

Employee Gratitude: A New Direction for Understanding Organizational Citizenship  
Behaviour

by

Jeffrey R. Spence

A thesis  
presented to the University of Waterloo  
in fulfillment of the  
thesis requirement for the degree of  
Doctor of Philosophy  
in  
Psychology

Waterloo, Ontario, Canada, 2010

© Jeffrey R. Spence 2010

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

I understand that my thesis may be made electronically available to the public.

## ABSTRACT

Organizational citizenship behaviour (OCB) is extra-role behaviour that is not formally required by organizations, but benefits the organization and its members (Organ, 1988). OCB is considered to be a core dimension of job performance (Rotundo & Sackett, 2002) with research showing that OCB contributes to the health and productivity of organizations (e.g., Podsakoff, Whiting, Podsakoff, & Blume, 2009). As a result, both organizational researchers and organizations have long been interested in understanding the origins of this behaviour. However, research into the antecedents of OCB has important limitations. Notably, this research has conceptualized OCB as a static construct, which recent theorizing and research indicates is an inaccurate assumption (e.g., Beal, Weiss, Barros, & MacDermid, 2005; Ilies, Scott, & Judge, 2006). Additionally, OCB research has relied on a single theoretical framework, social exchange theory, to explain previous findings, creating narrowness in the field. The current dissertation sought to address these important limitations by conceptualizing OCB as a dynamic construct (i.e., one that has sizable day-to-day within-person variability) and examining the ability of state gratitude, a novel and theoretically relevant antecedent, to predict OCB. Drawing on the Moral Affect Model of gratitude, Affective Events Theory, and Broaden and Build Theory, I propose that state gratitude is an important driver of day-to-day fluctuations in OCB. In two daily diary studies, my findings revealed that, as predicted, dynamic fluctuations in OCB were significantly predicted by state gratitude. Additionally, in the second of two daily diary studies, state gratitude was successfully induced by a “count your blessings” task and state gratitude was found to be a significant mediator of the induction and OCB. Overall, the results lend support to the notion that OCB is dynamic and that state gratitude, a discrete positive emotion, can be an effective driver of OCB.

## Acknowledgements

I would like to thank my advisors, Dr. Douglas Brown and Dr. Lisa Keeping, for all of their help and feedback throughout the course of the current research. I would also like to thank Dr. Ramona Bobocel and Dr. Wendi Adair for their helpful comments and feedback on early drafts of this document. I must also thank Huiwen Lian for her help with data collection and all the faculty and staff in the Psychology Department who taught and helped me throughout my degree. Finally, the biggest thanks go to my partner, Nicole Ethier, for her constant support, encouragement, and invaluable insights.

## Table of Contents

List of Figures.....	vi
List of Tables.....	vii
Chapter 1: Overview.....	1
Chapter 2: Literature Review.....	12
Chapter 3: Scale Development... ..	29
Chapter 4: Daily Diary Investigations.....	53
Chapter 5: General Discussion.....	80
References.....	88
Appendix A: Measures used in Chapter 3.....	105
Appendix B: Measures used in Daily Diary Study I.....	111
Appendix C: Measures used in Daily Diary Study II.....	116

## List of Figures

*Figure 1.* Heuristic model depicting Hypotheses 2-5.

*Figure 2.* Congeneric model used for CFAs.

*Figure 3.* Summary of mediation results.

## List of Tables

Table 1: Items Generated Using Deductive Items Development Approach

Table 2:  $P_{sa}$  and  $C_{sv}$  Results

Table 3: Items Retained After CFAs

Table 4: Zero-order Correlations and Descriptive Statistics from Sample 1

Table 5: Zero-order Correlations and Descriptive Statistics from Sample 3

Table 6: CFA Results for Convergent Validity

Table 7: Zero-order Correlations and Descriptive Statistics for Daily Diary Study I

Table 8: Partitioning Variance Components of Within-person Variables

Table 9: Predicting OCB

Table 10: Zero-order Correlations and Descriptive Statistics for Daily Diary Study II

Table 11: Partitioning Variance Components of Within-person Variables

Table 12: Predicting State Gratitude

Table 13: Predicting OCB

## CHAPTER 1

### OVERVIEW

Employees engaging in prosocial behaviour helps to foster an enjoyable and productive work environment. The term organizational citizenship behaviour (OCB) was introduced to the organizational sciences in the 1980s (Bateman & Organ, 1983; Smith, Organ, & Near, 1983) to describe prosocial, or extra-role, workplace behaviours. OCB refers to productive and constructive workplace behaviour occurring outside the realm of *in-role task* performance that serves to benefit the organization and its members (Organ, 1988; Organ, 1997). In contrast, in-role task performance consists of activities that contribute to the production of goods or the delivery of services that are formally recognized as part of one's job (Borman & Motowidlo, 1993; Rotundo & Sackett, 2002). The overarching aim of the current program of research is to advance our understanding of what leads to increased OCB. In this chapter, I begin by reviewing the OCB literature and identifying important limitations and areas for improvement. In the following chapters, I present a program of research designed to address the noted limitations.

#### **Setting the Stage: A Brief Overview of Organizational Citizenship Behaviour**

##### **Conceptualizations of OCB**

Early conceptualizations of OCB (e.g., Organ, 1988) drew upon ideas from Barnard (1938) and Katz (1964) who wrote of such concepts as “willingness to cooperate” and “innovative and spontaneous behaviours,” respectively (Podsakoff, MacKenzie, Paine, & Bachrach, 2000). The earliest conceptualization of OCB as we know it today (e.g., Organ, 1977), was introduced as a possible explanation for the weak relation between job satisfaction and job performance (Organ, Podsakoff, & MacKenzie, 2006). Specifically, although job satisfaction was only minimally related to *quantitative* job performance, it was speculated that job

satisfaction was likely to be to an important driver of more subtle forms of performance (e.g., helping coworkers, following rules; Bateman & Organ, 1983; Smith, Organ, & Near, 1985). The results of early studies attempting to link job satisfaction to OCB were mixed, largely due to measurement and methodological problems (Organ et al., 2006). However, these early studies played an important role in laying the foundation for more thorough conceptualizations of OCB and a large body of research identifying and examining its causes and consequences.

Since the introduction of OCB, a number of different conceptualizations have been developed. Most of these conceptualizations propose that OCB is comprised of a number of different dimensions (c.f., Morrison, 1994; Organ 1988; Van Dyne, Graham, & Dienesch, 1994). The first dimensional approach was forwarded by Organ (1988), who proposed that OCB was comprised of five dimensions: altruism (e.g., teaching a new hire how to use equipment), civic virtue (e.g., keeping up to date with organizational issues), conscientiousness (e.g., conserving resources), courtesy (e.g., providing someone with advanced notice of issues that will affect them), and sportsmanship (e.g., tolerating inconveniences). Later, Williams and Anderson (1991) developed a more parsimonious configuration, in which OCB was organized based on the target of the OCB. Specifically, according to Williams and Anderson, OCB could be directed at individuals or the organization, creating two dimensions. In addition to being parsimonious, Podsakoff, Whiting, Podsakoff, and Blume (2009) note that Williams and Anderson's two dimensional configuration is the most comprehensive because it effectively accounts for all five of Organ's dimensions, as well as a number of dimensions from other configurations (e.g., Borman & Motowidlo, 1997; Graham, 1991; Van Scotter & Motowidlo, 1996). More recently, research suggests that it is appropriate to combine Williams and Anderson's interpersonal- and

organizational-directed OCB into a total score, resulting in a unidimensional configuration of OCB (LePine, Erez, & Johnson, 2002).

### **Antecedents of OCB**

Beyond wrestling with different configurations, OCB researchers have been chiefly focused on explicating the consequences and antecedents of OCB (Van Dyne, Cummings, & Parks, 1995). With respect to consequences, OCB has been linked to a number of favourable outcomes at both organizational and individual levels. For example, in a recent meta-analysis, Podsakoff et al. (2009) found that greater OCB is associated with decreased turnover, turnover intentions, and absenteeism. Additionally, greater OCB is associated with increased organizational productivity, efficiency, profitability, and customer satisfaction. With respect to antecedents, predictors of OCB can be grouped into four categories: (a) employee characteristics, (b) task characteristics, (c) organizational characteristics, and (d) leadership behaviours. Because the current research examines a novel antecedent of OCB, I outline the four antecedent categories below to help frame the context of my research.

**Employee characteristics.** In the domain of employee characteristics, research has focused on establishing the predictive efficacy of the “m” (or morale) factor (Organ & Ryan, 1995; Podsakoff et al., 2000). The morale factor consists of employee satisfaction, commitment, and perceptions of support and fairness that combine to create a single predictive factor (Organ & Ryan, 1995; Podsakoff et al., 2000). Overall, research has found that the morale factor is a significant predictor of OCB (Organ & Ryan, 1995; Organ et al., 2006). Other employee characteristics that have been examined include the Big Five dimensions of personality, which include agreeableness, extroversion, neuroticism, conscientiousness, and openness to experience (McCrae & Costa, 1987). However, generally speaking, research studying the association

between personality and OCB has found few relations, and when relations are found they are generally weak in magnitude (see Organ et al., 2006, for a review).

**Task characteristics.** Task characteristics have long been purported to have a significant influence on employee motivation and job performance (e.g., Hackman & Oldham, 1976) and they have also been investigated as predictors of OCB. Task characteristics are the elements that make up the objective structure of work (Hackman & Oldham, 1976). Specific task characteristics that have been linked to OCB include task feedback, task variety (also referred to as task routinization), and how intrinsically satisfying a task is (Podsakoff, MacKenzie, & Bommer, 1996a). Task feedback refers to how clearly and directly performance feedback is given to employees (Hackman & Oldham, 1976) and has been found to have a positive relation with OCB, whereby better quality feedback is associated with more OCB (Podsakoff et al., 1996a). Task variety is the degree to which a job requires the use of a variety of employee skills (Griffin, 1982) with research showing that more variety is associated with more OCB (Podsakoff et al., 1996a). Finally, intrinsically satisfying tasks are those which produce satisfaction and are inherently stimulating (Kerr & Jermier, 1978); research has found that more intrinsically satisfying tasks result in greater OCB (Podsakoff et al., 1996a). Recently, research by Organ et al. (2006) showed that job satisfaction fully mediated the relation between task characteristics and OCB, suggesting that task characteristics may be best viewed as indirect determinants of OCB.

**Organizational characteristics.** With respect to organizational characteristics, perceived organizational support (POS), or the extent to which employees feel supported by their organization (Eisenberger, Huntington, Hutchinson, & Sowa, 1986) has been found to have a positive relation with OCB, such that more POS is associated with more OCB (Podsakoff et al.,

2000). As well, group cohesiveness, characterized by heightened member attraction and group friendliness (George & Bettenhausen, 1990) is positively related to OCB, whereby higher levels of group cohesiveness are associated with higher levels of OCB (Podsakoff et al., 2000). Notably, organizational characteristics that are not related to OCB include organizational formalization, inflexibility, and spatial distance (Podsakoff et al., 2000).

**Leadership factors.** A number of leadership factors, including transformational leadership and leader-member exchange (LMX) have been found to predict OCB (e.g., Organ et al., 2006). Transformational leadership consists of leadership behaviours that instill intrinsic motivation in employees by aligning employees' values and goals with the structure of work to make work inherently motivating (Kuhnert & Lewis, 1987). Overall, research shows that increased transformational leadership behaviours that are attributed to a leader are associated with increased OCB on the part of followers (e.g., Podsakoff, MacKenzie, & Bommer, 1996b; Organ et al., 2006; Podsakoff et al., 1999). LMX refers to the quality of exchange relationships employees have with their leader, whereby high quality relationships have high levels of trust, support, and loyalty (Graen & Uhl-Bien, 1995). Similar to transformational leadership, research demonstrates that higher levels of LMX are related to more OCB (e.g., Deluga, 1998; Settoon, Bennett, & Liden, 1996; Wayne, Shore, & Liden, 1997).

To summarize, over the years, a substantial body of research has accumulated which demonstrates that OCB has favourable workplace outcomes and that a number of diverse factors are successful predictors of OCB. Specifically, increased OCB predicts greater attendance, productivity, and efficiency. Furthermore, a variety of employee characteristics, task characteristics, organizational characteristics, and leadership behaviours can increase the likelihood that employees will engage in OCB.

## **Limitations of OCB Research**

Although previous research into the antecedents of OCB has led to an increased understanding of the factors that contribute to OCB, as a whole, previous studies in this domain have important limitations. Most notably, the majority of previous studies have relied on a single theoretical framework to predict OCB (Zellars & Tepper, 2003). More specifically, traditionally, OCB has been explained using social exchange theory. Under social exchange theory, OCB occurs because of the norm of reciprocity (Blau, 1964; Gouldner, 1960), which states that, “(a) people should help those who have helped them, and (b) people should not injure those who have helped them” (Gouldner, 1960: 171). As such, employees are thought to engage in OCB because they are obliged to reciprocate good treatment from their leaders or organization, and withhold OCB in response to poor treatment (Organ, 1990; Podsakoff, MacKenzie, Moorman, & Fetter, 1990). For example, Settoon et al. (1996) hypothesized that LMX should be positively related to OCB because as LMX increases, employees are given advantages (i.e., more influence and support), which in turn creates an obligation for employees to reciprocate by going above and beyond in-role expectations by engaging in OCB.

A recent review of empirical research on OCB concluded that virtually all of the previous studies used social exchange principles in justifying their predictions (Zellars & Tepper, 2003). The reliance on a single theoretical framework is problematic because it creates “staleness” (p. 396) in the literature and it does little to increase our ability to predict OCB (Zellars & Tepper, 2003). This is evidenced by the fact that the proportion of variance that is accounted for in OCB has remained relatively unchanged over the years (Zellars & Tepper, 2003).

In addition to relying on a single theoretical framework to formulate predictions, another important limitation of previous research is that it has conceptualized OCB as a stable construct,

exhibiting variability only between employees. This perspective is problematic because OCB, as a component of job performance (Borman & Motowidlo, 1993; Rotundo & Sackett, 2002), is most accurately conceptualized as dynamic and episodic (Beal, Weiss, Barros, & MacDermid, 2005). This means that OCB is time-bound, whereby employees can engage in varying amounts of OCB at different times. Specifically, the same employee can engage in a large amount of OCB on one day and then none on another day. However, when studying OCB, researchers ask participants to report their aggregated level of OCB and then test if these averages covary with a specific predictor or set of predictors. Consequently, potentially sizable and meaningful variability, depicting *when* employees engage in OCB, is aggregated out of the data.

The dynamic nature of OCB is gaining recognition, with some researchers modeling OCB as dynamic behaviour that fluctuates over time (e.g., Dalal, Lam, Weiss, Welch, & Hulin, 2009; Ilies, Scott, & Judge, 2006). However, despite these recent conceptualizations, historically, OCB is largely thought to be stable, even trait-like, with numerous studies documenting individual, task, organizational, and leadership factors that drive OCB (Organ & Ryan, 1995; Podsakoff et al., 2000). In addition to the inherent importance of modeling OCB as dynamic, this conceptualization and operationalization introduces an important mechanism, emotion, or affect, which itself is also largely dynamic (e.g., Eid & Diener, 1999; Weiss & Cropanzano, 1996). In particular, several studies have modeled OCB as dynamic, showing that OCB fluctuates over time alongside affect (e.g., Dalal et al., 2009; Ilies et al., 2006; Weiss & Cropanzano, 1996).

The use of affect to predict OCB is consistent with recent frameworks that have identified positive affect as an important determinant of prosocial workplace behaviour (e.g., Spector & Fox, 2002). However, to date, investigations linking OCB to affect have only examined aggregated dimensions of affect, neglecting the role of discrete emotions. Dimensional affect

scales consist of a number of discrete emotions, which are aggregated for analytical purposes (e.g., Watson, Clark, & Tellegen, 1988). A frequent justification for aggregating is that specific subsets of discrete emotions share common variance (Watson et al., 1988; Watson, 2000). Perhaps the most popular affective configuration in psychology is the aggregation of discrete emotions into the dimensions of positive affect and negative affect using the Positive and Negative Affect Schedule (PANAS; Watson et al., 1988). This method of aggregation is particularly popular in the organizational sciences when studying emotion, with researchers typically employing the PANAS and ignoring discrete emotions (Gooty, Gavin, & Ashkanasy, 2009). In fact, Brief and Weiss (2002) are quite critical of this practice, arguing that the study of aggregated mood measures has been adopted at the expense of discrete emotions. Others argue that overlooking discrete emotions in favour of aggregated dimensions is problematic because it ignores potentially meaningful differences in antecedents and consequences of the different discrete emotions (Gooty et al., 2009).

In sum, several lessons can be learned from the body of research on OCB. First, the majority of previous investigations have used the same theory (i.e., social exchange theory) to explain OCB, creating a narrow understanding of the construct (Zellars & Tepper, 2003). Additionally, previous investigations have ignored an important characteristic of OCB: its ability to fluctuate across time. That is, OCB is episodic and dynamic, where employees are capable of performing frequent OCB on some occasions and none on others. Finally, although researchers are beginning to study OCB as a dynamic construct, using affect as an explanatory construct (e.g., Dalal et al., 2009; Ilies et al., 2006), this work has focused on affective dimensions, ignoring discrete emotions.

## The Current Research

The current research investigates the role of a theoretically relevant discrete emotion, state gratitude, in generating OCB. Investigating the connection between a discrete emotion and OCB is effective in addressing the shortcomings of OCB research for a number of reasons. First, examining an emotion as an antecedent of OCB introduces theoretical frameworks that fall outside the realm of social exchange theory. Second, examining how a discrete emotion predicts OCB facilitates a dynamic conceptualization of OCB, particularly given that emotions lend themselves well to dynamic models because of their high degree of time-dependent variability (e.g., Beal et al., 2005; Brief & Weiss, 2002; Frijda, 1993; Gooty et al., 2009; Watson, 2000; Weiss & Cropanzano, 1996). Third, investigating the role of a discrete emotion answers calls by emotion researchers to move the field away from focusing solely on aggregated dimensions of affect (e.g., Gooty et al., 2009).

In the current research, I investigate how state gratitude predicts OCB. Gratitude, although largely overlooked by contemporary scholars (Solomon, 2004), has been discussed throughout the centuries by great minds such as Adam Smith and Cicero (for a review see McCullough, Kilpatrick, Emmons, & Larson, 2001). Generally speaking, gratitude is a warm and positive emotional response to the receipt of benefits (Emmons & Crumpler 2000; McCullough et al., 2001; McCullough, Emmons, & Tsang, 2002; Solomon, 1977). Gratitude is relevant to the study of OCB because it is purported to lead people to behave in a prosocial manner towards others (McCullough et al., 2001) and OCB is a type of work performance that is inherently prosocial in nature (Organ et al., 2006).

The identification of a discrete *positive* emotion that is relevant to work performance is particularly appealing in the context of emotion research because discrete *positive* emotions, as

opposed to *negative* emotions, have been uniquely overlooked by emotion researchers (e.g., Fredrickson, 1998; Fredrickson & Cohn, 2008). The preference for negative emotions over positive ones has been attributed to the fact that negative emotions are easier to study because they have larger effect sizes, are more discrete, and have more specific, immediate, and identifiable action tendencies (e.g., fear being linked to flight, anger being linked to aggression, etc.; Frederickson & Cohn, 2008).

To articulate the function of state gratitude in the workplace, I draw upon Affective Events Theory (Weiss & Cropanzano, 1996), Broaden and Build Theory (Fredrickson, 1998), and the Moral Affect Model of Gratitude (McCullough et al., 2001). In two studies, I model OCB and state gratitude as dynamic constructs exhibiting variability over time at the within-individual level. I test my hypotheses using daily diary designs with an interval-contingent experience sampling methodology (ESM; Nezlek, 2001). Using this design, participants complete multiple measures over the course of several days at fixed times throughout the day, which allows researchers to model constructs as dynamic. Being able to model constructs as dynamic is important because gratitude, as an emotion, and OCB, as a behaviour, are thought to be episodic and discrete in nature (Beal et al., 2005; Frijda, 1986; Watson, 2000; Weis & Cropanzano, 1996). Additionally, a daily diary design is advantageous because the methodology is specifically targeted at understanding how people think, act, and feel in their *day-to-day environments*.

This dissertation also contains a measurement development component. Because the study of gratitude in the organizational sciences is in its relative infancy, no psychometrically established scale measuring state gratitude exists. Consequently, it was necessary to develop a scale prior to conducting my research. To do so, I followed steps presented in the psychometric

literature (e.g., Hinkin, 1998) for constructing a valid and reliable measure. Thus, the current research contains a series of studies directed at establishing a measure of state gratitude and two daily diary studies designed to advance OCB research by addressing the shortcomings of previous research; namely, the overreliance on social exchange theory, the modeling of OCB as a stable construct, and the reliance on aggregated dimensions of affect.

In Chapter 2, I begin by reviewing the OCB literature and expounding the aforementioned areas for improvement. Subsequently, I propose that the study of discrete positive emotions is a fruitful avenue of exploration and identify gratitude as a theoretically relevant emotion to OCB. In Chapter 3, I develop a measure of state gratitude and in Chapter 4, I present the results of two daily diary studies designed to test theoretically supported hypotheses pertaining to the form, function, and interrelation of state gratitude and OCB. Finally, in Chapter 5, I conclude by summarizing my findings and discussing the contributions and implications of the current research for the organizational sciences in general, and the OCB and emotions literatures in particular.

## CHAPTER 2

### LITERATURE REVIEW

OCB is extra-role behaviour that is not formally required by organizations but, nonetheless, serves to benefit the organization and its members (Organ, 1988; Van Dyne, Cummings, & McLean Parks, 1995). Because OCB is productive and not formally sanctioned, this behaviour is generally thought to be desirable and laudable in its own right. As such, it is not surprising that organizational researchers have long been interested in understanding the origins of this behaviour (Organ et al., 2006; Podsakoff et al., 2000). Such an interest is even more understandable when one considers that, in addition to being virtuous in its own right, OCB is inexorably linked to organizational performance and profitability (Podsakoff & MacKenzie, 1997; Podsakoff et al., 2009) and is considered to be one of the three main components of job performance (Rotundo & Sackett, 2002).

Although previous studies investigating OCB have produced significant gains, it has been argued that much remains to be done to better understand the antecedents of OCB (Podsakoff et al., 2000). For instance, the OCB literature has been criticized as being stale (Zellars & Tepper, 2003). Zellars and Tepper (2003) note that the staleness has been created due to an overreliance on social exchange theory (Blau, 1964) to explain OCB. Within a social exchange framework, employees reciprocate favourable treatment from their organization by being a good organizational citizen because the positive treatment indebts employees to the organization, which creates a sense of obligation to reciprocate (Blau, 1964; Organ, 1990). In fact, Zellars and Tepper (2003) note that use of social exchange theory to explain OCB has become so pervasive that even when novel antecedents are introduced (e.g., abusive supervision; Zellars, Tepper, & Duffy, 2002) they are explained using social exchange theory. The overreliance on social

exchange theory has created narrowness in OCB research and has limited progress in our ability to predict OCB despite years of research (Zellars & Tepper, 2003). This limited progress is evidenced by the fact that the amount of variance that we can explain in OCB as remained relatively unchanged, despite the large body of research (Zellars & Tepper, 2003).

In addition to an overreliance on social exchange theory, another noteworthy hindrance to the advancement of OCB research has been the conceptualization of OCB as a stable and static construct, one that does not fluctuate over time. Specifically, traditional attempts to predict and explain OCB have focused on relatively stable antecedents, with studies documenting how personality (Ilies, Fulmer, Spitzmuller, & Johnson, 2009; Kamdar & Van Dyne, 2007) role perceptions (e.g., McAllister, Kamdar, Morrison, & Turban, 2007; Morrison, 1994; Tepper, Lockhart, & Hoobler, 2001; Van Dyne, Kamdar, & Joireman, 2008), organizational support (Coyle-Shapiro & Conway, 2005; Randall, Cropanzano, Borman, & Birjulin, 1999; Wayne et al., 1997; Wang, 2009; Witt, 1991) and leadership factors (Aryee, Budhwar, & Chen, 2002; Hofmann, Morgeson, & Gerras, 2003; Konovsky & Organ, 1996; Settoon et al., 1996) determine OCB levels.

In these investigations, participants are asked to report their aggregated judgments of OCB. These aggregated judgments of OCB are then correlated with aggregated judgments of various predictor variables (e.g., personality, organizational characteristics, and leadership characteristics). Like OCB, the predictor variables are also conceptualized as time invariant. Because previous investigations have conceptualized OCB, and its focal predictors, as static, they have employed between-person research designs. In between-person research designs, all variables are measured once with the assumption being that repeated measures of the same constructs would not provide any new information. Consequently, in between-person designs,

differences can only be found across individuals because constructs are only allowed to exhibit variability across participants.

Conceptualizing OCB as a stable construct with only between-person variability is problematic because OCB is *behaviour*. Arguably, behaviour is best understood as discrete and episodic, such that an employee can perform a large degree of it on one occasion, and none on a different occasion (see Beal et al., 2005, for a review). Moreover, conceptualizing OCB as dynamic is consistent with its function as a core component of job performance (Rotundo & Sackett, 2002) because job performance behaviours are specifically thought to be discrete and episodic in nature (e.g., Beal et al., 2005; Motowidlo, Borman, & Schmit, 1997). Intuitively we can understand that behaviour by its very nature is not continuous, but episodic and time-bound, such that behaviours have a definitive start and end points. This is also true of OCB. For example, an employee can be kind and courteous to a coworker; however, the courtesy will have definitive start and end points, and will not be exhibited continuously. As a result, we can see how it is possible for OCB to occur at different frequencies at different moments in time. This means that asking participants to report on their aggregated judgments of OCB can result in potentially meaningful variability and an important dimension of OCB being overlooked. In contemplating this episodic variability within a research context, the substantive research question becomes one of “when do employees engage in OCB?” rather than “who engages in OCB?” Consequently, when OCB is examined using only between-person designs, a whole area of research is being aggregated out of the data or discounted as random error. In addition to being more conceptually accurate, modeling OCB as dynamic can create opportunities to introduce novel theoretical frameworks and constructs.

One fruitful avenue of exploration in OCB research that moves away from social exchange theory and fits into temporally dynamic frameworks is the study of emotions. Like OCB, emotions are argued to be discrete and temporally dynamic, best studied at the within-person level (e.g., Heller & Watson, 2005; Weiss & Cropanzano, 1996). Although organizational research has traditionally not paid attention to the study of emotions (e.g., Ashforth & Humphrey, 1995; Muchinsky, 2000), in recent years, emotions have been recognized and argued to be powerful drivers of workplace behaviour (Brief & Weiss, 2002; Elfenbein, 2007; Muchinsky, 2000; Weiss & Cropanzano, 1996). In fact, the study of emotions in the field of organizational behaviour has seen such a marked increase in popularity that it has been referred to as a “revolution” (Barsade, Brief, & Spataro, 2003).

Of particular relevance to OCB are positive emotions. Positive emotions have been argued (e.g., Spector & Fox, 2002) and found (e.g., Dalal et al., 2009; Ilies et al., 2006) to be important drivers of prosocial workplace behaviour. However, previous investigations have used the aggregated dimension of positive affect and have overlooked the role of discrete emotions. The aggregation of affect into broad dimensions is problematic because it essentially treats different emotions as equal, thereby losing sight of potentially meaningful differences in the antecedents and outcomes of the different emotions (Gooty et al., 2009). In order to expand our understanding of OCB, in the current set of studies, I attempt to address the shortcomings of previous OCB research by modeling OCB as a dynamic construct and examine a novel, discrete emotional antecedent of OCB: state gratitude.

Gratitude offers a particularly intriguing prospect as it is a discrete, positive emotion that has been purported to have an important function in the development of healthy and effective societies (Smith, 1759/1971). Recent work has linked gratitude to prosocial behaviour,

demonstrating that expressions of gratitude increase prosocial behaviour by making the helper feel more valued (Grant & Gino, 2010). Additionally, having expectations that others will be grateful for one's efforts has been indirectly related to job performance (Grant & Wrzesniewski, 2010). However, to date it is not known how the actual experience of feeling grateful is related to workplace performance, in particular, OCB.

Below, I introduce gratitude by sketching a history of how gratitude has been studied and contemplated. In doing so, I outline its purported properties and situate gratitude within contemporary organizational scholarship and emotion theory. Based on this review, I develop hypotheses pertaining to state gratitude's ability to generate OCB.

## **Gratitude**

### **Background and Definition**

For centuries, from Aristotle to Adam Smith, intellectuals have pondered the notion of gratitude and what it means to be grateful. Most have hailed it a virtue, while Cicero claimed, "Gratitude is not only the greatest of virtues, but the parent of all the others" (McCullough et al., 2001). Adam Smith, in *The Theory of Moral Sentiments*, addressed the implications of being grateful by arguing that gratitude plays an important role in improving the quality of life in societies (1759/1971). However, more contemporary scholars in the behavioural sciences have largely overlooked gratitude, with gratitude being described as one of the most neglected emotions (Solomon, 2004). This is certainly the case in organizational scholarship, as, with few exceptions (e.g., Grant & Wrzesniewski, 2010), little attention has been paid to its function in the workplace.

What is gratitude and, what does it mean to be grateful? With dialogues pertaining to gratitude dating back centuries, it is perhaps not surprising that there are numerous definitions

and conceptualization of what it means to be grateful. When the assortment of definitions and conceptualizations are compared, fundamental commonalities quickly become apparent. For instance, the Oxford English Dictionary defines gratitude as “the quality or condition of being thankful; the appreciation of an inclination to return kindness.” David Hume (1888) spoke of ingratitude as a “horrid” and “unnatural” crime (p. 466). Adam Smith (1759/1971), considered by many to be a philosopher and an economist, wrote that gratitude is “the sentiment which most immediately and directly prompts us to reward” (p. 143). In the field of psychology, Emmons and Crumpler (2000) propose that, “gratitude is an emotional response to a gift” (p. 56), while Solomon (1977) defines gratitude as, “an estimate of gain coupled with the judgment that someone else is responsible for that gain” (p. 316). Most recently, Tsang (2006) similarly highlights the cognitive and attributional components of gratitude, defining it as “a positive emotional reaction to the receipt of a benefit that is perceived to have resulted from the good intentions of another” (p. 139).

A distillation of these definitions reveals the essence of gratitude: it is a positive *emotional* response that is elicited after receiving a recognized benefit. At this point it is worth pointing out that in discussions of gratitude, potential benefactors need not be limited to creaturely entities, but benefactors can also be transcendent (i.e., gods or the cosmos; McCullough et al., 2002). In fact, the experience of gratitude is often central in discussions of religion and spirituality (e.g., Schimmel, 2004).

### **Gratitude as Emotion**

From historical discussions and contemplations of gratitude, it is clear that gratitude is considered to be positive and an emotion (i.e., it is felt). Recent scholarship on the topic of gratitude classifies gratitude as a moral emotion (McCullough et al., 2001). Moral emotions are

defined as emotions “that are linked to the interests or welfare either of society as a whole or at least of persons other than the judge or agent” (Haidt, 2003: 853). Moral emotions other than gratitude include shame, guilt, pride, and empathy (Baumeister, Stillwell, & Heatherton, 1994; Keltner & Buswell, 1996; Lewis, 1971; Weiner, 2006). Gratitude can be distinguished from these other moral emotions by evaluating them on two dimensions: focus (self, other) and valence (positive, negative; Haidt, 2003). Using this simple classification, gratitude is other-focused and has a positive valence making it distinct from shame and guilt, which are self-focused and negative. It is also distinct from pride, which is self-focused and positive as well as envy, which is other-focused and negative.

In addition to distinguishing gratitude from other moral emotions, a distinction can be made between gratitude and a feeling of indebtedness. Both gratitude and indebtedness are purported to arise after the receipt of a benefit; however, indebtedness is said to engender feelings of discomfort and uneasiness (Greenberg, 1980), whereas gratitude feels warm and pleasant (Emmons, 2004). The negative valence associated with indebtedness is likely to arise in situations where an individual has concerns that he/she may be unable to repay the benefactor and/or in instances when the beneficiary is uncertain how he/she should repay the benefactor (McCullough et al., 2001). Indebtedness is also likely to arise in instances where individuals receive a benefit that they do not value, but feel obligated to reciprocate due to the norms of reciprocity (Greenberg, 1980). Moreover, the attributions made for why one received the benefit are linked to feelings of gratitude and indebtedness. Specifically, research has found that feelings of gratitude are more likely when the recipient perceives that the benefactor likes them (Ames, Flynn, & Weber, 2004) and does not expect reciprocation (Watkins, Scheer, Ovnicek, & Kolts, 2006). In general, a distinction can be made that gratitude is the result of receiving a benefit and

assigning positive attributions to the source, whereas indebtedness involves the receipt of a benefit that one feels obligated and bound by social conventions to reciprocate (Greenberg, 1980).

In further developing our understanding of gratitude, it is clear that it is thought of as an identifiable emotional experience that is caused by an event (i.e., receiving a benefit) and the attributions assigned to the event. The notion that an emotional response is elicited after an event and one's assessment of the event is consistent with appraisal theories of emotions (e.g., Frijda, 1993, Lazarus, 1991a). For example, cognitive appraisal theories of emotions state that the type of emotion that occurs after an event is determined by an individual's appraisal of the event (Lazarus, 1991b). Appraisal theories take a cognitive approach to understanding emotion asserting that emotions are a product of cognitions, such that cognitions shape emotions. Generally speaking, events or situations are appraised with respect to their implications for an individual's goals and well-being and the results of these appraisals are thought to determine the type of emotional reaction (Frijda, 1986).<sup>1</sup> This has been referred to as *the law of situated meaning*, whereby an event with specific meaning is inputted and specific emotion is outputted (Frijda, 1988). Under appraisal theories, emotions are distinct from moods, in that emotions are argued to be more intense, shorter in duration, and have a specific cause (Frijda, 1986; Watson, 2000). More specifically, emotions can be thought of as subjective feelings that are accompanied by physiological changes and that these feelings and changes have been elicited by a specific event or cause and result in an action tendency or readiness for particular behaviour (Frijda, 1993; Frijda, 2008; Lazarus, 1991b; Ortony, Clore, & Collins, 1988).

---

<sup>1</sup> Because appraisals are cognitive it does not imply that they are slow and effortful, instead appraisal judgments can be quick and automatic (e.g., Moors De Houwer, 2001). This is in line with dual-process models of cognition, which specify that there are different cognitive systems that are responsible for slow, deliberate judgments and fast, heuristic judgments (e.g., Lieberman, 2003; Sloman, 1996; Strack & Deutsch, 2004).

## **Gratitude as Trait**

Based on the above theory and scholarship we can identify gratitude as a discrete positive emotion that occurs when one experiences a benefit and assigns positive attributions to the experience. However, affect has been conceptualized as having both trait and state components (e.g., Eid & Diener, 1999; Watson, 2000). Thinking about affect from a trait perspective is a more traditional approach, with researchers conceptualizing affect as dispositional tendencies to experience varying degrees of positive or negative affect (e.g., Watson & Tellegen, 1985). More recently, dispositions towards experiencing affect (i.e., trait affect) and the actual experience of the affect (i.e., state affect) have been established as separate constructs. In particular, Eid and Diener (1999) and Watson (2000) demonstrated that intraindividual (i.e., within-person) variability in affect is a valid construct, separable from dispositional affect and measurement error. Other studies have found that state affect systematically varies and is associated with a variety of workplace behaviours and attitudes (e.g., Heller & Watson, 2005; Ilies et al., 2006; Judge, Scott, & Ilies, 2006). In this respect, gratitude is no different than general affect, as it too has been shown to have a dispositional component (e.g., McCullough et al., 2002; McCullough, Tsang, & Emmons, 2004; Watkins, Woodward, Stone, & Kolts, 2006). For instance, McCullough et al. (2002) developed a measure of the grateful disposition in which the grateful disposition is argued to be an affective trait (Rosenberg, 1998) that predisposes certain people to feel more or less gratitude than others. Specifically, the authors purport that possessing a more grateful disposition results in feeling gratitude more frequently, more intensely, in more domains of one's life, and to more entities at a given point in time (McCullough et al., 2002). Results indicated that the authors' measure of dispositional gratitude had good psychometric properties and was a construct unique from happiness, vitality, life satisfaction, hope, and optimism (e.g.,

McCullough et al., 2002).

To summarize, because gratitude is argued to be a discrete positive emotion that has a dispositional component, both state and trait levels of analysis are implicated in the study of gratitude. The state level consists of the actual experience of gratitude (i.e., state gratitude) and is conceptualized as a transitory state that is discrete and episodic in nature. This means an employee may feel very grateful one day and then experience little to no gratitude on other days. In the current set of studies, because I expect that the felt experience of gratitude (i.e., state gratitude) will function as a dynamic construct, I specifically, hypothesize that:

*Hypothesis 1: State gratitude (i.e., the felt experience of gratitude) will demonstrate significant within-person variability.*

Additionally, because dispositional gratitude is argued to make people more prone to experience gratitude, I expect that:

*Hypothesis 2: Dispositional gratitude will be positively related to state gratitude.*

*Hypothesis 3: Dispositional gratitude will moderate the effect of a gratitude-inducing event on state gratitude, such that participants with higher levels of dispositional gratitude will experience more state gratitude when faced with a gratitude-inducing event compared to those with lower levels of dispositional gratitude.*

## **Gratitude and OCB**

Gratitude is an intriguing emotion that seems particularly apt for explaining OCB. McCullough et al. (2001) presented the Moral Affect Model of gratitude, which explains the causes and consequences of gratitude. With respect to the consequences of gratitude, the authors posit that gratitude functions as a moral motive, inspiring people to act in a prosocial manner. Specifically, the authors argue that the recipient of a benefit who feels gratitude towards a

benefactor will be compelled to act in a manner that contributes to the well-being of others. As outlined earlier, this function is said to be distinct from feeling indebted, such that feeling grateful is a pleasant and warm feeling whereas indebtedness – a state of obligation to repay another (Greenberg, 1980) – is an unpleasant experience that creates feelings of discomfort that individuals are motivated to alleviate (Greenberg & Westcott, 1983; McCullough et al., 2001). Moreover, feelings of indebtedness are limited to the benefactor whereas gratitude is said to motivate helping behaviours directed at third parties (McCullough et al., 2001). The function of gratitude as a moral motive is the most relevant characteristic of gratitude for the current set of studies.

In addition to McCullough et al.'s (2001) proposition that gratitude functions as a moral motive leading to prosocial behaviour (i.e., OCB), other emotion theories are also helpful in understanding why one would expect gratitude to engender OCB. Two theories in particular are relevant in this regard: Affective Events Theory (AET; Weiss & Cropanzano, 1996) and the Broaden and Build Theory of positive emotions (BBT; Fredrickson, 1998, 2001). Specifically, AET can be used to understand why emotions predict specific behaviours and BBT is useful in explaining that gratitude would result in increased OCB.

AET is an event-specific framework for understanding the role of emotions in the workplace. The theory proposes that workplace events generate emotions and that emotions predict behaviour and work attitudes (i.e., job satisfaction). In AET, a distinction is made between affect and attitude-driven behaviours, with the authors arguing that certain behaviours are driven by affect (e.g., coping responses, probability judgments) while others are driven by more stable workplace attitudes (e.g., turnover, retirement). Weiss and Cropanzano (1996) argue that emotions are a proximal predictor of behaviour because emotions have the ability to

preoccupy individuals and organize and direct behaviour in new directions, creating an action tendency away from what may be typical behaviour for the individual (Frijda, 1993; Weiss & Cropanzano, 1996).

Although OCB is not explicitly identified in AET as an affect-driven behaviour, other frameworks and empirical findings suggest that OCB effectively fits under this classification (e.g., Dalal et al., 2009; Ilies et al., 2006; Lee & Allen, 2002; Spector & Fox, 2002). Specifically, Spector and Fox (2002) presented a framework of OCB and counterproductive work behaviour where they proposed that positive affect increases the likelihood of OCB and negative affect increases the likelihood of counterproductive work behaviour. Research supports this assertion as the overall dimension of positive affect has been found to result in more OCB (Dalal et al., 2009; Ilies et al., 2006; Lee & Allen, 2002). Together this suggests that positive affect, in general, should precipitate OCB.

The relation between positive emotion and OCB can be explained further by BBT, which purports that positive emotions act to broaden the scope of cognitions and motivations and build personal resources (Frederickson, 1998, 2001). With this theory, Frederickson argues that positive emotions result in more flexible, creative thinking, and the consideration of more behavioural options (Fredrickson & Branigan, 2005; Isen, 1999). Over time, these behaviours and cognitions are thought to translate into increased social resources (e.g., social networks), cognitive resources (e.g., knowledge, intellectual complexity), and better physical and mental health (e.g., psychological resilience, optimism, physical skills; Frederickson, 2001). This is in contrast to negative emotions, which narrow and restrict cognitive and behavioural options (Fredrickson, 1998, 2001). In the current context, I expect that the broadened cognitions afforded by gratitude, a positive emotion, will help facilitate OCB by providing employees with a wider

range of behavioural options and ideas to be prosocial. I anticipate that this increased mental flexibility and creativity is particularly beneficial for the occurrence of OCB because OCB consists of a relatively broad range of behaviours (i.e., behaviours that are directed at individuals and the organization). As such, it stands to reason that if employees perceive that they have more behavioural options to be helpful, then they are likely to be more prosocial, particularly if they are motivated. As a result, when employees experience gratitude, in addition to being motivated, according to BBT, employees would also be more likely to perceive (or possibly create) opportunities perform OCB.

Putting the Moral Affect Model, AET, and BBT together, I predict that the experience of gratitude (i.e., state gratitude) will serve to broaden cognitions (providing the opportunity) and act as a moral motive (providing the direction and motivation) to increase the likelihood that employees will behave in a prosocial manner. As a result, I expect that having high levels of state gratitude should increase the likelihood that employees will engage in OCB. I specifically hypothesize that:

*Hypothesis 4: State gratitude will be positively related to OCB.*

In proposing this hypothesis it is important to explicitly specify the level of analysis that is involved. As state gratitude and OCB are thought to be episodic and discrete in nature, this hypothesis pertains to a *within-person* relation (i.e., the relation between *state* gratitude and OCB). In order to test relations at the within-person level one must have repeated measures from the same participants. To do so, I will employ an interval contingent experience sampling methodology (ESM; Nezlek, 2001). In ESM, also known as daily diary studies, participants complete questionnaires everyday over the course of several days. ESM is specifically targeted at understanding how people think, act, and feel in their day-to-day environments. Because I am

interested in testing within-person relations in a field setting - specifically, how emotions generate behaviour in the workplace - this method of data collection is well suited to examine the present research questions.

### **Manipulating Gratitude**

In addition to testing state gratitude's relation with OCB and its nature as a dynamic construct at work, it is important to begin to establish state gratitude's role as a *cause* of OCB. One way to evaluate this causality is to use an experimental design. Traditionally, organizational researchers have avoided empirical designs because they typically occur in a laboratory setting, which is often criticized for lacking generalizability and external validity (Highhouse, 2009). These criticisms have arguably resulted in the paucity of laboratory experimental designs that are seen in organizational research journals (for a review, see Austin, Scherbaum, & Mahlman, 2002; Highhouse, 2009). Despite these criticisms, experimental designs (i.e., pairing random assignment with a manipulation) have a distinct advantage over correlational designs in ruling out alternative explanations and determining cause and effect (Cook & Campbell, 1979; Shadish, Cook, & Campbell, 2002). Admittedly, a laboratory context is not well suited to study OCB because OCB is an organizational phenomenon, whereby behaviour is directed at coworkers and organizations (Williams & Anderson, 1991). However, experimental designs can occur in a variety of settings and need not only occur in a laboratory (Stone-Romero, 2009). Although they can be difficult to execute, it is possible for organizational researchers to pair the benefits of experimental and correlational field designs by using random assignment and manipulations in field studies. Such a design is particularly advantageous in the current context because manipulating state gratitude and testing its effects in the workplace allows me to more firmly establish the direction of the state gratitude-OCB relation. Consequently, the current research

involves an experimental daily diary design aimed at manipulating gratitude and testing its effect on OCB.

Due to the event-based nature of state gratitude (McCullough et al., 2001), I expect that it will be possible to manipulate participants' feelings of gratitude in a daily diary study. According to cognitive appraisal theories of emotion and AET, emotions are generated by specific events that are appraised with respect to self-relevance and the event's implications for the individual's goals and well-being (Clore & Ortony, 2008; Frijda, 1986; Ortony, Clore, & Collins, 1988; Weiss & Cropanzano, 1996). Drawing upon cognitive appraisal frameworks, the Moral Affect Model of gratitude purports that feeling grateful is a positive emotional response that is engendered after receiving a benefit (McCullough et al., 2001). Consequently, events or circumstances that bestow benefits upon the individual should elicit gratitude if they are recognized. In several studies designed to establish the directionality between gratitude and well-being, Emmons and McCullough (2003) employed a gratitude manipulation, in which participants in a gratitude condition were asked to explicitly report things that they were grateful for or to think about how they were better off than others. The authors demonstrated that getting participants to explicitly "count their blessings" increased participants' subjective and physical well-being compared to participants who were asked to explicitly report on hassles or inconveniences that they had faced.

I will also seek to manipulate gratitude in the present research. In a daily diary study, participants will be randomly assigned to one of two conditions: experimental or control. In the experimental condition, each morning employees will complete a gratitude induction, a discrete episodic event designed to engender feelings of gratitude. In the control condition, each morning participants will complete a neutral task. Subsequent to the manipulation or control task, state

gratitude and OCB will be measured and state gratitude will be tested as a mediator of the relation between the manipulation and OCB. Based on appraisal theories of emotion (e.g., Clore & Ortony, 2008; Frijda, 1986; Ortony, Clore, & Collins, 1988) as well as the Moral Affect Model of gratitude (McCullough et al., 2001), I expect that participants who experience a gratitude-inducing event will experience higher levels of state gratitude and that higher levels of state gratitude will be associated with more OCB. Thus, I predict:

*Hypothesis 5: A gratitude-inducing event will have a positive indirect effect on OCB through state gratitude.*

To recap, in the current research I will attempt to address the aforementioned shortcomings of OCB research and investigate the relation of state gratitude, a discrete positive emotion, to OCB. In two daily diary studies, I will test if state gratitude varies within-person (H1), examine if state gratitude is generated by dispositional gratitude (H2), and test if dispositional gratitude makes people more likely to experience state gratitude following a gratitude-inducing event (H3). Beyond this, I will test the extent to which state gratitude is effective in generating OCB (H4) and if state gratitude significantly mediates the effect of a gratitude-inducing event on OCB (H5). Figure 1 provides a summary and depiction of Hypotheses 2-5. As can be seen from Figure 1, the combination of Hypotheses 3 and 5 implies moderated mediation. As such, moderated mediation will be tested in the second diary study when Hypotheses 3 and 5 are examined.

In addition to these focal studies, I will develop a measure of state gratitude. Although measures of dispositional gratitude exist (e.g., McCullough et al., 2002; Watkins et al., 2006), no psychometrically established scale of state gratitude exists. As a result, prior to conducting the daily diary studies I will develop a valid and reliable measure of state gratitude. The scale development results of this effort are presented in Chapter 3.

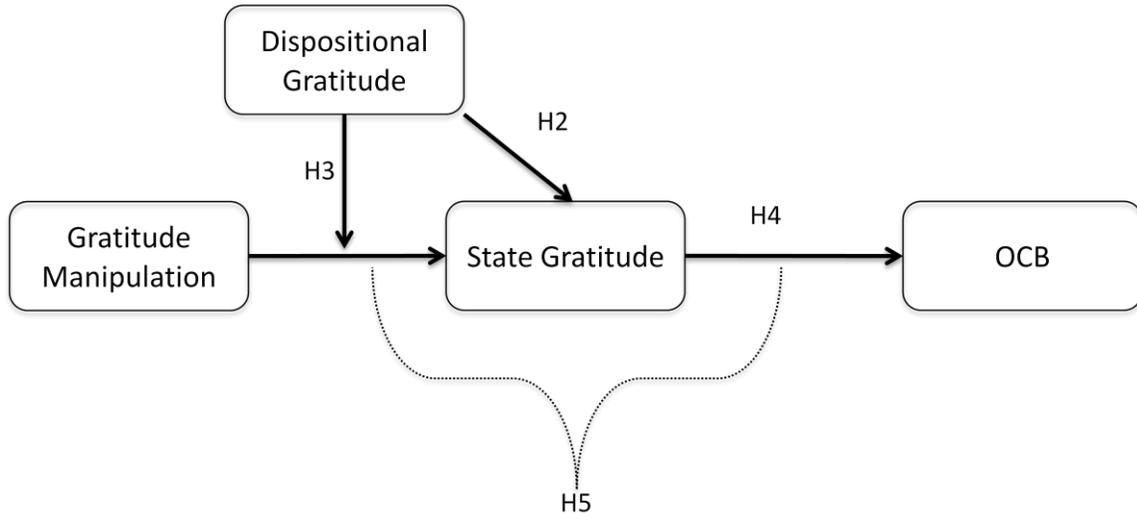


Figure 1. Heuristic model depicting Hypotheses 2-5.

## CHAPTER 3

### SCALE DEVELOPMENT

Although measures of dispositional gratitude have been developed (e.g., McCullough et al., 2002; Watkins et al., 2006) no psychometrically established measure of state grateful (i.e., the felt experience of gratitude) exists. Dispositional gratitude is argued to be a trait that predisposes people to experience gratitude, whereas state gratitude pertains to the actual experience of being grateful, or felt gratitude. Not having an established measure of state gratitude poses a problem in conducting field research into the properties and behavioural consequences of feeling grateful, because in order to do so state gratitude needs to be accurately measured. As a result, prior to testing my hypotheses, it was necessary to construct a reliable and valid measure of state gratitude. To do so, I followed steps for constructing a valid and reliable measure outlined by Hinkin (1998). In several stages, I generated items, honed the initial list of items, assessed the factor structure and reliability of the proposed scale, and subsequently assessed its validity.

#### **Creating a Measure of State Gratitude**

##### **Item Generation**

A pool of items was generated using the deductive item development approach (Hinkin, 1998). The deductive approach uses an existing theoretical foundation to create a definition, and the definition is then used to guide item generation. I reviewed the gratitude literature and defined the experience of gratitude (i.e., state gratitude) as a pleasant feeling of appreciation and generosity in recognizing that one has received a benefit (McCullough et al., 2001; Emmons, 2004). Following item development guidelines (Hinkin, 1998) I generated items that were written in a concise manner, with simple language, and designed to address a single issue (i.e., were not “double-barreled”). In all, 20 items were generated (Table 1).

Table 1

*Items Generated Using Deductive Items Development Approach*

- 
1. I feel grateful.
  2. I am full of life.
  3. I feel a warm sense of appreciation.
  4. I feel kind.
  5. I feel generous.
  6. I am happy to have been helped by others.
  7. I feel owed. (R)
  8. I feel slighted by others. (R)
  9. I feel resentful to others. (R)
  10. I am mindful of different ways that I can help others.
  11. I have benefited from the goodwill of others.
  12. Someone has recently gone out of his/her way to help me.
  13. I have been treated with generosity.
  14. I am fortunate.
  15. I have a desire to help others.
  16. I have not received much help from others lately. (R)
  17. I have helped others more than they have helped me. (R)
  18. People owe me favours. (R)
  19. Those whom I interact with are not as generous as me. (R)
  20. Others have taken advantage of my giving. (R)
- 

*Notes.* R = reverses coded items.

### **Substantive Validity: Item Reduction**

As a first step I wanted to establish the substantive validity of my newly created items using a sort task. Substantive validity is similar to construct validity and refers to the extent to which a measure is “judged to be reflective of, or theoretically linked to, some construct of interest” (Anderson & Gerbing, 1991). Testing a scale’s substantive validity is recommended as a way to measure content validity and to guide the elimination of poor scale items prior to factor analyses (Anderson & Gerbing, 1991; Hinkin, 1998). Substantive validity is established by having participants perform a sort task that tests the extent to which participants can classify the items of a scale to the appropriate construct definition. As a result, I had participants complete an item-sort task designed to assess substantive validity.

**Participants and procedure.** In order to produce stable estimates, sample size recommendations for item-sort tasks are between 12-30 participants (Hunt, Sparkman, & Wilcox, 1982). I had 24 participants (13 female) from a variety of occupations (e.g., administrative assistant, manager, bookkeeper, insurance broker) complete the sort task. Participants were recruited using a snowball technique, in which my working family members and friends were asked to complete the task as well as pass the task along to other working individuals. The mean age of participants was 38.70 years ( $SD = 13.30$ ). A mature, non-undergraduate, sample was chosen because the test sample should be representative of the population that is expected to complete the measure (Anderson & Gerbing, 1991; Ghiselli, Campbell, & Zedeck, 1981).

Participants were provided with a definition of gratitude and other related constructs (e.g., empathy, shame, agreeableness, and life satisfaction; McCullough et al., 2001; McCullough et al., 2002) and were asked to sort a list of scale items according to which construct they thought

each item was assessing. Substantive validity is demonstrated when items are consistently assigned to their correct construct.

Empathy (e.g., the ability to understand the affective and cognitive status of others; Eisenberg & Lennon, 1983; Eisenberg & Miller, 1987) and shame (e.g., emotion of negative self-evaluation and loss of standing in one's own eyes or those of others – a feeling that results when one's self-image and identity are called into question; Bedford & Hwang, 2003) were included because, at a definitional level, they are both considered to be moral emotions alongside gratitude (McCullough et al., 2001). Specifically, empathy is related to the other-focused nature of gratitude (i.e., having an action tendency to help others) and shame is related to the self-focused nature of gratitude (i.e., being self-aware to realize that one has been helped).

Agreeableness (e.g., being good natured, flexible, cooperative, caring, courteous, trusting, and tolerant; Mount & Barrack, 1995) was included because it is a personality trait linked with prosocial qualities (e.g., McCrae & John, 1992). It has also been suggested that agreeable people use gratitude as a way to maintain their relationships (McCullough et al., 2001). As such, I wanted to ensure that my items, designed to tap a prosocial state, were separable from a prosocial disposition.

Life satisfaction (e.g., a global assessment of a person's quality of life according to his or her chosen criteria; Diener, Emmons, Larsen, & Griffin, 1985) was included to discriminate my gratitude items from general happiness and well-being. Gratitude is believed to be a product of an individual perceiving that someone/something is contributing to his/her well-being (McCullough et al., 2001), so I wanted to discern the feeling of gratitude from the judgment of being satisfied.

To assess the substantive validity of my items, I computed two indices, as suggested by

Anderson and Gerbing (1991). First, I computed the proportion of substantive agreement ( $P_{sa}$ ), which assesses the proportion of respondents who assign an item to its intended construct. The formula for  $P_{sa}$  is  $P_{sa} = n_c/N$ , with  $n_c$  representing the number of participants assigning an item to its intended construct and  $N$  is the total number of participants. Second, I computed the coefficient of substantive validity ( $C_{sv}$ ), which represents the extent to which respondents assign an item to its intended construct *more than any other construct*. The formula for  $C_{sv}$  is  $C_{sv} = (n_c - n_o)/N$ , with  $n_c$  still representing the number of participants assigning an item to its intended construct,  $N$  the total number of participants, and  $n_o$  representing the highest number of times the item was assigned to a construct other than the intended construct.

### **Substantive Validity Results**

Because the  $P_{sa}$  and  $C_{sv}$  coefficients ostensibly represent a proportion of how many times an item was assigned to the correct construct, higher values indicate a higher degree of substantive validity with a value of 1 representing perfect classification. For similar tests, a minimum cutoff value of .75 has been recommended (Hinkin, 1998). Using this guideline, I retained six items with  $P_{sa}$  and  $C_{sv} \geq .75$ . All of the retained items are labeled with an asterisk in Table 2.

Table 2

*P<sub>sa</sub> and C<sub>sv</sub> Results*

Items	P <sub>sa</sub>	C <sub>sv</sub>
1. I feel grateful.*	.92	.86
2. I am full of life.	.04	-.75
3. I feel a warm sense of appreciation.*	.96	.96
4. I feel kind.	.08	-.54
5. I feel generous.	.50	.29
6. I am happy to have been helped by others.*	.96	.96
7. I feel owed. (R)	.42	.21
8. I feel slighted by others. (R)	.17	-.21
9. I feel resentful to others. (R)	.13	-.25
10. I am mindful of different ways that I can help others.	.08	-.50
11. I have benefited from the goodwill of others.*	.92	.88
12. Someone has recently gone out of his/her way to help me.*	.88	.83
13. I have been treated with generosity.*	.83	.75
14. I am fortunate.	.67	.42
15. I have a desire to help others.	.08	-.42
16. I have not received much help from others lately. (R)	.75	.63
17. I have helped others more than they have helped me. (R)	.46	.21
18. People owe me favors. (R)	.46	.21
19. Those whom I interact with are not as generous as me. (R)	.42	.17
20. Others have taken advantage of my giving. (R)	.50	.21

*Notes.* R = reverse coded item. P<sub>SA</sub> = proportion of substantive agreement, C<sub>sv</sub> = coefficient of substantive validity. \* = item was retained after substantive validity testing.

## **Factor Structure and Reliability**

After having evidence to suggest that a set of items maps onto state gratitude I sought to establish the psychometric properties of the six retained items, hereupon referred to as the State Gratitude Scale (SGS). In particular, I wanted to establish the factor structure and internal consistency of these six items, the SGS. Because I expected the SGS to tap a unidimensional construct of state gratitude, I tested if all the items loaded onto a single latent factor using a confirmatory factor analysis (CFA). I conducted a CFA rather than an exploratory factor analysis (EFA) because I had an a priori expectation that the SGS tapped a single factor and CFA is known to provide a stricter test of unidimensionality (Hinkin, 1998).

## **Participants and Procedure**

The reliability and factor structure of the SGS were examined using two samples. All participants were instructed to complete the SGS based on their current thoughts and feelings.

Sample 1 consisted of 119 (50.4% female) full-time employees from a range of occupations (e.g., optical lab technician, business analyst, software developer, consultant, nurse). Participants had a mean age of 35.08 years ( $SD = 9.76$ ), worked an average of 41.00 hours a week ( $SD = 6.18$ ) had been working 74.03 months ( $SD = 91.66$ ) in their current organization and 58.87 months ( $SD = 93.51$ ) in their current job. Approximately 65% of the sample held a university degree, 15% held less than a university degree, and 20% held a Master's degree or higher. Participants were recruited using advertisements placed in public places inviting them to participate in an online study about workplace attitudes. The SGS was completed alongside demographic information (e.g., age, gender, work experience, etc.).

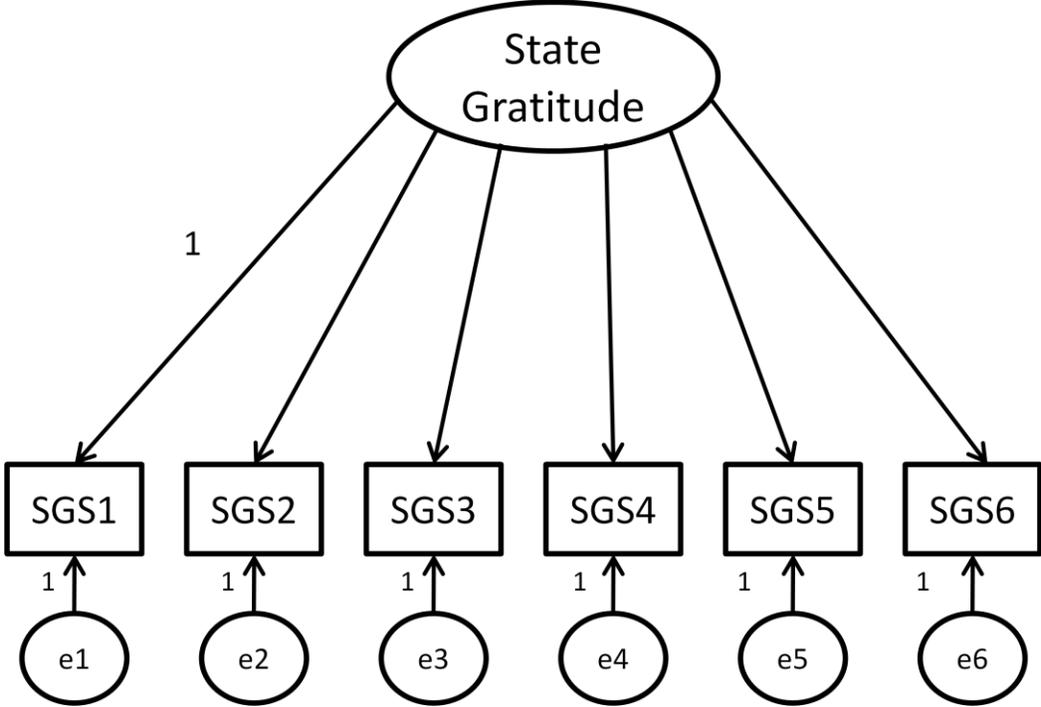
Sample 2 consisted of an independent sample of 251 employed participants (57% female) from a wide range of occupations (e.g., accountant, factory worker, IT support, sales manager,

design engineer, office manager). The mean age of participants was 34.80 years ( $SD = 10.53$ ), they worked an average of 41.10 hours a week ( $SD = 7.68$ ), and they had been employed an average of 38.84 months ( $SD = 49.35$ ) in their current position and 69.39 months ( $SD = 118.98$ ) in their current organization. Approximately 68% of the sample held a university degree, 19% held less than a university degree, and 13% held a Master's degree or higher. Participants in Sample 2 were recruited in the same manner as participants in Sample 1 and the SGS was completed alongside demographic information.

### **Analyses and Results**

A CFA was conducted with data from both samples using AMOS 16.0. CFA was run to determine if the SGS measured the single underlying construct of state gratitude. Both the comparative fit index (CFI; Bentler, 1990) and the root mean squared error of approximation (RMSEA; Steiger & Lind, 1980) were used to determine the fit of each model. In each analysis, a congeneric model, where the slopes and error variances are allowed to be unequal, was tested (see Figure 2 for model depiction).

Figure 2. Congeneric model used for CFAs.



CFA results from Sample 1 with items 1-6 loading on a single factor indicated that the model did not fit the data well. Specifically, the fit statistics did not meet conventional standards, with the CFI falling below .85 and the RMSEA exceeding .08. Inspection of the modification indices revealed that the lack of fit was generated by item 5 (Someone has recently gone out of his/her way to help me). Specifically, modification indices revealed that item 5 was generating systematic error variance because its error term covaried with the error terms of several other items. Upon examining item 5, it was evident that it exhibited a high degree of similarity with items 3 (I am happy to have been helped by others), 4 (I have benefited from the goodwill of others) and 6 (I have been treated with generosity) with each of these items pertaining to the receipt of benefits. Because item 5 demonstrated a high degree of similarity with other items and was generating fit problems, it was removed from further analyses. Removing item 5 drastically improved the fit of the model with fit statistics exceeding conventional standards (CFI = 1, RMSEA = 0, chi-square = 3.23,  $df = 5$ ,  $p = .65$ ).

CFA results from Sample 2 indicated that having items 1-6 loading on a single factor did not fit the data well (CFI < .85 and RMSEA > .08). As was the case in Sample 1, removal of item 5 significantly improved the fit of the model ( $\Delta\chi^2 = 42.55$ ,  $p < .001$ ). However, in order to improve the fit of the model beyond conventional standards the covariance between items 1 and 2 needed to be nonzero. When this constraint was lifted the model was found to fit the data well (CFI = .984 and RMSEA = .08, chi-square = 10.39,  $df = 4$ ,  $p = .034$ ). As a result, across both Samples 1 and 2 the five-item scale consisting of items 1, 2, 3, 4 and 6 was found to produce the best fit.

In Sample 1 the reliability of single items 1, 2, 3, 4, and 6 ranged from .51 to .71. To determine the reliability of the entire scale I computed the reliability of the aggregated items,

equivalent to a Cronbach's alpha for a congeneric model (Graham, 2006).<sup>2</sup> The reliability of an aggregated set of items is roughly equal to the true score variance of the scale over the total variance of the scale. The specific formula is reported below and is computed using the unstandardized estimates from the congeneric model (Raykov, 1998) where  $(\sum s_i)^2$  is the sum of the estimated slopes, which is then squared,  $\text{Var}_T$  is the estimated variance of the factor, and  $\sum \text{Var}_{E_i}$  is the sum of the estimated error variances.

$$\text{Reliability} = (\sum s_i)^2 \text{Var}_T / (\sum s_i)^2 \text{Var}_T + \sum \text{Var}_{E_i}$$

Using the above formula, the reliability of the aggregated score from items 1, 2, 3, 4 and 6 from Sample 1 is .96. In Sample 2 the reliability of single items ranged from .29 to .56. The reliability of items 1, 2, 3, 4, and 6 aggregated in Sample 2 was computed with a slightly modified formula due to the covariance between the errors of items 1 and 2 (Raykov, 2001) where  $2\sum \text{Cov}_{E_i E_j}$  is twice the sum of an error covariance and everything else is as specified above.

$$\text{Reliability} = (\sum s_i)^2 \text{Var}_T / (\sum s_i)^2 \text{Var}_T + \sum \text{Var}_{E_i} + 2\sum \text{Cov}_{E_i E_j}$$

Using the above formula the reliability of items 1, 2, 3, 4, and 6 aggregated in Sample 2 equals .94.

Based on the CFA results and reliability assessment, I concluded that items 1, 2, 3, 4, and 6 reliably load on a single unitary factor, which I deemed to be state gratitude (see Table 3 for a

---

<sup>2</sup> Computing the reliability of a scale in this manner uses the same model assumptions and parameter estimates that are used in the CFA.

list of retained items). After determining the factor structure and the reliability of the SGS I examined its convergent and discriminant validity.

Table 3

*Items Retained After CFAs*

- 
1. I feel grateful.
  2. I feel a warm sense of appreciation.
  3. I am happy to have been helped by others.
  4. I have benefited from the goodwill of others.
  5. I have been treated with generosity.
-

### **Convergent and Discriminant Validity**

Based on the results of the substantive validity tests, CFAs, and internal consistency estimates, the evidence suggests that the SGS taps a unitary latent construct that I define as state gratitude. However, in order to provide more evidence for the construct validity of the SGS, or the extent to which the construct being measured by the SGS is indeed state gratitude, I also wanted to test for convergent and discriminant validity. Convergent validity represents the extent to which a scale is related to similar constructs and discriminant validity represents the extent to which a scale is unrelated to dissimilar ones (Hinkin, 1998).

I begin with convergent validity. Because state gratitude is a discrete positive emotion (McCullough et al., 2001), I expect that participants' scores on the SGS should correlate positively with *positive affect* and negatively with *negative affect*, two separate dimensions of mood: feeling good and feeling bad, respectively (Watson & Tellegen, 1985). Because state gratitude is a discrete emotion, related, but argued to be distinct from mood, the correlations between the SGS and affect should be moderate and CFA should provide clear evidence that the constructs are separable. Additionally, it is reasonable to expect that feelings of gratitude should be related to *dispositional gratitude* (McCullough et al., 2002), which is defined as "the tendency to recognize and respond with grateful emotion to the roles of other people's benevolence in the positive experiences and outcomes that one obtains" (p. 112). Specifically, participants who have a grateful disposition are reasonably expected to experience higher levels of state gratitude. However, like positive and negative affect, grateful disposition and state gratitude should be related, but separable, constructs.

Three theoretically unrelated constructs were chosen to test for discriminant validity: *work centrality*, *perceptions of government environmental policy*, and *impression management*.

These constructs represent distinct self-evaluative, attitudinal, and dispositional constructs that are theoretically unrelated to feelings of gratitude. Specifically, *work centrality*, or the extent to which individuals consider work to be a central component of their lives (Paullay, Alliger, & Stone-Romero, 1994), represents a component of one's self-concept distinct from emotion and, therefore, should be unrelated to state gratitude. Additionally, one's *perception of the government's environmental policies* represents an attitude that is both theoretically and practically distinct from the emotion of gratitude and should be unrelated to a measure of state gratitude. Similarly, the *tendency to manage impressions*, or to tailor survey responses to appear more favourable (Paulhus, 1991) is not an emotional construct and should not be strongly related to state gratitude. Specifically, scores on the SGS should not strongly co-occur with impression management tendencies and, therefore, the two constructs should show little to no relation with each other.

### **Participants and Procedure**

To ascertain convergent and discriminant validity two samples were used: Sample 1 (see above for sample descriptions) and Sample 3, which consisted of 173 undergraduate university students (54.8% female) with an average age of 20.08 years ( $SD = 2.28$ ). All participants in Sample 3 were members of a psychology department subject pool and their participation earned them credit towards one of their undergraduate psychology classes.

In addition to completing the SGS, participants in Samples 1 and 3 completed measures of *positive affect*, *negative affect*, and *impression management*. However, Sample 1 also completed measures of *dispositional gratitude*, *work centrality*, and *perceptions of government environmental policies*.

### **Measures**

**SGS.** SGS is a five-item scale. Participants were instructed to complete the scale based on their current thoughts and feelings. Responses were made using a 5-point Likert scale (1 = strongly disagree and 5 = strongly agree). Scale items include: “I feel grateful,” “I feel a warm sense of appreciation,” “I am happy to have been helped by others,” “I have benefited from the goodwill of others,” and “I have been treated with generosity (Sample 1  $\alpha = .78$ , Sample 3  $\alpha = .77$ ).

**Positive and negative affect.** Positive and negative affect was measured using the Positive and Negative Affect Schedule (PANAS; Watson et al., 1988), a 20-item scale with ten items measuring positive affect (e.g., proud, strong; Sample 1  $\alpha = .89$ , Sample 3  $\alpha = .89$ ) and ten measuring negative affect (e.g., upset, hostile; Sample 1  $\alpha = .92$ , Sample 3  $\alpha = .89$ ). Participants were instructed to complete the scales based on their typical feelings and responses were made on a 5-point Likert scale (1 very slightly or not at all and 5 = extremely)

**Impression management.** Paulhus’ (1991) 20-item Impression Management scale was used to measure impression management (Sample 1,  $\alpha = .83$ ; Sample 3,  $\alpha = .74$ ). Responses were made on a 7-point Likert scale ranging from 1= strongly disagree to 7 = strongly agree. Participants responded to questions such as, “I sometimes tell lies if I have to” and “I never take things that don’t belong to me.”

**Grateful Disposition.** Participants’ dispositional gratitude was measured using a six-item scale generated by McCullough et al. (2002). Responses were made on a 7-point Likert scale ranging from 1 = strongly disagree to 7 = strongly agree. Sample items include: "When I look at the world, I don’t see much to be grateful for” and “As I get older I find myself more able to appreciate the people events, and situations that have been part of my life history” (Sample 1  $\alpha =$

.86). Participants were instructed to complete the scale based on their typical thoughts and feelings.

**Work centrality.** Participants completed a 12-item work centrality scale developed by Paullay et al. (1994). Responses were made on a 7-point Likert scale ranging from 1 = strongly disagree to 7 = strongly agree. Sample items include, “An individual’s personal life goals should be work oriented” and “The major satisfaction in life comes from work” (Sample 1  $\alpha = .87$ ). Participants were asked to respond to the scale based on how they are in general.

**Perceptions of government environmental policy.** Perceptions were measured using a four-item semantic differential scale assessing perceptions of the government’s environmental policies along four dimensions (good-bad, wise-foolish, beneficial-harmful, and useful-useless; Sample 1  $\alpha = .91$ ). Scores on each dimension ranged from 1 to 5, with higher scores indicating more negative perceptions. This scale has been used in other scale development studies (e.g., Ferris, Brown, Berry, & Lian, 2008).

### **Analytic Strategy**

Convergent validity was tested in two phases. First, zero-order correlations between the SGS and three theoretically similar variables (e.g., grateful disposition, positive affect, and negative affect) were conducted. Then, a series of CFAs was conducted to establish if the SGS and the related construct measured distinct constructs. Specifically, a CFA with all the indicators from the SGS and the related construct loading on the same latent construct was run. Following this, another CFA was conducted with the indicators from separate scales loading on their respective constructs. The  $\chi^2$  fit statistics of these two models were then compared to determine if the model with two latent constructs fit the data significantly better than the model with one latent construct. A statistically significant difference in the fit of the models suggests that

although the two measures are found to have a significant relation, they measure distinct latent constructs.

To establish evidence for discriminant validity, zero-order correlations were computed between SGS and two theoretically unrelated constructs (e.g., work centrality and perceptions of government environmental policy). To find evidence for discriminant validity, the SGS is expected to have non-significant correlations with work centrality, perceptions of government environmental policy, and impression management.

## Results

**Convergent validity.** The pattern and the magnitude of the zero-order correlations between the SGS and positive affect and negative affect across Sample 1 and Sample 3 were consistent. Specifically, the SGS was found to have significant positive correlations with positive affect (Sample 1,  $r = .32$ ,  $p < .001$ , Table 4; Sample 3,  $r = .40$ ,  $p < .001$ , Table 5) and significant negative correlations with negative affect (Sample 1,  $r = -.45$ ,  $p < .001$ , Table 4; Sample 3,  $r = -.24$ ,  $p < .001$ , Table 5). As well, as expected, the SGS was found to have a significant positive relation with dispositional gratitude ( $r = .51$ ,  $p < .001$ , Table 4).

To follow up on these significant zero-order correlations and to ensure that the SGS is a construct distinct from grateful disposition, positive affect, and negative affect, a series of CFAs was run. In Sample 1, when CFAs were run with the SGS and each of the significantly related variables - trait gratitude, positive affect, and negative affect - a two-factor model was found to fit the data significantly better than a single factor model ( $\Delta\chi^2 = 20.89, 51.32, \& 195.51$ ,  $p < .001$ , for grateful disposition, positive affect, and negative affect, respectively). In Sample 3, the same analyses were performed between the SGS and positive and negative affect. The results were consistent across the two samples with the two factor model fitting the data significantly

better when examining the SGS alongside positive affect ( $\Delta\chi^2 = 34.55, p < .001$ ) and negative affect ( $\Delta\chi^2 = 136.63, p < .001$ ). A summary of the CFA results can be found in Table 6.

**Discriminant validity.** The zero-order correlations, reported in Table 4, indicate that, as expected, the SGS is statistically unrelated to work centrality ( $r = .14, n.s.$ ) and perceptions of government environmental policy ( $r = -.03, n.s.$ ). Impression management was found to have a positive relation with the SGS (Sample 1,  $r = .18, p < .05$ , Table 4; Sample 3,  $r = .18, p < .05$ , Table 5), likely due to the fact that state gratitude is a positive social emotion, and thus, desirable to possess. However, the weak correlation between impression management and state gratitude in both samples suggests that these constructs are separable. Together these results demonstrate the discriminant validity of SGS with work centrality, government perceptions, and impression management.

Table 4

*Zero-order Correlations and Descriptive Statistics from Sample 1*

	Mean	<i>SD</i>	1	2	3	4	5	6	7
1. SGS	3.94	.57	(.78)						
2. Positive affect	3.46	.73	.32**	(.89)					
3. Negative affect	1.85	.78	-.45**	-.42**	(.92)				
4. Impression management	4.17	.98	.18*	.20*	-.26**	(.83)			
5. Grateful Disposition	5.48	1.08	.51**	.48**	-.60**	.23*	(.86)		
6. Work centrality	3.40	1.05	.14	.17	.05	.29**	-.10	(.87)	
7. Perceptions of Government	2.92	.78	-.03	-.03	-.08	-.16	.10	-.32**	(.91)

*Notes.* Grateful disposition, work centrality, and impression management were measured on a 7-point Likert scale.  $n = 119$ . Coefficient alpha is reported on diagonal. *SD* = standard deviation.

SGS = state gratitude scale.

\* $p < .05$ , \*\* $p < .001$

Table 5

*Zero-order Correlations and Descriptive Statistics from Sample 3*

	Mean	<i>SD</i>	1	2	3	4
1. SGS	4.01	.56	(.77)			
2. Positive affect	3.16	.75	.40**	(.89)		
3. Negative affect	2.06	.77	-.24**	-.15*	(.89)	
4. Impression management	3.82	.77	.18*	.00	-.16*	(.74)

*Notes.* Impression management was measured on a 7=point scale.  $n = 177$ . Coefficient alpha is reported on diagonal. *SD* = standard deviation. SGS = state gratitude scale.

\* $p < .05$ , \*\* $p < .001$

Table 6

*CFA Results for Convergent Validity*

Model	Chi-Square ( $\chi^2$ )	<i>df</i>	<i>p</i>
Sample 1			
SGS & PA loaded on single construct	184.76	90	
SGS & PA loaded on respective constructs	133.44	89	
$\Delta\chi^2$	51.32	1	< .001
SGS & NA loaded on single construct	485.51	90	
SGS & NA loaded on respective constructs	290.00	89	
$\Delta\chi^2$	195.51	1	<.001
SGS & GD loaded on single construct	118.65	44	
SGS & GD loaded on respective constructs	97.76	43	
$\Delta\chi^2$	20.89	1	<.001
Sample 3			
SGS & PA loaded on single construct	271.99	90	
SGS & PA loaded on respective constructs	237.44	89	
$\Delta\chi^2$	34.55	1	<.001
SGS & NA loaded on single construct	393.33	90	
SGS & NA loaded on respective constructs	256.70	89	
$\Delta\chi^2$	136.63	1	<.001

*Notes.* SGS = state gratitude scale, PA = positive affect, NA = negative affect, GD = grateful disposition, *df* = degrees of freedom.

## Discussion

The purpose of the above set of studies was to create a reliable and valid measure of state gratitude, which will allow researchers to make scientific inroads into this previously overlooked domain. In a series of data collections using three samples, my findings suggest that the SGS is an internally consistent and valid measure of state gratitude. The SGS is a five-item scale with the items being selected from an initial pool of 20 items that were generated using a deductive approach (Hinkin, 1998). The initial pool of items was trimmed using substantive validity and then further honed with CFA. Results of CFA indicated the SGS measures a single latent construct distinct from general affect and dispositional gratitude, providing evidence for convergent validity. Additional evidence for convergent validity was found with results indicating that state gratitude was moderately related to general affect and the grateful disposition in expected directions. Specifically, the SGS scores were moderately positively related to positive affect and moderately negatively related to negative affect and moderately positively related to dispositional gratitude.

Additionally, as evidence for discriminant validity, the SGS was unrelated to theoretically unrelated constructs. Specifically, the SGS was unrelated to work centrality and perceptions of governmental policies. As well, although SGS was found to have a significant relation with impression management it was a very weak relation in both samples. A small correlation with impression management also suggests that SGS is not overly contaminated by respondents' desire to present themselves in a favourable manner.

Taken together, the convergent and discriminant validity results have begun to establish the empirical specification of a nomological network for state gratitude, indicating its proximity to constructs like affect and dispositional gratitude as well as its separation from the constructs of

work centrality, perceptions of government, and impression management. With evidence for the establishment of a reliable and valid measure of state gratitude, it is now possible to test my hypotheses, which were outlined in Chapter 2:

- *Hypothesis 1: State gratitude will demonstrate significant within-person variability.*
- *Hypothesis 2: Dispositional gratitude will be positively related to state gratitude.*
- *Hypothesis 3: Dispositional gratitude will moderate the effect of gratitude-inducing event on state gratitude, such that participants with higher levels of dispositional gratitude will experience more state gratitude when faced with a gratitude-inducing event compared to those with lower levels of dispositional gratitude.*
- *Hypothesis 4: State gratitude will be positively related to OCB.*
- *Hypothesis 5: A gratitude-inducing event will have a positive indirect effect on OCB, through state gratitude.*

## CHAPTER 4

### DAILY DIARY INVESTIGATIONS

#### **Daily Diary Study I: Lagged Data Collection and Analysis**

After developing a measure in the first study, the next step was to test if state gratitude levels dynamically fluctuate from day to day (H1), if state gratitude is predicted by dispositional gratitude (H2) and if state gratitude is positively related to OCB (H4). To examine these questions I employed a daily diary study methodology, which involves the examination of within-person properties or relations.

To strengthen the causal inference between state gratitude and OCB (H4), in addition to having each participant complete multiple measures across days, participants completed multiple measures within each day, creating an ordering to the data. Specifically, state gratitude was measured in the morning and OCB was measured in the afternoon, creating a natural ordering to the data as well as a separation in time. I also wanted to test if state gratitude was related to OCB after controlling for social exchange mechanisms. I felt that it was important to account for social exchange processes, as social exchange is the favoured theoretical explanation for OCB (Zellars & Tepper, 2003). In order to account for social exchange processes I included measures of affective commitment, the extent to which an employee feels emotionally attached to his or her organization (Meyer & Allen, 1997) and perceived organizational support (POS), the extent to which employees feel supported by their organization (Eisenberger, Huntington, Hutchinson, Sowa, 1986). Both of these constructs have been previously used as indicators of social exchange (e.g., Cropanzano, Rupp, & Byrne, 2003; Masterson, 2001; Moorman & Harland, 2002; Randall et al., 1999; Wayne et al., 1997; Witt, 1991). High levels of affective commitment and POS signify that the quality of a relationship between an employee and his or her organization is

favourable and, thus, obligate the employee to reciprocate, via OCB. Due to the multilevel nature of the current study, I wanted to control for social exchange mechanism at both the within and between-person levels. As a result, I measured POS at the trait level and affective commitment at the daily level. POS was selected as the trait level control because it is more representative of a stable variable as organizational supports are not likely to change from day-to-day. However, the affective nature of affective commitment makes it a good candidate to study at the daily level because it is more likely to demonstrate day-to-day variability.

## **Method**

### **Participants**

Participants were 67 (64% female) full-time employees from a wide variety of occupations (e.g., computer programmer, manager, assistant manager, dental hygienist, IT manager, paralegal, cook, etc.). Participants had a mean age of 33.60 years ( $SD = 8.31$ ), worked an average of 42.07 hours a week ( $SD = 5.29$ ), had 13.15 years ( $SD = 8.91$ ) of work experience, had been with their current organization for 5.99 ( $SD = 6.07$ ) years, and had been in their current position within the organization for 4.22 ( $SD = 4.13$ ) years. Approximately 75% of the sample held a university degree, 14% held less than a university degree, and 11% held a Master's degree.

### **Procedure**

Participants responded to advertisements placed in public places inviting them to participate in an online study about workplace thoughts and behaviour. The recruitment advertisement directed interested individuals to complete an online pre-screen inventory, which included demographic questions and a question regarding how many hours a week they work (to ensure participants worked full-time). Qualified participants were sent an email with a unique identifier code and a link to a short one-time survey of the pre-diary measures (e.g., dispositional

gratitude, POS). Approximately two weeks after completing the pre-diary measures, participants began the daily diary portion of the study.

For the daily diary part of the study, participants were emailed a survey every morning (at 8:00 a.m., survey closed at 11:59 a.m.) and every afternoon (at 3:00 p.m., survey closed at 11:59 p.m.) for five consecutive workdays. The morning survey asked them to complete the SGS based on how they felt at the time. In the afternoon, participants were sent a set of questionnaires asking them how they felt and acted at work that day. These consisted of daily affective commitment and OCB measures. Participants were paid \$1 for each daily survey they completed, \$2 for completing the initial pre-diary survey, and an extra \$3 if they completed every daily survey. For the morning survey, the overall response rate was 82%. Had all 67 participants completed every questionnaire across the five days it would have resulted in 335 data points. However, because some participants did not complete every daily questionnaire, I obtained 276 data points, resulting in a response rate of 92% across time and participants. For the afternoon survey I had a response rate of 92% (309 data points out of a possible 335 were collected).

### **Pre-diary Questionnaires**

**Grateful Disposition.** Participants' disposition towards gratitude was measured using a six-item scale generated by McCullough et al. (2002). Responses were made on a 7-point Likert scale ranging from 1= strongly disagree to 7 = strongly agree. Sample items include: "When I look at the world, I don't see much to be grateful for" and "As I get older I find myself more able to appreciate the people, events, and situations that have been part of my life history" ( $\alpha = .82$ ). Participants were asked to respond based on their general thoughts and feelings.

**POS.** Participants' POS was measured using a nine item version of Eisenberger et al.'s (1986) POS measure. Responses were made on a 7-point Likert scale ranging from 1= strongly

disagree to 7 = strongly agree. Sample items include: “The organization really cares about my well-being” and “The organization cares about my opinions” ( $\alpha = .94$ ). Participants were asked to respond based on their general perceptions.

### **Morning Diary Questionnaire**

**State gratitude.** State gratitude was measured using the five-item SGS. Responses were made on a 5-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree. Sample scale items include: “I feel grateful,” “I feel a warm sense of appreciation” ( $\alpha = .91$ ). Participants were asked to respond based on their current thoughts and feelings.

### **Afternoon Diary Questionnaires**

**OCB.** OCB was measured using a 14-item scale from Lee and Allen (2002). Participants were asked to indicate the frequency with which they engaged in the behaviours listed on the measure “at work today.” Responses were made on a 7-point Likert scale ranging from 1 = never to 7 = more than five times. Sample items include, “willingly gave your time to help others who had work-related problems”, and “assisted others with their duties” ( $\alpha = .93$ ).

**Affective commitment.** Affective commitment was measured using a six-item measure (Meyer & Allen, 1997). Responses were made on a 7-point Likert scale ranging from 1 = strongly disagree and 7 = strongly agree. Sample items include “Today, I feel that I would be very happy to spend the rest of my career in this organization” and “Today, I really feel as if this organization’s problems are my own” ( $\alpha = .84$ ). Participants were asked to respond based on their thoughts and feelings that day.

### **Analyses**

The data were analyzed with multilevel regression using the mixed procedure in SPSS. Multilevel regression was used because the data were at multiple levels of analysis: within-

person (daily measures) and between-person (trait measures). Multilevel regression enabled me to simultaneously examine both within and between-person linear effects. The within-individual variables (or Level 1 variables) consisted of the daily diary measures (state gratitude, affective commitment, and OCB) and the between-person variables (or Level 2 variables) consisted of the pre-diary measures (grateful disposition, POS). Following the recommendation of Bickel (2007) all the variables in the analysis were grand mean centered. Grand mean centering is recommended for multilevel regression in order to eliminate multicollinearity and to minimize adverse effects (similar to multicollinearity) that may occur when random intercepts and slopes are correlated with each other (Bickel, 2007; Kreft & De Leeuw, 1998).

### **Results and Discussion**

Descriptive statistics and zero-order correlations between each of the variables can be found in Table 7. Before proceeding to the multilevel analyses, it was necessary to partition the variance into within- and between-person components for each of the daily variables. These analyses determine if there is enough within-person variance in each of the daily variables to warrant multilevel analyses. If there is little to no within-person variability in the daily variables it means that the constructs are stable over time and can accurately be conceptualized at the between person level and, as a result, do not require multilevel analyses. The test of the amount of within-person variance in state gratitude also provides a test of Hypothesis 1, which proposes that state gratitude is a dynamic construct that fluctuates over time and, therefore, should have sizable within-person variance. Specifically, if state gratitude is truly a dynamic construct, it should exhibit variability across days (within-person variability), whereby an individual can feel high levels of gratitude on one day and none the next day.

In order to partition the variance into between- and within-person components a null model (a model in which no predictors were entered at either level of analysis) was run on each daily (Level 1) variable. As shown in Table 8, the results indicate that each of the daily variables exhibited significant within-person variance (38% in state gratitude, 38% in OCB, and 30% in affective commitment) indicates that it is appropriate to proceed with a multilevel analysis. As well, Table 8 reveals that state gratitude has significant within-person (or day-to-day) variability, supporting Hypothesis 1.

Additionally, because the SGS was administered at the within-person level of analysis, it enabled me to test the factor structure of the scale at the within-person level. To do so, I used multilevel confirmatory factor analyses (MCFA; Muthen, 1994). MCFA enables researchers to confirm the structure of nested data at different levels of analysis (see Dyer, Hanges, & Hall, 2005, for a review). In this case, I wanted to confirm the factor structure of the SGS at the within-person level. To conduct the MCFA I used Mplus 6.0 (Muthen & Muthen, 2010). I ran a one-factor model with all five items loading onto a single construct. The results revealed that the model fit the data well (CFI = .91; SRMR = .04), providing evidence that the SGS is a unidimensional scale at the within-person level of analysis.

Table 7

*Zero-order Correlations and Descriptive Statistics for Daily Diary Study I*

	Mean	SD	1	2	3	4	5
Daily Variables <sup>a</sup>							
1. State gratitude	3.74	.77	(.91)				
2. OCB	1.91	.89	.20*	(.93)			
3. Affective commitment	4.35	1.30	.16*	.09	(.84)		
Between-person Variables <sup>b</sup>							
4. Grateful disposition	5.32	1.05	.47**	.09	.50**	(.82)	
5. POS	4.72	1.01	.49**	.27*	.78**	.48**	(.94)

*Notes.* Correlations among daily variables were computed by running a single-predictor model with standardized variables using the SPSS mixed procedure. Correlations between daily variables and between-person variables are Pearson coefficients and were computed using participants' aggregated daily scores. Coefficient alpha is reported on the diagonal. s.d. = standard deviation, OCB = organizational citizenship behaviour, POS = perceived organizational support. <sup>a</sup>n = 309 observations, <sup>b</sup>n = 67 participants.

\*  $p < .05$

\*\*  $p < .001$

Table 8

*Partitioning Variance Components of Within-person Variables*

Variable	Intercept ( $\gamma_{00}$ ) <sup>a</sup>	Within-person variance ( $\sigma^2$ )	Between-person variance ( $\tau_{00}$ )	Percent of within-person variance <sup>b</sup>
OCB	1.91**	.30**	.48**	38
State gratitude	3.72**	.23**	.37**	38
Affective commitment	4.35**	.50**	1.17**	30

*Notes.* <sup>a</sup>  $\gamma_{00}$  = average intercept across participants. <sup>b</sup> Percent of within-person variance was as computed as  $\sigma^2/(\sigma^2 + \tau_{00})$ . OCB = organizational citizenship behaviour.

\*\*  $p < .001$

Hypothesis 2 predicted that dispositional gratitude should be positively related to state gratitude. This hypothesis was tested by regressing state gratitude on dispositional gratitude. Results indicated that Hypothesis 2 was supported as dispositional gratitude was found to be positively related to state gratitude ( $\gamma_{10} = .29, p < .001$ ). Hypothesis 4 predicted that state gratitude would be positively related to OCB. Hypothesis 4 was tested by regressing OCB on state gratitude controlling for POS and affective commitment. The results of this analysis are presented in Table 9 and indicate support for Hypothesis 4 as state gratitude was significantly positively related to OCB ( $\gamma_{20} = .25, p < .05$ ).

Table 9

*Predicting OCB*

Independent Variables	Unstandardized Coefficients	Standard Error	<i>t</i>
Intercept, $\gamma_{00}$	1.91**	.08	22.51
Dispositional gratitude, $\gamma_{01}$	-.07	.10	-.74
POS, $\gamma_{02}$	.17	.11	1.61
Affective commitment, $\gamma_{10}$	-.01	.06	-.13
State gratitude, $\gamma_{20}$	.25*	.10	2.57

*Notes.* POS = perceived organizational support.

\* $p < .05$

\*\*  $p < .001$

This first diary study provided evidence to suggest that state gratitude is a dynamic construct, that state gratitude is predicted by employees' disposition towards gratitude, and that increased levels of state gratitude are associated with higher levels of OCB. The significant positive effect of state gratitude on OCB was also found incremental to affective commitment and POS, conventional markers of social exchange processes (e.g., Cropanzano et al., 2003; Masterson, 2001; Moorman & Harland, 2002; Randall et al., 1999; Wayne et al., 1997; Witt, 1991). This study utilized a lagged diary design in which state gratitude was measured in the morning and OCB was measured in the afternoon. Having state gratitude and OCB separated by time, with state gratitude being measured before OCB, is helpful in inferring a degree of directionality. Specifically, because my measurement of state gratitude preceded OCB within days, it suggests that feelings of gratitude precede OCB. Although it is important to point out that having a lagged design does not rule out reverse causality completely, it does provide a clearer indication of directionality than if all variables were measured at the same time.

Additionally, because all the variables were self-report, the lagged design helps to alleviate concerns regarding common method variance (CMV; Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). CMV is a general term that refers to variance that is attributable to the method of data collection rather than the constructs themselves. CMV is a concern for researchers because it can add systematic measurement error to data (e.g., variance due to acquiescence bias, transient mood states, social desirability, etc.) and, thus, threatens the validity of results by providing possible alternative explanations (see Podsakoff et al., 2003, for a review). However, the separation of the predictor and criterion in time has been proposed as one way to alleviate CMV concerns (Podsakoff et al., 2003).

It is also worth pointing out, that although they were not the focus of the current investigation, the control variables (affective commitment, POS) were not significant predictors of OCB. This is somewhat surprising, given their previous success in predicting OCB. One possibility is that the lack of significant findings here is because OCB was measured on a daily basis. As a result, the process by which affective commitment and POS influence OCB (i.e., social exchange, reciprocity) may not operate on daily level.

## **Diary Study II: Gratitude Induction**

The first diary study provided initial evidence to suggest that state gratitude leads to OCB. The purpose of the current study was to test if state gratitude is a mediator of the relation between a gratitude-inducing event and OCB and to determine if dispositional gratitude makes people more sensitive to gratitude-inducing events (providing tests of Hypotheses 5 and 3, respectively). In addition, the current study tested Hypotheses 1, 2 and 4 in an attempt to replicate the findings of Diary Study I. As with the first diary study, the current study employed a daily diary design. However, the current study included a gratitude manipulation in order to provide a more direct test of the sequence between state gratitude and OCB and to provide a platform to test Hypothesis 3. Additionally, in order to rule out CMV concerns, with respect to self-presentational response sets (Podsakoff et al. 2003), I controlled for impression management (Paulhus, 1991) in the current study.

### **Method**

#### **Participants**

Participants were 130 (52% female) full-time employees from a wide variety of occupations (e.g., chief executive officer, radiation therapist, software tester, waitress, deli clerk, etc.). Participants had a mean age of 32.40 years ( $SD = 9.83$ ), and worked an average of 40.16 hours a week ( $SD = 6.29$ ). They had been working an average of 12.78 years ( $SD = 9.90$ ), with 4.79 ( $SD = 5.53$ ) years having been spent in their current organization and 3.57 ( $SD = 4.44$ ) years in their current job. Approximately 79% of the sample held a university degree, 9% held less than a university degree, and 12% held a Master's degree or higher.

#### **Procedure**

Participants responded to advertisements placed in public places stating that people were

needed to participate in studies about workplace thoughts and behaviour. The recruitment advertisement directed interested individuals to complete an online pre-screen inventory. The pre-screen inventory consisted of demographic questions and a question regarding how many hours a week individuals worked (to ensure participants worked full-time). Participants were sent an email with a unique identifier code and a link to a short one-time survey, *the pre-diary measures* (e.g., grateful disposition, impression management).

Approximately two weeks after completing the pre-diary measures, participants began the daily diary portion of the study. The daily diary measures were completed once per day in the morning, and were made up of two parts. The surveys were sent out to participants at 8:00 a.m. and were closed at 11:59 a.m. the same morning. The first part of the survey was a manipulation and independent variable and the second part of the survey contained the dependent variable. Because surveys were completed once per day, the dependent variable portion of the survey asked participants to report on yesterday's behaviour. Participants were randomly assigned to one of two conditions, the gratitude condition or the control condition. In the gratitude condition participants were emailed a survey every morning asking them to complete the gratitude manipulation and after the gratitude manipulation participants completed the SGS based on how they felt at the time. Subsequent to this, participants were presented with a survey asking them to report on their OCB from the previous day. For the control condition, participants were emailed a survey every morning in which participants were asked to complete the control task and after completing the control task, participants also responded to the SGS, based on how they felt at the time. Then, like those in the gratitude condition, participants were presented with a measure

asking them to record their OCB from the previous day.<sup>3</sup>

The diary portion of the study went on for five consecutive work days starting on a Monday and ending on a Friday. Participants could complete a maximum of five manipulations and five sets of dependent variables. Participants were paid \$1 for each daily survey they completed, \$2 for completing the pre-diary survey, and an extra \$3 if they completed every daily survey. Had all 130 participants completed every questionnaire across the five days it would have resulted in 650 data points. However, because some participants did not complete every daily questionnaire I obtained 620 data points, resulting in the response rate of 95% across time and participants.

### **Pre-diary Questionnaires**

**Grateful disposition.** Dispositional gratitude was measured with a six-item scale generated by McCullough et al. (2002). Responses were made on a 7-point Likert scale ranging from 1= strongly disagree to 7 = strongly agree. Sample items include: "When I look at the world, I don't see much to be grateful for" and "As I get older I find myself more able to appreciate the people, events, and situations that have been part of my life history" ( $\alpha = .85$ ). Participants were asked to respond based on their general thoughts and feelings.

**Impression management.** Paulhus' (1991) 20-item Impression Management scale was used to measure impression management. Responses were made on a 7-point Likert scale ranging from 1= strongly disagree to 7 = strongly agree. Participants responded to questions such as "I sometimes tell lies if I have to" and "I never take things that don't belong to me" ( $\alpha = .79$ ).

### **Diary Questionnaires**

---

<sup>3</sup> Because the surveys were lagged across days, when creating the data file, participants gratitude responses for one day (day =  $t$ ) were entered alongside OCB responses for following day (day =  $t + 1$ ).

**State gratitude.** State gratitude was measured using the SGS. Responses were made a 5-point Likert scale ranging from 1= strongly disagree to 5 = strongly agree. Sample scale items include: “I feel grateful” and “I feel a warm sense of appreciation” ( $\alpha = .88$ ). Participants were asked to respond based on their current thoughts and feelings.

**OCB.** OCB was measured using a 14-item scale adapted from Lee and Allen (2002). The original scale was slightly altered to measure OCB in a daily context: participants were asked to indicate if they had performed the behaviours listed on the measure “at work yesterday” using a yes/no response scale. Responses were summed to generate a daily OCB count score for each participant.<sup>4</sup> Sample items include, “willingly gave your time to help others who had work-related problems” and “assisted others with their duties” ( $\alpha = .88$ ).

### **Manipulation**

Participants were randomly assigned to either a gratitude condition (45% of participants) or a control condition (55% of participants). In the gratitude condition participants were asked to think of and record five things that they were grateful for (Emmons & McCullough, 2003). This task was designed to invoke feelings of gratitude. In the control condition, participants were presented with a similar task, but were asked to think of and record the initials of five people with whom they expected to interact that day. This task was designed to have the same structure as the gratitude task, but to have relatively neutral content so as to not induce any specific emotions.

### **Analyses**

---

<sup>4</sup>Given that count data have the characteristic of being bounded at zero and are likely to be positively skewed I transformed the data using a square root transformation prior to conducting any analyses (Cohen, Cohen, West, & Aiken, 2003).

The data were analyzed with multilevel regression. The within-individual variables (or Level 1 variables) consisted of the daily diary measures (SGS and OCB) and the between-person variables (or Level 2 variables) consisted of the manipulation and pre-diary measures (grateful disposition, impression management). Following the recommendation of Bickel (2007) all the variables were in the analysis were grand mean centered to eliminate multicollinearity and to minimize adverse effects that may occur when random intercepts and slopes are correlated with each other (Bickel, 2007; Kreft & De Leeuw, 1998). Additionally, because of the lagged nature of the study, the manipulation and state gratitude from one day were used to predict the OCB that was recorded on the following day.

### **Results and Discussion**

Descriptive and zero-order correlations are presented in Table 10. I estimated the systematic within- and between-person variance in each of my daily measures to test if state gratitude is a dynamic construct (H1) and to assess whether there was sufficient within-person (daily) variance in OCB to proceed with within-person hypothesis testing. To partition the variance into within- and between-person components, a null model (a model in which no predictors were entered at either level of analysis) was run on both Level 1 variables. As shown in Table 11, the results indicate that between 36% and 38% of the variance (far right column) in OCB and state gratitude, respectively, was attributable to within-person variability, making it appropriate to proceed with a multilevel analysis. As in Daily Diary Study I, state gratitude was found to have significant within-person variance, supporting Hypothesis 1.

Table 10

*Zero-order Correlations and Descriptive Statistics for Daily Diary Study II*

	Mean	s.d.	1	2	3	4	5
<b>Daily Variables<sup>a</sup></b>							
1. State gratitude	3.71	.66	(.88)				
2. OCB	2.30	1.08	.11*	(.88)			
<b>Between-person Variables<sup>b</sup></b>							
3. Manipulation	.45	.50	.18*	-.20*	-		
4. Grateful disposition	5.36	.99	.47**	.26**	-.08	(.85)	
5. Impression management	4.04	.83	.16	.24**	-.09	.33**	(.79)

*Notes.* Correlations among daily variables were computed by running a single-predictor model with standardized variables using the SPSS mixed procedure. Correlations between daily variables and between-person variables are Pearson coefficients and were computed using participants' aggregated daily scores. Coefficient alpha is reported on the diagonal. s.d. = standard deviation, OCB = organizational citizenship behaviour. <sup>a</sup>n = 620 observations, <sup>b</sup>n = 130 participants.

\*  $p < .05$

\*\*  $p < .001$

Table 11

*Partitioning Variance Components of Within-person Variables*

Variable	Intercept ( $\gamma_{00}$ ) <sup>a</sup>	Within-person variance ( $\sigma^2$ )	Between-person variance ( $\tau_{00}$ )	Percent of within-person variance <sup>b</sup>
OCB	2.31**	.41**	.74**	36
State gratitude	3.71**	.17**	.28**	38

*Notes.* <sup>a</sup>  $\gamma_{00}$  = average intercept across participants. <sup>b</sup> Percent of within-person variance was as computed as  $\sigma^2/(\sigma^2 + \tau_{00})$ . OCB = organizational citizenship behaviour.

\*\*  $p < .001$

Next, I tested if the gratitude manipulation was successful in altering participants' levels of state gratitude and whether the manipulation was more effective in increasing state gratitude for those with higher levels of dispositional gratitude (H3). To do so, I regressed state gratitude on the manipulation and dispositional gratitude controlling for impression management. The results of this analysis are presented in Table 12 and reveal that the manipulation was successful in increasing participants' state gratitude levels ( $\gamma_{03} = .24, p < .05$ ); however, this effect was not moderated by dispositional gratitude ( $\gamma_{04} = -.15, ns.$ ). Consequently, Hypothesis 3 was not supported. Moreover, because dispositional gratitude does not interact with the gratitude-inducing event, it rules out the possibility of moderated mediation. However, support for Hypothesis 2 was found as dispositional gratitude was a significant predictor of state gratitude ( $\gamma_{02} = .27, p < .001$ , Table 12).

Table 12

*Predicting State Gratitude*

Independent Variables	Unstandardized Coefficients	Standard Error	<i>t</i>
Intercept, $\gamma_{00}$	3.70**	.04	86.70
Impression management, $\gamma_{01}$	.02	.05	.30
Grateful disposition, $\gamma_{02}$	.27**	.05	5.90
Manipulation, $\gamma_{03}$	.24*	.09	2.78
Grateful disposition X Manipulation, $\gamma_{04}$	-.15	.09	-1.76

*Notes.*

\* $p < .05$

\*\*  $p < .001$

I next examined Hypothesis 4, which predicted that employees' state gratitude would significantly predict OCB. This was tested by regressing OCB on state gratitude, with the manipulation, grateful disposition, and impression management included in the model. The results of this analysis reveal that state gratitude is a significant predictor of OCB ( $\gamma_{10} = .13, p < .05$ ; Table 10) once again supporting Hypothesis 4.

Using the results from this analysis as well as those presented in Table 12, I tested if state gratitude significantly mediated the effect of the manipulation on daily OCB (H5). To test for mediation I used the joint significance criterion (MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002). According to the joint significance criterion, one can infer support for mediation if each of the indirect paths is significant (MacKinnon et al., 2002). The joint significance criterion performs just as well as more complex methods used to test for mediation and is more powerful than the Sobel test, which is susceptible to Type II errors (Fritz & MacKinnon, 2007; MacKinnon et al., 2002). In the current context, the relevant paths that make up the indirect effect include the effect of the manipulation on gratitude ( $\gamma_{03} = .24, p < .05$ ) and the effect of state gratitude on OCB ( $\gamma_{10} = .13, p < .05$ ). Using the joint significance criterion, both paths were found to be significant providing evidence for the presence of mediation. The relevant coefficients and significance levels are presented in summary form in Figure 3. Together, these results provide support for Hypothesis 5. Examination of the results presented in Table 13 further reveals that the manipulation, although positively related to gratitude, was negatively related to OCB ( $\gamma_{10} = -.29, p < .05$ ).

Table 13

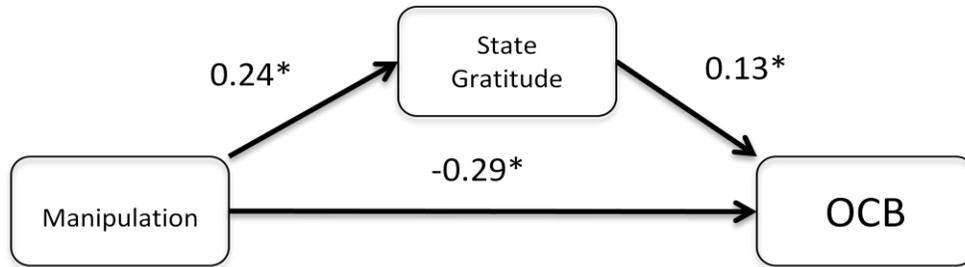
*Predicting OCB*

Independent Variables	Unstandardized Coefficients	Standard Error	<i>t</i>
Intercept, $\gamma_{00}$	2.36**	.07	32.08
Impression management, $\gamma_{01}$	.18	.09	1.88
Grateful disposition, $\gamma_{02}$	.16*	.08	1.99
Manipulation, $\gamma_{03}$	-.29*	.15	-1.96
State gratitude, $\gamma_{10}$	.13*	.07	2.02

*Notes.*

\* $p < .05$

\*\*  $p < .001$



*Figure 3.* Summary of mediation results.

As with the first diary study, the results of the second diary study supported Hypotheses 1, 2, and 4. This study extended the previous study by introducing a manipulation in order to more firmly establish the order of the relation between state gratitude and OCB. Additionally, the introduction of a gratitude-inducing event made it possible to test if dispositional gratitude makes employees more or less reactive to such events (H3). The results of these tests revealed that state gratitude can be successfully invoked on a daily basis and that gratitude is likely to lead to increased levels of OCB. However, based on the current investigation, participants' reactions to the manipulation were not moderated by dispositional gratitude.

Although there are certain methodological advantages to using a lagged design, the nature of the lagged design used in the current study may have introduced a limitation. Specifically, it is possible that participants may have had inaccurate recollections of the amount of OCB they engaged in the previous day. One possibility is that participants may have had altered perceptions of their behaviour from the previous day based on how they felt when they completed the survey the following morning. The potential for inaccurate recollections may have worked to attenuate the findings.

An interesting result was the finding that the manipulation, although successful in increasing state gratitude levels, had a negative direct effect on OCB. Put another way, participants in the experimental condition engaged in less OCB than those in the control condition. While seemingly illogical, this pattern of effects simply illustrates that the manipulation generated some countervailing tendencies within participants. In the context of mediation this pattern is consistent with suppression, whereby the direct and indirect (i.e., mediated) effects are opposite in sign. It is referred to as suppression because if the positive effect goes unaccounted for, the strength of the negative effect will be suppressed (i.e., weaker).

To illustrate, in the current context, the negative effect of the manipulation on OCB was actually weaker (less negative) when gratitude was *not* included in the model. This indicates that the manipulation produced both positive and negative effects on OCB, with the positive effect occurring due to feelings of gratitude.

Although the direct negative effect of the manipulation on OCB was not hypothesized, in light of theorizing on recipient reactions to help, this is perhaps not an unexpected result. Specifically, it has been argued that being the recipient of benefits is somewhat of a mixed blessing, whereby the receipt of benefits can be a threatening and unpleasant experience, acting to lower self-esteem (e.g., Fisher, Nadler, & Whitcher-Alagna, 1982). Consequently, while some may experience universally positive effects as a result of receiving benefits (i.e., feeling grateful), the same benefits may also be construed as threatening. Understanding and untangling these potentialities would be an exciting avenue for future research. In particular, it is likely that individuals with stronger independent self-concepts (i.e., those who view themselves as separate and autonomous; Markus & Kitayama, 1991) may feel threatened when explicitly asked to recite benefits they have received or acknowledge how others have helped them. For instance, being forced to view that one is dependent on others is likely to be an unpleasant and uncomfortable experience for those who see themselves as independent.

Building on this idea, one reason for the direct negative effect of the manipulation on OCB is that I was studying these processes in a working sample. Specifically, the work context may have indirectly activated competitive and agentic mindsets. This is consistent with recent research has found that simply exposing people to organizational paraphernalia (e.g., boardroom tables) can activate thoughts and behaviors associated with competition (Kay, Wheeler, Bargh, & Ross, 2004). As a result, studying recipient reactions to receiving benefits in the workplace may

have inadvertently resulted in the manipulation being a mixed blessing: increasing participants' feelings of gratitude, but also threatening their self-concepts.

## CHAPTER 5

### GENERAL DISCUSSION

The current research was designed to address important limitations in OCB research; namely, the conceptualization of OCB as a static construct, the overreliance on social exchange theory to explain findings, and the sole use of aggregated dimensions of affect to predict OCB. Across two daily diary studies, I examined a novel predictor of OCB, state gratitude, a discrete positive emotion that is theoretically relevant to OCB. In the two diary studies, OCB was modeled as a dynamic construct and was found to exhibit sizable day-to-day (within-person) variability. As predicted by the Moral Affect Model of gratitude, AET, and BBT, dynamic fluctuations in OCB were significantly predicted by state gratitude. State gratitude was also found to be dynamic, such that it exhibited sizable within-person variability in both diary studies. As predicted, feelings of gratitude were also found to be partially predicted by participants' disposition to experience gratitude. In the second diary study, state gratitude was successfully induced by a "count your blessings" task and was found to be a significant mediator of the induction and OCB. Overall, the current results lend support to the notion that OCB is dynamic and that discrete emotions can be powerful and effective drivers of OCB. In particular, the current data uniquely illustrate that state gratitude, a *positive* discrete emotion, is a significant driver of OCB. The methodological characteristics of the two diary studies (e.g., lagged analyses, and the use of a gratitude manipulation) provide compelling evidence that gratitude, in addition to covarying with OCB, likely generates OCB. Thus, the current study contributes to the literature by answering calls to explore new avenues into the antecedents of OCB (Zellars & Tepper, 2003).

Additionally, prior to conducting the two diary studies, I created a valid and reliable measure of feeling grateful: the SGS. Using three samples, I have evidence to support that the SGS is a single factor scale with good internal consistency and that state gratitude is conceptually distinct from a grateful disposition and positive and negative affect. The creation of a valid and reliable measure of state gratitude is an important and necessary step to scientifically investigate the role of gratitude in the workplace. As such, the current research makes an important contribution, not only to the OCB literature, but also to the study of emotions at work.

### **Contributions to OCB research**

By examining state gratitude as an antecedent of OCB, the current research provides several important contributions to the OCB literature. First, the above research investigates OCB as a dynamic state that varies considerably from one time to another. By examining OCB on a daily basis I was able to identify intraindividual processes that lead to within-employee fluctuations in this critical aspect of work performance. This provides an answer to the question of "when" positive workplace behaviours occur, beyond the traditional question of "who engages" in these behaviours. Second, examining state gratitude allowed me to explore a specific affective antecedent of OCB and move away from social exchange processes (Zellars & Tepper, 2003). Third, the present research is the first to integrate a discrete emotion with OCB. In so doing, this research adds precision, demonstrating that a discrete emotion (and not only aggregated affective dimensions) can be useful predictors of OCB. Additionally, by concentrating on state gratitude, this research introduced a novel antecedent previously overlooked by OCB researchers. Finally, although the focus of the present research was on daily experiences and within-person processes, the results also contribute to the body of literature on

between-person conceptualizations of OCB by demonstrating in Daily Diary Study I that a grateful disposition is also a significant predictor of OCB.

### **Contributions to Emotion Research**

In recent years, organizational researchers are coming to understand the power and importance of emotions in organizational life (e.g., Brief & Weiss, 2002; Elfenbein, 2007; Muchinsky, 2000). However, there is still much to be done in this domain (Gooty et al., 2009). This is perhaps best evidenced with statements such as, “I implore organizational behavior to cease its neglect of emotions in the workplace” (Muchinsky, 2000: 805). Dating back to scientific management (Taylor, 1911) the organizational sciences have a long tradition of disregarding more human aspects of work (i.e., emotions). In fact, Mumby and Putnam (1992) noted that emotions are seen as irrational, personal, and feminine. However, linking state gratitude to OCB, which represents positive workplace performance, illustrates the productivity benefits of experiencing certain emotions in the workplace.

Additionally, by investigating a discrete positive emotion, the current research answers calls to investigate discrete emotions in the organizational sciences (Brief & Weiss, 2002; Gooty et al., 2009). Specifically, the neglect of discrete emotions in favour of aggregated affective dimensions emotions has been highlighted as one on the main challenges facing emotion research in the organizational sciences (Gooty et al., 2009). This was similarly highlighted by Brief and Weiss (2002) who stated, “Perhaps the most glaring example of the narrowness of organizational research is the overemphasis of the study of mood at the expense of discrete emotions” (p. 297). Beyond this, discrete *positive* emotions have been particularly neglected as the literature examining discrete emotions has emphasized negative emotions (Fredrickson, 1998; Fredrickson & Branigan; Fredrickson & Cohn, 2008). This discrepancy has most notably

been attributed to the fact that, historically, psychological research has sought to understand and remedy a variety of psychological problems and disorders (e.g., anxiety, depression, addictions), which are often associated with negative emotions.

Frederickson and Cohn (2008) offered an additional perspective on the neglect of positive emotions by suggesting that researchers' focus on negative emotions is due in large part to the properties of the emotions themselves. Specifically, they suggested that negative emotions fit more readily in general theories of emotions and are easier to study because they have larger effect sizes, are more discrete, and have specific, immediate, and identifiable action tendencies. This is compared to positive emotions, which are thought of as more diffuse and argued to have less immediate consequences (Frederickson, 2001). The present research illustrates that this is not always the case as state gratitude was found to engender distinct action tendencies to engage in prosocial workplace behaviours. Consequently, by developing a measure of a discrete, positive emotion and demonstrating its predictive power, the current research contributes to future research on emotion in the workplace by forging new connections and making it possible to study the experience of gratitude.

### **Contributions to Positive Organizational Scholarship**

By examining the role of a positive emotion in generating positive workplace behaviour, the present research also contributes to positive psychology and positive organizational scholarship. Specifically, the positive psychology movement has begun to shift the focus of psychology from an emphasis on negative aspects of psychology (i.e., depression) to a more balanced perspective that considers the virtues of positive emotions (i.e., happiness; Seligman & Csikszentmihalyi, 2000). To this end, theories have been developed and supported by research to suggest that well-being and happiness are not ends in and of themselves, but rather, act to further

improve lives and promote well-being (e.g., Frederickson, 1998; Seligman, Steen, Park, & Peterson, 2005). Similarly, organizational scholars, under the title of positive organizational scholarship, have advocated the same balanced view of organizational research (e.g., Bernstein, 2003; Dutton & Glynn, 2008). Specifically, positive organizational scholars emphasize positive characteristics, outcomes, and processes within organizations and people within organizations (Dutton & Glynn, 2008; Roberts, 2006). To this end, positive organizational scholarship has introduced and explored thriving, or a sense of vitality and learning, in the workplace (Spreitzer, Sutcliffe, Dutton, Sonenshein, & Grant, 2005) as well as confidence, hope, and resiliency (Luthans, 2002). The introduction and exploration of gratitude as a predictor of OCB certainly fits within the domain of positive organizational scholarship as gratitude is a virtuous emotion that is thought to beget organizational flourishing through OCB.

### **Methodological Strengths**

Overall, the current research has a number of methodological strengths. One of the primary strengths of the present research lies in the use of within-person designs, specifically, ESM. Although between-person designs have contributed to our understanding of OCB as a global construct, they have also arguably limited our understanding of OCB due to both methodological and theoretical shortcomings. For instance, between-person designs rely on individuals' abilities to summarize their thoughts and feelings over long periods of time. These summaries can introduce a number of response biases, such as (1) recency biases, where respondents assign more weight to recent events, and (2) state dependent biases, where respondents are more likely to recall events that are consistent with their current mood (Schwarz & Sudman, 1994; Stone, Shiffman, & DeVries, 1999). Furthermore, between-person designs assume that the constructs under investigation are stable across time and that any within-person

variations are the result of random measurement error. However, previous research (e.g., Dalal et al., 2009; Ilies et al., 2006), and now the above research, illustrates that OCB has sizable systematic within-person variability making this an incorrect assumption. Consequently, employing ESM allowed me to avoid the methodological pitfalls of traditional between-person designs as well as afforded me the theoretical precision of modeling my focal constructs as dynamic.

A second methodological strength is the use of multiple samples. Specifically, it allowed me to examine support for Hypotheses 1, 2, and 4 across two separate samples. Lastly, the use of lagged designs (Diary Study I & II) and a manipulation (Diary Study II) were beneficial for supporting expectations that state gratitude leads to OCB. The lagged design and manipulation helped to create an ordering to the data whereby the expected cause occurred prior to the effect, thereby supporting causal inferences.

### **Limitations**

While the present research possessed a number of strengths, some limitations should be noted. First, the current research employed self-reported data, which may raise concerns regarding common method variance (CMV; Podsakoff et al., 2003). Because many of the focal constructs were affective in nature, having participants self-report is unavoidable. However, steps were taken to ensure that the data collection of different questionnaires was often separated by time to help alleviate CMV concerns. With respect to getting participants to report their own levels of OCB, recent work illustrates that self-ratings of OCB are accurate and valid indicators of OCB (e.g., Ilies et al., 2009). Additionally, an attractive property of within-individual (i.e., diary) analyses is that they reduce the impact of response biases (Beal & Weiss, 2003), which represent a main form of CMV (Podsakoff et al., 2003). In sum, although I have taken steps to

reduce the likelihood that CMV can account for the results, CMV concerns are often unavoidable when collecting survey data, which makes it difficult to rule them out completely.

### **Future Directions**

By introducing state gratitude as a novel and theoretically relevant construct to the study of OCB, the current set of studies opened up opportunities for future research. In particular, future research can examine naturally occurring predictors of state gratitude. For example, rather than using a manipulation, future investigations can expand the causal chain and examine if, and when, being on the receiving end of OCB can engender feelings of gratitude. Additionally, organization level (e.g., organizational culture) or group level initiatives (e.g., leader behaviour) may also be effective predictors of state gratitude. Additionally, research can examine boundary conditions of these effects. Although the current research did not find a moderating effect of dispositional gratitude on state gratitude, future research can reexamine this effect and work identify other theoretically relevant moderators.

In addition to expanding the causal chain to investigate predictors and boundary conditions of feeling gratitude, future research can also investigate moderators of the state gratitude-OCB relation. Specifically, state gratitude may be a stronger predictor of OCB for some people or under certain conditions compared to others. For example, dispositional tendencies, such as personality, may make some people more reactive to feeling grateful, or certain environmental features, such as group norms, may act to mitigate the effect of state gratitude on OCB.

Moreover, the negative effect of the manipulation on OCB in Study 2 identifies another potentially interesting avenue for future research. In particular, this result highlights the importance of investigating the potential that being a beneficiary of someone else's goodwill is

not universally beneficial (Fisher et al., 1982). While Fisher et al. (1982) outlined an esteem threat model of receiving help, to my knowledge it has not been tested in an organizational setting. Although the authors do not make any specific predictions with respect to employees and organizations, as outlined earlier, the work environment may activate competitive mindsets (e.g., Kay et al. 2004), which may act to produce novel and theoretically significant effects when trying to understand recipient reactions to receiving help.

### **Conclusion**

The current studies address several important limitations in OCB research. The findings demonstrate that there is substantial within-person variability in OCB and that this variability is related to state gratitude, a novel and theoretically relevant predictor. Overall, we see that discrete positive emotions can be effective predictors of workplace performance. As well, in highlighting the role of both dispositional and state gratitude, the findings illustrate that there is still more to be done to understand what determines OCB at both inter- and intraindividual levels, beyond social exchange theory.

## REFERENCES

- Ames, D. R., Flynn, F. J., & Weber, E. U. (2004). It's the thought that counts: On perceiving how helpers decide to lend a hand. *Personality and Social Psychology Bulletin, 30*, 461-474.
- Anderson, J. C., & Gerbing, D. W. (1991). Predicting the performance of measures in a confirmatory factor analysis with a pretest assessment of their substantive validities. *Journal of Applied Psychology, 76*, 732-740.
- Ashforth, B. E. & Ronald H. H. (1995). Emotion in the workplace: A reappraisal. *Human Relations, 48*, 97-125.
- Austin, J., Scherbaum, C., & Mahlman, R. A. (2002). History of research methods in industrial organizational psychology: Measurement, design, analysis. In S. G. Rogelberg (Ed.), *Handbook of research methods in industrial and organizational psychology* (pp. 77-98). Malden, MA: Blackwell.
- Aryee, S., Budhwar, P. S., & Chen, Z. X. (2002). Trust as a mediator of the relationship between organizational justice and work outcomes. Test of a social exchange model. *Journal of Organizational Behavior, 23*, 267-286.
- Barsade, S. G., Brief, A. P. & Spataro, S. E. (2003). The affective revolution in organizational behavior: The emergence of a paradigm. In J. Greenberg (Ed.), *Organizational behavior: The state of the science* (pp. 3-52). Mahwah, NJ: Lawrence Erlbaum Associates.
- Bateman, T. S., & Organ, D. W. (1983). Job satisfaction and the good soldier: The relationship between affect and employee "citizenship." *Academy of Management Journal, 26*, 587-595.

- Baumeister, R. F., Stillwell, A. M., & Heatherton, T. F. (1994). Guilt: An interpersonal approach. *Psychological Bulletin, 115*, 243-267.
- Beal, D. J., Weiss, H. M., Barros, E., & MacDermid, S. M. (2005). An episodic process model of affective influences on performance. *Journal of Applied Psychology, 90*, 1054-1068.
- Bedford, O., & Hwang, K. (2003). Guilt and shame in Chinese culture: A cross-cultural framework from the perspective of morality and identity. *Journal for the Theory of Social Behaviour, 33*, 1270144.
- Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin, 107*, 238-246.
- Bernstein, S. D. (2003). Positive organizational scholarship: Meeting the movement. *Journal of Management Inquiry, 12*, 266-271.
- Bickel, R. (2007). *Multilevel analysis for applied research: It's just regression!* New York, NY: Guilford.
- Blau, P. M. (1964). *Exchange and power in social life*. New York: Wiley.
- Bolino, M. C. (1999). Citizenship and impression management: Good soldiers or good actors? *Academy of Management Review, 24*, 82-98.
- Borman, W. C., & Motowidlo, S. M. (1993). Expanding the criterion domain to include elements of contextual performance. In N. Schmitt & W. C. Borman (Eds.), *Personnel selection in organizations* (pp. 71-98). San Francisco: Jossey-Bass.
- Brief, A. P., & Motowidlo, S. J. (1986). Prosocial organizational behaviors. *Academy of Management Review, 11*, 710-725.

- Brief, A. P., & Weiss, H. M. (2002). Organizational behavior: Affect in the workplace. *Annual Review of Psychology, 53*, 279-307.
- Clore, G. L., & Ortony, A. (2008). Appraisal theories: How cognition shapes affect into emotion. In L. Michael, J. Haviland-Jones, & L. F. Barrett (Eds.), *Handbook of emotions* (3<sup>rd</sup> edition) (pp. 628-642). New York: Guilford Press.
- Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2003). *Applied multiple regression/correlation analysis for the behavioral sciences* (3<sup>rd</sup> edition). Mahwah, New Jersey: Lawrence Erlbaum Associates.
- Cook, T. D., & Campbell, D. T. (1979). *Quasi-experimentation design and analysis*. New York: Guilford.
- Coyle-Shapiro, J. A. M., & Conway, N. (2005). Exchange relationships: examining psychological contracts and perceived organizational support. *Journal of Applied Psychology, 90*, 774-781.
- Cropanzano, R., Rupp, D. E., & Byrne, Z. S. (2003). The relationship of emotion exhaustion to work attitude, job performance, and organizational citizenship behaviors. *Journal of Applied Psychology, 88*, 160-169.
- Dalal, R. S., Lam, H., Weiss, H. M., Welch, E. R., & Hulin, C. L. (2009). A within-person approach to work behavior and performance: Concurrent and lagged citizenship-counterproductivity associations, and dynamic relationships with affect and overall job performance. *Academy of Management Journal, 52*, 1051-1066.
- Deluga, R. J. (1998). Leader-member exchange quality and effectiveness ratings: The role of subordinate-supervisor conscientiousness similarity. *Group and Organization Management, 23*, 189-216.

- Diener, E. Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The Satisfaction with Life Scale. *Journal of Personality Assessment, 49*, 71-75.
- Dyer, N. G., Hanges, P. J., & Hall, R. J. (2005). Applying multilevel confirmatory factor analysis techniques to the study of leadership. *The Leadership Quarterly, 16*, 149-167.
- Dutton, J. E., & Glynn, M. (2008). Positive organizational scholarship. In C. Cooper & J. Barling (Eds.), *Handbook of Organizational Behavior* (pp. 693-712). London.
- Eid, M., & Diener, E. (1999). Intraindividual variability in affect: Reliability, validity, and personality correlates. *Journal of Personality and Social Psychology, 76*, 662-676.
- Eisenberg, N. & Lennon, R. (1983). Sex differences in empathy and related capacities. *Psychological Bulletin, 94*, 100-131.
- Eisenberg, N., & Miller, P. A. (1987). The relation of empathy to prosocial and related behaviors. *Psychological Bulletin, 101*, 91-119.
- Eisenberger, R., Huntington, R., Hutchinson, S. & Sowa, D. (1986). Perceived organizational support. *Journal of Applied Psychology, 71*, 500-507.
- Elfenbein, H. A. (2007). Emotion in organizations: A review and theoretical integration. *Academy of Management Annals, 1*, 371-457.
- Emmons, R. A. (2004). The psychology of gratitude: An introduction. In R. A. Emmons & M. E. McCullough (Eds.), *The psychology of gratitude* (pp. 3-16). New York: Oxford University Press.
- Emmons, R. A., & Crumpler, C. A. (2000). Gratitude as a human strength: Appraising the evidence. *Journal of Social and Clinical Psychology, 19*, 56-69.
- Emmons, R. A., & McCullough, M. E. (2003). Counting blessings versus burdens: An

- experimental investigation of gratitude and subjective well-being in daily life. *Journal of Personality and Social Psychology*, *84*, 377-389.
- Ferris, D. L., Brown, D. J., Berry, J. W., & Lian, H. (2008). The development and validation of the Workplace Ostracism Scale. *Journal of Applied Psychology*, *93*, 1348-1366.
- Fisher, J. D., Nadler, A., Whitcher-Alagana, S. (1982). Recipient reaction to aid. *Psychological Bulletin*, *91*, 27-54.
- Fredrickson, B. L. (1998). What good are positive emotions? *Review of General Psychology*, *2*, 300-319.
- Fredrickson, B. L. (2001). The role of positive emotions in positive psychology: The broaden-and-build theory of positive emotions. *American Psychologist*, *56*, 218-226.
- Fredrickson, B. L., & Branigan, C. (2005). Positive emotions broaden the scope of attention and thought-action repertoires. *Cognition and Emotion*, *19*, 313-332.
- Fredrickson, B. L., & Cohn, M. A. (2008). Positive emotions. In L. Michael, J. Haviland-Jones, & L. F. Barrett (Eds.), *Handbook of emotions* (3<sup>rd</sup> edition) (pp. 777-796). New York: Guilford Press.
- Frijda, N. H. (1986). *The emotions*. New York: Cambridge University Press.
- Frijda, N. H. (1988). The laws of emotion. *American Psychologist*, *43*, 349-358.
- Frijda, N. H. (1993). The place of appraisal in emotion. *Cognition and Emotion*, *7*, 357-387.
- Frijda, N. H. (2008). The psychologists' point of view. In L. Michael, J. Haviland-Jones, & L. F. Barrett (Eds.), *Handbook of emotions* (3<sup>rd</sup> edition) (pp. 68-87). New York: Guilford Press.
- Fritz, M. S., & MacKinnon, D. P. (2002). Required sample size to detect the mediated effect. *Psychological Science*, *18*, 233-239.

- George, J. M., & Bettenhausen, K. (1990). Understanding prosocial behavior, sales performance, and turnover: A group-level analysis in a service context. *Journal of Applied Psychology*, *75*, 698-709.
- Ghiselli, E. E., Campbell, J. P., & Zedeck, S. (1981). *Measurement theory for the behavioral sciences*. San Francisco: W. H. Freeman.
- Gooty, J., Gavin, M., & Ashkanasy, N. M. (2009). Emotions research in OB: The challenges that lie ahead. *Journal of Organizational Behavior*, *30*, 833-838.
- Gouldner, A. W. (1960). The norm of reciprocity: A preliminary statement. *American Sociological Review*, *25*, 161-178.
- Graen, G. B., & Uhl-Bien, U. (1995). Development of LMX theory of leadership over 25 years: Applying a multi-level-multi-domain perspective. *Leadership Quarterly*, *6*, 210-247.
- Graham, J. M. (2006). Congeneric and (essentially) tau-equivalent estimates of score reliability: What they are and how to use them. *Educational and Psychological Measurement*, *66*, 930-944.
- Grant, A. M., & Gino, F. (2010). A little thanks goes a long way: Explaining why gratitude expressions motivate prosocial behavior. *Journal of Personality and Social Psychology*, *98*, 946-955.
- Grant, A. M., & Wrzesniewski, A. (2010). I won't let you down...or will I? Core self-evaluations, other-orientation, anticipated guilt, gratitude, and job performance. *Journal of Applied Psychology*, *95*, 108-121.
- Greenberg, M. S. (1980). A theory of indebtedness. In K. J. Gergen, M. S. Greenberg, & R. H. Willis (Eds.), *Social exchange: Advances in theory and research* (pp. 3-26). New York: Plenum.

- Greenberg, M. S., & Westcott, D. R. (1983). Indebtedness as a mediator of reactions to aid. In J. D. Fisher, A. Nadler, & B. M. DePaulo (Eds.), *New directions in helping: Recipient reactions to aid* (pp. 85-112). New York: Academic Press.
- Hackman, J. R., & Oldham, G. (1976). Motivation through the design of work: Test of a theory. *Organizational Behavior and Human Performance*, *16*, 250-279.
- Haidt, J. (2003). The moral emotions. In R. J. Davidson, K. R. Scherer, & H. H. Goldsmith (Eds.), *Handbook of affective sciences* (pp. 852-870). Oxford, UK: Oxford University Press.
- Heller, D., & Watson, D. (2005). The dynamic spillover of satisfaction between work and marriage: The role of time and mood. *Journal of Applied Psychology*, *90*, 1273-1279.
- Highhouse, S. (2009). Designing experiments that generalize. *Organizational Research Methods*, *12*, 554-566.
- Hinkin, T. R. (1998). A brief tutorial on the development of measures for use in survey questionnaires. *Organizational Research Methods*, *1*, 104-121.
- Hofmann, D. A., Morgeson, F. P., Gerras, S. J. (2003). Climate as a moderator of the relationship between leader-member exchange and content specific citizenship: Safety climate as an exemplar. *Journal of Applied Psychology*, *88*, 170-178.
- Hume, D. (1888). *A treatise of human nature*. Oxford, UK: Clarendon Press.
- Ilies, R., Fulmer, I. S., Spitzmuller, M., & Johnson, M. D. (2009). Personality and citizenship behavior : The mediating role of job satisfaction. *Journal of Applied Psychology*, *94*, 945-959.

- Ilies, R., Fulmer, I. S., Spitzmuller, M., & Johnson, M. D. (2009). Personality and citizenship behavior : The mediating role of job satisfaction. *Journal of Applied Psychology, 94*, 945-959.
- Ilies, R., Scott, B. A., & Judge, T. A. (2006). The interactive effects of personal traits and experienced states on intraindividual patterns of citizenship behavior. *Academy of Management Journal, 49*, 561-575.
- Isen, A. M. (1999). Positive affect. In T. Dalgleish & M. J. Power (Eds.), *Handbook of Cognition and Emotion* (pp. 521-539). New York: John Wiley & Sons.
- Judge, T. A. Scott, B. A., & Ilies, R. (2006). Hostility, job attitudes, and workplace deviance: Test of a multilevel model. *Journal of Applied Psychology, 91*, 126-138.
- Kamdar, D., McAllister, D. J., & Turban, D. B. (2006). "All in a day's work": How follower individual differences and justice perceptions predict OCB role definitions and behavior. *Journal of Applied Psychology, 91*, 841-855.
- Kamdar, D., & Van Dyne, L. (2007). The joint effects of personality and workplace social exchange relationships in predicting task performance and citizenship performance. *Journal of Applied Psychology, 92*, 1286-1298.
- Kay, A. C., Wheeler, S. C., Bargh, J. A., & Ross, L. (2004). Material priming: The influence of mundane physical objects on situational construal and competitive behavioral choice. *Organizational Behavior and Human Decision Processes, 95*, 83-96.
- Keltner, D., & Buswell, B. N. (1996). Evidence for the distinctiveness of embarrassment, shame and guilt: A study of recalled antecedents and facial expressions of emotion. *Cognition and Emotion, 10*, 155-171.

- Kerr, S., & Jermier, J. M. (1978). Substitutes for leadership: Their meaning and measurement. *Organizational Behavior and Human Performance*, 22, 375-403.
- Konovsky, M. A., & Organ, D. W. (1996). Dispositional and contextual determinants of organizational citizenship behavior. *Journal of Organizational Behavior*, 17, 253-266.
- Kreft, I., & De Leeuw, J. (1998). *Introducing multilevel modeling*. Thousand Oaks, CA: Sage.
- Kuhnert, K. W., & Lewis, P. (1987). Transactional and transformation leadership: A constructive/developmental analysis. *Academy of Management Review*, 12, 648-657.
- Lazarus, R. S. (1991a). Cognition and motivation in emotion. *American Psychologist*, 46, 352-367.
- Lazarus, R. S. (1991b). *Emotion and adaptation*. New York: Oxford University Press.
- Lee, K., & Allen, N. J. (2002). Organizational citizenship behavior and workplace deviance: The role of affect and cognitions. *Journal of Applied Psychology*, 87, 131-142.
- Lewis, H. B. (1971). *Shame and guilt in neurosis*. New York: International Universities Press.
- Luthans, F. (2002). The need for and meaning of positive organizational behavior. *Journal of Organizational Behavior*, 23, 695-706.
- MacKinnon, D. P., Lockwood, C. M., Hoffman, J. M., West, S. G., & Sheets, V. (2002). A comparison of methods to test mediation and other intervening variable effects. *Psychological Methods*, 7, 83-104.
- Mael, F., & Ashforth, B. E. (1992). Alumni and their alma mater: A partial test of the reformulated model of organizational identification. *Journal of Organizational Behavior*, 13, 103-123.
- Markus, H. R., & Kitayama, S. (1991). Culture and the self: Implication for cognition, emotion, and motivation. *Psychological Review*, 98, 224-253.

- Masterson, S. S. (2001). A trickle-down model of organizational justice: Relating employees' and customers' perceptions of and reactions to fairness. *Journal of Applied Psychology, 86*, 594-604.
- McAllister, D. J., Kamdar, D., Morrison, E. W., & Turban, D. B. (2007). Disentangling role perceptions: How perceived role breadth, discretion, instrumentality, and efficacy relate to helping and taking charge. *Journal of Applied Psychology, 92*, 1200-1211.
- McCrae, R. R., & Costa, P. T., Jr. (1987). Validation of the five-factor model of personality across instruments and observers. *Journal of Personality and Social Psychology, 52*, 81-90.
- McCrae, R. R., & John, O. (1992). An introduction to the Five-Factor Model and its applications. *Journal of Personality, 60*, 175-215.
- McCullough, M. E., Kilpatrick, S. D., Emmons, R. A., & Larson, D. B. (2001). Is gratitude a moral affect? *Psychological Bulletin, 127*, 249-266.
- McCullough, M. E., Emmons, R. A., & Tsang, J. (2002). The grateful disposition: A conceptual and empirical topography. *Journal of Personality and Social Psychology, 82*, 112-127.
- McCullough, M. E., Tsang, J., & Emmons, R. A. (2004). Gratitude in intermediate affective terrain: Links of grateful moods to individual difference and daily emotional experience. *Journal of Personality and Social Psychology, 86*, 295-309.
- Meyer, J. P., & Allen, N. J. (1997). *Commitment in the workplace: Theory, research, and application*. Newbury Park, CA: Sage Publications.
- Moorman, R. H., & Harland, L. K. (2002). Temporary employees as good citizens: Factors influencing their OCB performance. *Journal of Business and Psychology, 17*, 171-187.

- Morrison, E. W. (1994). Role definitions and organizational citizenship behavior: The importance of the employee's perspective. *Academy of Management Journal*, 37, 1543-1567.
- Motowidlo, S. J., Borman, W. C., & Schmit, M. J. (1997). A theory of individual differences in task and contextual performance. *Human Performance*, 10, 71-83.
- Mount, M. K., & Barrick, M. R. (1995). "The big five personality dimensions: implications for research and practice in human resources management", in Rowland, K.M., Ferris, G. (Eds), *Research in personnel and human resources management*, JAI Press, Greenwich, CT, Vol. Vol. 13 pp.153-200.
- Muchinsky, P. M. (2000). Emotions in the workplace: The neglect of organizational behavior. *Journal of Organizational Behavior*, 21, 801-805.
- Mumby, D. K., & Putnam, L. L. (1992). The politics of emotion: A feminist reading of bounded rationality. *Academy of Management Review*, 17, 465-486.
- Muthen, B. O. (1994). Multilevel covariance structure analysis. *Sociological Methods and Research*, 22, 376-398.
- Muthen, L. K., & Muthen, B. O. (2010). *Mplus user's guide*. Sixth edition. Los Angeles, CA: Muthen & Muthen.
- Nezlek, J. B. (2001). Multilevel random coefficient analyses of event- and interval-contingent data in social and personality psychology research. *Personality and Social Psychology Bulletin*, 27, 771-785.
- Organ, D. W. (1988). *Organizational citizenship behavior*. Lexington, MA: Lexington.

- Organ, D. W. (1990). The motivational basis for organizational citizenship behavior. In B. M. Staw & L.L. Cummings (Eds.), *Research in organizational behavior* (pp. 43-72). Greenwich, CT: JAI Press.
- Organ, D. W. (1997). Organizational citizenship behavior: It's construct clean-up time. *Human Performance, 10*, 85-97.
- Organ, D. W., & Ryan, K. (1995). A meta-analytic review of attitudinal and dispositional predictors of organizational citizenship behavior. *Personnel Psychology, 28*, 755-802.
- Organ, D. W., Podsakoff, P. M., & MacKenzie, S. B. (2006). *Organizational citizenship behavior: Its nature, antecedents, and consequences*. London: Sage
- Ortony, A., Clore, G. L., & Collins, A. (1988). *The cognitive structure of emotions*. New York: Cambridge University Press.
- Paulhus, D. L. (1991). Measurement and control of response bias. In Robinson, J. P., Shaver, P. R., & Wrightsman, L. S. (Eds), *Measures of social psychological attitudes: Vol. 1. measures of personality and social psychological attitudes* (pp. 17-59). San Diego, CA: Academic Press.
- Paullay, I. M., Alliger, G. M., & Stone-Romero, E. F. (1994). Construct validation of two instruments designed to measure job involvement and work centrality. *Journal of Applied Psychology, 79*, 224-228.
- Podsakoff, P. M., & MacKenzie, S. B. (1997). Impact of organizational citizenship behavior on organizational performance: A review and suggestions for future research. *Human Performance, 10*, 133-151.
- Podsakoff, P. M., MacKenzie, S. B., & Bommer, W. H. (1996a). A meta-analysis of the relationships between Kerr and Jermier's substitutes for leadership and employee job

- attitudes, role perceptions, and performance. *Journal of Applied Psychology*, 81, 380-399.
- Podsakoff, P. M., MacKenzie, S. B., & Bommer, W. H. (1996b). Transformational leader behaviours and substitutes for leadership as determinants of employee satisfaction, commitment, trust, and Organizational Citizenship behaviours. *Journal of Management*, 22, 259-298.
- Podsakoff, P. M., MacKenzie, S. B., Lee, J., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88, 879-903.
- Podsakoff, P. M., MacKenzie, S. B., Moorman, R. H., & Fetter, R. (1990). Transformational leader behaviors and their effects on followers' trust in leader, satisfaction, and organizational citizenship behaviors. *Leadership Quarterly*, 1, 107-142.
- Podsakoff, P. M., MacKenzie, S. B., Paine, J. B., & Bacharach, D. G. (2000). Organizational citizenship behaviors: A critical review of the theoretical and empirical literature and suggestions for future research. *Journal of Management*, 26, 513-563.
- Podsakoff, N. P., Whiting, S. W., Podsakoff, P. M., & Blume, B. D. (2009). Individual- and organizational-level consequences of organizational citizenship behaviors: A meta-analysis. *Journal of Applied Psychology*, 94, 122-141.
- Randall, M. L., Cropanzano, R., Bormann, C. A., & Birjulin, A. (1999). Organizational politic and organizational support as predictors of work attitudes, job performance, and organizational citizenship behavior. *Journal of Organizational Behavior*, 20, 159-174.
- Raykov, T. (1998). Coefficient alpha and composite reliability with interrelated nonhomogeneous items. *Applied Psychological Measurement*, 22, 375-385.
- Raykov, T. (2001). Bias of coefficient  $\alpha$  for fixed congeneric measures with correlated errors.

- Applied Psychological Measurement*, 25, 69-76.
- Rioux, S. M., & Penner, L. A. (2001). The causes of organizational citizenship behaviour: A motivational analysis. *Journal of Applied Psychology*, 86, 1306-1314.
- Roberts, L. M. (2006). Shifting the lens on organizational life: The added value of positive scholarship. *Journal of Management Review*, 31, 292-305.
- Rotundo, M., & Sackett, P. R. (2002). The relative importance of task, citizenship, and counterproductive performance to global ratings of job performance: A policy-capturing approach. *Journal of Applied Psychology*, 87, 66-80.
- Rosenberg, E. L. (1988). Levels of analysis and the organization of affect. *Review of General Psychology*, 2, 247-270.
- Schimmel, S. (2004). Gratitude in Judaism. In R. A. Emmons & M. E. McCullough (Eds.), *The psychology of gratitude* (pp. 37-57). New York: Oxford University Press.
- Schwarz, N., & Sudman, S. (1994). *Autobiographical memory and the validity of retrospective reports*. New York: Springer-Verlag.
- Seligman, M. P. E., & Csikszentmihalyi, C. (2000). Positive psychology: An introduction. *American Psychologist*, 55, 5-14.
- Seligman, M. P. E., Steen, T. A., Park, N., & Peterson, C. (2005). Positive psychology progress: Empirical validation of interventions. *American Psychologist*, 60, 410-421.
- Settoon, R. P., Bennett, N., & Liden, R. C. (1996). Social exchange in organizations: Perceived organizational support, leader-member exchange, and employee reciprocity. *Journal of Applied Psychology*, 81, 219-227.
- Shadish, W. R., Cook, T. D., & Campbell, D. T. (2002). *Experimental and quasi-experimental designs for generalized causal inference*. Boston: Houghton Mifflin.

- Smith, A. (1971). *The theory of moral sentiments*. New York: Garland Publishing. (Original work published in 1759)
- Smith, C., Organ, D. W., & Near, J. P. (1983). Organizational citizenship behavior: Its nature and antecedents. *Journal of Applied Psychology*, *68*, 653-663.
- Soloman, R. C. (1977). *The passions*. Garden City, NY: Anchor Books.
- Soloman, R. C. (2004). The psychology of gratitude: An introduction. In R. A. Emmons & M. E. McCullough (Eds.), *The psychology of gratitude* (pp. v-xi). New York: Oxford University Press.
- Spector, P. E., & Fox, S. (2002). An emotional-centered model of voluntary work behavior: Some parallels between counterproductive work behavior and organizational citizenship behavior. *Human Resource Management Review*, *12*, 269-292.
- Spreitzer, G., Sutcliffe, K., Dutton, J., Sonenshein, S., & Grant, A. M. (2005). A socially embedded model of thriving at work. *Organization Science*, *16*, 537-549.
- Steiger, J. H., & Lind, J. M. (1980, May). *Statistically based tests for the number of common factors*. Paper presented at the annual meeting of the Psychometric Society, Iowa City, IA.
- Stone-Romero, E. F. (2009). Implication of research design options for the validity of inferences derived from organizational research. In D. A. Buchanan & A. Bryman (Eds.), *The Sage handbook of organizational research methods* (pp. 302-327). Thousand Oak, CA: Sage Publications.
- Stone, A. A., Shiffman, S. S., & DeVries, M. W. (1999). Ecological momentary assessment. In D. Kahneman, E. Diener, & N. Schwartz (Eds.), *Well-being: The foundations of hedonic psychology* (pp. 3-25). New York: Sage.

- Taylor, F. W. (1911). *The principles of scientific management*. New York: Harper and Brothers.
- Tepper, B. J., Lockhart, D., & Hoobler, J. (2001). Justice, citizenship, and role definition effects. *Journal of Applied Psychology, 86*, 789-796.
- Tsang, J. (2006). Gratitude and prosocial behaviour: An experimental test of gratitude. *Cognition and Emotion, 20*, 138-148.
- Van Dyne, L., Cummings, L. L., & McLean Parks, J. (1995). Extra-role behaviors: In pursuit of construct and definitional clarity (A bridge over muddied waters). In L. L. Cummings & B. M. Staw (Eds.), *Research in organizational behavior* (pp. 215-285). Greenwich, CT: JAI Press.
- Van Dyne, L., Kamdar, D., & Joireman, J. (2008). In-role perceptions buffer the negative impact of low LMX on helping and enhance the positive impact of high LMX on voice. *Journal of Applied Psychology, 93*, 1195-1207.
- Wang, M. (2009). Does organizational support promote citizenship in service settings? The moderating role of service climate. *The Journal of Social Psychology, 149*, 648-676.
- Watkins, P. C., Scheer, J., Ovnicek, M., & Kolts, R. (2006). The debt of gratitude: Dissociating gratitude and indebtedness. *Cognition and Emotion, 20*, 217-241.
- Watkins, P. C., Woodward, K., Stone, T., & Kolts, R. L. (2006). Gratitude and happiness: Development of a measure of gratitude, and relationship with subjective well-being. *Social Behavior and Personality, 31*, 431-452.
- Watson, D. (2000) *Mood and temperament*. New York: Guilford Press.
- Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology, 54*, 1063-1070.

- Watson, D., & Tellegen, A. (1985). Toward a consensual structure of mood. *Psychological Bulletin*, 98, 219-235.
- Wayne, S. J., Shore, L. M., & Liden, R. C. (1997). Perceived organizational support and leader member exchange: A social exchange perspective. *Academy of Management Journal*, 40, 82-111.
- Weiss, H. M., & Cropanzano, R. (1996). Affective events theory: A theoretical discussion of the structure causes and consequences of affective events at work. In L.L. Cummings & B. M. Staw (Eds.), *Research in organizational behavior* (pp. 1 – 74). Greenwich, CT: JAI Press.
- Weiner, B. (2006). *Social motivation, justice, and the moral emotions: An attributional approach*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Williams, L. J., & Anderson, S. E. (1991). Job satisfaction and organizational commitment as predictors of organizational citizenship and in-role behaviors. *Journal of Management*, 17, 601-617.
- Witt, L. A. (1991). Exchange ideology as a moderator of job attitudes: Organizational citizenship behaviors relationships. *Journal of Applied Social Psychology*, 21, 1490-1501.
- Zellars, K. L., & Tepper, B. J. (2003). Beyond social exchange: New directions for organizational citizenship behavior theory and research. In J. Martocchio (Ed.), *Research in personnel and human resources management* (pp. 395-424). Greenwich, CT: JAI Press.
- Zellars, K. L., Tepper, B. J., & Duffy, M. K. (2002). Abusive supervision and subordinates' organizational citizenship behaviors. *Journal of Applied Psychology*, 87, 1068-1076.

## APPENDIX A

## Measures used in Chapter 3

## State Gratitude Scale (SGS)

**Instructions:** Please indicate your level of agreement with the following statements based on how you feel now.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

1. I feel grateful.
2. I feel a warm sense of appreciation.
3. I am happy to have been helped by others.
4. I have benefited from the goodwill of others.
5. I have been treated with generosity.



### Impression Management

**Instructions:** Using the scale provided, please indicate the extent to which you agree with each item.

1	2	3	4	5	6	7
Not true			Somewhat true	Very true		

1. I sometimes tell lies if I have to.
2. I never cover up my mistakes. (R)
3. There have been occasions when I have taken advantage of someone.
4. I never swear. (R)
5. I sometimes try to get even rather than forgive and forget.
6. I always obey laws, even if I'm unlikely to get caught. (R)
7. I have said something bad about a friend behind his or her back.
8. When I hear people talking privately, I avoid listening. (R)
9. I have received too much change from a salesperson without telling him or her.
10. I always declare everything at customs. (R)
11. When I was young I sometimes stole things.
12. I have never dropped litter on the street. (R)
13. I sometimes drive faster than the speed limit.
14. I never read sexy books or magazines. (R)
15. I have done things that I don't tell other people about.
16. I never take things that don't belong to me. (R)
17. I have taken sick-leave from work or school even though I wasn't really sick.
18. I have never damaged a library book or store merchandise without reporting it. (R)
19. I have some pretty awful habits.
20. I don't gossip about other people's business. (R)

*Note.* R = reverse scored item.

## Grateful Disposition

**Instructions:** Using the scale below as a guide, write a number beside each statement to indicate how much you agree with it.

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree

1. I have so much in life to be thankful for.
2. If I had to list everything that I felt grateful for, it would be a very long list.
3. When I look at the world, I don't see much to be grateful for. (R)
4. I am grateful to a wide variety of people.
5. As I get older I find myself more able to appreciate the people, events, and situations that have been part of my life history.
6. Long amounts of time can go by before I feel grateful to something or someone.(R)

*Note.* R = reverse scored item.

## Work Centrality

**Instructions:** Please indicate your agreement with each of the following statements based on your typical thoughts and feelings about your work.

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree

1. Work should only be a small part of one's life. (R)
2. In my view, an individual's personal life goals should be work oriented.
3. Life is worth living only when people get absorbed in work.
4. The major satisfaction in my life comes from my work.
5. The most important things that happen to me involve my work.
6. I have other activities more important than my work. (R)
7. Work should be considered central to life.
8. I would probably keep working even if I didn't need the money.
9. To me, my work is only a small part of who I am.
10. Most things in life are more important than work. (R)
11. In unemployment benefits were really high, I would still prefer to work.
12. Overall, I consider work to be very central to my existence.

*Note.* R = reverse scored item.

### Perceptions of Government Environmental Policy

**Instructions:** On the following scales, please pick the option that best describes your attitude towards the current environmental policies of your national government. Please note the scale endpoints change with each question! Answer each question separately; there are 4 questions in total.

My national government's environmental policies are:

1	2	3	4	5
Good		Neutral		Bad

My national government's environmental policies are:

1	2	3	4	5
Wise		Neutral		Foolish

My national government's environmental policies are:

1	2	3	4	5
Beneficial		Neutral		Harmful

My national government's environmental policies are:

1	2	3	4	5
Useful		Neutral		Useless

## APPENDIX B

## Measures used in Daily Diary Study I

## Grateful Disposition

**Instructions:** Using the scale below as a guide, write a number beside each statement to indicate how much you agree with it.

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree

1. I have so much in life to be thankful for.
2. If I had to list everything that I felt grateful for, it would be a very long list.
3. When I look at the world, I don't see much to be grateful for. (R)
4. I am grateful to a wide variety of people.
5. As I get older I find myself more able to appreciate the people, events, and situations that have been part of my life history.
6. Long amounts of time can go by before I feel grateful to something or someone.(R)

*Note.* R = reverse scored item.

### Perceived Organizational Support (POS)

**Instructions:** Please indicate your agreement with each of the following statements based on your typical thoughts and feelings about current organization.

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree

1. The organization strongly considers my goals and values.
2. Help is available from the organization when I have a problem.
3. The organization really cares about my well-being.
4. The organization is willing to extend itself in order to help me perform my job to the best of my ability.
5. Even if I did the best job possible, the organization would fail to notice. (R)
6. The organization cares about my general satisfaction at work.
7. The organization shows very little concern for me. (R)
8. The organization cares about my opinions.
9. The organization takes pride in my accomplishments at work.

*Note.* R = reverse scored item.

## State Gratitude Scale (SGS)

**INSTRUCTIONS:** Please indicate your level of agreement with the following statements based on how you feel now.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

1. I feel grateful.
2. I feel a warm sense of appreciation.
3. I am happy to have been helped by others.
4. I have benefited from the goodwill of others.
5. I have been treated with generosity.

### Organizational Citizenship Behaviour (OCB)

**Instructions:** Please indicate if you performed the activities listed below at work today:

1	2	3	4	5	6	7
Never	Once	Twice	Three Times	Four Times	Five Times	More Than Five Times

1. Helped others who had been absent.
2. Willingly gave your time to help others who had work-related problems.
3. Adjusted your work schedule to accommodate other employee's requests for time off.
4. Went out of the way to make newer employees feel welcome in the work group.
5. Showed genuine concern and courtesy toward coworkers, even under the most trying business or personal situations.
6. Gave up time to help others who have work or non-work problems.
7. Assisted others with their duties.
8. Kept up with developments in the organization.
9. Defended the organization when other employees criticized it.
10. Showed pride when representing the organization in public.
11. Offered ideas to improve the functioning of the organization.
12. Expressed loyalty toward the organization.
13. Took action to protect the organization from potential problems.
14. Demonstrated concern about the image of the organization.

## Affective Commitment

**Instructions:** Please indicate your agreement with each of the following statements based on your thoughts and feelings about your work today.

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree

1. I would be very happy to spend the rest of my career in this organization.
2. I really feel as if this organization's problems are my own.
3. I do not feel like "part of the family" at my organization. (R)
4. I do not feel "emotionally attached" to this organization. (R)
5. This organization has a great deal of personal meaning for me.
6. I do not feel a strong sense of belonging to my organization. (R)

*Note.* R = reverse scored item.

## APPENDIX C

## Measures used in Daily Diary Study II

## Grateful Disposition

**Instructions:** Using the scale below as a guide, write a number beside each statement to indicate how much you agree with it.

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree

1. I have so much in life to be thankful for.
2. If I had to list everything that I felt grateful for, it would be a very long list.
3. When I look at the world, I don't see much to be grateful for. (R)
4. I am grateful to a wide variety of people.
5. As I get older I find myself more able to appreciate the people, events, and situations that have been part of my life history.
6. Long amounts of time can go by before I feel grateful to something or someone. (R)

*Note.* R = reverse scored item.

### Impression Management

**Instructions:** Using the scale provided, please indicate the extent to which you agree with each item.

1	2	3	4	5	6	7
Not true			Somewhat true	Very true		

1. I sometimes tell lies if I have to.
2. I never cover up my mistakes. (R)
3. There have been occasions when I have taken advantage of someone.
4. I never swear. (R)
5. I sometimes try to get even rather than forgive and forget.
6. I always obey laws, even if I'm unlikely to get caught. (R)
7. I have said something bad about a friend behind his or her back.
8. When I hear people talking privately, I avoid listening. (R)
9. I have received too much change from a salesperson without telling him or her.
10. I always declare everything at customs. (R)
11. When I was young I sometimes stole things.
12. I have never dropped litter on the street. (R)
13. I sometimes drive faster than the speed limit.
14. I never read sexy books or magazines. (R)
15. I have done things that I don't tell other people about.
16. I never take things that don't belong to me. (R)
17. I have taken sick-leave from work or school even though I wasn't really sick.
18. I have never damaged a library book or store merchandise without reporting it. (R)
19. I have some pretty awful habits.
20. I don't gossip about other people's business. (R)

*Note.* R = reverse scored item.

## State Gratitude Scale (SGS)

**Instructions:** Please indicate your level of agreement with the following statements based on how you feel now.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

1. I feel grateful.
2. I feel a warm sense of appreciation.
3. I am happy to have been helped by others.
4. I have benefited from the goodwill of others.
5. I have been treated with generosity.

### Organizational Citizenship Behaviour (OCB)

**Instructions:** Please indicate if you performed the activities listed below at work yesterday:

*Yes/No*

1. Helped others who had been absent.
2. Willingly gave your time to help others who had work-related problems.
3. Adjusted your work schedule to accommodate other employee's requests for time off.
4. Went out of the way to make newer employees feel welcome in the work group.
5. Showed genuine concern and courtesy toward coworkers, even under the most trying business or personal situations.
6. Gave up time to help others who have work or non-work problems.
7. Assisted others with their duties.
8. Kept up with developments in the organization.
9. Defended the organization when other employees criticized it.
10. Showed pride when representing the organization in public.
11. Offered ideas to improve the functioning of the organization.
12. Expressed loyalty toward the organization.
13. Took action to protect the organization from potential problems.
14. Demonstrated concern about the image of the organization.