (Autonomy, Competence, Relatedness, Status, Certainty, Fairness) in predicting OCB/CWB, it should be determined which conceptualization of Relatedness along with the other needs in the full model makes the best model in predicting OCB/CWB. For that purpose, it is hypothesised that when Relatedness, in addition to feelings of being cared for and having warm relationships with others (SDT's conceptualization) includes perceived Similarity (SCARF's conceptualization), the model will be significantly stronger in predicting OCB/CWB. That is:

> *Hypothesis 2a*: The full model with Relatedness being conceptualized as
> SDT's conceptualization plus perceived Similarity, will be a significantly
> better predictor of OCB than the full model with Relatedness as
> conceptualized in SDT alone (Figure 3).
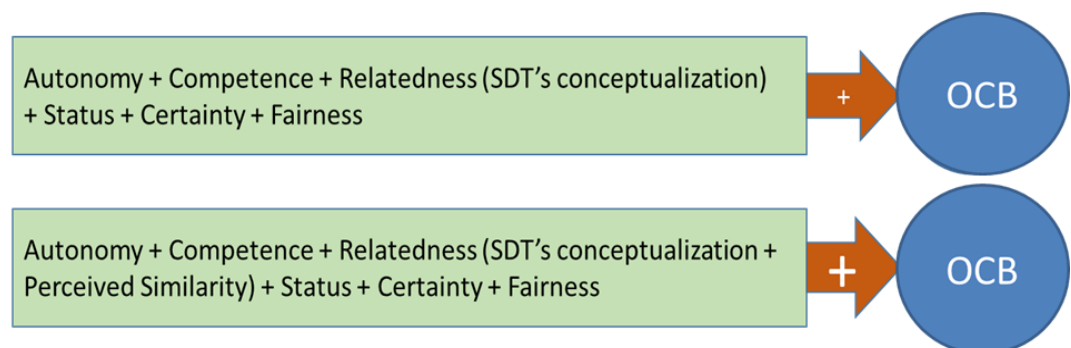
Figure 3. Comparison of the full model with Relatedness as conceptualized by SDT with the full model with Relatedness as conceptualized by SDT plus Perceived Similarity in predicting OCB.

Hypothesis2b: The full model with Relatedness being conceptualized as SDT's conceptualization plus perceived Similarity, will be a significantly better predictor of CWB than the full model with Relatedness as conceptualized in SDT alone (Figure 4).
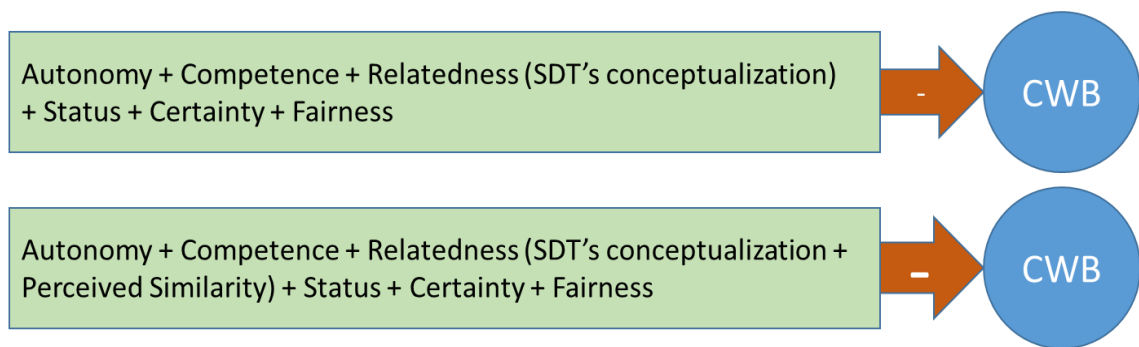
Figure 4. Comparison of the full model with Relatedness as conceptualized by SDT with the full model with Relatedness as conceptualized by SDT plus Perceived Similarity in predicting CWB.

It is further hypothesised that the full model is significantly better than the SDT model in predicting OCB and CWB. Specifically, the followings are hypothesised:

Hypothesis 3a: The full model is significantly better than the SDT model alone in predicting OCB (Figure 5).
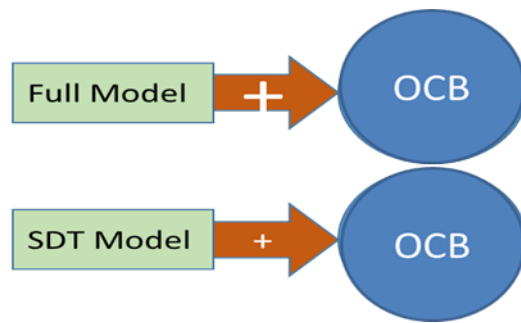
Figure 5. Comparison of the full model with the SDT model in predicting OCB.

Hypothesis 3b: The full model is significantly better than the SDT model alone in predicting CWB (Figure 6).
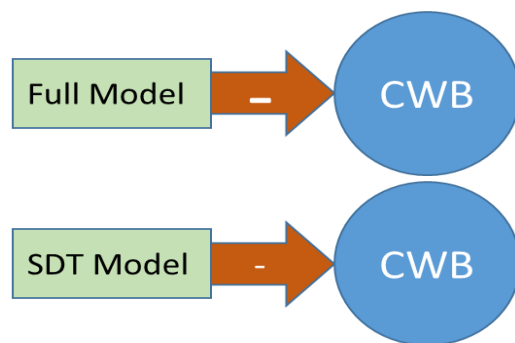
Figure 6. Comparison of the full model with the SDT model in predicting CWB.

Why Need Satisfaction Leads to Outcomes: Motivational Mechanisms Underlying OCB and CWB.

Although both SDT and SCARF mention that satisfaction of certain psychological needs lead to positive outcomes and their lack of satisfaction leads to negative outcomes, they have been less focused on the mechanisms through which need satisfaction leads to those outcomes. That is, for example, the reasons that exactly

satisfaction of those needs might make individuals more likely to engage in more positive behaviours have not been empirically investigated sufficiently yet.

The literature on OCB and CWB does offer some explanation as to the motivational mechanisms behind OCB and CWB, and specifically potential mechanisms through which contextual factors or different psychological needs satisfaction might make individuals engage in OCB or CWB. It has always been interesting for researchers to understand such motivational mechanisms especially for citizenship behaviours, as contrary to regular task requirements it is much harder to include citizenship behaviours on job descriptions. As a result, such behaviours may be more difficult to be formally rewarded by the organization (Mac Kenzie, Podsakoff, Fetter, 1991). This difficulty may also be due to the fact that most citizenship behaviours such as helping others, taking initiatives, etc. could only be exerted if the context and situation ask for them. Thus, it is difficult to predict when and how those situations happen and therefore it makes it hard to include such behaviours on job descriptions and to measure them accurately.

An important question therefore for organizational researchers is what motivates employees to engage in these behaviours, to put extra effort on their job, and to take responsibility to make their organization excel. More accurately, what are the mechanisms by which contextual antecedents of OCB such as treating employees fairly, providing them with higher role clarity, etc. actually lead to OCB. Likewise, an important question regarding CWB is why the lack of such contextual factors leads to CWB and what the motives are behind such deviant actions, given the possibility of being caught and punished and given the fact that there are not any substantial gains from engaging in such actions. In the OCB and CWB literature, traditional motivational theories take an exchange or instrumental approach in their explanation

of the relationship between organizational factors and OCB/CWB. Such approaches rely on reciprocity principles or social exchange assumptions (Blau, 1964), and suggest that if people engage on OCB or CWB that is because they want to either reciprocate the way they are being treated by their organization, or because they believe that if, for example, they stay overtime, or help coworkers, or engage in any other kind of citizenship behaviours these actions will be reciprocated in the future by their organization somehow. Therefore, this approach contends that self-interest is the main motive and as a result individuals engage in rational decision making, evaluate different possible actions and choose the ones that benefit them the most (Thibaut & Kelley, 1959). It follows from the assumptions of this approach that if psychological needs satisfaction or the contextual antecedents of OCB mentioned in the literature (e.g., perception of justice, quality of relationships, etc.) are actually associated with OCB, it might be simply because individuals want to give back what they have received from their organization, or believe that they will eventually benefit from it in some ways. This instrumental approach has been so prevalent in the literature that some authors have even gone as far to argue that OCB is just a form of impression management and that employees may engage in citizenship behaviors such as staying late, asking for extra task responsibility or other behaviours that can be noticed and rewarded by their boss, as an impression management strategy (Bolino, 1999; Joireman, Kamdar, Daniels, & Duell, 2006).

These approaches are all concentrated on individuals' self-interest, and their bottom line implication is that by providing individuals with concrete *personal* goals, and by rewarding them for the achievement of these goals, they can be motivated to exert more effort on their job. Nevertheless, some scholars argue that although such typical goal and incentive systems may improve task performance, they would

actually prevent employees from investing on their extra role performance. This happens as such systems work by making self-interest motives salient which would be in contrast with collective motives- the kind of motive that is needed for behaviours intended to benefit the whole group or organization (Wright, George, Farnsworth, Mc Mahan, 1993). In fact, researchers have argued that such approaches that make selfish motives salient not only are unlikely to lead to higher levels of OCB, they may not even increase the intended task behaviour (Kerr, 1995; Konh, 1993).

A fairly new, but still instrumental perspective on OCB and CWB sees engaging in CWB and refraining from behaviours related to OCB, as coping methods to deal with stress in the workplace. Coping refers to to the cognitive and behavioural steps taken by individuals in response to perceived demands or stressors (Lazarus & Folkman, 1984). Although many classifications of coping exist, the most well-known distinction is between problem focused and emotion focused coping (Skinner, Edge, Altman, & Sherwood, 2003). Folkman and Lazarus (1980) defined *problem focused coping* as efforts taken to directly address the source of the problem to reduce eliminate or at least reduce the stressor. For example, individuals may create different solutions to address the problem, evaluating each solution, and actively getting involve in solving the problem step by step (Baker & Berenbaum, 2007). On the other hand, *emotion focused coping* refers to individuals' effort to reduce the negative emotional reaction to a stressor. Examples include looking for social support or simply distracting oneself in different ways such as consuming drug and alcohol (Baker & Berenbaum, 2007; Latack & Havlovic, 1992).

It is possible that certain counterproductive behaviours reflect emotion focused coping strategies to alleviate the stress resulted from stressors in the workplace (Krischer, Penney, & Hunter, 2010). Organizational stressors include the previously

mentioned antecedents of OCB and CWB such as organizational constraint, low level

of organizational justice, lack of supervisory supportiveness and role ambiguity

among others (Fox, Spector, & Miles, 2001). It has been argued that work stressors

lead to different types of psychological strains such as negative emotions, anxiety, and

over time emotional exhaustion (Krischer, Penney, & Hunter, 2010). *Emotional*

exhaustion refers to the feeling of being worn down and is a major element of burnout

(Maslach & Jackson, 1984). Emotion focused coping methods are believed to help

individuals restore their lost energy as a result of work stressors and this way

overcome their emotional exhaustion. One way that employees could engage in

emotion focused coping in the face of organizational stressors is by limiting their

exposure to stressful situations. For example, when employees feel upset about

something in their workplace, they may choose to leave work early or take longer

than usual breaks which would let them, at least temporarily, escape the stressful

situation and not being affected by the negative emotions resulting from those

situations (Spector et al., 2006; Westman & Etzion, 2001). Additionally, such

withdrawal behaviours will also be associated with individuals' lesser willingness to

be involved in organizational matters and as a result, lower levels of OCB. Therefore,

it could be argued that certain counterproductive behaviours such as taking longer

breaks, and refraining from OCB are essentially individuals' emotionally focused

coping methods, and more specifically avoidance coping characterized by ignoring

and avoiding the problem (Skinner, Edge, Altman & Sherwood, 2003) to cope with

emotional exhaustion due the different work stressors.

Arguably, social exchange theory could also be seen as a mechanism through

which individuals could cope (problem focused coping) with work stressors by

refraining from engaging in positive behaviours (OCB) and engaging in negative

behaviours (CWB). More specifically, according to the Equity Theory (Adams, 1965), individuals use a subjective cost benefit ratio in their relationships with their supervisors or organization as a whole, and when they perceive that their relationship is more costly for them than beneficial, they might abandon the relationship. This could be reflected in their decreased willingness to put effort into their job or in the fewer instances of helping their coworkers (lower OCB), and their increased desire to withhold their effort and withdraw from their work physically and mentally (higher CWB). As a result of such withdrawal behaviours, they may be able to create this perception for themselves that they have balanced their gives and takes and that the problem of an unbalanced ratio of their outputs to their inputs has been resolved. For instance, if individuals feel resentful due to perceiving some kinds of injustice in their workplace towards them, they may try to resolve this perceived problem by trying to withhold inputs to the organization, doing their work more slowly or with errors and ignoring rules, and that way restoring their perception of fairness or, in other words, getting even with the organization.

All the above mentioned motives behind OCB and CWB are discussed based on the assumptions of reciprocal exchange theories, and the notion that individuals deliberately choose courses of actions that benefit themselves in some ways. According to this approach, the reason that need satisfaction or dissatisfaction in the workplace leads to OCB or CWB, is because individuals try to reciprocate how they have been treated by their organization (i.e., whether their most important psychological needs were satisfied or not). This approach, as argued, may not capture the whole story as to why individuals engage in such positive and negative behaviours. Therefore, there seems to be a need to explain the relationship between need satisfaction and outcomes without solely relying on the assumptions of

reciprocal exchange or self-interest motives. Two possible mechanisms that might be in effect are discussed below, namely individuals' Emotional States in the workplace as a result of their need satisfaction, and individuals' identification with their workgroup.

Emotional States. It is argued that the level of positive or negative Emotional States in the workplace could play a mediating role between need satisfaction and outcomes. Although such a mediating role has not been empirically tested yet within the framework of SDT or SCARF, it is implied in both SDT and SCARF that the reason that satisfaction of needs lead to positive outcomes is to a great extent the experienced positive emotions due to satisfaction of those psychological needs. Likewise, the main reason that dissatisfaction of needs leads to negative outcomes is largely the experienced negative emotions as a result of dissatisfaction of those needs (see Deci & Ryan, 2000; Rock, 2008; Rock & Cox, 2012; Ryan & Deci, 2008).

According to the SCARF model, satisfaction of psychological needs puts individuals in the reward state, and in the reward state individuals experience a wide range of positive feelings and emotions such as higher levels of joy, engagement, eagerness, alertness, and enthusiasm among others (e.g., Rock, 2008). Similarly, SDT asserts that when psychological needs are satisfied in any domain, individuals experience higher levels of vitality, joy, positive emotions, intrinsic motivation (i.e., doing activities because one enjoys it and not because of a felt pressure), vigour, and aliveness (e.g., Deci & Ryan, 1985; Deci & Ryan, 2008; Ryan & Deci, 2000; Ryan & Deci, 2008; Ryan & Fredrick, 1997).

In respect to the relationship between Emotional States and outcomes, the SCARF model specifically indicates that it is those positive emotions associated with the

reward state (e.g., higher alertness, eagerness, enthusiasm, etc.) that cause individuals to engage in positive behaviours (Rock, 2008, Rock & Cox, 2012). Moreover, it is the negative emotions associated with the threat state (e.g., fear, anxiety, etc.) which would make individuals more likely to engage in negative behaviours (Rock, 2008, Rock & Cox, 2012).

There is also evidence in the SDT literature on the relationship between such positive emotions (e.g., vitality, enthusiasm, intrinsic motivation) and various positive outcomes in different domains (e.g., Gagne & Deci, 2005; Ng et al., 2010). For instance, in the case of workplace, it has been shown that vitality leads to higher productivity, higher levels of activeness, better capability in dealing and overcoming challenges, and in general better mental health (e.g., Penninx et al., 2000). Another line of research points to the positive relationship between intrinsic motivation and positive outcomes in the workplace. Intrinsic motivation has been found to be associated with higher engagement, job effort, creativity, perseverance and productivity (e.g., Deci, Vallerand, Pelletier, & Ryan, 1991; Grant & Shin, 2011; Skinner & Chi, 2011).

There are other studies that although not conducted within needs theories frameworks, provide empirical support for the relationship between Emotional States and outcomes. For example, several studies have shown that Positive Emotional State or employees' positive mood are related to OCB (e.g., Brief & Weiss, 2002; Fisher, 2002; George & Brief, 1992; Spector & Fox, 2002; Thoresen, Kaplan, Barsky, Warren, & de Chermont, 2003; Van Katwyk, Fox, Spector, & Kelloway, 2000; Weiss & Cropanzano, 1996). There is also a positive relationship between positive affectivity as a trait and OCB (e.g., Bachrach, & Jex, 2000; Dalal, 2005; Kaplan, Bradley, Luchman & Haynes, 2009; Lee & Allen, 2002; Moorman, Niehoff, & Organ,

1993; Williams & Shiaw, 1999). Additionally, Research has shown that Negative Emotional State is a significant contributor to CWB (e.g., Bruursema, 2007, Judge, Scott, & Ilies, 2006, Lee & Allen, 2002, Spector & Fox, 2005). Negative affectivity as a trait has also been found to be related to CWB, perhaps due to its role in causing individuals to experience more negative emotions in the workplace (e.g., Aquino Lewis, & Bradfield, 1999; Douglas & Martinko, 2001; Penny & Spector, 2005; Skarlicki, Folger, & Tesluk, 1999). Interestingly, it has been found that negative affectivity is not significantly or strongly related to OCB, and that positive affectivity is not a significant predictor of CWB (e.g., Duffy et al, 1998; Fisher, 2002; Spector & Fox, 2002).

As mentioned above, both SDT and SCARF theorize the relationship between need satisfaction and emotions similarly. Although SDT is a social psychological theory of motivation and SCARF has a more neuroscientific approach to motivation there is some research indicating that the Positive Emotional State as discussed in SDT's view (e.g., vitality) is in fact closely related to the reward state as discussed in the SCARF model. For example, it has been found that the experience of vitality, which is a concept mainly discussed within the SDT framework, is related to specific brain activation patterns that are mainly involved in the reward system of the brain (e.g., Barrett, Della-Maggiore, Chouinard & Paus, 2004). Therefore, satisfaction of both SDT's needs and SCARF's needs may follow the same mechanisms in influencing individuals' behaviours, which is by activating the reward system of the brain and putting individuals in a Positive Emotional State. The converse would be true for Negative Emotional State. Although one should be cautious about inferring direct causality between need satisfaction and Emotional States, the opposite direction according to theory and research is much less likely. It is an important tenet of both

SDT and SCARF that satisfaction of needs causes individuals to experience certain kinds of emotions (Deci & Ryan, 2000; Rock, 2008; Ryan & Deci, 2008). Although one might argue that, for example, being high on general positive affectivity may make individuals interpret their environment in a more positive light and perhaps report that their needs are being satisfied with a higher quality, research shows that this is not the case. In fact, dissatisfaction of personal need in the workplace is more damaging to people who are happier in general (Duffy et al, 1998). In a similar vein, Judge (1993) argued that job dissatisfaction is much more salient for generally happy individuals and generates more tension and frustration for them.

Despite the evidence regarding the relationship between need satisfaction and Emotional States, and between Emotional States and outcomes, the mediating role of Emotional States between need satisfaction and outcomes has not been exactly investigated in the SCARF or SDT literature. In the current literature, the relationships between need satisfaction, Positive/Negative Emotional States, and outcomes, as mentioned above, has been mostly investigated separately and not in a single mediation model.

Given the discussion above it is suggested that Positive Emotional State as indicated by the experience of different positive emotions and feelings in the workplace plays a mediating role between satisfaction of basic psychological needs and OCB, and that Negative Emotional State as indicated by the experience of different negative emotions in the workplace plays a mediating role between need satisfaction and CWB.

Hypothesis 4a: Need satisfaction significantly and negatively predicts Positive

Emotional State.

Hypothesis 4b: Positive Emotional State significantly and positively predicts

OCB.

Hypothesis 4c: Positive Emotional State partially mediates the relationship

between need satisfaction and OCB (Figure 7).
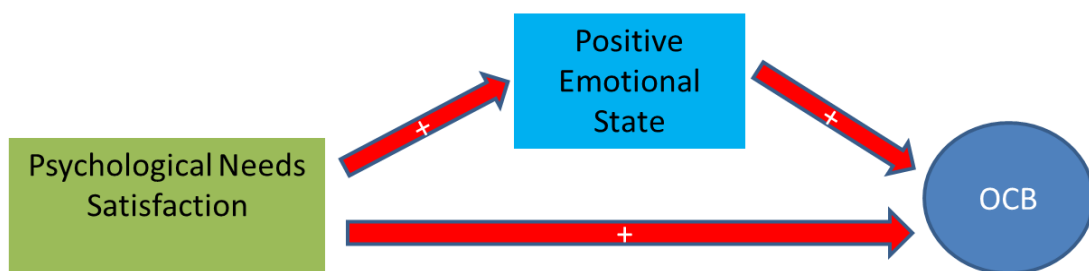
Figure 7. Mediating role of Positive Emotional State between need satisfaction and OCB.

Hypothesis 4d: Need satisfaction significantly and negatively predicts

Negative Emotional State.

Hypothesis 4e: Negative Emotional State significantly and positively predicts

CWB.

Hypothesis 4f: Negative Emotional State partially mediates the relationship

between need satisfaction and CWB (Figure 8).
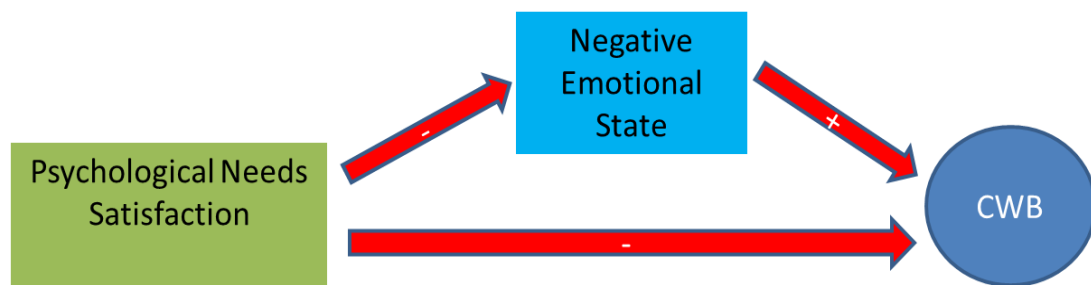
Figure 8. Mediating role of Negative Emotional State between need satisfaction and CWB.

Workgroup Identification (WID). Although Emotional States could provide some explanations as to the mechanisms by which need satisfaction leads to outcomes, there may be other mechanisms involved as well. It is argued below that employees' identification with their workgroup, along with Emotional States, could be another potential mechanism through which need satisfaction might affect OCB and CWB. In fact, although not discussed and considered as widely as other motivational mechanisms behind OCB/CWB (e.g., social exchange), identification with one's organization or workgroup according to some scholars is a very strong motivational antecedent of discretionary behaviours in the workplace (see Haslam & Ellemers, 2005). On the other hand, research suggests that workgroup identification could be to a great extent the result of employees' need satisfaction in the workplace (e.g., Cardador, & Pratt, 2006; Gillet et al, 2013; Jones & Volpe, 2010). It is therefore conceivable that need satisfaction might transmit at least some of its effect on OCB/CWB through making employees more identified with their workgroups.

Workgroup Identification: Definition and its relation to OCB and CWB.
Organizational Identification, or Workgroup Identification, are specific forms of social identification drawn from Social Identity Theory, and refer to the perception of belongingness to and oneness with an organization or a workgroup (Mael & Ashforth,

1992). Tajfel defined social identity as "that part of an individual's self-concept which derives from his knowledge of his membership of a social group (or groups) together with the value and emotional significance attached to that membership" (Tajfel, 1978, p. 63). According to Social Identity Theory (SIT) (Tajfel & Turner, 1986), individuals categorize themselves into different social groups such as the organization or the group in which they work. Their perception of belongingness to and membership in that social category (social identity) constitutes an important portion of individuals' self-concept. Individuals therefore only identify with targets or groups that enhance their self-concept in a positive way.

According to SIT, when individuals identify with a group, they perceive themselves in terms of their group membership. In other words, when they are identified with their social groups they focus on their shared characteristics with the other group members, more than the personal characteristics that make them different from the other members of the group (Tajfel & Turner, 1986). The more individuals identify with their group the more their group becomes a part of themselves, and the more likely they will be to adopt the group's goals, characteristics and interests as their own (Dutton, Dukerich, Harquail, 1994). That could cause individuals to be more concerned with the collective interest of their group. When individuals identify with their social group (organization, workgroup) they not only tend to agree with the group but they also are motivated to strive to reach agreement with the other members of the group and coordinate their actions with them. Similar to SDT and SCARF, SIT's predictions regarding work outcomes are not explained based on individuals' exchange ideology or individuals' deliberate striving to benefit themselves. There is in fact some evidence in SIT literature that identity concerns are more important than self-interest concerns in predicting organizational actions and choices. For example,

Tyler and Blader (2000) tested the role of interest-based and identity-based motives in different aspect of OCB, such as compliance and extra-role behaviour and found that social identity based factors (e.g., being proud of being a member of the organization) were stronger predictors of cooperation and extra role behaviours than self-interest ones (e.g., incentives, possible punishments). Additionally, it has been shown that identification with a group is a better predictor of the desire to engage in OCB than perceptions of justice (Kelly & Kelly, 1994). Consequently, social identity theorists argue that identification with the organization or the workgroup is a major determinant of increased task effort and OCB and arguably would have a negative effect on CWB (see Haslam & Ellemers, 2005).

Research conducted across cultures and countries has shown that OID is a significant predictor of OCB in different types of organizations and occupational categories such as schools, universities, hospitals, financial companies, and call centres among others (e.g., Bellou, Chitiris, & Bellou, 2005; Kane, Magnusen, & Perrewé, 2012; Qureshi, Shahjehan, Faheem & Saifullah, 2011; Van Dick, Wagner, Stellmacher & Christ, 2004; Wieseke, Ulrich, Christ, & Dick, 2007). Consistent with these findings, Riketta's (2005) meta-analysis' results showed that there was a highly significant and positive correlation between OID and OCB. Interestingly, the importance of OID in relation to OCB is not just due to its positive correlation with OCB. Rather, Van Dick et al (2006) using a longitudinal design found that there is actually a causal direction from OID to OCB. This has important implications for managers as it shows that investing in increasing employees' level of OID would lead to a higher tendency to engage in OCB.

Relative to OCB and other work outcomes, fewer studies have been conducted exactly on the relationship of OID to CWB. In one of those studies, Al-Atwi and

Bakir (2014) found a significant and positive relationship between both OID and Workgroup Identification (WID) to CWB. Given the general negative relationship of CWB to OCB it is completely conceivable that as much as OID is strongly related to OCB, it should also be related to CWB although negatively.

Different foci of social identification. Identification in an organization could be targeted at different social groups. The social group could be the organization itself as a whole, the department, or other smaller teams and workgroups. That said, it has been argued that identification with the workgroup (WID) is usually stronger than the identification with larger groups or the organization as a whole, and is also related to outcomes more strongly (Van Knippenberg & Schie, 2000).

A few reasons could be mentioned for this assertion. First, workgroups are probably the first target of identification because they are smaller than the whole organization and represent the people an employee primarily works with and interacts with. Brewer (1991) has also argued that people are more likely to identify with smaller groups, as identifying with large groups may threaten the individual's need for distinctiveness. Further, individuals have more in common with their workgroups than with their organizations, both with respect to the work they do and their backgrounds or goals. This higher similarity with other members of the group as opposed to all members in the organization leads to individuals developing stronger identification with their immediate workgroup (Turner, Hogg, Oakes, Reicher, & Wetherell, 1987). Moreover, organizations typically treat employees based on their group membership rather than their membership in the organization, and their group membership usually is more salient. More accurately, they are more likely to interact with members of other workgroups than members of other organizations (Kramer, 1991). It could further be argued that since the quality of the performance of an employee is above all

determined by how he or she contributes to the goals of the workgroup and the extent to which he or she follows the expectations prescribed by his or her immediate supervisor, WID would be more important in predicting one's overall performance than OID is.

Accordingly, researchers' advice is to not focus on the organization as the only possible target of identification as that may not be the most fruitful direction for research in on organizational identification (Van Knippenberg & Van Schie, 2000). In the current study therefore, WID is chosen as the variable of interest instead of OID to represent group identification.

Need satisfaction and Workgroup Identification (WID). An implication of the principle of minimizing/stopping threat and maximizing/continuing reward (see Rock, 2008) is that if a stimulus is conditioned or associated with rewards and positive emotions, it will lead to an approach response whereas if it is associated with punishments or negative emotions, it will lead to an avoidance response (see Corr, 2013; Gable, 2006). In other words, when a stimulus is associated with positive emotions/rewards individuals will become motivated to approach it to experience that pleasure again. In the case of biological pleasures such as consumption of food or drugs, if individuals have previous pleasurable experience from having a drug for example, any cue of the drug would remind them of the pleasure associated with its consumption. Remembering that pleasure would increase the Dopamine levels in the brain which would further motivate them to approach the drug and consume it to experience the full pleasure again (Powledge, 1999; Avena, Rada, & Hoebel, 2008). Accordingly, it could be argued that in the case of workplace, if psychological needs are satisfied in the workplace frequently and continuously, overtime, the workplace will be associated (conditioned) with positive emotions. As a result, even the thought

of one's workplace, specifically the awareness that one is a member of and connected to it, would result in positive emotions and feelings.

It is noteworthy that the difference between experiencing pleasure from consuming a drug and from satisfaction of psychological needs is that the experience of psychological need satisfaction is much more abstract, complex and hugely influenced by internal cognitive processes such as one's perceptions and thoughts. In other words, the source of pleasure greatly resides in one's mind. This is in contrast to less abstract and more tangible sources of pleasure (e.g., drug), where exposure (e.g., consuming a drug) would naturally and inevitably induce those positive emotions without much complex internal cognitive processes being performed before one could experience them (see Duff, 2008; Jay, 1999; Peele, 1985). Consequently, it could be argued that although the thought of the drug reminds individuals of the pleasure associated with its consumption, the full pleasure will only be obtained if it is consumed again as the source of the pleasure in this case is completely external. However, in the case of psychological need satisfaction, when one is reminded of that pleasurable experience or anything associated with that experience (e.g., the workplace after being conditioned with those positive emotions), he or she would experience almost the same level of positive emotions, without needing to have those needs satisfied again at the moment as the source of pleasure in this case is essentially more psychological and internal, and therefore could be accessed and re-experienced more easily.

For example, if someone once felt proud of winning an important competition, just being reminded of that incident could create an almost similar pride without requiring an actual win in the same competition again to feel proud. Similarly, when individuals' membership in an organization- if it is associated with positive emotions-

is salient in their consciousness, they will feel almost the same psychological pleasure and gratification as when those needs were actually satisfied in the workplace. In other words, when the workplace is salient in one's consciousness, it will automatically trigger those positive emotions. Therefore, due to the principle of "maximizing/continuing the pleasure" it could be argued that individuals would want to keep the thought of their organization and their connection to it as salient as possible in their mind. One way to do so is to *identify* with their organization and try to make their organization an important part of their self-concept or identity. When an entity comprises a big portion of one's identity, it will be more accessible in the memory, more conspicuous in consciousness, and individuals will feel a stronger and a more secure connection to it (see Conway, 2005; Nurius, 1994; Sim, Goyle, McKedy, Eidelman, & Correll, 2013). Accordingly, it is suggested that psychological need satisfaction in the workplace would cause individuals to identify with their workplace, as the workplace would be associated with positive feelings and emotions.

There is some empirical evidence on the positive relationship between need satisfaction and identification. For example, organizational prestige and one's status within the group- both of which pertain to the need for Status- have been identified as important antecedents of organizational identification (e.g., Bhattacharya, Rao, & Glynn, 1995; Fuller, Hester, Barnett, Frey, Relyea, & Beu, 2006; Jones & Volpe, 2010; Mael & Ashforth, 1992; Smidts, Pruyn, & Van Riel, 2001). Additionally, it has been shown that the strength of relationships and interpersonal interactions between individuals (i.e., high level of Relatedness satisfaction) is another important antecedent of identification (e.g., Cardador, & Pratt, 2006; Podolny & Baron, 1997; Pratt, 2006). Research shows that Person-Environment fit (Kristof, 1996) which arguably is an important determinant of the feeling of self-efficacy (i.e., need for

Competence in SDT) (Hsu, 2012), is one of the major antecedents of OID (Valentine, Godkin, & Lucero, 2002; Verquer, Beehr, & Wagner, 2003). Gillet et al (2013) also found that satisfaction of basic psychological needs as mentioned in SDT was a significant predictor of organizational identification in a group of nurses in France.

In addition to the argument that need satisfaction would lead to WID, it was suggested earlier that WID itself is related to OCB/CWB, and that there is a direct relationship between need satisfaction and OCB/CWB as well. Therefore, it would be wise to consider a mediating role for WID in the relationship between need satisfaction and OCB/CWB, meaning that one way that need satisfaction might contribute to OCB/CWB might be through affecting individuals' level of identification with their workgroup.

Although the abovementioned research on the relationship between need satisfaction and WID does not necessarily mean that there is a causal direction from need satisfaction to WID, research suggests that the converse direction is much less likely. In other words, being highly identified with a group would not necessarily make individuals feel that their psychological needs are being met with a higher quality in the workplace. It has been shown that when individuals are highly identified with their group they feel that they are more entitled to respect from other group members (Tyler, 1994). As a result, any small disrespectful act would be perceived as an insult (see Bond & Venus, 1991; DeRidder, Schruijer, & Tripathi, 1992). Moreover, when individuals are highly identified with their group they would expect that resources be distributed more fairly and equally between group members as when there is a high level of identification, similarity between group members are seen more strongly than differences (Feather, 1999; Skitka & Tetlock, 1992). Therefore,

the smallest inequalities might be perceived as a severely unjust behaviour by the organization or the supervisor.

It is should be mentioned that the role of WID in this model is especially important as it plays an important role in making employees *remain* good citizens of the organization and supportive of it. In fact, in reality, at some periods of time it may not be possible for employees to experience psychological need satisfaction as frequently and strongly as at other times. It is at these times that identification with their organization would be what could cause them to still- despite the temporary lack of need satisfaction- remain good citizens to their organization. Once identification with a social group (e.g., organization) is formed, supporting and defending it becomes a concern of individuals as it would then be an important portion of their identity. When this happens, even if those psychological needs are not satisfied with the same strengths as before, individuals would continue having concern for their organization due to this newly formed identity.

Given the discussions above regarding the relationships between need satisfaction, WID, and OCB/CWB, the followings are hypothesised:

Hypothesis 5a: Need satisfaction is a significant predictor of WID.

Hypothesis 5b: WID significantly and positively predicts OCB.

Hypothesis 5c: WID partially mediates the relationship between psychological need satisfaction and OCB (Figure 9).
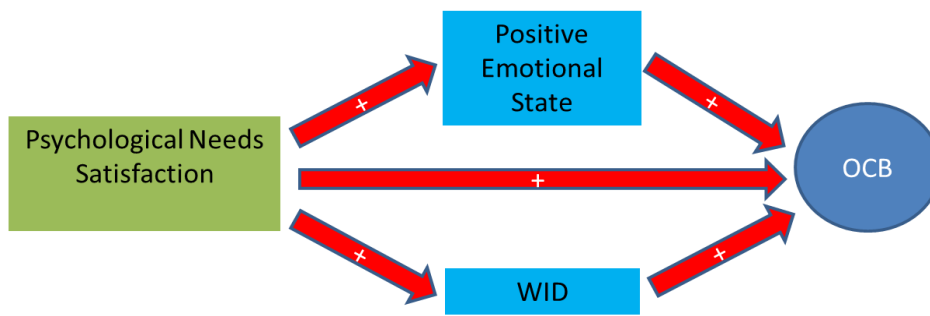
Figure 9. Mediating role of WID between need satisfaction and OCB.

Hypothesis 5d: WID significantly and negatively predicts CWB.

Hypothesis 5e: WID partially mediates the relationship between psychological

need satisfaction and CWB (Figure10).
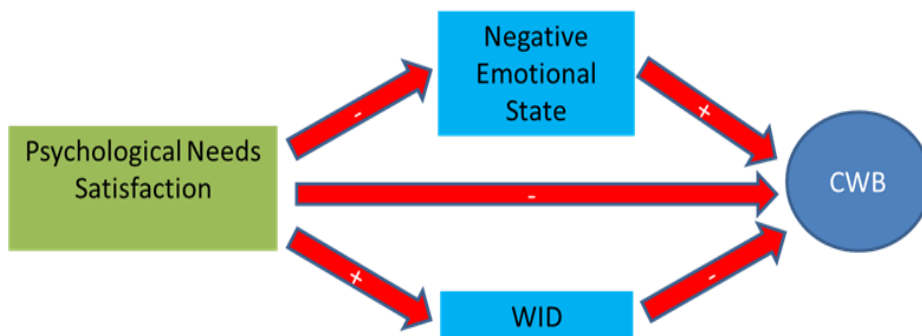
Figure 10. Mediating role of WID between need satisfaction and CWB

CHAPTER III

METHOD

Participants and Procedure

Participants were 350 full time employees who were recruited through the Amazon Mechanical Turk (AMT) website. AMT is an online community of workers interested in participating in various online research projects and getting paid for that. To participate in this research participants had to reside in USA, be fluent in English, be full time paid workers (at least 30 hours per week), be employed in only one organization and in only one position, have worked at least for one year in that organization and work in a workgroup, team, or department that has at least two other employees other than them. Participants received $1 for their participation in this study. It has been found that the average Amazon Mechanical Turk worker is willing to work for $1.38, per hour (Mason & Suri, 2012). Given that participants were paid 1$ for 15 minutes of their time in this study it could be said that the rate offered in this research was well above the generally accepted rate.

After receiving approval form University of Windsor's Research Ethics Board (REB) for this study, an advertisement for the study and the link of the survey were uploaded on the AMT website. When AMT workers clicked on the link of the survey, they were directed to the Fluid Surveys website on which they could access the survey for this study. The consent form was shown to participants on the first page of the survey. Participants were informed in the consent form of the purpose of the study and notified that they can exit the study at any time without any penalty. Additionally, they were reminded that all their responses will be kept confidential and unidentifiable. Participants were also provided with the researcher's contact

information in case they needed any additional information or had any questions or concerns about the study. After they submitted the survey, a code was given to them which they were asked to enter in a box provided on the advertisement page of the study on AMT. If they entered the correct code they were compensated through their AMT account.

Since in this research OCB and CWB were the main outcomes of interest and both of them might be affected by individuals' concern for confidentiality, using an online participant recruitment tool ensured that such concerns have no effect on the way that employees report their level of OCB as it would provide them full confidentiality. Moreover, recruiting participants from AMT ensured that the sample included a wide variety of types of positions and organizations which would make the results of this study more generalizable.

The final sample after initial data cleaning consisted of 294 participants (55% males, 41% females, 4% unspecified) ranging in age from 20 to 83 ($M = 34.61$, $SD = 11.3$). Participants indicated that they had worked for their current organization for an average of 5.48 years ($SD = 4.55$).

Participants were from various industries and occupations including sales, health care, construction, media, IT and computer, insurance, hospitality, finance and banking, education and academia, food services, manufacturing, marketing, accounting, government and transportation. Information about participants' education, job level, and income can be found in tables 1 to 3 (Appendix A).

Measures

SDT needs. To measure the satisfaction of the three basic psychological needs in the workplace, the 16 item Work-Related Basic Need Satisfaction Scale was used

(Van den Broeck, Vansteenkiste, De Witte, Soenens, & Lens,2010) (Appendix C).

This scale measures the extent to which basic psychological needs of Autonomy,

Competence, and Relatedness as conceptualized in SDT (Deci & Ryan, 2000) are

satisfied in the workplace. Example items are "I feel like I can be myself at my job"

(Autonomy), "I really master my tasks at my job" (Competence), and "Some people I

work with are close friends of mine" (Relatedness). Participants were asked to

indicate the extent to which they agree with each of the statements on scale of 1

(Strongly Disagree) to 7 (Strongly Agree). The Cronbach's alphas of Autonomy,

Competence, and Relatedness in this study were acceptable (.84, .91, and .87

respectively).

   SCARF's Relatedness. To measure Relatedness as conceptualized by SCARF (i.e.,

including both Relatedness as conceptualized by SDT plus perceived Similarity)

items of *perceived Similarity* were added to the items on SDT's Relatedness as

measured by Work-Related Basic Need Satisfaction Scale, and a new score for

SCARF Relatedness was computed.

   Perceived Similarity. Perceived Similarity was measured using a scale made of

seven Venn diagrams (Appendix D). Each diagram consists of two circles one

representing the self and the other the workgroup (Aron, Aron, & Smollan, 1992).

Diagrams vary in respect to the degree of overlapping between the two circles.

Participants were asked to choose the diagram that best describes their level of

similarity to their colleagues in their workgroup in general.

   Status. To measure Status in the workplace the Self-Perceived Status measure was

used (Anderson, Ames, & Gosling, 2008) (Appendix E). The original scale contains

two items: "How much status (i.e., respect, prominence) do you have among people

in the organization?" and "How much power and influence do you have among people in the organization?" In the current study respondents were asked to indicate to what degree they have prominence, power, respect and influence among their coworkers in four separate items, as each of these words could mean different than others. Items of this scale were reworded slightly to be consistent with the rest of the questionnaire. An example reworded item is "I have respect among the people in my work group." Participants were asked to indicate the extent to which they agree with each of the statements on scale of 1 (Strongly Disagree) to 7 (Strongly Agree). The alpha coefficient for this scale in this study was .87.

Certainty. To measure Certainty, five items were adopted from the Role Ambiguity sub-scale of the Abridged Role Conflict and Ambiguity Scale (Murphy & Gable, 1988) (Appendix F). An example item is "I know exactly what is expected of me." The original scale contains an extra item: "I know that I have divided my time properly." This item was removed from the scale as it is more related to Autonomy than Certainty. That is, an employee could be completely certain that his or her time has not been divided in the best way possible. This awareness relates more strongly to perceived autonomy in dividing the job than to certainty about this aspect of the job. Moreover, in the original study this item had the lowest factor loading of .44 among all. Other items on this scale essentially measure the level of clarity and certainty about one's different aspects of job as discussed within the SCARF model. Participants were asked to indicate the extent to which they agree with each of the statements on scale of 1 (Strongly Disagree) to 7 (Strongly Agree). The alpha coefficient for this scale was .87 in this study.

Fairness. To measure Fairness, the Distributive Justice sub-dimension of the Organizational Justice Scale was used (Niehoff & Moorman, 1993) (Appendix G).

This sub-dimension includes five items. Respondents were asked how fair they think different aspects of their work including workload, pay, reward, responsibility and work schedule are. An example item is "My work schedule is fair." Items on this scale ask about specific aspects of employees' job rather than asking more general questions such as how fairly employees think they are treated by their supervisors or organization (e.g., Kim & Leung, 2004). Asking respondent how fair each specific aspects of their work is would make it possible to capture a more accurate picture of the level of actual fairness in one's workplace, as non-specific questions about fairness in the workplace might be more closely related to the quality of relationships (i.e., Relatedness) in the workplace. Participants were asked to indicate the extent to which they agree with each of the statements on scale of 1 (Strongly Disagree) to 7 (Strongly Agree). The Cronbach's alpha for this scale was .91 in this study.

Positive/Negative Emotional States. To measure Positive/Negative Emotional States the International Positive and Negative Affect Short Form (I-PANAS-SF) (Thompson, 2007) was used (Appendix H). This scale contains 10 items, five of which measure the extent to which individuals in general feel certain Positive Emotional States and the other five measure the extent to which individuals in general feel certain Negative Emotional States. Example Positive Emotional States on this scale are _alert_ and _active_, and example Negative Emotional States are _ashamed_ and _upset_. In the original scale participants are asked to think about themselves and mention how they normally feel each of these positive and negative emotions or affects. In this study however, since the focus was on how individuals feel while being in the workplace they were specifically instructed to report how they normally feel while they are working in their workgroup. Response options ranged from

1(Never) to 7 (Very Often). The Cronbach's alpha for the Positive and Negative Emotional States in this study were.75 and .81 respectively.

Workgroup Identification. Workgroup Identification (WID) was measured by the six item Organizational Identification scale created by Mael and Ashforth (1992) (Appendix I). However, instead of the "organization," respondents were asked about their "workgroup". An example item is "When someone praises my workgroup, it feels like a personal compliment." Participants were asked to indicate the extent to which they agree with each of the statements on scale of 1 (Strongly Disagree) to 7 (Strongly Agree). In this study the Cronbach's alpha was .91.

*Organizational Citizenship Behaviour*s. Organizational Citizenship Behaviours (OCB) were measured using 15 items created by Van Scotter and Motowidlo (1996) (Appendix J). These items measure interpersonal facilitation and job dedication as two different facets. The interpersonal facilitation facet essentially captures all the positive activities that facilitates the constructive interactions between the workgroup members and relates to dimensions of OCB such as altruism, helping, and courtesy. The job dedication dimension basically is related to OCB dimensions such as conscientiousness, individual initiative, and personal industry. An example item of the job dedication dimension is "I work harder than necessary", and an example item of the interpersonal facilitation dimension is "I help coworkers without being asked." Participants were asked to indicate the extent to which they think each of the statements is true about them and their behaviours in the workplace. A Likert scale ranging from 1 (Very Untrue of Me) to 7 (Very True of Me) will be used. In this study, the Cronbach's alphas for interpersonal facilitation and job dedication were .89 and .91 respectively.

Counterproductive Work Behaviours. Counterproductive Work Behaviours were

measured using the 17 item Organizational Retaliatory Behaviour Scale (Skarlicki &

Folger, 1997) (Appendix K). Example items are "I have intentionally worked slower"

and "I have on purpose, damaged equipment or work process." Participants were

asked to indicate how often they have engaged in each of the behaviours mentioned in

the statements during the past 12 months. A Likert scale ranging from 1(Never) to 7

(Very Often) was used. The Cronbach's alpha in this study was .91.

Control variables. Certain demographic variables and individual differences have

been shown to be related to OCB and CWB (e.g., Ng & Fieldman, 2008). Therefore,

the role of individual differences and demographic variables that could possibly affect

different variables and relationships in this proposed model should be addressed and

taken into account. Consistent with previous research (e.g., Allen, 2006; Morrison,

1994 Ng & Feldman, 2010), the demographic variables of age, gender and

organizational tenure, were controlled for in this study (Appendix B). Moreover,

individuals' *exchange ideology* were controlled for in this study. According to

Eisenberger, Huntington, Hutchison, and Sowa (1986), exchange ideology refers to

the extent to which individuals believe that their behaviours should depend on how

they are treated by another party (e.g., organization) (Witt, Kacmar & Andrews,

2001). Exchange ideology was controlled for to make sure any relationship between

need satisfaction in the workplace and outcomes is not due to individuals' deliberate

effort to reciprocate what they get from their organization or due to their expectation

that OCB will lead to reciprocity by their organization if engaged in. *Exchange*

ideology was measured by five items developed by Eisenberger et al. (1986)

(Appendix L). An example item is "An employee who is treated badly by the

organization should lower his or her work effort." Participants were asked to provide

answers to items on a 7-poin Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). In this study the Cronbach's alpha was .78.

Attention check items. Given that it was an online research and there is always the possibility that participants might carelessly give response to questions without reading them, two attention check items were added among the other items in the survey. The first one was "Please if you are reading this item choose *strongly agree* as the response to this item", and the second one was "It would be appreciated if you choose *neutral* for this item".

CHAPTER IV

RESULTS

Data Cleaning and Diagnostics

Prior to the main analyses, data cleaning procedures were conducted. First, the data provided by those who had responded wrongly to at least one of the "attention check" items on the survey were removed from the dataset. Twenty six participants' responses were removed at this stage. Second, IP addresses of the respondents were inspected and the data provided by those residing outside the US were removed. Eighteen participants had taken the survey from countries other than the US including India, Japan, China, Korea, Turkey, Italy, Norway, Sweden, Peru, and Chili. Finally, the dataset was checked for surveys completed under three minutes, as only reading the items fast alone would take approximately three minutes. Seven participants' responses were removed at this stage.

A missing value analysis (MVA) was conducted in order to determine the pattern of missing data. Results of the MVA indicated that the data were missing at random (Little's MCAR test; $\chi.2 = 9546.74$, $p = .16$). Most of the variables did not have any missing values and the missing values for the rest of the variables were fewer than 2 %. Expectation maximization (EM) was used to deal with the missing data. EM is the most reasonable approach to missing data as long as scores are missing randomly and there is not a great deal of missing data (Tabachnick & Fidell, 2013).

The data were screened for univariate outliers. One univariate outlier for Negative Emotional State and two univariate outliers for CWB were found using a cut-off of z = +/-3.29 (Tabachnick & Fidell, 2013). Given that all the outliers followed a trend and

that in a large sample, a few standardized scores in excess of 3.29 are always expected

(Tabachnick & Fidell, 2013), no univariate outliers were removed from the dataset.

The data were also screened for multivariate outliers using the criterion $p < .001$ for

Mahalanobis Distance (Tabachnick & Fidell, 2013). Five multivariate outliers were

identified and removed. The data were further screened for influential observations

using Cook's Distance with a cut-off of 1 and DFFITS with a cut-off of 2. No

influential observations were found. The final sample consisted of 294 participants.

Residuals scatterplots were examined to test the assumptions of normality,

linearity, and homoscedasticity between predicted OCB/CWB scores and errors of

prediction. Residuals scatterplots for OCB indicated that normality, linearity, and

homoscedasticity were acceptable. For CWB however, the residuals scatterplot

deviated slightly from complete normality. Therefore, distributions of the variables

were further inspected. CWB was positively skewed. Logarithmic and square root

transformations were applied on CWB to determine which transformation resulted in

the better distribution. Comparison of the residuals scatterplots showed that the

logarithmic transformation made the shape of the scatterplot significantly more

normal. As a result, the scores of the logarithmic transformation for CWB were used

for the rest of analyses. Inspection of the distributions of the other variables also

showed that Certainty was negatively skewed. Therefore, it was first reflected and

then transformed using both logarithmic and square root transformations. All the

analyses were conducted using both the original and transformed versions of Certainty

to see if there was a difference between the two, but since no difference was found in

the results, the original Certainty was retained as suggested by Tabachnick and Fidell

(2013). It is worth mentioning that although most of the variables were not perfectly

normally distributed, the skewness and kurtosis values of all the variables were within

-/+ 2. The Durbin-Watson test statistics for OCB and CWB as outcomes were 2 and

1.9 respectively indicating that the assumption of independence of errors was met as

neither of those values deviate significantly from 2 (Field, 2009). Zero-order

correlations between variables and variance inflation factor (VIF) values indicated

that there was no evidence of multicollinearity or singularity among the variables.

Correlations between variables could be found in table 4 (Appendix A).

Since the data were collected at one point in time, the effect of method bias was

tested using a Harman's single-factor test in SPSS (see Podsakoff, MacKenzie, Lee, &

Podsakoff, 2003). Harman's test is used to estimate the amount of variance due to a

single common method factor. To conduct this test, an exploratory factor analysis was

conducted to find out how much variance among all the items could be attributed to a

single factor. The results showed that this factor accounted for only 27% of the

variance among all the items, which is much less than the 50% cut off. This indicates

that the method bias was not a threat to the internal validity of the study.

A Confirmatory Factor Analysis (CFA) was conducted in AMOS to generally

assess the fit of the measurement model. The measurement model included six latent

variables (Need Satisfaction, Positive Emotional Sate, Negative Emotional State,

WID, OCB, and CWB) and their respective observed variables (i.e., items). Items

were loaded onto their respective latent variable such that that causality flowed from

the latent variable to the item (Byrne, 2010). The latent variables were allowed to

correlate in the model. Different indices have been suggested to assess the fit of the

model. Chi-Square is one of the traditional indices used to measure the overall model

fit, however it is very sensitive to the sample size (Byrne, 2010). The CFI is another

fit index which is less sensitive to sample size and has been recommended for

evaluating model fit, with values greater than .90 indicating an acceptable fit and

values greater than .95 indicating a strong fit (Crocker, Luhtanen, & Cooper, 2003; Byrne, 2010). The RMSEA has also been recommended as an informative index for model fit (Byrne, 2010). RMSEA however is essentially a "badness of fit index", with values smaller than .08 indicating an acceptable fit (Hooper, Coughlan, & Mullen, 2008). Other indices have also been used by researchers to assess the model fit (e.g., GFI; TLI; SRMR). Results of the CFA in this study showed that the measurement model had an acceptable fit according to several different indices (CFI = .93; RMSEA = .07; GFI = 89; TLI = .91; SRMR = 07).

Hypothesis 1

The first hypothesis was supported. To test this hypothesis a Hierarchical Multiple Regression Analysis was employed to determine if addition of Competence, Autonomy, and Relatedness would improve the prediction of OCB/CWB beyond that afforded by gender, age, organizational tenure, and exchange ideology.

OCB. Table 5 (Appendix A) displays the unstandardized regression coefficients (B) and intercept, the standardized regression coefficients (*B*), the semi partial correlations (*sr*), R^2, and adjusted R^2. The first step included only the control variables of age, gender, organizational tenure, and exchange ideology. At the end of the first step, *R* for regression was significantly different from zero, $F(4, 272) = 9.48$, $p < .001$, with R^2 at .12. The adjusted R^2 value of .11 indicates that 11 % of the variance in OCB is predicted by age, gender, organizational tenure and exchange ideology. The only significant regression coefficient at this step was exchange ideology ($p < .001$).

In the second step, Autonomy, Competence and Relatedness were added to the model. At the end of the second step, *R* for regression was significantly different from

zero, $F(7, 269) = 37.70$, $p < .001$, with R^2 at .50. The adjusted R^2 value of .48

indicates that 48 % of the variance in OCB is predicted by age, gender, organizational

tenure, exchange ideology, Autonomy, Competence, and Relatedness. Addition of the

Autonomy, Competence, and Relatedness resulted in a significant increment in R^2,

F_{change} (3, 269) = 66.24, $p < .001$. Competence, Autonomy, and Relatedness

explained an additional 37 % of the variance in OCB. The significant regression

coefficients in the final regression model were Competence, Relatedness, exchange

ideology, and gender. The most important of all however was Competence as

indicated by its semi partial correlation ($sr = .38$) (Table 6, Appendix A).

CWB. The same procedure was used for the log of CWB as the outcome. Table 7

(Appendix A) displays the unstandardized regression coefficients (B) and intercept,

the standardized regression coefficients (B), the semi partial correlations (sr), R^2, and

adjusted R^2. Entering the control variables in the first step resulted in an R

significantly different from zero, $F(4, 272) = 7.71$, $p < .001$, with R^2 at .10. The

adjusted R^2 value of .09 indicates that 9 % of the variance in the log of CWB is

predicted by age, gender, organizational tenure, and exchange ideology. The only

significant regression coefficient at this step was exchange ideology ($p < .001$). In the

second step, Autonomy, Competence, and Relatedness were added to the model. At

the end of the second step, R for regression was significantly different from zero, $F(7,$

269) = 11.65, $p < .001$, with R^2 at .23. The adjusted R^2 value of .21 indicates that 21 %

of the variance in the log of CWB is predicted by age, gender, organizational tenure,

exchange ideology, Autonomy, Competence, and Relatedness. Addition of the

Autonomy, Competence, and Relatedness resulted in a significant increment in R^2,

F_{change} (3, 269) = 15.28, $p < .001$. Competence, Autonomy, and Relatedness

explained an additional 13 % of the variance in the log of CWB. The significant

regression coefficients in the final regression model were Competence, Autonomy, exchange ideology, and gender (see Table 8, Appendix A for *sr*s).

Hypothesis 2

Hypothesis 2 was rejected. This hypothesis predicted that the full model with Relatedness being conceptualized as SDT's conceptualization plus Perceived Similarity (composite score) would be a significantly better predictor of OCB/CWB, than the full model with Relatedness as conceptualized in SDT alone. To test this hypothesis a Steiger's Z^* test was conducted for the OCB and CWB model separately. In so doing, first two versions of the full model were calculated. The first model included all the basic needs mentioned in SDT and SCARF as predictors and OCB/CWB as the outcome. The second model also included the same needs, with the difference that in the second model a different version of Relatedness was used. This new version of Relatedness was a composite score which was calculated by summing up the scores on Relatedness as conceptualized in SDT and measured by Work-Related Basic Need Satisfaction scale (Van den Broeck et al, 2010) and the scores on the Perceived Similarity. To calculate the Steiger's Z^* for the OCB model, the multiple R for the first and second version of the full model, and the correlation between the predicted scores from the IVs in the first model and those from the IVs in the second model is needed. The unstandardized predicted scores for both models were calculated using SPSS. The multiple R for the first equation (.604), the multiple R for the second equation (.607), and the correlation between the two sets of predicted scores (.99) were entered in the FZT Computator program (downloadable from http://psych.unl.edu/psycrs/statpage/regression.html). The computed Steiger's Z^* (1.43) was within the critical values of -1.96 and +1.96 for a two- tailed test, and

therefore there was no statistically significant difference between multiple Rs when predicting OCB from the first set of IVs or the second set of IVs.

The same procedure was repeated for the log of CWB as the outcome. The multiple R for the first model (.403), the multiple R for the second model (.403), and the correlation between predicted scores from the first and second model (.99) were entered in the FZT Computator and the resultant Steiger's $Z*$ (.00) showed that there was no statistically significant difference between multiple Rs when predicting CWB from the first set of IVs or the second set of IVs. It was therefore determined that incorporating Perceived Similarity in the operationalization of Relatedness did not make any difference in the power of the models in predicting the outcomes. Consequently, the original full model with Relatedness being conceptualized as SDT's conceptualization alone was retained for the rest of analyses.

Hypothesis 3

The third hypothesis was rejected. This hypothesis predicted that the full model including all the needs mentioned in SDT and SCARF is significantly a better predictor of OCB/CWB, than the SDT model alone. Therefore the same analyses that were done for the first hypothesis were conducted again with an extra step which added Status, Certainty, and Fairness to the regression equation in the third step.

OCB. Table 9 displays the unstandardized regression coefficients (B) and intercept, the standardized regression coefficients (*B*), the semi partial correlations (*sr*), R^2, and adjusted R^2 for all the three steps. At the end of the third step, R for regression was significantly different from zero, $F(10, 266) = 27.62$, $p < .001$, with R^2 at .51. The adjusted R^2 value of .49 indicates that 49 % of the variance in OCB is predicted by age, gender, organizational tenure, exchange ideology, Autonomy,

Competence, Relatedness, Certainty, Status, and Fairness. The addition of Certainty, Status, and Fairness however did not result in a significant increment in R^2, F_{change} (3, 266) = 2.55, p = .056. The addition of Certainty, Status, and Fairness explained only an additional 1 % of the variance in OCB. The significant regression coefficients in the final regression model were Competence, Relatedness, Status, exchange ideology, and gender. The most important contributor of all however was Competence as indicated by its semi partial correlation (sr =.24). According to the final model acquired from step 3, Status was also one of the significant contributors to the model, however, since addition of the SCARF needs did not contribute significantly to the prediction power of the model, it was determined that the original model (SDT model), was the more reasonable model in predicting OCB.

   CWB. The same procedure was used for the log of CWB as the outcome as well. Table 10 displays the unstandardized regression coefficients (B) and intercept, the standardized regression coefficients (B), the semi partial correlations (sr), R^2, and adjusted R^2 for all the three steps. The same analysis that was conducted to test the first hypothesis was repeated with an extra step in which Status, Certainty, and Fairness were added to the regression equation. At the end of the third step, R for regression was significantly different from zero, F (10, 266) = 8.96, $p < .001$, with R^2 at .25. The adjusted R^2 value of .22 indicates that 22 % of the variance in the log of CWB is predicted by age, gender, organizational tenure, exchange ideology, Autonomy, Competence, Relatedness, Certainty, Status, and Fairness. The addition of Certainty, Status, and Fairness however did not result in a significant increment in R^2, F_{change} (3, 266) = 2.29, p = .079. The addition of Certainty, Status, and Fairness explained only an additional 2 % of the variance in the log of CWB. The significant regression coefficients in the final regression model were Certainty, Autonomy,

exchange ideology, and gender. According to the final model acquired from step 3, Certainty was also one of the significant contributors to the model, however, since the addition of the SCARF needs did not contribute significantly to the prediction power of the model, it was determined that the original model (SDT model), was the more reasonable model in predicting CWB. It is noteworthy to mention that although at the end of the second step Competence was a significant contributor to the model, at the end of the third step Certainty replaced Competence as a significant contributor to the model and Competence was not a significant contributor to the model any more.

Hypothesis 4 and 5

Hypothesis 4 (mediating role of Emotional States) and hypothesis 5 (mediating role of WID) along with the final conceptual models are re-stated below:
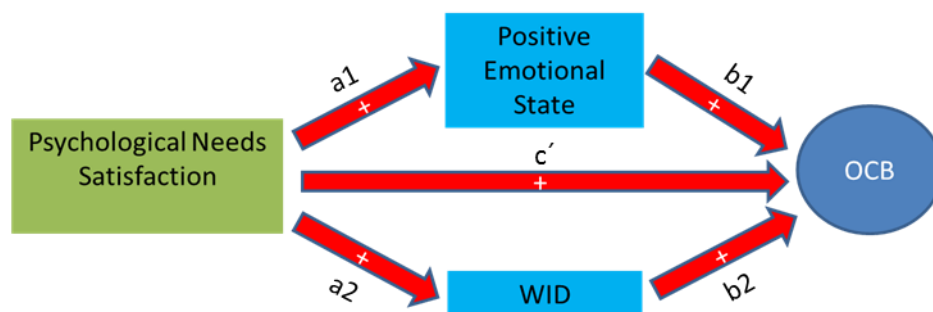
Figure 11. OCB final conceptual model.
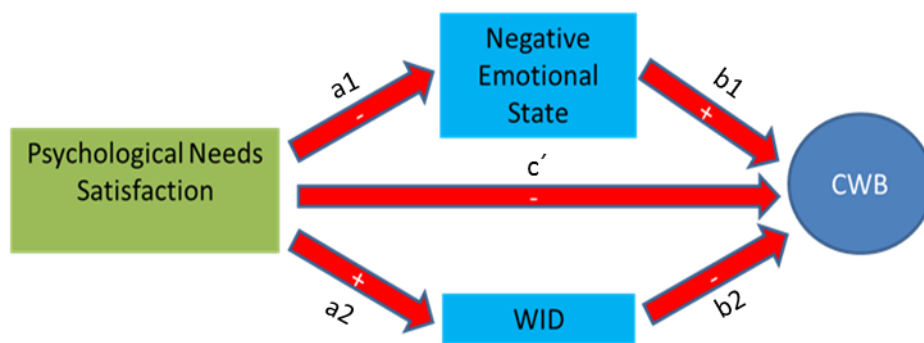
Figure 12. CWB final conceptual model.

Hypothesis 4a (path a1_OCB model): Need satisfaction significantly and negatively predicts Positive Emotional State.

Hypothesis 4b (path b1_ OCB model): Positive Emotional State significantly and positively predicts OCB.

Hypothesis 4c (path a1b1 & c´ _ OCB model): Positive Emotional State partially mediates the relationship between need satisfaction and OCB.

Hypothesis 4d (path a1_CWB model): Need satisfaction significantly and negatively predicts Negative Emotional State.

Hypothesis 4e (Path b1_CWB model): Negative Emotional State significantly and positively predicts CWB.

Hypothesis 4f (Path a1b1 & c´ _CWB model): Negative Emotional State partially mediates the relationship between need satisfaction and CWB.

Hypothesis 5a (path a2_ OCB & CWB models): Need satisfaction is a significant predictor of WID.

Hypothesis 5b (path b2_ OCB model): WID significantly and positively predicts OCB.

Hypothesis 5c (Path a2b2 & c′ _OCB model): WID partially mediates the relationship between psychological need

satisfaction and OCB.

Hypothesis 5d (path b2_ CWB model): WID significantly and negatively predicts CWB.

Hypothesis 5e (Path a2b2 & c′ _CWB model): WID partially mediates the relationship between psychological need satisfaction and CWB.

To test Hypotheses 4 and 5 the PROCESS Plug-In for SPSS was used to conduct the appropriate analyses (Hayes, 2013). The traditional approach to mediation has been criticized recently as it does not formally quantify the indirect effect, rather an indirect effect is logically inferred from several hypotheses tests. In fact, inferences about the indirect effect should be based on an estimate of that indirect effect (ab) and not on the outcome of a set of hypotheses tests about paths (a) and (b) (Hayes, 2013, chapter 6). In this research therefore, a Parallel Mediation Analysis (Hayes, 2013) was conducted with need satisfaction as the predictor, OCB/CWB as the outcome, and Positive/Negative Emotional States and WID as the mediating variables. The PROCESS program provides information regarding the direct and indirect effects of predictors on outcomes. It also provides Bootstrapped Confidence Intervals for

significance test of the indirect effect which can produce more accurate inferences compared to other significance tests. In this study 5000 bootstrap samples were used to create bias corrected 95% confidence intervals for the indirect effects.

Given that the purpose of this analysis was to test the mediating roles of Emotional States and WID, and not necessarily testing a comprehensive model of prediction for OCB and CWB, mediation analysis in PROCESS was preferred to a full structural equation modeling. Estimating parallel or serial multiple mediation models using an SEM program instead of PROCESS is neither necessary nor better (Hayes, 2013).

Hypothesis 4 was fully supported. Hypothesis 5 however was only supported for 5a (significant contribution of need satisfaction to WID). The information about the direct and indirect effects of need satisfaction on OCB/CWB through WID and Positive/Negative Emotional States, along with bootstrapped confidence intervals and completely standardized indirect effect as the effect size could be found in tables 11 to 14 (Appendix A).

After including the control variables as covariates in the model, OCB as the outcome and WID and Positive Emotional State as mediators, it was shown that need satisfaction had a significantly positive effect on Positive Emotional State (a1= .173, $p < .001$) (Hypothesis 4a supported), and Positive Emotional State had a significantly positive effect on OCB (b1=.716, $p < .001$) (Hypothesis 4b supported). A bias-corrected bootstrap confidence interval for the indirect effect ($a1b1 = 0.124$) based on 5000 bootstrap samples was entirely above zero (0.0594 to 0.2025) (Sobel test: $p < .001$) meaning that need satisfaction had a significant positive indirect effect on OCB through Positive Emotional State. After including WID and Positive Emotional State

the direct path between need satisfaction and OCB still remained significant ($c' = .368$, $p < .001$) (Hypothesis 4c supported).

It was also found that need satisfaction had a significant effect on WID ($a2 = .264$, $p < .001$) (Hypothesis 5a supported) but WID did not have a significant effect on OCB ($b2 = -.037$, $p = .65$) (Hypothesis 5b rejected). A bias-corrected bootstrap confidence interval for the indirect effect of need satisfaction on OCB through WID ($a2b2 = 0.-.01$) based on 5000 bootstrap samples showed that this effect was not significant (-0.0636 to 0.0475) (Sobel test: $p = .66$) (Hypothesis 5c rejected). It is noteworthy to mention that the zero-order correlation between WID and OCB was significant and positive (Table 4), meaning that higher scores on WID were associated with higher scores on OCB. However, after including WID in the model along with need satisfaction, its effect on OCB became non-significant.

The model was also tested with the log of CWB as the outcome and WID and Negative Emotional State as mediating variables. Results showed that need satisfaction had a significant effect on Negative Emotional State ($a1 = -.154$, $p < .001$) (Hypothesis 4d supported), and Negative Emotional State had a significant effect on the log of CWB ($b1 = .017$, $p < .001$) (Hypothesis 4e supported). A bias-corrected bootstrap confidence interval for the indirect effect of need satisfaction on the log of CWB through Negative Emotional State ($a1b1 = -.003$) based on 5000 bootstrap samples was below zero (-.0036 to -.0017) (Sobel test: $p < .001$).After including WID and Negative Emotional State in the model the direct path between need satisfaction and the log of CWB still remained significant ($c' = .002$, $p < .005$) (Hypothesis 4f supported).

In addition to the finding that need satisfaction had a significantly positive effect on WID (a2=.264, $p < .001$), WID had a significantly positive effect on the log of CWB (b2= .003, $p < .05$) (Hypothesis 5d rejected). It is worth mentioning that the zero-order correlation between WID and the log of CWB was not significant, however, after including WID in the model along with need satisfaction and Negative Emotional State, its effect on the log of CWB became significant and positive. A bias-corrected bootstrap confidence interval for the indirect effect of need satisfaction on the log of CWB through WID (*a2b2* = .0007) based on 5000 bootstrap samples was above zero (0.0001 to 0.0013) (Sobel test: $p < .05$) (Hypothesis 5e rejected).

Given the results above, Positive/Negative Emotional States partially mediated the relationship between need satisfaction and OCB/CWB. However, WID either did not play a mediating role at all (for OCB), or if it did, it was in the opposite direction of the hypothesised relationship (need satisfaction had a *positive* indirect effect on CWB).

CHAPTER V

DISCUSSION

The main purpose of this study was to investigate the utility and strength of need theories in predicting OCB and CWB and to gain a better understanding of the mechanisms through which need satisfaction might affect those outcomes. In so doing, the power of SDT, the leading contemporary need theory, was compared to its closest competing theory, the SCARF model, to predict OCB and CWB. Further, the role of Emotional States and Workgroup Identification as two major mediating variables were explored. Results of this study further provided support for validity of SDT in the workplace given its predictive power for OCB and CWB. Although some of the hypotheses of this study were not supported, the results of this study can give scholars new insight about the nature and importance of different needs in the workplace, how differently they are related to OCB and CWB, and possible mechanisms involved between need satisfaction and outcomes.

In the following sections, findings of this study will be discussed and possible explanations will be offered for them. Theoretical and practical implications and directions for future research will also be suggested.

SDT Needs in Relation to OCB/CWB

SDT's needs (Autonomy, Competence, and Relatedness) together significantly predicted OCB and CWB in this study. This was in addition to what age, gender, organizational tenure, and exchange ideology could predict. Exchange ideology was included as a control variable to make sure if satisfaction of needs leads to OCB and their dissatisfaction leads to CWB that is regardless of individuals' deliberate decision

to reciprocate what they have received from their organization. Results in fact confirmed this notion as satisfaction of SDT's needs predicted OCB and CWB above and beyond exchange ideology

In the OCB model, it was found that Competence and Relatedness, but not Autonomy were the significant contributors to the model. This finding shows that feeling competent and having quality relationships with others in the workplace may be the most important factors in motivating individuals and giving them the necessary energy to go beyond what they are expected to do in the workplace and engage in citizenship behaviours. Given that Autonomy in addition to its significant correlation with OCB had a significant positive correlation with Relatedness and Competence, it probably was not a significant contributor to OCB in the model due to its overlapping variance with Relatedness and Competence. That is, Autonomy might be related to OCB mainly due to its association with higher felt Competence and Relatedness in the workplace and therefore having more choices and freedom in the workplace per se may not necessarily lead to higher levels of OCB.

In the CWB model, the significant contributors to the model were Autonomy and Competence, but not Relatedness. This indicates that proper satisfaction of the needs for Autonomy and Competence play the most important role in preventing individuals from engaging in CWB. Given that Relatedness had significant correlations with CWB, Autonomy and Competence, it probably was not a significant contributor to CWB in the model because of its overlapping variance with Autonomy and Competence. That is, having close relationships with others in the workplace may not necessarily contribute to lower levels of CWB by itself. The question that arises from these results is why Relatedness is only an important antecedent of OCB and not CWB, and why Autonomy is only an important antecedent of CWB and not OCB.

Differential role of Relatedness in relation to OCB and CWB. The finding that
Relatedness was a significant contributor to OCB in the regression equation is
consistent with previous literature (e.g., Bowler & Brass, 2006; Ng & Van Dyne,
2005; Van der Vegt, Bunderson, & Oosterhof, 2006). However, contrary to the
literature, Relatedness was not found to contribute to predicting CWB (cf. Hershcovis
et al., 2007; Innes et al, 2005; Mitchel & Ambrose, 1999). Possible reasons for this
finding could be argued. Although high Relatedness is a desirable factor in the
workplace and, in general, is expected to make individuals less likely to engage in
CWB, research suggests that it is at the same time associated with certain conditions
that might make individuals more likely to engage in CWB, offsetting the positive
role of Relatedness in decreasing CWB. As a result, these conditions may average out,
resulting in higher levels of Relatedness being not necessarily associated with lower
rates of CWB. More specifically, higher levels of Relatedness between individuals
could be associated with higher expectations from others (e.g., Murray, Holmes, &
Griffin, 1996; Guerrero, Anderson, & Afifi, 2011). Those expectations may not be
fulfilled on a regular basis, and as a result people may occasionally react negatively to
those episodic low Relatedness conditions by engaging in CWB. When Relatedness
satisfaction is in general high, expectations from others in terms of being treated
respectfully, fairly and in a special manner will also be high (e.g., Murray, Holmes, &
Griffin, 199; Guerrero, Anderson, & Afifi, 2011). In such a situation, smaller daily
failures in getting that regard from others may be perceived and felt more severely as
they are not expected. This could in turn encourage individuals to engage in different
forms of CWB in retaliation. Moreover, when Relatedness is high, individuals might
feel safer to engage in CWB as in a friendly organizational climate and specifically in
close relationships the principle of forgiveness can trump punishment (McCullough,

Worthington, Rachal, 1997; Gheisari, Sheikhy, Derakhshan, 2014). When people have unconditional close and safe relationships with others, they might have less fear of being punished or rebuked as a result of their negative behaviours. Consequently, they may not feel the need to control themselves not to engage in CWB when they feel like it for any reasons. It could be argued therefore that high levels of Relatedness may actually have a dual effect on individuals' feelings and attitudes towards their workgroup and for that reason does not necessarily and always lead to lower CWB.

On the other hand, if the level of Relatedness satisfaction is low in a workgroup, individuals may, in general, experience a lower quality workplace with less energy (Gagne, 2003; Deci & Ryan, 2008), but at the same time in such a workgroup, Relatedness related expectations from others might also be lower (Talaei et al, 2015). This is consistent with Triandis' (1994) argument that people may not always put a high importance on or desire to get warm relationships within their workplaces as they might prefer to get such feelings from people and networks outside their workplace (e.g., family). Therefore, it is possible that individuals report that their level of Relatedness with others in their workgroup is not high, but at the same time they may not care about that lack of Relatedness in their workplace. Consequently, lack of Relatedness would not *frustrate* them enough to engage in CWB or any kind of retaliatory behaviours. Additionally, since individuals play an active and influential role in creating close and warm relationships with others in their workplace (Lambert, Eby, & Reeves, 2006; Morrison, 2002; Thompson, 2005), lack of Relatedness satisfaction may not always be utterly blamed on an outside source. As a result, given the retaliatory nature of CWB (Skarlick & Folger, 1997), lower Relatedness may not necessarily lead to higher CWB.

Differential role of Autonomy in relation to OCB and CWB. The finding that Autonomy predicted CWB is consistent with previous research (e.g., Inness, Barling, & Turner, 2005). There are however possible reasons as to why Autonomy was not a significant contributor in the OCB regression equation in this study. It could be argued that satisfaction of the need for Autonomy may not be as salient and perceptible as the satisfaction of the needs for Competence and Relatedness. While a variety of need theories suggest that everyday interactions with close friends in the workplace (Relatedness) or the perception of being competent, mastering and progressing in one's job (Competence) are always rewarding and remain rewarding (Ryan, 1991; Guisinger & Blatt,1994; Baumeister, & Leary, 1995; Deci & Ryan, 2000; White, 1959), having choices in the workplace may lose its rewarding capacity over time as people may get accustomed to it more easily and may not sense it anymore overtime. This argument is based on the notion that having Autonomy is usually viewed as a basic and unquestionable right (e.g., Hassoun, 2008; Skinner, 1972), and may not be perceived as a very conspicuous reward. As a result, its presence would not have a significant effect on employees' motivation to go the extra mile as much as Competence and Relatedness do. That said, when Autonomy is taken away, its loss would be perceived immediately and strongly and would create a high level of frustration (Fox & Spector, 1999; Spector & Goh, 2001) which could in turn lead to CWB (e.g., Fox, Spector, & Miles, 2001). The sources of dissatisfaction of the need for Autonomy in the workplace most of the time are probably supervisors and managers since they are the ones who put limitations and controls over employees by how they design the work or treat their employees. As a result, dissatisfaction of Autonomy could indeed cause individuals to blame others and then engage in retaliatory behaviours. The finding that lack of Autonomy is more strongly related to

work outcomes than its presence, is consistent with Herzberg's two factor theory of motivation (Herzberg, 1987; Herzberg, Mausner, & Snyderman, 2010). Drawing on this theory it could be argued that Autonomy is more of a hygiene factor than a motivator one.

Adding the SCARF needs to the SDT model did not improve the model significantly in predicting OCB. Interestingly enough however, Status was one of the significant contributors to the final model along with Relatedness and Competence. Although Status was shown to be closely linked to other basic psychological needs in this study, especially Relatedness, it may have additional motivational capacity in energizing individuals to engage in different positive extra role behaviours. It should be noted that Status is not necessarily equated with having a high rank within a group. In fact, some individuals with the same official rank as others in their workgroup may feel a higher Status than others (Anicich, Fast, Halevy, & Galinsky, 2016; Hays, & Bendersky, 2015). More specifically, when individuals are fully accepted as an important part of their group, respected and cared for by everyone (high level of Relatedness), they could as well feel a higher importance and prominence among their coworkers (i.e., higher Status). Similarly, if individuals are very competent in their work compared to others, they could feel a higher importance compared to others in their workgroup. Therefore, one might argue that Status is simply and only quantitatively different from Relatedness and Competence as the perception of having Status follows from having those other needs satisfied considerably higher than other coworkers. However, given that Status contributed to the prediction of OCB over and above Relatedness and Competence, it could be concluded that perhaps being considerably different from others in a positive way (e.g., being the most popular employee, being the most accomplished employee) is a qualitatively different feeling

that have additional benefits over and above high Competence and Relatedness in the workplace.

Adding the SCARF needs to the model did not improve the power of the model in predicting CWB either. Certainty, however, was a significant contributor of CWB along Autonomy in the final model. Although Competence was a significant contributor to the model when only SDT needs were included, when SCARF needs were added, Certainty replaced Competence as a significant contributor to predicting CWB. Perhaps, if Competence in the workplace is associated with lower levels of CWB, that is because higher feelings of being competent in the workplace is associated with having more clarity and less uncertainties about different aspects of the job. It may be that the certainties associated with the feeling of Competence that have the major importance in respect to CWB.

The overall feeling of being competent in the workplace could result from the feeling of Competence in different domains. That is, in addition to being able to accomplish tasks efficiently which is the conventional way of thinking about Competence in the workplace (e.g., Van den Broeck, Vansteenkiste, De Witte, Soenens, & Lens, 2010), being able to predict events in the workplace and being clear about different aspects of the workplace (i.e., Certainty) could be just another aspect of Competence in the workplace. The negative relationship of Certainty with CWB may reflect the fact that uncertainties in the workplace, similar to a lack of Autonomy, could be well blamed on others rather than oneself, since the main sources of uncertainties in the workplace could be attributed to supervisors. They are, in fact, the ones who play a major role in making the workplace ambiguous and unpredictable for employees by how they design and structure the workplace and jobs (Kauppila, 2014).

As a result, it could be argued that a lack of Certainty in various domains in the workplace is much likely to cause employees to engage in CWB.

Fairness, although had a significant positive zero-order correlation with OCB and a significant negative zero-order correlation with CWB, was not a significant contributor to the models in this study over and above other needs. This suggests that Fairness might contribute to OCB and CWB likely as a result of its relationship with basic psychological need satisfaction. The association of Fairness with need satisfaction could be due to the effect of need satisfaction on the perception of Fairness. For example, the perception of being treated fairly by the organization or supervisors may cause individuals to like their organization and feel more accepted and cared for (i.e. Relatedness

In conclusion, despite the fact that compared to SDT, the SCARF model is a more comprehensive need theory and could give insight to researchers about importance of a wider range of human psychological needs in the workplace, SDT was found to be the more parsimonious need theory in predicting OCB and CWB. This finding builds on the findings of previous research regarding the strength and utility of SDT in different domains as a leading need theory (e.g., Kanat-Maymon, Benjamin, Stavsky, Shoshani, & Roth, 2015; Kasser, 2009; Ryan, Patrick, Deci, & Williams, 2008, Stantage & Ryan, 2012), and further demonstrates the validity of SDT in the workplace.

Notably, the results of this study provided support for the distinction between the two constructs of OCB and CWB. The finding that most needs were related to OCB and CWB differently suggests that, consistent with some scholars' argument (e.g.,

Dalal, 2005; Sackett, Berry, Wiemann, & Laczo, 2006), although OCB and CWB are related they are two distinct constructs and not simply two ends of a continuum.

Mediating Role of Emotional States

Positive Emotional State was found to mediate the relationship between need satisfaction and OCB, and Negative Emotional State was found to mediate the relationship between need satisfaction and CWB. In other words, if higher levels of need satisfaction lead to individuals' higher tendency to engage in OCB, that might be due to the fact that this higher level of need satisfaction increases the level of positive emotions that employees experience in the workplace (e.g., Deci et al, 2001; Gagne, Senecal, & Koestner, 1997; Kamel & Hashish, 2015; Van Der Broeck et al, 2010) and this higher level of positive emotions may in turn play a major role in inducing individuals to engage in OCB (e.g., Bachrach, & Jex, 2000; Lee & Allen, 2002; Moorman, Niehoff, & Organ, 1993; Williams & Shiaw, 1999). Likewise, if need dissatisfaction in the workplace is associated with higher levels of CWB, that may be because lack of proper satisfaction of those needs makes individuals experience higher levels of negative emotions (Chen et al, 2015; Quested & Duda, 2010; Van Petegem, Soenens, Vansteenkiste, & Beyers, 2015) and this higher level of negative emotions might induce individuals to engage in different kinds of negative behaviours (e.g., Pearson, Andersson, & Porath, 2005; Spector & Fox, 2005; Van Katwyk, Fox, Spector, & Kelloway, 2000). Although one should be cautious in making causality inferences from these results, considering a causal relationship between emotions and outcomes is consistent with some scholars' argument that emotions directly cause behaviours and are important antecedents of individuals' actions (Baumeister, Vohs, DeWall, & Zhang, 2007; Baumeister, DeWall, Vohs, & Alquis, 2010). Direct causality between emotions and behaviours implies that behaviours, or at least their

beginnings, are contained in emotional states. For example, anger may naturally contain some incipient motor movements associated with fighting and hostile behaviours. Alternatively, any emotional state in the brain may directly activate other brain regions responsible for initiating certain behaviours (Baumeister, Vohs, DeWall, & Zhang, 2007).

Mediating role of WID

The other hypothesised mechanism through which need satisfaction might transmit its effect on OCB and CWB was the mediating role of WID between need satisfaction and OCB/CWB. In this research, higher levels of need satisfaction were associated with higher levels of WID. The more individuals felt that their psychological needs were being met in their workplace, the more they were likely to identify with their workgroup. In other words, the more likely they were to incorporate their workgroup as an important part of their self-concept and identity, and to feel psychological oneness and attachment with it (Dutton, Dukerich, Harquail, 1994; Tajfel & Turner, 1986).

The relationship between WID and the outcomes was more complicated, however. While the zero-order correlation between WID and OCB was significantly positive, this relationship became insignificant when included in the model along with need satisfaction and Positive Emotional State. Since positive emotions were shown to be a major motivating factor behind OCB, it could be argued that if research has shown that WID leads to higher OCB (e.g., Riketta, 2005; Van Dick et al., 2006; Van Dick, Wagner, Stellmacher & Christ, 2006) that might be because it is associated with higher levels of positive emotions. When these positive emotions were accounted for in the model, the rest of the variance in WID did not contribute significantly to the

desire of individuals to engage in OCB any more. This suggests that identification with the workgroup and the perception of psychological oneness and attachment with the workgroup *per se* may not motivate individuals to go the extra mile, help others, and exert more efforts on the job, unless that perception is associated with positive emotions. Previous literature on the relationship between WID and OCB, although supports the positive relationship between WID and OCB (e.g., Wagner, Stellmacher & Christ, 2006; Van Dick et al., 2006), fails to explain the mechanisms through which WID exactly leads to OCB. While some have argued that this relationship is mainly due to individuals' identity concerns and the fact that once they are identified with their workgroup they would want to act on behalf of their group to protect it and essentially protect their identity (e.g., Dutton, Dukerich, Harquail, 1994; Haslam & Ellemers, 2005), this study showed that positive emotions associated with WID are the more important factors in the relationship between WID and outcomes. Therefore, if WID is related to positive outcomes in the workplace, it would not be merely because individuals want to protect and save their identity, but rather it might be because of the positive emotions associated with WID.

In the case of CWB, the zero-order correlation between WID and CWB was nonsignificant, however, when WID was included in the model along with need satisfaction and Negative Emotional State, this relationship became significant, and surprisingly positive. It should be noted that the found positive indirect effect of need satisfaction on CWB through WID although significant, was very small. Therefore this finding should be interpreted with caution and future research should delve further into the nature of WID to find out if there are any undesirable qualities associated with high WID that might lead to negative behaviours such as CWB.

In conclusion, results of this study shows that the likely reason that need satisfaction leads to OCB and CWB is through the positive or negative emotions associated with it, and those emotional states are probably the major mechanism involved. WID on the other hand, although is associated with need satisfaction, does not play a strong mediating role between need satisfaction and outcomes.

Directions for Future Research

SDT needs and their importance. *Autonomy.* It was argued that people may get accustomed to having choices and Autonomy on the job and therefore may not sense it any more over time. Future research however could investigate if this will still be the case in jobs and organizations where being autonomous and having freedom on the job is not given. It is likely that in certain jobs in which employees in general have little Autonomy (e.g., low level jobs, factory operators, etc.), being Autonomous and being able to make choices for oneself would be perceived more strongly and have an energizing effect as much as satisfaction of the needs for Competence and Relatedness does.

Relatedness. It was argued that a high level of Relatedness may increase individuals' expectations and consequently may lead to instances of CWB if those expectations are not met. Future research could investigate if in fact a high Relatedness organizational climate (i.e., warm and close relationships between all individuals) does increase expectations from each other in any way and if so, how differently individuals may engage in CWB in such a climate compared to organizations in which the Relatedness climate is in general low. It would be interesting to find out if certain kinds of CWB are more or less likely to happen in organizations with generally warmer relationships between employees.

Additionally, it was noted that the reported low level of Relatedness satisfaction may not necessarily be associated with higher rates of CWB, as individuals may not always expect to have their Relatedness need satisfied in the workplace (e.g., Talaei et al, 2015). For example, some individuals may have a very high level of Relatedness satisfaction in the other groups to which they belong (e.g., family, outside of work friends) (Triandis, 1994) that they may not feel any intense need to have their Relatedness satisfied in their workplace as well. Future research could investigate if in fact having very high quality relationships outside the workplace decreases the value that individuals put on their level of Relatedness satisfaction in the workplace.

SCARF needs and their importance. *Similarity.* It was suggested that perceived similarity between employees may be beneficial in the workplace only to the extent that it contributes to the feeling of being cared for and accepted in the group unconditionally (i.e., SDT's conceptualization of Relatedness). Consequently, individuals' need for Relatedness in the workplace may still be satisfied to a great extent without them being similar to each other. This suggests that having a diverse workforce does not necessarily create more conflicts and problems between employees (cf. Morrison & Milliken, 2000; Westphal & Milton, 2000; Mannix & Neale, 2006). Future research however can explore the concept of perceived Similarity between employees in a more specific way. For example, it would be interesting to know which aspects of Similarity would contribute more strongly to the satisfaction of the need for Relatedness and which aspects are least important in this respect. For example, in addition to age, race, and gender, similarity in personality traits (see O'Neill, & Allen, 2014), motivational orientations (e.g., Hyun, & Kang, 2014), and values (e.g., Schwartz, 1992), could be examined in future studies.

Status. Given that Status is related but is not necessary equated with higher rank in the workplace (Anicich et al 2016; Hays, & Bendersky, 2015), its interaction with employees' actual rank in affecting their work behaviours would be an interesting direction for future research. For example, it would be interesting to find out how having a high rank but low Status - relative to the level of Status expected from that rank- would affect employees' behaviours. Alternatively, it could be examined how influential Status is in work behaviours for employees with lower ranks compared to higher ranked employees. Comparing different job levels within organizations in this respect could give researchers new insight on the nature and importance of Status in the workplace.

Certainty. It was suggested that other than being competent in doing the core job tasks, being able to predict work related events, being clear on all the rules and regulations, procedures, expectations and industry knowledge may all be different factors contributing to the general feeling of being competent in the workplace. Future research could investigate what the different work related factors are that lead to the general perception of being a competent employee and how differentially they might be related to OCB and CWB.

Fairness. It was argued that the relationships found between Fairness and an array of outcomes in the workplace (e.g., Moorman, 1991; Blakely, Andrews, and Moorman, 2005), may be largely due to its association with basic psychological needs satisfaction. For example, being treated fairly for some might be an indicator of being cared for (i.e., Relatedness), and that might be a possible reason for the positive relationship between Fairness and positive outcomes in the workplace. Future research could further investigate that other than the perception of being treated fairly and being similar to others on different aspects as mentioned above, what other

factors individuals take into account to decide whether they have high Relatedness in the workplace. Results of such research may help managers know in what ways they can satisfy employees' need for Relatedness.

The role of Emotional States and WID as mediating variables. *Emotional States*. The significant indirect effect of need satisfaction on OCB/CWB through Emotional States suggests that a major mechanism involved between need satisfaction and outcomes is individuals' experienced positive or negative emotions in the workplace. It is however possible that despite the fact that participants were instructed to report their emotional states in the workplace, their general trait affectivity has influenced their responses regarding their state emotions while being at work. As a result, future studies could look into the interaction between trait positive/negative affectivity and Positive/ Negative Emotional States in the workplace. Such studies are suggested to use different sources for gathering data regarding trait affectivity and emotional states in the workplace in order to avoid the problem of common method bias.

WID. It was found that higher levels of WID were associated with higher levels of CWB. However, given that the effect of WID on CWB was very small in this study, future research should further replicate these results before any definitive conclusion about the relationship between WID and CWB could be made.

The direct path between need satisfaction and OCB/CWB. In both the OCB and CWB models, the direct path between need satisfaction and outcomes was still significant after including the WID and Emotional States in the models. This means that other mechanisms are involved between need satisfaction and OCB /CWB and that other than WID and Emotional States there are other reasons that cause need satisfaction to lead to OCB/CWB. Given the close relationship of basic psychological

need satisfaction and self-esteem (see Deci & Ryan, 2000, 2002; Ryan & Deci, 2008) the following suggested directions for future research are mainly focused on how need satisfaction could affect OCB/CWB through its influence on individuals' self-esteem.

Self-esteem and Self-Consistency Theory. It is possible that need satisfaction leads to higher levels of OCB and lower levels of CWB through increasing individuals' state self-esteem in the workplace (i.e., feeling of being a worthy employee). According to Self-Determination Theory, self-esteem is the result of satisfaction of the psychological needs of Autonomy, Competence, and Relatedness (Deci & Ryan, 2002; Ryan & Brown, 2003). As a general rule, the more these needs are satisfied, the more individuals feel worthy about themselves and the higher their self-esteem will be. Therefore, satisfaction of these needs in the workplace could positively affect the state self-esteem of individuals in the workplace. On the other hand, Self-Consistency Theory (Korman, 1970) contends that individuals are motivated to maintain consistency between their self-esteem and performance. That is, individuals tend to engage in behaviours which are consistent with their self-image and self-cognitions (Korman, 1970). Specifically, those with positive images of themselves would engage in behaviours and adopt attitudes that would reinforce their positive self-image, and those with negative images of themselves would engage in behaviours (or withhold effort) and adopt attitudes that are consistent with their negative self-image. As a result, individuals with a negative view of themselves would be more inclined to engage in behaviours that verify the negative view that they have of themselves while those with a positive view of themselves would be more likely to engage in behaviours that verify their positive self-image. Future research therefore, could investigate if satisfaction of basic psychological needs in the

workplace might have an influence on OCB and CWB by affecting individuals' self-esteem in the workplace.

Self-esteem and projection mechanism. Other than the desire of individuals to maintain consistency between their self-images and their behaviours (i.e., Self-Consistency Theory) (Korman, 1970), the positive or negative feelings and thoughts of individuals about themselves (associated with their self-esteem) could be projected to others in the workplace and make individuals more prone to engage in positive or negative behaviours accordingly (see Kernberg, 1987; Maner et al, 2005). One form of projection mechanism related to this process involves generalizing one's own feelings and thoughts to others. In this kind of projection, the assumption is that the other person shares one's own beliefs and feelings and that he or she basically *thinks alike* (Cramer, 2006). When, for example, individuals have a negative view of themselves they tend to believe that others also think the same way about them (Schimel, Greenberg, & Martens, 2003). As a result, they might become inclined to behave in accordance to what they think others believe about them and expect from them based on that belief. This could happen due to the Pygmalion effect, meaning that individuals adjust their behaviours based on what they think others expect from them (Rosenthal & Jacobson, 1968, 1992).

Another form of projection involves the attribution of one's thoughts and feelings about himself or herself to others (Cramer, 2006). In this form of projection if individuals believe that they are incompetent and deserving of disgust, they would completely deny such negative qualities in themselves and instead believe that others are incompetent and disgusting. This form of projection would happen mainly for negative qualities as such qualities are completely unacceptable for individuals and need to be projected to others. Once other individuals are seen as having the negative

qualities that one hates, they will be more easily and justifiably deserving of poor treatment and even hostile behaviours (see Maner et al, 2005).

The last form of projection involves attributing the responsibility of one's unwanted negative characteristics to others (Cramer, 2006). For example, individuals may acknowledge the existence of undesirable qualities in themselves, but they will blame others for such negative qualities. Clearly, once this happens individuals will be more likely to engage in retaliatory behaviours towards the perceived sources of their undesirable conditions. Future research could investigate if any of these mechanisms are involved in the tendency of individuals to engage in different forms of OCB and CWB.

Need satisfaction and coping strategies. Dissatisfaction of each of the psychological needs of Autonomy, Competence, and Relatedness could cause individuals to engage in certain negative behaviours as an attempt to cope with dissatisfaction of that specific need. Engaging in CWB has been described as a method of coping with organizational stressors (Krischer, Penney, & Hunter, 2010). However, the current literature on the relationship between coping and CWB is almost exclusively focused on how *avoidance* of stressful situations (e.g., taking long breaks) could help individuals regain their mental energy. This mental energy itself is regarded as an important resource that further helps individuals overcome stressful situations successfully (Hobfoll, 1989).

Drawing on SDT, a different approach in respect to coping with stressful situations in the workplace could be suggested. On the one hand, as suggested earlier, organizational stressors might be perceived stressful because they hinder basic psychological need satisfaction. For instance, limitations in the workplace which has

been identified as a major organizational stressor (Fox, Spector, & Miles, 2001)

clearly is related to dissatisfaction of the need for Autonomy. Also, lack of good

relationships with others is exactly corresponding to dissatisfaction of the need for

Relatedness. On the other hand, it follows that if dissatisfaction of these needs causes

individuals to feel stressed in the workplace, then satisfaction of the same needs in

different ways would be the most direct way that could help individuals overcome

those stressors in the workplace. In essence, according to SDT, the energy required to

overcome stressful situations in the workplace is generated by satisfaction of

psychological needs and not by avoiding the stressful situation. More specifically,

feeling stressed due to dissatisfaction of each of these needs could be overcome most

easily and efficiently by satisfaction of the same need.

As for the need for Competence, it could be argued that if individuals' need for

Competence is not properly satisfied in their workplace in expected normal ways, they

may find other ways to satisfy it and compensate their lack of Competence. For

example, by acting aggressively individuals could feel that they have control over

their environment and regain their feeling of being competent. It should be noted

however that any compensatory attempt to restore the feeling of Competence would

be an intense and conspicuous one as it is aimed to assure the person that he or she is

in control of the environment as fast as possible. That is to say, feeling competent at a

simple task or in a regular way would not help the person much self-affirm his or her

Competence.

Similar to coping with lack of Competence in the workplace individuals could also

find ways to cope with dissatisfaction of the need for Relatedness, which may not be

particularly beneficial to the organization or others. If individuals do not get the kind

of close relationships and acceptance that they expect from their group or feel rejected

by their group in any way, they may just completely devalue and dismiss the group in an attempt to diminish the felt resentment by feeling that *they* are not interested in the group themselves not that they have been denied of something that they value a lot. This rationalization (Kay, Jimenez, & Just, 2002) would result in them not caring about the group anymore and become less concerned about the group which could translate to less OCB and more CWB.

In respect to the need for Autonomy it should be noted that Autonomy basically is about acting consistent with one's true inside feelings (Deci & Ryan, 2000, 2002). If the need for Autonomy is frustrated, individuals would want to compensate it in ways that are conspicuous and outrageous enough that could clearly assure them that they can in fact act in whatever way they wish. Autonomy at its extreme could be reflected in individuals' desire to show that they can do whatever they want regardless of the situation, rules and regulations, and against what is required from them by supervisors or others in the workplace. Essentially, it is about not controlling oneself and acting completely in accordance with what one wants. As a result, individuals may try to act in their own way, not follow orders or rules, or deliberately try to act against the norms only to show that *they* determine what to do and how to do it. This way they will be able to temporarily restore their feeling of being autonomous in the workplace.

Although it is suggested that the most direct way to cope with an organizational stressor is to satisfy the specific need which was thwarted in the first place, these needs might be interrelated in their role in helping individuals cope with organizational stressors, as according to SDT, all the basic psychological needs are equally important (Ryan & Deci, 2000). That is to say, for example, although if the need for Competence is frustrated in the workplace, the best way to cope with it would be engaging in behaviours that directly satisfy the need for Competence,

although satisfaction of the other needs might also help with that coping process, as according to SDT, Competence, Relatedness, and Autonomy are all just different sources of the same kind of psychological energy (Deci & Ryan, 2000; Ryan & Deci, 2008). For example, if individuals feel that their need for Autonomy is thwarted in the workplace, they might tend to create closer relationships with others (heighten Relatedness) as a way to compensate for it. Alternatively, if they feel that their need for Relatedness is not satisfied properly in the workplace, they may try to compensate it by becoming the most competent and accomplished person in the workplace. Future research could look into different ways that satisfaction of these needs may interact with each other to influence employees' positive and negative behaviours.

Finally, it should be mentioned that although the purpose of this study was to investigate the predictive power of need satisfaction in relation to OCB/CWB and the possible mechanisms through which need satisfaction might transmit its effect on OCB/CWB, there might be other important antecedents to OCB and CWB that are worth taking into account if researchers are interested in developing a comprehensive model to predict OCB and CWB. For example, although findings regarding individual antecedents of OCB/CWB have not been consistent and conclusive in the literature (see Borman, et al., 2001), narrower and more relevant personality traits to OCB/CWB might be worth taking into account. Instead of the Big Five personality traits that are commonly used in psychological studies, researchers might get better results using specific personality traits related to helping behaviours (e.g., altruistic personality), or personality traits that might make individuals more prone to engaging in CWB (e.g., anti-social personality, etc.). Also, although most contextual antecedents of OCB/CWB are arguably captured by SDT needs, there might be other less investigated contextual factors that could be influential in making people engage

in OCB/CWB. Workgroup culture and climate (Cooke & Szumal, 2000; Ashkanasy, Wilderom, & Peterson, 2000) for example might play an influential role in relation to OCB and CWB. Ethical climate of the workgroup (Shin, 2012) might encourage or discourage employees to engage in CWB (see Ottinot, 2011). A people oriented culture might also make people more willing to help each other rather than a competitive culture (see Hakan, 2011; Mohanti & Rath, 2012). Additionally, although participants in this study were asked to specifically report their level of need satisfaction in the workplace it is wise to consider that individuals' general level of need satisfaction resulting from other domains (e.g., family) spills over their work and affects how they report their need satisfaction in the workplace. Future research can investigate how each of these additional contextual factors might contribute to individuals' level of engagement in OCB and CWB.

Practical Implications

According to the results of this study managers could increase the level of engagement in OCB and decrease the level of engagement in CWB by implementing interventions aimed at enhancing the level of psychological need satisfaction of employees in the workplace. Specifically, they could design workplaces that increase employees' felt Competence (e.g., making use of employees' unique talents, skills, and abilities, considering person-organization fit in the selection process, etc.), Relatedness and respect in order to encourage more instances of OCB. They could also decrease CWB by designing workplaces such that perceived outside pressure is minimized and employees' need for Autonomy and Certainty regarding different aspects of their work life could be properly satisfied.

Given that Similarity between employees was not a major contributing factor to employees' willingness to engage in OCB or CWB in this research, managers could take advantage of having a diverse workforce without fearing that the dissimilarities between employees would do more harm than good. By making sure that employees' need for Relatedness is satisfied in the workplace, managers could potentially avoid any potential negative consequences or conflicts that dissimilarity between employees may create.

Managers could also directly focus on increasing positive emotions in the workplace and decrease negative emotions to induce employees to engage in more OCB and fewer CWB. Incorporating positive events in the workplace could serve this purpose by making employees experience higher levels of positive emotions and lower levels of negative emotions. In fact, although some managers may be worried about the negative distracting effects of making work fun for employees, recent research shows that interventions to increase positive emotions and joy in the workplace increases persistence by energizing individuals and does not hinder productivity (Weng & Chang, 2014).

As in this study Fairness had an effect on OCB and CWB through its effect on satisfaction of the basic psychological needs, managers should focus on other ways of increasing the level of employees' need satisfaction as well rather than just being concerned about a strict equal ratio of inputs and outputs of employees.

Interventions to increase WID may not *per se* have a positive effect in the workplace. This means that interventions typically implemented to increase the level of WID are not necessarily associated with positive emotions and may not be beneficial. For example, interventions aimed to increase employees' identification

with their organization such as having employees wearing the same uniforms, making the boundaries between the group and other groups salient, making employees aware of a common outside threat (e.g., rivals), or enhancing the image of the workgroup for outsiders (i.e., construed external image) (see Haslam, Van Knippenberg, Platow, & Ellemers, 2014) may not be effective if they are not associated with positive emotions in the group.

Perhaps by increasing the level of perceived trust in the workplace (Colquitt, Scott, & LePine, 2007; McKnight, Cummings, & Chervany, 1998; Six, 2005) managers could prevent individuals from engaging in certain CWBs as a way to verify the strength of their relationship with their workgroup. Such interventions should make employees believe that their connection to their workgroup is strong and stable, and would continue overtime.

Limitations

All variables in this study were measured using self-report measures and therefore relationships between them can be inflated due to the common method variance (Podsakoff, MacKenzie, Podsakoff & Lee, 2003). Podsakoff and colleagues (2003) suggest obtaining data using different sources such as employees, coworkers and supervisors. However, other than OCB and CWB that are behaviour based, the rest of the measures in this study were aimed to capture employees' personal feelings and attitudes, and therefore self-report is the most appropriate means of assessing these variables (Chen et al., 2005). Further, although it has been argued that self-report measures of OCB and CWB may be skewed and that supervisors are the best people to obtain data from regarding employees (Podsakoff & Organ, 1986), this suggestion has been contested. For example, many OCBs and CWBs may not be performed in

front of a supervisor or coworkers and consequently individual employees may be in the best position to report the extent to which they have engaged in these behaviours (Moorman, 1991). Consistent with this argument, a meta-analysis by Berry, Carpenter, and Barratt (2012) showed that using self-reports in most CWB research is a viable alternative to observer-reports. They found that self-reports provided more reliable and valid measurements of CWB than observer report did. In fact, self-report and observer-report of CWB are highly correlated. But when observer-reports are used, the frequency of CWB might be under reported, perhaps, due to the fact that most CWBs are intentionally done in an unnoticeable manner (Berry et al., 2012; Spector & Fox, 2005; Dalal, 2005). Therefore, Berry et al. (2012) has recommend measuring CWB using self-report questionnaires and making sure that respondents' anonymity will be preserved. Having participants complete the questionnaires online could be very helpful as it would increase their sense of privacy. Nevertheless, the extent to which using self-report measures affects research conclusions is still inconclusive. Although the result of the Harman's single factor test indicated that common method bias accounted for only 27% of the variance among the items, the influence of this bias on the findings of this study cannot be completely ruled out as according to the Harmans' test it was not completely nonexistent. It is therefore suggested that future research use a combination of sources for data collection to overcome this issue.

Another potential problem associated with using self-reports is the social desirability bias. Although social desirability could potentially have a strong effect on such sensitive topics as OCB and CWB, it would be of less concern in this study as this study was conducted on Amazon Mechanical Turk which is an online and anonymous participant recruitment tool. Consequently, participants would have no

concern about being identified by their supervisors or the researcher and therefore, their social desirability, would likely not have a strong or influential effect on their reported OCB and CWB. Nevertheless, participants' self-deceptive positivity (individuals' tendency to give self-report responses that are honest but positively biased) (Paulhus, 1984) might still be problematic even if they are completely assured that their responses will remain unidentifiable.

Another limitation of this study is that the data are cross-sectional and therefore causal inferences cannot be drawn. That said, the proposed models were based on theoretical considerations and although no inferences should be drawn regarding the causality between the variables, alternative models are less conceivable. Nevertheless, the cross-sectional nature of this study prevents any definitive conclusions being drawn about causal relationships between the variables. As a result, replicating this study with a longitudinal design could provide better insights into the causal relationships between the variables in this study.

Another potential problem with obtaining data from participants at one point of time is that the specific time at which employees complete the survey might influence and bias their responses. For example, having a good or bad day while responding the survey might positively or negatively affect their attitudes and responses. To overcome this potential problem, participants were specifically instructed to refer to their average feelings and attitudes they typically experience, or to the rate of behaviours that they have engaged in over the past. That said, it is still very possible that participants were influenced by certain events at the time of answering the survey, even if they tried to ignore them.

The results of this study should be generalized with caution. While this study included participants from various industries from different organizations, and job levels, and therefore the result of this study is not restricted to particular industry or organization and might be generalizable to a wide range of industries and occupations. However, participants in this study were all recruited from Amazon Mechanical Turk which is a crowdsourcing platform for recruiting research participants. Although Amazon Mechanical Turk has become a widely popular participant recruitment tool among researchers (Mason & Suri, 2012), its workers may not be exactly representative of the population of all employees. Amazon workers are willing to complete surveys for a very small amount of compensation; since not everybody would be willing to do the same thing, the Amazon Turk workers population might be qualitatively different from the population of general employees. Given that the participants in this study were from a wide range of industries and from different job levels and income categories it is hard to determine exactly how this sample might be different from the general population of employees and how such differences might have affected the results of this study. Although there is evidence that the AMT subject pool is no worse than any other convenience samples used by researchers (Buhrmester, Kwang, & Gosling, 2011), recruiting participants for research projects from AMT or similar online pools is still at its nascent stage and further research is required to establish the validity of findings of studies done on such online samples.

Another common problem with online studies is the possibility of respondents completing the survey without paying enough attention to items. To overcome this problem two attention check items were added among the items, and data from those participants who had not responded to those items as instructed were removed from

the dataset. That said, Insufficient Effort Responding (IER) is always a threat to

validity even in paper and pencil surveys (Liu, Bowling, Huang, & Kent, 2013).

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APPENDICES

Appendix A

Tables

Table 1

Education	Percentage
High School/GED Degree	8.5%
Some College Degree	20%
Associate's Degree	10.5%
Four Year College Degree	35%
Some Graduate Studies	8%
Graduate Degree	13.5%

Table 2

Job Level	Percentage
Senior Manager	4.5%
Manager	32%
Non-Supervisory Job	58.5%

Table 3

Annual Income	Percentage
Under $19,999	16%
$20,000-$39,999	34.5%
$40,000-$59,999	22.5%
$60,000-$79,999	10.5%
$80,000-$99,999	7%
$100,000-$120,999	1.5%
Over $120,000	3%

Table 4

Zero-Order Correlations Between Variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1.Age	1																
2.Gender	.19**	1															
3.Tenure	.44**	.00	1														
4. Exch. Id.	-.19**	-.08	.03	1													
5. Autonomy	.10	.03	.04	-.21**	1												
6.Competence	.14*	.08	.11	-.19**	.35**	1											
7.Relatedness	.05	-.01	.06	-.18**	.64**	.40**	1										
8.Status	-.01	-.07	.09	-.08	.49**	.43**	.57**	1									
9.Certainty	.05	.06	.04	-.18**	.42**	.66**	.39**	.37**	1								
10.Fairness	.12*	.07	.12*	-.10	.69**	.37**	.49**	.51**	.48**	1							
11.Need Sat. T	.11	.03	.08	-.24**	.87**	.61**	.89**	.62**	.55**	.66**	1						
12.Similarity	-13*	-.17**	-.05	-.22**	.28**	.17**	.42**	.32**	.21**	.18**	.38**	1					
13.WID	.14*	.23**	.05	-.08	.38**	.26**	.47**	.46**	.20**	.43**	.48**	.27**	1				
14. Pos. Affect	.13*	.07	-.03	-.21**	.43**	.47**	.48**	.46**	.45**	.44**	.56**	.31**	.44**	1			
15. Neg. Affect	-07	.04	-.07	.24**	-.48**	-.38**	-.44**	-.40**	-.44**	-.47**	-.54**	-.24**	-.10	-.32**	1		
16. OCB	.05	.14*	-.03	-.32**	.45**	.59**	.49**	.45**	.49**	.37**	.60**	.28**	.32**	.54**	-.42**	1	
17. CWB	.07	-.14*	.01	.31**	-.36**	-.30**	-.34**	-.22**	-.35**	-.26**	-.41**	-.15**	-.07	-.29**	.57**	-.47**	1

Table 5

Regression Analysis Results for Step 1

	Variables	B	SE B	β	sr
Step 1					
	Age	-.038	.08	-.033	-.027
	Gender	2.97	1.566	.11	.108
	Tenure	-.037	.187	-.013	-.011
	Exch.	-.718**	.128	-.328	.319
	Intercept	97.435			R² = .12
					Adj. R² = .11

Outcome: OCB

*p < .05.
**p < .01.

Table 6

Regression Analysis Results for Step 2

	Variables	B	SE B	β	sr
Step 2					
	Age	-.07	.061	-.062	-.053
	Gender	2.612*	1.200	.097	.094
	Tenure	-.213	.143	-.073	-.064
	Exch.	-.400**	.100	-.183	-.173
	Autonomy	.202	.105	.112	.083
	Competence	1.495**	.169	.432	.384
	Relatedness	.407**	.104	.230	.169
	Intercept	38.272			R² = .49
					Adj. R² = .48
					R² change = .37

Outcome: OCB

*p < .05.
**p < .01.

Table 7

Regression Analysis Results for Step 1

	Variables	B	SE B	β	sr
Step 1					
	Age	.000	.001	.015	.013
	Gender	-.040*	.020	-.120	-.117
	Tenure	.000	.002	-.009	-.008
	Exch.	.008**	.002	.290	.282
	Intercept	1.335			R² = .10
					Adj. R² = .09

Outcome: CWB

*p < .05.
**p < .01.

Table 8

Regression Analysis Results for Step 2

	Variables	B	SE B	β	sr
Step 2					
	Age	.000	.001	.032	.028
	Gender	-.038*	.019	-.114	-.110
	Tenure	.001	.002	.021	.019
	Exch.	.005**	.002	.199	.188
	Autonomy	-.004*	.002	-.183	-.136
	Competence	-.008**	.003	-.173	-.154
	Relatedness	-.002	.002	-.112	-.082
	Intercept	1.733			R² = .23
					Adj. R² = .21
					R² change = .13

Outcome: CWB

*p < .05.
**p < .01.

Table 9

Regression Analysis Results for Step 3

	Variables	B	SE B	β	sr
Step 3					
	Age	-.054	.061	-.044	-.038
	Gender	2.942*	1.198	.109	.105
	Tenure	-.238	.143	-.081	-.071
	Exch.	-.403**	.100	-.184	-.173
	Autonomy	.164	.127	.091	.056
	Competence	1.255**	.213	.363	.254
	Relatedness	.321**	.109	.182	.127
	Status	.39*	.15	.15	.11
	Certainty	.21	.17	.07	.05
	Fairness	-.09	.14	-.04	-.03
	Intercept	34.815			R^2 = .51
					Adj. R^2 = .49
					R^2 change = .01

Outcome: OCB

*$p < .05$.

**$p < .01$.

Table 10

Regression Analysis Results for Step 3

	Variables	B	SE B	β	sr
Step 3					
	Age	.000	.001	.026	.022
	Gender	-.039*	.019	-.114	-.110
	Tenure	.000	.002	.012	.011
	Exch.	.005**	.002	.190	.178
	Autonomy	-.005*	.002	-.200	-.123
	Competence	-.003	.003	-.074	-.052
	Relatedness	-.003	.002	-.115	-.080
	Status	.000	.002	.004	.003
	Certainty	-.007*	.003	-.091	-.134
	Fairness	.002	.002	.088	.059
	Intercept	1.789			R^2 = .25
					Adj. R^2 = .23
					R^2 change =.02

Outcome: CWB

*$p < .05$.

**$p < .01$.

Table 11

Parallel Mediation Analysis

Antecedents		M1 Coeff.	SE	P		M2 Coeff.	SE	P		Y Coeff.	SE	P
X (Need Sat.)	a_1	.173**	.017	.000	a_2	.264**	.03	.000	c´	.368**	.049	.000
M1 (Pos. Em.)		-------	-------	-------		-------	-------	-------	b_1	.716**	.147	.000
M2 (WID)		-------	-------	-------		-------	-------	-------	b_2	-.037	.084	.659
Constant		12.313				-.828				43.073		
		R^2= .322**				R^2= .282**				R^2= 467**		

Outcome: OCB

*$p < .05.$
**$p < .01.$

Table 12

Indirect effects

	Effect	SE	BootLLCI	BootULCI
Pos. Em.	.1237	-0359	.0647	.2019
C.S.I.E*	.1493	.0436	.0780	.2458
WID	-.0098	.0279	-.0619	.0469
C.S.I.E*	-.0118	.0336	-.0752	.0572

*Completely Standardized Indirect Effect of X on Y (OCB).

Table 13

Parallel Mediation Analysis

Antecedents		M1 Coeff.	SE	P		M2 Coeff.	SE	P		Y Coeff.	SE	P
X (Need Sat.)	a_1	-.154**	-.015	.000	a_2	.264**	.03	.000	c′	-.002*	.001	.005
M1 (Neg. Em.)		-------	-------	-------		-------	-------	-------	b_1	.017**	.002	.000
M2 (WID)		-------	-------	-------		-------	-------	-------	b_2	.003*	.001	.018
Constant		19.49				-.828				1.364		
		R^2= .329**				R^2= .282**				R^2= 397**		

Outcome: CWB

$p < .05$.

$p < .01$.

Table 14

Indirect effects

	Effect	SE	BootLLCI	BootULCI
Neg. Em.	-.003	.0005	-.0036	-.0017
C.S.I.E*	-.2456	.0436	-.3381	-.1675
WID	.0007	.0003	.0001	.0013
C.S.I.E*	.0663	.0292	.0148	.1270

Completely Standardized Indirect Effect of X on Y (CWB).

Appendix B

Demographics

Please fill in the blanks below to give us some basic information about yourself.

Age: _____

Gender: _____ (e.g., male)

How long have you been working for your current organization? _____ (years)

What is your current job level?

- ☐ Senior Manager
- ☐ Manager
- ☐ Non-Supervisory Job

Your level of education?

- ☐ Did not complete high school
- ☐ High school/GED
- ☐ Some college
- ☐ Associate degree
- ☐ 4 year college degree
- ☐ Some graduate studies
- ☐ Graduate degree

Your yearly income?

☐ under $19,999
☐ $20,000-$39,999
☐ $40,000-$59,999
☐ $60,000-$79,000
☐ $80,000-$99,999
☐ $100,000-$119,999
☐ over $120,000

Please in the box below mention the industry in which you work (e.g., Sales, etc.):-----
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Appendix C

Work-Related Basic Need Satisfaction

Van den Broeck, A., Vansteenkiste, M., De Witte, H., Soenens, B., & Lens, W. (2010). Capturing autonomy, competence, and relatedness at work: Construction and initial validation of the Work-related Basic Need Satisfaction scale. *Journal of Occupational and Organizational Psychology, 83*(4), 981-1002.

Below are some statements about different aspects of your current job. While what you feel and experience on your job may differ from day to day, we are interested about your general feelings, thoughts, and experiences on your current job.

Please indicate the extent to which you AGREE or DISAGREE with each of the following statements.

Please choose from the following answers:

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Disagree nor Agree	Slightly Agree	Moderately Agree	Strongly Agree
1	2	3	4	5	6	7

1- I feel like I can be myself at my job.

2- At work, I often feel like I have to follow other people's commands.

3- If I could choose, I would do things at work differently.

4- The tasks I have to do at work are in line with what I really want to do.

5- I feel free to do my job the way I think it could best be done.

6- In my job, I feel forced to do things I do not want to do.

7- I really master my tasks at my job.

8- I feel competent at my job.

9- I am good at the things I do in my job.

10- I have the feeling that I can even accomplish the most difficult tasks at work.

11- I don't really feel connected with other people at my job.

12- At work, I feel part of a group.

13- I don't really mix with other people at my job.

14- At work, I can talk with people about things that really matter to me.

15- I often feel alone when I am with my colleagues.

16- Some people I work with are close friends of mine.

Appendix D

Perceived Similarity

Aron, A., Aron E. N., & Smollan, D. (1992). Inclusion of other in the self scale and the structure of interpersonal closeness. *Journal of Personality and Social Psychology, 63*, 596-612.

The purpose of this section is to find out how much you feel you have in common with your coworkers in your workgroup and the extent to which you think you are overall similar to your workgroup.

Please choose one of the diagrams below that bests represents your level of similarity to your workgroup.

Self   Workgroup

1

Self   Workgroup

2

Self   Workgroup

3

4

5

6

7
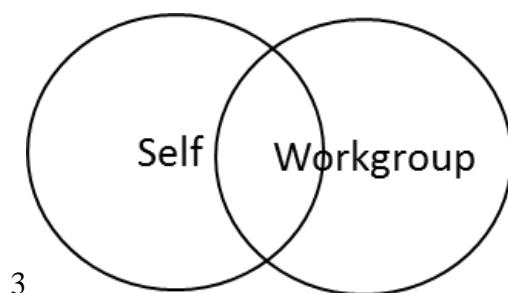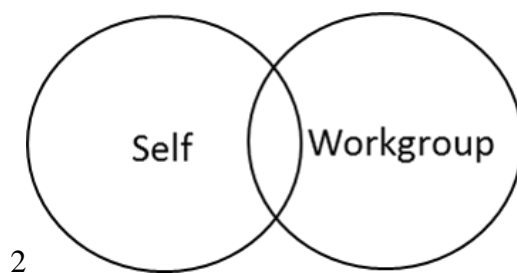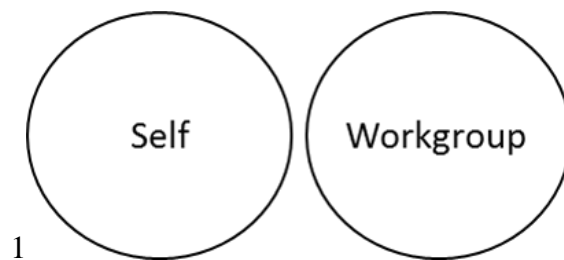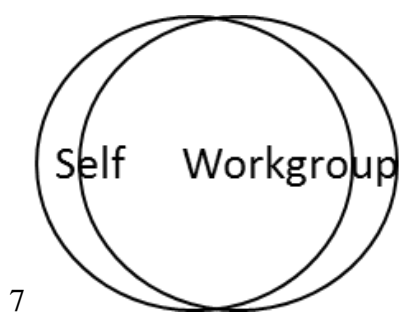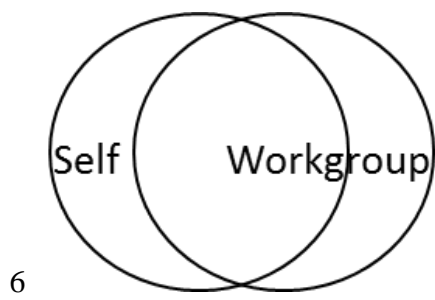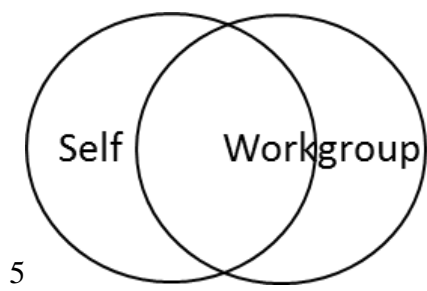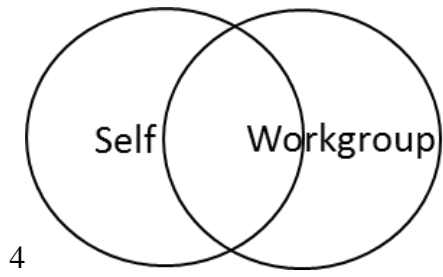
Appendix E

Status

Anderson, C., Ames, D. R., & Gosling, S. D. (2008). Punishing hubris: The perils of overestimating one's status in a group. *Personality and Social Psychology Bulletin, 34*, 90-101.

Please indicate the extent to which you AGREE or DISAGREE with each of the following statements.

 Please choose from the following answers:

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Disagree nor Agree	Slightly Agree	Moderately Agree	Strongly Agree
1	2	3	4	5	6	7

1- I have respect among the people in my workgroup.

2- I have influence on my coworkers in my workgroup.

3- I have power over the people in my workgroup.

4- I have prominence among the people in my workgroup.

Appendix F

Certainty

Murphy, C. A., & Gable, K. (1988). Validity and reliability of the original and abridged role conflict and ambiguity scales. *Educational and Psychological Measurement, 48*(3), 743-751.

Please indicate the extent to which you AGREE or DISAGREE with each of the following statements about your <u>current job</u>.

Please choose from the following answers:

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Disagree nor Agree	Slightly Agree	Moderately Agree	Strongly Agree
1	2	3	4	5	6	7

1- I know exactly what is expected of me in my job.

2- I know what my responsibilities are in my job.

3- I feel certain about how much authority I have in my job.

4- There are clear, planned goals and objectives for my job.

5- Explanation of what has to be done is clear.

Appendix G

Fairness

Niehoff, B. P. & Moorman, R. H. (1993). Justice as a mediator of the relationship between methods of monitoring and organizational citizenship behavior. *Academy of Management Journal, 36*, 527-556.

Please indicate the extent to which you AGREE or DISAGREE with each of the following statements about your current job.

Please choose from the following answers:

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Disagree nor Agree	Slightly Agree	Moderately Agree	Strongly Agree
1	2	3	4	5	6	7

1- My work schedule is fair.

2- I think that my level of pay is fair.

3- I consider my work load to be quite fair.

4- Overall, the rewards I receive here are quite fair.

5- I feel that my job responsibilities are fair.

Appendix H

International Positive and Negative Affect Short Form (I-PANAS-SF)

Thompson, E. R. (2007). Development and Validation of an Internationally Reliable Short-Form of the Positive and Negative Affect Schedule (PANAS). *Journal of Cross-Cultural Psychology*, 38(2), 227-242.

Please indicate how often you typically experience each of the following feelings <u>while you are at work.</u>

Please choose from the following answers:

Never	Very Rarely	Rarely	Occasionally	Somewhat Often	Often	Very Often
1	2	3	4	5	6	7

Upset

Hostile

Alert

Ashamed

Inspired

Nervous

Determined

Attentive

Afraid

Active

Appendix I

Workgroup Identification (WID)

Mael, F. A., & Ashforth, B. E. 1992. Alumni and their alma mater: A partial test of the   reformulated model of organizational identification. *Journal of Organizational Behavior, 13*(2), 103-123.

Please indicate the extent to which you AGREE or DISAGREE with each of the following statements about your workgroup. <u>Your workgroup is your coworkers and people with whom you work as a team or in the same work unit or department.</u> Please try to be as accurate as possible in giving answer to these questions.

Please choose from the following answers:

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Disagree nor Agree	Slightly Agree	Moderately Agree	Strongly Agree
1	2	3	4	5	6	7

1- When someone criticizes this workgroup it feels like a personal insult.

2- I am very interested in what others think about this workgroup.

3- When I talk about this workgroup, I usually say ''we'' rather than ''they.''

4- This workgroup's successes are my successes.

5- When someone praises this workgroup, it feels like a personal compliment.

6- If a story in the media criticized this workgroup, I would feel embarrassed.

Appendix J

Organizational Citizenship Behaviours (OCB)

Van Scotter, J.R., & Motowidlo, S.J. (1996). Interpersonal facilitation and Job dedication as separate facets of contextual performance. *Journal of Applied Psychology, 81*, 525-531.

Please indicate to what extent the following statements are true about you and your behaviours in your current job. Please try to be as honest and accurate as possible.

Please choose from the following answers.

Very Untrue of Me	Untrue of Me	Somewhat Untrue of Me	Neutral	Somewhat True of Me	True of Me	Very true of Me
1	2	3	4	5	6	7

1- I praise coworkers when they are successful.

2- I support or encourage a co-worker with a personal problem.

3- I talk to other workers before taking actions that might affect them.

4- I say things to make people feel good about themselves or the work group.

5- I encourage others to overcome their differences and get along.

6- I treat others fairly.

7- I help someone without being asked.

8- I put in extra hours to get work done on time.

9- I pay close attention to important details.

10- I work harder than necessary.

11- I ask for a challenging work assignment.

12- I exercise personal discipline and self-control.

13- I take the initiative to solve a work problem.

14- I persist in overcoming obstacles to complete a task.

15- I tackle a difficult work assignment enthusiastically.

Appendix K

Counterproductive Work Behaviours (CWB)

Skarlicki, D. P., & Folger, R. (1997). Retaliation in the workplace: The roles of distributive, procedural, and interactional justice. *Journal of Applied Psychology, 82(3),* 434-443.

Please indicate how often you have engaged in each of the behaviours mentioned below during the past 12 months in your current job. Please try to be as honest and accurate as possible.

Please choose one of the answers below.

Never	Very Rarely	Rarely	Occasionally	Somewhat Often	Often	Very Often
1	2	3	4	5	6	7

1- On purpose, damaged equipment or work process.

2- Took supplies home without permission.

3- Wasted company materials.

4- Called in sick when not ill.

5- Spoke poorly about the company to others.

6- Refused to work weekends or overtime when asked.

7- Left a mess unnecessarily (did not clean up).

8- Disobeyed a supervisor's instructions.

9- "Talked back" to your boss.

10- Gossiped about your boss.

11- Spread rumors about coworkers.

12- Gave a coworker a "silent treatment."

13- Failed to give coworker required information.

14- Tried to look busy while wasting time.

15- Took an extended coffee or lunch break.

16- Intentionally worked slower.

17- Spent time on personal matters while at work.

Appendix L

Exchange Ideology

Eisenberger, R., Huntington, R., Hutchison, S., & Sowa, D. (1986). Perceived Organizational Support. *Journal of Applied Psychology, 71(3,)* 500-507.

Please indicate the extent to which you AGREE or DISAGREE with each of the following statements.

Please choose from the following answers:

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Disagree nor Agree	Slightly Agree	Moderately Agree	Strongly Agree
1	2	3	4	5	6	7

1- An employee's work effort should depend partly on how well the organization deals with his or her desires or concerns.

2- An employee who is treated badly by the organization should lower his or her work effort.

3- How hard an employee works should not be affected by how well the organization treats him or her.

4- An employee's work effort should have nothing to do with the fairness of his or her pay.

5- The failure of an organization to appreciate an employee's contribution should not affect how hard she or he works.

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