

Core Self-Evaluations and the Hierarchical Model of Approach/Avoidance Motivation

by

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## Abstract

### Core Self-Evaluations and the Hierarchical Model of Approach/Avoidance Motivation

In the current dissertation I examined the relation between a new personality trait, core self-evaluations (CSE), and job performance, using the hierarchical model of approach and avoidance motivation as a theoretical framework. The hierarchical model of approach and avoidance motivation proposes that the effects of distal personality traits on performance outcomes are mediated through mid-range approach and avoidance motivational mechanisms. However, some controversy exists surrounding whether CSE is best conceptualized as an antecedent of approach or avoidance motivation. As such, prior to examining the CSE-performance relation, I examined whether CSE is best conceptualized as an indicator of approach or avoidance temperament.

In Study 1, using confirmatory factor analysis, I demonstrated that mean CSE scores loaded more strongly on a latent avoidance temperament factor than on a latent approach temperament factor. Study 2 provided further evidence for the avoidance nature of CSE by examining the relation between CSE and a motivational construct: achievement goal orientations. In particular, using structural equation modeling, CSE was negatively related to performance-approach, performance-avoid, and mastery-avoid achievement goal orientations, and unrelated to a mastery-approach goal orientation. Such a pattern of results is consistent with the relation between achievement goal orientations and other indicators of avoidance temperament.

Having demonstrated that CSE is best conceptualized as an indicator of avoidance temperament, in Study 3 I used the hierarchical model of approach and avoidance motivation

as a framework for examining the relation between CSE and job performance. The results indicated that the effect of CSE on job performance was mediated through avoidance, but not approach, goals. The results of the three studies are discussed in terms of their implications for the conceptualization of CSE. As well, the application of the hierarchical model of approach and avoidance motivation framework to organizational behavior is discussed.

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## CHAPTER 1

### INTRODUCTION

Personality traits and their use in industrial-organizational psychology (and psychology as a whole) have a turbulent history, marked by a precipitous drop in their use from the 60's to the 80's, followed by a subsequent remarkable resurgence. Personality traits, or an individual's "characteristic patterns of thought, emotion, and behavior" (Funder, 2004) fell out of favour following major critiques of their use, which emerged both in social psychology (e.g., Mischel, 1968; Peterson, 1965) and industrial-organizational psychology (Ghiselli & Barthol, 1953; Guion & Gottier, 1965). With respect to organizational performance and personnel selection in particular, Guion and Gottier (1965) stated "it is difficult, in the face of this summary to advocate, with a clear conscience, the use of personality measures in most situations as a basis for making employment decisions about people" (p. 160). In the face of such withering criticisms, personality psychology largely disappeared from the industrial-organizational psychology landscape during the 60's, 70's and 80's (Hogan & Roberts, 2001; Hollenbeck, Brief, Whitener, & Pauli, 1988; Hollenbeck & Whitener, 1988; Schneider & Hough, 1995).

However, some researchers disagreed with this bleak outlook on the utility of personality, arguing that the dismal results previously reported could potentially be attributed to, for example, methodological or theoretical issues (Schneider, 1976; Weiss & Adler, 1984). In particular, confusion over what traits should be measured (or even what was being measured) was common, and the field lacked a theoretical framework to guide researchers (Hogan & Roberts, 2001; McRae & John, 1992). Both of these issues began to be addressed in the 1980's, with advances in methodological and theoretical reasoning subsequently

contributing to an increased use of personality constructs which continues to this day (Morgeson, Campion, Dipboye, Hollenbeck, Murphy, & Schmitt, 2007).

In terms of methodology, the emergence of the “Big 5” or Five-Factor Model of Personality (i.e., neuroticism, conscientiousness, extraversion, agreeableness, and openness to experience) helped provide clarity in terms of the fundamental, superordinate traits or structures underlying the thousands of lower-order personality constructs (Hogan & Roberts, 2001; Johnson, 2003; McRae & John, 1992; Saucier & Ostendorf, 1999; Tupes & Christal, 1961). The emergence of the Big 5 taxonomy provided considerable parsimony with respect to the measurement of personality, while using broad, rather than narrow, traits proved beneficial for the prediction of performance. Numerous meta-analyses now support the predictive validity of some of these broad traits (Barrick & Mount, 1991; Hough, 1992; Ones, Dilchert, Viswesvaran, & Judge, 2007; Salgado, 1997; Tett, Jackson, & Rothstein, 1991), notably conscientiousness and neuroticism (Barrick, Mount, & Judge, 2001).

With respect to theoretical reasoning, there has also been an increased appreciation of the necessity of using theoretically-driven, as opposed to exploratory, approaches to examine when and how personality will predict performance (Hollenbeck et al., 1988; Tett et al., 1991; Weiss & Adler, 1984). Indeed, meta-analytic results regarding the relation between personality and performance are routinely higher when only confirmatory (i.e., theoretical) studies are included (Tett et al., 1991; Tett, Jackson, Rothstein, & Reddon, 1994).

Theoretical developments also progressed along another front, with the 1990’s seeing advancements in the conceptualization of the antecedents of job performance. Researchers posited that performance is multiply determined by declarative knowledge, skills/procedural knowledge, and motivation (Campbell, 1990; Campbell, McCloy, Oppler, & Sager, 1993).

Of these three antecedents of performance, personality has been argued to be most likely to influence motivation levels, which are more variable in nature than the more static declarative and procedural knowledge variables (Colquitt & Simmering, 1998; Johnson, 2003; Judge & Ilies, 2002). Thus, researchers began examining motivation as the mediating variables linking personality and performance outcomes (see, e.g., Barrick, Mount, & Strauss, 1993; Borman, White, Pulakos, & Oppler, 1991; Gellatly, 1996).

In summary, some key lessons for researchers can be drawn from a review of the history of personality constructs and their use in industrial-organizational psychology. First, broad superordinate constructs which account for the shared variance among lower-level traits (such as the Big 5 traits) can be successfully used to predict organizational outcomes. Second, while such traits have the potential to predict performance, it is essential that one place these broad traits within a larger theoretical framework to account for their effect. If the relation between performance and traits (either lower-level or broader in nature) are examined in an exploratory, atheoretical fashion, then an accumulation of null results should not be surprising and can even doom a field of inquiry to insignificance. Finally, advancements in our understanding of performance suggest that motivation is likely a key mediating mechanism linking personality and performance outcomes.

#### *Purpose of the Present Dissertation*

Recently, a new, broad personality trait has been proposed to account for the substantial correlations amongst measures of self-esteem, self-efficacy, locus of control, and neuroticism. This trait, termed *core self-evaluations* (CSE; Judge, Locke, & Durham, 1997), has been defined as the fundamental bottom-line evaluations individuals hold about themselves and their capabilities, and the latent (or second-order) factor underlying measures

of self-esteem, neuroticism, locus of control, and self-efficacy. As such, like the Big 5 factors, CSE is a broad construct encompassing lower-order traits; however, CSE differs from the Big 5 factors in that one of the Big 5 constructs (i.e., neuroticism) is itself posited to be subsumed within the superordinate CSE construct. Although originally developed to address the link between dispositional factors and job satisfaction (Judge et al., 1997), more recently work has examined the link between CSE and other factors such as job search intensity and burnout (Best, Stapleton, & Downey, 2005; Wanberg, Glomb, Song, & Soresen, 2005).

CSE has been posited to relate to job performance as well (Judge, Erez, & Bono, 1998; Judge, Van Vianen, & De Pater, 2004). The importance of examining performance as an outcome is intuitive, in that job performance is one of the key criterion variables industrial-organizational psychologists examine, given its importance both to individuals and organizations (Arvey & Murphy, 1998; Viswesvaran, 2001). Yet to date few studies have examined CSE and job performance (for an exception, see Erez & Judge, 2001), and there have been calls to examine both the relation between CSE and performance and potential mediators of this relation (Bono & Judge, 2003; Judge & Bono, 2001b).

In examining the relation between CSE (a broad personality trait) and performance, it is instructive to apply the lessons learned from decades of personality research on the personality-performance relation. Like the Big 5 traits, CSE is posited to be a higher-order factor which accounts for the shared variance among lower order traits (i.e., self-esteem, self-efficacy, locus of control, and neuroticism). As a personality trait, it is also likely that its influence on performance will be mediated through motivational mechanisms. However, to

date, CSE has yet to be placed within a theoretical framework which may account for its effects on performance.

Indeed, much as during the 1940's there was a debate over the theoretical underpinnings of personality constructs (e.g., between Freud and Jung, and Allport and Stagner; Hogan & Roberts, 2001), there also exists a debate over the theoretical underpinnings of the CSE construct. On the one hand, CSE has been conceptualized as reflecting approach temperament, or a tendency to orient towards positive outcomes (Judge, Bono, Erez, & Locke, 2005). On the other hand, it has been argued that CSE should be conceptualized as reflecting avoidance temperament, or a tendency to orient towards negative outcomes (Johnson, Rosen, & Levy, in press). Much as how debate over the theoretical underpinnings of personality hindered the advancement of personality psychology (Hogan & Roberts, 2001), this debate, too, can hinder the development and testing of theoretically derived hypotheses and thus hamper the advancement of the CSE literature as a whole.

Given the importance of examining performance as an outcome (Viswesvaran, 2001) and the need to position hypotheses linking personality to performance within a proper theoretical framework (Morgeson et al., 2007; Tett et al., 1991, 1994), the conceptual confusion regarding the placement of CSE within a theoretical framework remains a limitation of the CSE literature. The purpose of the present dissertation, then, is to examine the relation between CSE and job performance and, in so doing, address the issue of whether CSE is best conceptualized as an indicator of approach or avoidance temperament. To do so, I integrate CSE within the *hierarchical model of approach and avoidance motivation* (Elliot, 1999; Elliot & Church, 1997; Elliot & Covington, 2001).

The hierarchical model of approach and avoidance motivation was developed to account for the effects of personality on distal outcomes. In particular, the model posits that distal personality traits relate to performance through mid-level motivational mechanisms such as goal choice. A key distinction within this model is the distinction between approach and avoidance; the model suggests that certain personality traits can be classified according to whether they represent indicators of approach or avoidance temperaments, or biologically-based sensitivities to positive or negative information. Furthermore, it suggests that these temperaments influence outcomes through goal selection, again differentiating goals based on whether they represent regulation based on a positive (approach) or negative (avoidance) outcome (Elliot & Church, 1997). In the model, approach temperaments relate to the adoption of approach goals, while avoidance temperaments relate to the adoption of avoidance goals; these goals fully mediate the effects of personality variables on performance outcomes (Elliot & McGregor, 1999; Elliot & Friedman, 2007).

The hierarchical model of approach and avoidance motivation is uniquely suited to address both the relation between CSE and performance, and whether CSE represents a form of approach or avoidance temperament. In particular, and consistent with theories on job performance (e.g., Campbell, 1990), it suggests personality influences performance through its effects on motivational mechanisms (i.e., goal selection). Thus, it provides a framework for considering potential mediating mechanisms between CSE and job performance. Moreover, it also states that personality traits can often be grouped into approach or avoidance temperaments, and that these temperaments uniquely relate to either approach or avoidance goals. Thus, in order to discern whether CSE represents a form of approach or avoidance motivation one can examine the relation between CSE and other forms of

approach or avoidance temperaments, and examine the relation between CSE and the adoption of either approach or avoidance goals.

The program of research presented herein consists of three studies. The first study examines the relation between CSE and established indicators of approach (e.g., extraversion, behavioural activation system, and positive temperament) and avoidance (e.g., neuroticism, behavioural inhibition system, and negative temperament) temperaments. The results inform our understanding of whether CSE is better conceptualized as a form of approach or avoidance temperament. The second study addresses the relation between CSE and mid-level motivational mechanisms: specifically, achievement goal orientations. The relation between achievement goal orientations and approach/avoidance temperaments is well established, and to the extent that the relation between CSE and achievement goal orientations matches the relation between achievement goal orientations and other approach/avoidance temperaments, further support will be garnered for the approach or avoidance nature of CSE. Finally, while the first two studies inform our understanding of the approach or avoidance nature of CSE, the third study comprehensively tests the hierarchical model of approach and avoidance motivation by examining the relation between CSE and job performance using approach and avoidance goals as mediators.

In summary, the three studies presented herein both address the relation between CSE and job performance, and demonstrate the utility of applying the hierarchical model of approach and avoidance motivation to explicate the relation between CSE and performance. I begin by reviewing the literature on CSE, followed by a review of the hierarchical model of approach and avoidance motivation, which comprises the theoretical framework for the studies. Next, I integrate CSE within the hierarchical model of approach and avoidance



motivation. The following chapters present studies designed to test theoretically derived hypotheses on the relation between CSE and avoidance temperament, achievement goal orientations, and job performance. I conclude with a discussion of the implications of the dissertation for the CSE literature and, more broadly, the utility of the hierarchical model of approach and avoidance motivation for industrial-organizational research.

## CHAPTER 2

### LITERATURE REVIEW

Despite some rough beginnings (e.g., Davis-Blake & Pfeffer, 1989; Ghiselli & Barthol, 1953; Guion & Gottier, 1965), personality constructs are now recognized as playing an important role in organizational psychology (George, 1992; Hogan & Roberts, 2001; Staw & Cohen-Charash, 2005). Different personality constructs have been linked to such outcomes as performance<sup>1</sup>, satisfaction, motivation, stress, job search behaviors, and coping (Barrick & Mount, 1991; Brown, Ferris, Heller, & Keeping, 2007; Brown, Cober, Kane, Levy, & Shalhoop, 2006; Hough, Eaton, Dunnette, Kamp, & McCloy, 1990; Heller, Watson, & Ilies, 2004; Judge, Heller, & Mount, 2002; Judge & Ilies, 2002; Ng, Sorensen, & Eby, 2006; Tett et al., 1991). Much of this recent resurgence of personality owes an intellectual debt to the advancement of the “Big 5” framework of personality (Digman, 1989, 1990; Goldberg, 1990, McCrae & John, 1992; Tupes & Christal, 1961), which posits that five broad personality factors (neuroticism, extraversion, conscientiousness, agreeableness, and openness to experience) account for the shared variance among a vast range of trait adjectives used to describe individuals. The emergence of the “Big 5” has thus provided parsimony to an overwhelming array of traits by allowing researchers to focus on five broad, superordinate factors (McCrae & John, 1992).

Similar to the notion that personality can be represented by underlying factors, within the literature on self-evaluations a similar situation has emerged. It has recently been

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<sup>1</sup> Recently the use of self-report personality scales to predict job performance has been criticized (e.g., Morgesen et al., 2007; Murphy & Dzieweczynski, 2005). However, these criticisms are largely inaccurate (see, e.g., Ones et al., 2007; Tett & Christiansen, 2007). Ones et al. (2007), for example, use meta-analysis to demonstrate self-report personality traits can account for a significant amount of variance in performance, while Tett and Christiansen (2007) argue that studies which fail to properly place personality predictors within a theoretical framework, if anything, underestimate the personality-performance relation. There have also been calls to use broader measures of the performance criterion variable (Morgesen et al., 2007); this approach is used in Study 3.

proposed that individuals possess *core self-evaluations* (Judge et al., 1997), or “fundamental assessments that people make about their worthiness, competence, and capabilities” (Judge et al., 2005, p. 257). Core self-evaluations (CSE) is posited to be the underlying factor which accounts for the shared variance among self-evaluative measures such as self-esteem, neuroticism, locus of control, and generalized self-efficacy (Judge, Erez, Bono, & Thorensen, 2002, 2003; Judge & Bono, 2001b). Although relatively new, the emerging literature based on CSE theory has shown that it is related to some of the most commonly researched outcomes in organizational psychology such as job performance, job and life satisfaction, happiness, income, job complexity, stress, strain, burnout, job search behaviors and intensity, and goal commitment (Best et al., 2005; Brown et al., 2007; Erez & Judge, 2001; Judge & Bono, 2001b, Judge, Bono, & Locke, 2000; Judge et al., 2002, 2003, Judge & Hurst, 2007; Piccolo, Judge, Takahashi, Watanabe, & Locke, 2005, Wanberg et al., 2005).

While the predictive utility of CSE has been established in numerous studies, to date the majority of these studies have not examined the process through which CSE exerts its influence on outcomes such as performance (for an exception, see Erez & Judge, 2001). This oversight is unfortunate, as specifying the mediating mechanisms through which CSE influences outcomes is a critical component of theory testing: the mediating mechanisms in a theory are the “theoretical glue that welds a model together” (Whetten, 1989, p. 491) in that their validation supports theoretical arguments about how variables relate. In hypothesizing potential mediating mechanisms, it is instructive to examine the broader personality literature, where researchers have long sought to outline how distal personality traits translate into proximal performance outcomes (Kanfer, 1992, Kanfer & Heggstad, 1997). In this respect, numerous researchers have suggested that personality impacts performance through

its effect on various motivational variables (Barrick, Mitchell, & Stewart, 2003; Barrick et al., 1993, Erez & Judge, 2001; Gellatly, 1996; Hollenbeck and Whitener, 1988; Judge & Ilies, 2002; Klein & Lee, 2006; Lee, Sheldon, & Turban, 2003). Extending this logic to CSE, it stands to reason that one manner in which CSE influences performance is through its impact on motivational mechanisms.

While early reviews of the literature linking personality to motivational constructs yielded mixed findings (Kanfer, 1990), in large part this has been attributed to the lack of a *theoretical framework* within which to place the personality-motivation relations (Gellatly, 1996; Judge & Ilies, 2002, Kanfer, 1990). That is, when the relation between personality traits and constructs are examined atheoretically or without consideration of conceptual links between personality and outcomes, the predictive ability of personality constructs decreases (Tett & Christiansen, 2007; Tett et al., 1991; Tett, Jackson, Rothstein, & Reddon, 1994, 1999). Thus, there is a paramount need to place CSE within a well-validated theoretical framework, or we run the risk of reproducing the inconsistent and null results that characterized the personality-motivation literature in the 60's and 70's (Hollenbeck & Whitener, 1988; Kanfer, 1990; Locke, Shaw, Saari, & Latham, 1981).

The hierarchical model of approach and avoidance motivation (Elliot, 1999; Elliot & Church, 1997; Elliot & Covington, 2001) is explicitly designed to illustrate how internal dispositions influence outcomes through mid-level motivational mechanisms. Drawing upon evidence which suggests approach and avoidance are fundamental aspects of both personality and motivation, this theoretical framework seems uniquely suited to explain the relation between CSE (a personality variable) and performance using motivational constructs. Unfortunately, there is considerable confusion in the CSE literature on how to integrate CSE

within approach/avoidance motivational theories (see, e.g., Judge et al., 2005; Johnson et al., in press). The purpose of the present set of studies, then, is twofold. First, I seek to clarify the proper placement of CSE within the approach/avoidance framework. Second, I apply this framework to help elucidate the mediating motivational mechanisms through which CSE influences job performance. Below, I review first the CSE literature, followed by the hierarchical model of approach and avoidance motivation. Subsequently I integrate CSE within the approach/avoidance literature and present three studies testing hypotheses derived from the hierarchical model of approach and avoidance motivation.

### Core Self-Evaluations

#### *Definition and Measurement of CSE*

Core self-evaluations are fundamental, metaphysical, bottom-line premises or evaluations that individuals hold about themselves (Bono & Judge, 2003; Judge, Erez, & Bono, 1998; Judge et al., 1997). Core self-evaluations are posited to be the fundamental basis of, and indicated by, other self-appraisal constructs such as neuroticism, generalized self-efficacy, self-esteem, and locus of control (Judge et al., 1997). Three criteria have been proposed for judging whether a trait is representative of core self-evaluations. The first criteria is whether the trait is *self-evaluative*, that is, an evaluation of the self and not a description of behaviors one engages in. For example, if a trait is assessed by describing how one acts versus how one evaluates oneself, then the trait is said to be less self-evaluative. The second criteria is whether the trait is *fundamental*, that is, basic and underlying other surface traits. For example, a trait such as dominance arguably underlies other traits such as arrogance, and thus is more fundamental. Finally, the third criteria is whether the trait has a wide *scope*, that is, encompassing a broad evaluation of the self rather than narrow traits such

as artistic ability. For example, an evaluation of one's abilities in a specific context is necessarily narrower in scope than an evaluation of one's overall abilities across contexts (Judge et al., 1997).<sup>2</sup>

Core self-evaluations have been measured in a number of ways. Some studies have conducted exploratory factor analyses using principal-components analysis; CSE scale scores are then created by multiplying the factor loadings of the largest extracted factor by the responses to the questionnaire items (e.g., Erez & Judge, 2001). Complementing the exploratory factor analyses, other studies have used confirmatory factor analyses to model CSE as a second-order latent factor indicated by self-esteem, generalized self-efficacy, locus of control, and neuroticism (e.g., Judge et al., 2000). Both of these approaches, however, have been criticized (Johnson et al., in press); both require participants to complete a large number of questionnaire items (e.g., 40 items to measure the four traits; Bono & Judge, 2003). Moreover, measuring core self-evaluations indirectly through indicators such as self-esteem, generalized self-efficacy, neuroticism, and locus of control may provide a less valid measure of the construct, and limit its predictive validity (Judge et al., 2003). As such, in order to address these limitations, the Core Self-Evaluations Scale (CSES) was developed (Judge et al., 2003).

The development of the CSES comprised numerous scale development stages recommended in the development of survey measures (e.g., Hinkin, 1998). An initial pool of

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<sup>2</sup> It should be noted that these criteria have been criticized for being overly vague and drawing upon hierarchies of traits which do not exist (e.g., a hierarchy depicting how fundamental a trait is relative to other traits; Johnson et al., in press; Judge et al., 1997). This vagueness has led to some confusion regarding what is and isn't a likely indicator of core self-evaluations. For example, in a meta-analysis of the effects of core self-evaluation traits on job satisfaction and performance, broader measures of global self-esteem and narrower measures such as organization-based self-esteem were both examined, despite the latter having a narrower scope than the former (Judge & Bono, 2001). Similarly, Judge et al. (2003) suggest potentially using work-based locus of control measures instead of global locus of control measures to improve the relation between the locus of control construct and CSE, which would seem contrary to the focus on broader self-evaluations.

65 items (both positively and negatively worded) was developed based on a review of the self-concept literature, with the items assessing the shared variance among the core traits of self-esteem, self-efficacy, locus of control, and neuroticism. From this initial pool, 12 items (six reverse-scored) were selected to comprise the CSES based on their content validity, intercorrelations, and criterion-related validity. Across five samples and six measurement occasions, the psychometric properties of the CSES were established by examining coefficient alphas, item-total correlation matrices, and confirmatory factor analyses. Coefficient alpha was consistently high (average  $\alpha = .84$ ), as were the absolute item-total correlations (average of .50). Moreover, test-retest reliability was also high, at .81. Taken together, these results suggest a high level of internal validity (Cortina, 1993).

Confirmatory factor analyses also supported the psychometric properties of the CSES. The fit of a unitary factor measurement model, where the relations among factors roughly corresponding to self-esteem, neuroticism, generalized self-efficacy, and locus of control were set to 1 (i.e., a single-factor model) was compared to the fit of two other models. The first alternate model allowed the relations among the factors to freely covary (i.e., a four-factor model), while the second alternate model allowed set the relations among generalized self-efficacy, neuroticism, and self-esteem to 1 while the relation between locus of control and the other factors were allowed to freely covary (i.e., a two-factor model). This two-factor model was tested based on previous studies which questioned whether locus of control should be considered a “core” trait, similar to self-esteem, generalized self-efficacy, and neuroticism (e.g., Judge & Bono, 2001a). Across six measurement occasions, it was found that a) the hypothesized single-factor model provided a good fit to the data (average GFI/CFI = .92, average RMSEA = .08, average SRMR = .06); b) the fit of a four-factor model did not

significantly differ from the more parsimonious single-factor model, and c) in five of six samples, the fit of a two-factor model did not significantly differ from the more parsimonious single-factor model. Thus, overall, the psychometric properties of the CSES were supported in terms of coefficient alpha, item-total correlations, and confirmatory factor analyses. Parenthetically, the CSES factor structure has been replicated in other cultures such as Spain and The Netherlands (Judge et al., 2004).

Judge et al. (2003) also examined the convergent, discriminant, and criterion-related validity of the CSES. They found, as expected, that CSES scores correlated strongly with measures of the four traits of self-esteem, generalized self-efficacy, neuroticism, and locus of control. As well, discriminant validity was established by examining CSES scores with the Big 5 measures of extraversion, conscientiousness, agreeableness, and openness to experience; in each case, CSES was separable from these established constructs. Finally, using life satisfaction, job satisfaction, and job performance as criterion variables, the criterion-related validity of the CSES was established through positive, significant correlations. Moreover, the CSES also displayed incremental validity in the prediction of criterion variables over a) the remaining Big 5 traits of extraversion, openness to experience, agreeableness, and conscientiousness and b) separate measures of self-esteem, generalized self-efficacy, neuroticism, and locus of control. In other words, as expected, the CSES appears to be assessing something unique and separate from the other Big 5 traits, as well as CSE's own core traits. As well, these latter results suggest the CSES is a superior measure of CSE than previous techniques used to assess CSE (Judge et al., 2003).

*CSE and Job Performance*



While a link between CSE and job performance is often argued for (Judge, Erez, et al., 1998; Judge et al., 2004), only two published studies to date have examined the relation between CSE and performance<sup>3</sup>. The first, a study by Erez and Judge (2001), modeled CSE as a latent second-order factor indicated by self-esteem, generalized self-efficacy, locus of control, and neuroticism. Using a sample of insurance agents, they found that CSE was positively related to both objective (i.e., sales records) and supervisor-rated performance. Moreover, they also found that goal commitment and activity level (i.e., making more calls to clients) partially mediated the relation between CSE and performance. In the second study, Judge et al. (2003) used supervisor-rated job performance as a criterion variable to demonstrate the criterion-related validity of their newly developed CSES measure. Across two samples of food service and pharmaceutical company employees, they found the CSES was significantly positively related to performance (although no mediation model was tested).

Given this paucity of studies, there have been calls for more studies examining the relation between CSE and performance, and to examine other mediator variables (Bono & Judge, 2003; Judge & Bono, 2001b). In discussing potential mediator variables, Judge et al. (1998) posit that CSE likely influences performance through its effect on motivational variables. This is consistent with the personality literature, which has suggested that motivational variables are likely the route through which individual difference variables influence performance. That is, if performance is determined by motivation and ability, personality variables are more likely to influence variable motivation levels than more static

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<sup>3</sup> A meta-analysis by Judge & Bono (2001a) related separate measures of self-esteem, locus of control, neuroticism, and generalized self-efficacy to performance. However, while this demonstrates a link between *traits* which are posited as indicators of CSE, it does not establish a link between the *shared variance* among these traits (i.e., CSE) and job performance.

abilities (see, e.g., Barrick et al., 1993, 2003). This literature also emphasizes that the selection of mediator variables should be driven by an overarching theoretical framework which accounts for the effects of personality variables (Gellatly, 1996; Kanfer, 1990). One such framework, which is basic and fundamental to psychology as a whole, and which accounts for both dispositional antecedents and motivational mediation processes, is the hierarchical model of approach and avoidance motivation (Elliot & Church, 1997; Elliot & Covington, 2001).

### The Hierarchical Model of Approach and Avoidance Motivation

#### *Distinguishing Between Approach and Avoidance*

The distinction between approach and avoidance, or sensitivity to pleasure and pain, has a long history in psychology, dating back to James' (1890) writings and subsequently appearing in such diverse psychological disciplines as clinical (e.g., Freud's id/super-ego; 1915/1957), behavioural (e.g., positive/negative reinforcement; Thorndike, 1911; Skinner, 1938; Tolman, 1923), humanistic (e.g., deficiency and growth needs; Maslow, 1955), personality (Eysenck, 1967), developmental (e.g., attachment styles; Bowlby, 1969), and motivational (e.g., need for achievement and fear of failure; McClelland, 1951, Elliot, 1999) psychology. Indeed, the approach/avoidance distinction is perhaps one of the few principles which unify psychology as a discipline (Carver, Sutton, & Scheier, 2000; Elliot & Covington, 2001).

The ubiquity of approach/avoidance conceptualizations in psychology is perhaps unsurprising given evidence that the approach/avoidance distinction may be 'wired' into our neurological makeup (Cacciopo & Berntson, 1994; Gray, 1990). Numerous theorists have proposed that separate brain structures dedicated to the detection of pleasure and punishment

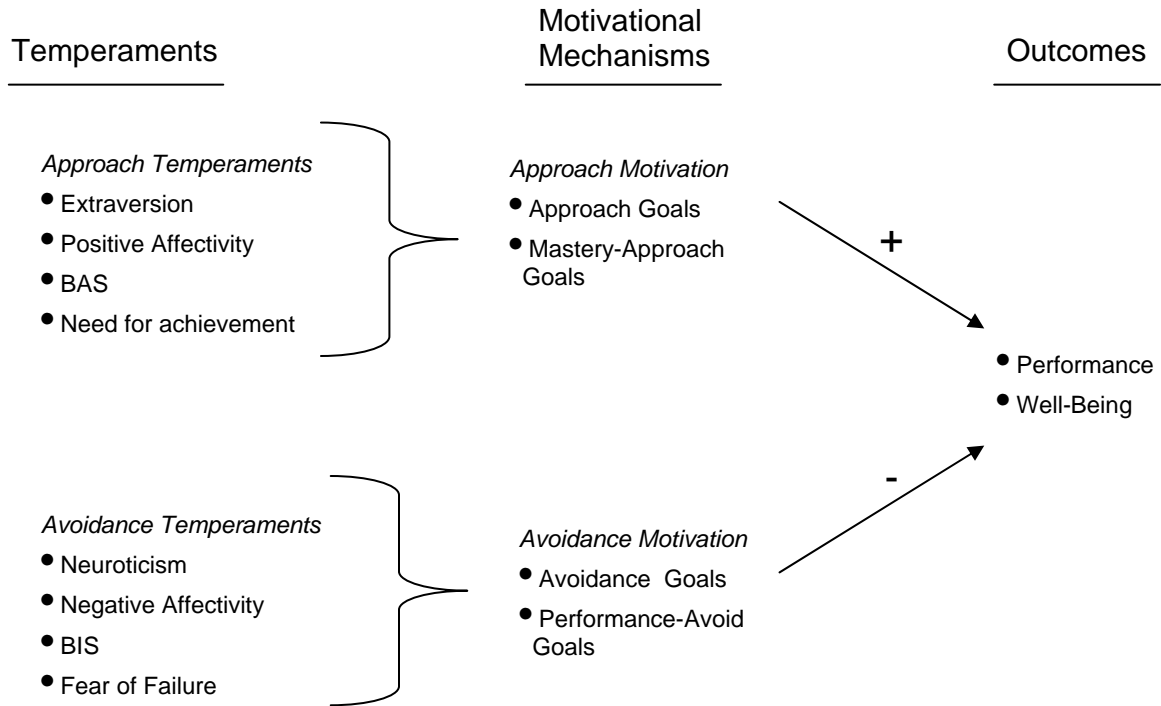
exist (Cacioppo, Gardner, & Bernston, 1999; Cloninger, 1987; Davidson, 1993; 1995; Davidson, Ekman, Saron, Senulis, & Friesen, 1990; Elliot, Maier, Moller, Friedman, & Meinhardt, 2007; Tomarken & Keener, 1998; Watson, Wiese, Vaidya, & Tellegen, 1999) and that these biological underpinnings result in observable behavioural differences. For example, Gray (1973, 1982, 1990) proposed two neurological systems: a behavioural inhibition system (BIS) which detects punishment, and a behavioural activation system (BAS) which detects reward. Self-report behavioural measures reflecting differences in BIS/BAS sensitivities have also been developed (Carver & White, 1994); scores on these self-report measures have been linked to electroencephalographic asymmetries (i.e., as expected, participants with higher BAS levels had higher relative left prefrontal activation, while participants with higher BIS levels had higher relative right prefrontal activation), supporting their validity (Sutton & Davidson, 1997).

It has been suggested that the ability to detect pleasure and avoid pain represents an evolutionarily adaptation critical for species survival (Tooby & Cosmides, 1990). Consistent with this reasoning, approach and avoidance has also been observed in numerous non-human species as well (e.g., guppies; Budaev, 1997; see Elliot & Covington, 2001, or Gosling & John, 1999, for a review). These two systems are posited to operate independently of each other (i.e., representing two separate dimensions, not a single dimension with approach and avoidance as endpoints), as detecting both punishment and pleasure are equally important for species survival. That is, detecting pleasure at the expense of detecting pain (or vice-versa) would not be evolutionarily viable. Given the biological underpinnings and evolutionary advantages conferred by distinguishing between approach and avoidance, it is unsurprising that approach and avoidance remains a primary force which influences our behavior, with

some suggesting that it is not only an important distinction, but that it “should be construed as the foundation on which other motivational distinctions rest” (Elliot & Covington, 2001, p. 74).

#### *The Hierarchical Model of Approach and Avoidance Motivation*

Although the approach-avoidance distinction exists at the biological level, one might argue that this distinction will have less utility in predicting motivational and behavioural outcomes, which can be influenced by a myriad of situational constraints. However, distinguishing between approach/avoidance has proven useful for a variety of distal, mid-range and proximal outcomes such as personality (Watson et al., 1999), coping strategies (Gable, Reis, & Elliot, 2003), social goals (Gable, 2006) and even our goals in the workplace (Roberson, 1990). Building on this, Elliot and colleagues (Elliot, 1999; Elliot & Church, 1997; Elliot & McGregor, 1999, Elliot & Thrash, 2001, 2002) proposed a hierarchical model of approach and avoidance motivation to account for approach/avoidance distinctions across personality and motivation constructs, and how they relate to performance outcomes. This general framework is presented in Figure 1.



*Figure 1.* Conceptual diagram of the hierarchical model of approach and avoidance motivation.

*Approach and avoidance temperaments.* The hierarchical model of approach and avoidance motivation proposes that personality traits (e.g., neuroticism) and motives (e.g., fear of failure) partially reflect biologically-based individual differences in sensitivity towards positive or negative outcomes. Neuroticism and fear of failure reflect a sensitivity towards negative outcomes or punishment; extraversion and need for achievement, in turn, reflect a sensitivity towards positive outcomes or rewards. Given these traits and motives reflect underlying sensitivities in approach/avoidance, they should be substantially related and have a common core of shared variance.

In a series of seven studies to test this notion, Elliot and Thrash (2002) demonstrated a) that measures of neuroticism, negative temperament, and BIS all loaded on a single latent factor (termed “*avoidance temperament*”); and b) that measures of extraversion, positive temperament, and BAS all loaded on a single latent factor (termed “*approach temperament*”)<sup>4</sup>. Elliot and Thrash interpret their results as providing a degree of parsimony to conceptualizations of person-hood by demonstrating the utility of the approach/avoidance distinction in unifying personality and motive constructs. More generally, these temperaments form the highest (or most distal) level in the hierarchical model of approach and avoidance motivation. Approach and avoidance temperaments are thought to have unique, independent influences on behavioural outcomes. However, the influence of approach and avoidance temperaments is transmitted through a second level of the hierarchy: approach and avoidance motivation.

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<sup>4</sup> “Temperament” here refers to heritable, stable, cross-cultural and enduring biologically-based individual differences; as such they subsume certain personality traits consistent with this definition (e.g., neuroticism and extraversion) but are broader in that they also subsume motives such as need for achievement and fear of failure (Buss & Plomin, 1984).

*Approach and avoidance motivation.* Approach and avoidance motivation refers to behavior which is energized or directed according to positive or negative end states, respectively (Elliot & Covington, 2001). Thus, the difference between the two forms of motivation is primarily one of valence: when one exhibits approach motivation, one is trying to procure a positive or pleasant outcome, while avoidance motivation is associated with trying to prevent a negative or unpleasant outcome (Elliot, 1999; Elliot & Covington, 2001, Elliot & Thrash, 2002). This can be reflected in goals such as “I am striving to achieve my hopes and dreams” (approach) or “I want to avoid doing badly on the upcoming midterm” (avoidance).

Indeed, mid-level motivational constructs such as goals<sup>5</sup> are viewed as channels or mediators of the effects of approach and avoidance temperaments (Elliot & Sheldon, 1997; Elliot, Sheldon, & Church, 1997; Elliot & Thrash, 2002; Elliot & Friedman, 2007). While approach and avoidance temperaments provide the initial impetus or energization to behaviour, goals provide the cognitive regulatory framework through which motivation is directed (Locke & Latham, 1990). Critically, motivational constructs such as goals can be relatively *pure* outcomes associated with approach or avoidance motivation, in that approach or avoidance motivation normally relate only to similarly valenced goals. That is, avoidance temperament will relate positively to the adoption of avoidance goals, but be unrelated to the adoption of approach goals. Conversely, approach temperament will relate positively to the adoption of approach goals, but be unrelated to the adoption of avoidance goals. Thus, goals are seen as the more proximal determinants of behaviour which mediate the more biologically-based approach and avoidance temperaments. This argument was supported in a

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<sup>5</sup> While mid-level motivational constructs can be represented by any construct which is influenced by distal effects such as personality, and which in turn influence proximal outcomes such as performance, goals are the most-studied types of mid-level motivational constructs (Elliot & Friedman, 2007).

study by Elliot and Thrash (2002), where they found approach and avoidance temperaments were differentially related, as hypothesized, to motivational constructs such as achievement and personal goals (see also Gable et al., 2003, for similar conclusions).

In summary, the hierarchical model of approach and avoidance motivation suggests that personality constructs differentially reflect sensitivities to positive and negative outcomes. These sensitivities, manifested in different personality traits and motives, have the potential to influence outcomes such as behavior; however, their influence is indirect. Specifically, these sensitivities exert their influence through mid-level motivational constructs such as goals, whose adoption is influenced in part by approach and avoidance temperaments and their focus on positive or negative outcomes. These proximal goals mediate the effects of distal personality traits and motives on behavior (see Elliot & Church, 1997, or Elliot & McGregor, 1999, for empirical examples supporting the model).

#### Integrating CSE within the Approach/Avoidance Framework

Given its focus on explaining how personality variables influence behavioural outcomes through motivational mechanisms, the hierarchical model of approach and avoidance motivation seems uniquely suited to explain the influence of CSE on job performance. As noted previously, CSE theorists have similarly posited that the effect of CSE on performance is likely to be transmitted through CSE's effect on motivation (Judge, Erez, et al., 1998). Moreover, CSE hypotheses have, in the past, implicitly drawn upon an approach/avoidance framework (Judge et al., 2005; Judge, Locke, Durham, & Kluger, 1998). Thus, it would seem appropriate to place CSE within the hierarchical model of approach and avoidance motivation.



Yet there appears to be considerable confusion within the CSE literature regarding how to integrate CSE within this framework. On the one hand, it would appear logical to assume CSE represents an indicator of avoidance temperament. For example, earlier writings of core self-evaluation theorists either raised the possibility or directly asserted that CSE may represent a broader, more inclusive measure of neuroticism than existing measures (Judge & Bono, 2001b; Judge et al., 2002, 2003, 2004). As Judge and Bono (2001, p. 107, 108) put it, "...there is strong evidence suggesting that core self-evaluations and neuroticism may represent the same higher order personality construct" and "...we question the wisdom of distinguishing the construct of core self-evaluations from neuroticism."

Different theorists (e.g., Elliot & Thrash, 2002; Eysenck, 1967; Larsen & Ketelaar, 1991) have posited neuroticism to be an indicator of *avoidance* temperament. For example, Larsen and Ketelaar (1991) found that neurotic individuals were more sensitive to negative, but not positive, mood inductions, suggesting neuroticism is an indicator of sensitivity to punishment. Bolger and Schilling (1991) found similar results, in that neurotic individuals displayed greater distress in reaction to negative events. Finally, Elliot and Thrash (2002) found that neuroticism was best represented as an indicator of an avoidance, not approach, temperament (for convergent results see Gable et al., 2003). Given neuroticism represents an indicator of avoidance temperament, this would seem to suggest CSE should similarly be conceptualized as an indicator of avoidance temperament. Consistent with this line of thinking, in their critique of the CSE literature, Johnson et al. (in press) suggest that the CSE construct is limited in that it only assesses avoidance temperaments, not approach temperaments.

However, while it has been acknowledged that CSE may represent a broader measure of neuroticism, the implications of this has apparently not always been considered when theorizing effects of CSE. For example, in some studies, CSE has instead been hypothesized to indicate sensitivity to reward and to predict the adoption of approach goals, both of which are consistent with the conceptualization of CSE as an indicator of approach temperament. Using a self-concordance theory (Sheldon & Elliot, 1998) framework, Judge et al. (2005) found that CSE was positively related to the adoption of identified and intrinsic goals (which they categorized as “approach” goals). This led them to suggest that “individuals with a positive self-concept are more likely to evoke and pursue approach (identified and intrinsic) work goals, whereas negative individuals are more likely to evoke and pursue avoidance (extrinsic and introjected) goals” (Judge et al., 2005, p. 260).

However, there are conceptual problems with using the results of this study to support the conclusion that CSE represents an indicator of approach temperament. First, Judge et al. (2005) did not measure approach or avoidance per se, but rather the extent to which individuals were more likely to adopt goals which are more self-concordant (i.e., the extent to which individuals adopted identified and intrinsic work goals). The self-concordance framework is itself rooted in a self-determination theory framework (Deci & Ryan, 1985; 2000) which suggests that identified and intrinsic goals represent forms of *intrinsic motivation*, or behaviour which satisfies fundamental human needs for autonomy, competence, and relatedness. Lewin (1935) noted that approach and avoidance motivation (indeed, any form of motivation) is meant to satisfy our basic human needs; however, because approach *or* avoidance can be used to satisfy needs (e.g., one can *approach* new relationship partners to satisfy relatedness needs, or seek to *avoid* behaving in such a way

that would cause one to be rejected), using the adoption of intrinsically motivated goals (such as integrated/intrinsic goals) as a proxy for approach motivation is necessarily problematic and has been explicitly rejected by self-determination theorists (Ryan & Deci, 1999, 2000).

Further supporting the notion that intrinsic motivation is not synonymous with approach motivation, research has found that *both* approach and avoidance achievement goals relate to intrinsic motivation (Elliot & Church, 1997; Elliot & Harackiewicz, 1996). In other words, demonstrating a relation between CSE and self-concordant goals (i.e., intrinsically motivated goals) does not offer support for the notion that CSE is an approach temperament, as intrinsic motivation has been shown to relate to *both* approach and avoidance temperaments. Because intrinsic motivation does not relate solely to approach or avoidance, demonstrating that CSE relates to intrinsic motivation tells us little about whether CSE is an approach or avoidance construct itself. A more rigorous test would be to demonstrate that CSE relates to variables which have been shown to relate *only* to approach, but not avoid, temperaments – such as achievement goals (Elliot & Thrash, 2002).

It would be more accurate, then, to describe the results of Judge et al. (2005) as suggesting that CSE is related to self-concordant goals; these results do not speak to whether CSE is related to approach or avoidance goals. This interpretation of the results makes theoretical sense as well, given individuals with high levels of CSE also possess an internal locus of control, which should promote feelings of autonomy (a related but distinct construct; Deci & Ryan, 2000) and thus lead to the adoption of self-concordant goals.

The classification of CSE as an indicator of approach or avoidance temperament is not a trivial one. Considering personality traits as indicators of either approach or avoidance temperament can lead to drastically different hypotheses, including hypothesizing effects

which, without an accurate consideration of the approach/avoidance nature of a trait, may make little sense. Indeed, the accumulation of a number of such atheoretical null hypotheses at one time threatened the entire field of personality psychology (Hogan & Roberts, 2001). As an example of how the classification of CSE as an indicator of approach or avoidance temperament can influence hypotheses, consider a study by Judge, Locke, et al. (1998). In discussing the effect of work characteristics on job satisfaction, they hypothesized that “the effect of improving work characteristics [on job satisfaction] would be positive for those with positive core evaluations and neutral (or negative) for those with negative core evaluations” (p. 21). Such a hypothesis is consistent with the view that CSE represents an indicator of *approach* temperament; that is, a sensitivity to positive outcomes or rewards such as “improving work characteristics.” Here individuals who are more (or less) sensitive to the positive aspects of improved job characteristics should derive more (or less) satisfaction from these job characteristics, depending on their sensitivity to reward, as indicated by their CSE level. However, if CSE is considered an *avoidance* temperament, the hypothesis is not justified, as CSE would represent a sensitivity to punishment, not reward, and should in fact not moderate the relation between improved work and satisfaction at all. Interestingly, this hypothesis was not supported: CSE levels did not moderate the relationship between perceptions of work characteristics and job satisfaction.

#### Present Study

In summary, controversy exists regarding whether or not CSE is best conceptualized as an indicator of approach or avoidance temperament, and existing studies have not included variables that in and of themselves can help address this question. As researchers have increasingly begun to integrate the CSE construct into their studies and into broader

theoretical frameworks (see, e.g., the integration of CSE within an attribution theory framework by Judge & Kammeyer-Mueller, 2004), an understanding of how CSE influences outcomes seems of paramount importance in order to generate theoretically grounded hypotheses. Critically, understanding whether CSE represents an approach or avoidance temperament is necessary to delineate how CSE influences performance and to integrate CSE within the hierarchical model of approach and avoidance motivation. Rather than repeating the mistakes of the personality literature of the early 60's and 70's, the purpose of the present set of studies is to first resolve the question regarding whether CSE is best classified as an approach or avoidance construct, and, subsequently, use these results to inform hypotheses regarding potential mediators of the CSE-job performance relation.

Studies 1 and 2 address the first goal, by examining the relation between CSE and existing indicators of approach and avoidance temperaments (Study 1) and examining the relation between CSE and criterion variables which are established indicators of approach and avoidance motivation: achievement goal orientation (Study 2). The results from the first two studies thus inform the predictions regarding whether the effect of CSE on job performance is mediated through approach or avoidance personal goals (Study 3).

## CHAPTER 3

### THREE STUDIES EXAMINING CSE AND APPROACH/AVOIDANCE

#### Study 1: CSE and Approach/Avoidance Temperaments

As discussed above, Elliot and Thrash (2002) recently applied the approach/avoidance distinction to personality constructs, suggesting that approach and avoidance temperaments underlie such common measures as neuroticism, negative temperament, BIS (avoidance temperament) and extraversion, positive temperament, and BAS (approach temperament). Using confirmatory factor analyses, they used the mean scores of these personality scales as indicators of latent approach/avoidance temperaments. They subsequently found their model provided a good fit to the data, with no significant cross-loadings between approach and avoidance indicators. Given this technique was used specifically to demonstrate the approach or avoidance nature of personality measures, I adapted this technique by including a measure of CSE (another personality variable) and examining its loadings on these previously established latent approach and avoidance temperament factors.

Given CSE has been proposed to be a broad measure of neuroticism (Judge & Bono, 2001b) and existing studies either do not support CSE as an indicator of approach temperament (Judge, Locke, et al., 1998) or can be explained using alternate frameworks (Judge et al., 2005), I expected CSE, as measured by the CSES, to be an indicator of avoidance temperament. Consistent with this view, I predicted the following:

*Hypothesis 1:* CSE will load more strongly on a latent avoidance temperament factor than a latent approach temperament factor.

## *Method*

### *Participants and Procedure.*

Participants were 330 undergraduate students enrolled in organizational behaviour classes at two southern Ontario universities. Participation was voluntary and meant to supplement part of a lecture on the use of personality measures in organizations. After a brief introduction to the research assistant and the study, participants completed the surveys during class time. Listwise deletion reduced the sample size to 323 who provided complete data on the measures. The average age of participants was 20.9 years, and 61% of the sample was female.

### *Measures*

*Extraversion and neuroticism.* The International Personality Item Pool (Goldberg, 1992) scales were used to assess extraversion and neuroticism. Each scale was comprised of 10 statements which were rated for how accurately they described the participant on a 5-point Likert scale (1 = very inaccurate and 5 = very accurate). Example items include “I am the life of the party” (extraversion;  $\alpha = .89$ ) and “I get stressed out easily” (neuroticism;  $\alpha = .86$ ). The full scales are presented in Appendix A (for extraversion) and B (for neuroticism), respectively.

*BAS/BIS.* Carver and White’s (1994) scale was used to assess the BAS and BIS. The BAS scale (13 items; see Appendix C) and BIS scale (7 items; see Appendix D) contained statements with which participants rated their agreement on a 4-point Likert scale (1 = strongly disagree and 4 = strongly agree). Example items include “I go out of my way to get things I want” (BAS;  $\alpha = .86$ ) and “I feel worried when I think I have done poorly at something” (BIS;  $\alpha = .77$ ).

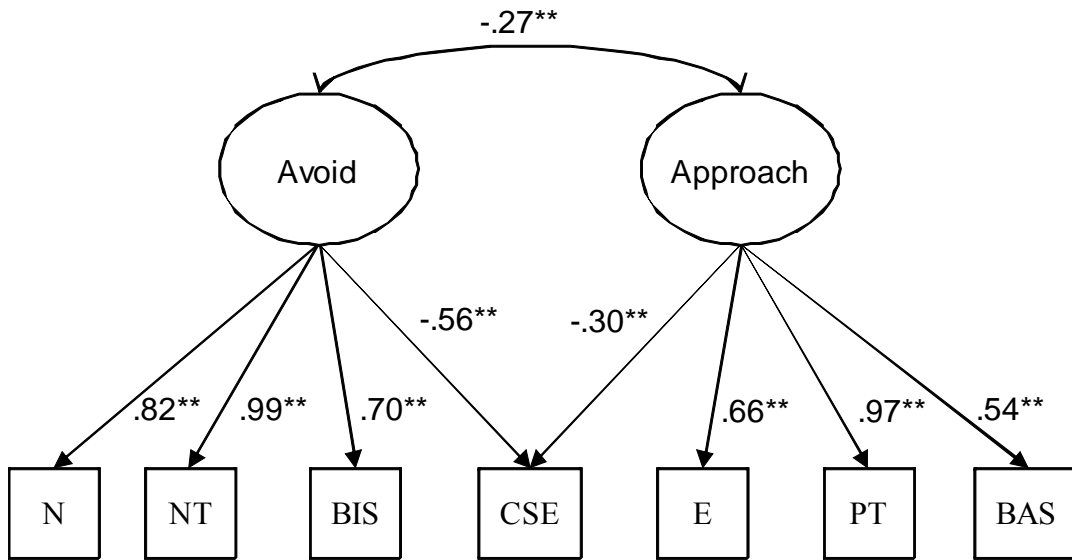
*Positive and negative temperament.* The General Temperament Survey (Watson & Clark, 1993) was used to assess positive temperament (PT; see Appendix E) and negative temperament (NT; see Appendix F). The PT scale was comprised of 27 items (e.g., “I live a very full life”;  $\alpha = .88$ ) while the NT scale was comprised of 28 items (e.g., “I am often nervous for no reason”;  $\alpha = .91$ ). Participants indicated if the items described them using a true (coded as 1) or false (coded as 0) scale; thus, higher scores indicate higher levels of positive or negative temperament.

*CSE.* Judge et al.’s (2003) 12-item CSES (see Appendix G) was used to assess CSE. Participants responded using a 5-point Likert scale (1 = strongly disagree and 5 = strongly agree). Example items include “Overall, I am satisfied with myself” and “When I try, I generally succeed” ( $\alpha = .84$ ).

#### *Analytic Strategy*

I tested the models using AMOS 6.0, with the covariance matrix as input and parameters estimated using maximum likelihood estimation (Chou & Bentler, 1995). Mean scale scores were used as indicators of latent factors; this technique reduces the sample-size-to-parameter ratio, which can adversely impact the standard errors and stability of the estimates (Hall, Snell, & Foust, 1999). Following Elliot and Thrash (2002), I used the mean scale scores of neuroticism, negative temperament, and the BIS scale as indicators of a latent avoidance temperament construct and the mean scale scores of extraversion, positive temperament, and the BAS scale as indicators of a latent approach construct. I allowed the mean CSES score to cross-load on both latent approach and avoidance temperament factors to examine the size of the factor loadings of the CSES on each temperament (see Figure 2).





*Figure 2.* Study 1 measurement model and standardized path estimates. N = 323. \*\* p < .01. N = Neuroticism; NT = Negative Temperament; BIS = Behavioral Inhibition System; CSE = Core Self-evaluations; E = Extraversion; PT = Positive Temperament; BAS = Behavioral Activation System.

Following Hu and Bentler (1999), I assessed model fit using the following indices: (a) chi-square goodness-of-fit to degrees of freedom ratio, (b) Tucker-Lewis Index (TLI; Tucker & Lewis, 1973), (c) root-mean-square error of approximation (RMSEA; Steiger, 1990), (d) standardized root-mean-square residual (SRMR; Bentler, 1990), (e) and the comparative fit index (CFI). Satisfactory model fit is indicated by TLI and CFI values close to .95, RMSEA values no higher than .08, SRMR values no higher than .10, and a chi-square goodness of fit to degrees of freedom ratio no greater than 2 (Hu & Bentler, 1999).

### *Results and Discussion*

Table 1 presents the means, standard deviations, alphas, and correlations of the variables. The zero-order correlations provide preliminary support for the hypothesis, in that CSE was more strongly related to indicators of avoidance temperament ( $r = -.55, p < .01$ ;  $r = -.62, p < .01$ ; and  $r = -.48, p < .01$  for neuroticism, negative temperament, and behavioural inhibition system, respectively) than to indicators of approach temperament ( $r = .28, p < .01$ ;  $r = .44, p < .01$ ; and  $r = .18, p < .01$  for extraversion, positive temperament, and behavioural activation system, respectively).

Table 1

## Study 1 Descriptive Statistics, Zero Order Correlations, and Alphas

	Mean	SD	1	2	3	4	5	6	7	8	9
1. Age	20.92	1.98	--								
2. Gender	1.61	.49	.10	--							
3. CSE	3.63	.57	-.03	-.21**	<b>.84</b>						
4. Extraversion	3.36	.74	-.02	.02	.28**	<b>.89</b>					
5. Neuroticism	2.70	.73	.13*	.32**	-.55**	-.16**	<b>.86</b>				
6. PT	.64	.23	.01	.02	.44**	.64**	-.24**	<b>.88</b>			
7. NT	.42	.26	.03	.27**	-.62**	-.21**	.81**	-.26**	<b>.91</b>		
8. BAS	3.08	.42	-.05	.03	.18**	.41**	-.04	.52**	-.02	<b>.86</b>	
9. BIS	2.89	.51	-.00	.30**	-.48**	-.15**	.54**	-.18**	.69**	.01	<b>.77</b>

*Note.* N ranges between 289 and 323, alphas are on the diagonal in bold. Gender: 1 = male and 2 = female. PT = positive temperament. NT = negative temperament. CSE = Core Self-evaluations. BIS = Behavioral Inhibition System; BAS = Behavioral Activation System. \*  $p < .05$ , \*\*  $p < .01$ .

I next tested the fit of the 2-factor measurement model to the data. As seen in the top line of Table 2, the measurement model fit the data well, meeting or surpassing all conventional cutoff criteria for the fit indices. Anderson and Gerbing (1988) also recommend comparing the measurement model to the independence model, where all factors are uncorrelated. As seen in the second line of Table 2, the independence model provided a significantly worse fit to the data than the measurement model, both when examining fit indices and when directly comparing the models using the change in chi-square tests.<sup>6</sup>

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<sup>6</sup> I also examined the fit of the model without CSE included, in order to replicate the findings of Elliot and Thrash (2002). As in their paper, this model provided a good fit to the data ( $\chi^2 = 13.33$ ,  $p > .05$ ,  $\chi^2/df = 1.67$ , CFI = .99, TLI = .99, RMSEA = .05, SRMR = .04).

Table 2

## Study 1 Model Fit Statistics

	$\chi^2$	df	$\Delta\chi^2$	$\chi^2/\text{df}$	TLI	RMSEA	CFI	SRMR
<i>Model</i>								
2-Factor Model	21.40*	12	--	1.78	.98	.05	.99	.04
Independence Model	1074.42**	21	1053.02**	51.16	--	.40	--	--
Constrained Model	155.43**	13	134.03**	11.96	.78	.18	.87	.13

*Note.*: \*  $p < .05$ ; \*\*  $p < .01$ . TLI = Tucker-Lewis Index (Tucker & Lewis, 1973); RMSEA = root-mean-square error of approximation (Steiger, 1990); SRMR = standardized root-mean-square residual; CFI = comparative fit index.

Given the acceptable fit of the model, I next examined the factor loadings of CSE on the latent approach/avoidance temperament factors. Figure 2 presents the standardized path estimates for the data. Hypothesis 1 posited that CSE would load more strongly on the avoidance latent factor than the approach latent factor. This hypothesis was supported, with avoidance temperament having a significant negative relation with CSE ( $\beta = -.56, p < .01$ ). Approach temperament was also significantly, albeit more weakly, related to CSE ( $\beta = .30, p < .01$ ). In order to test whether CSE was more strongly related to approach or avoidance temperament, I tested a model where I constrained the path between approach temperament and CSE to be equal to the path between avoid temperament and CSE. As seen in the final line of Table 2, the constrained structural model provided a significantly worse fit to the data than the hypothesized structural model, indicating that this constraint was not supported by the data. Thus, CSE is more strongly related to avoidance temperament than approach temperament. Taken together, the approach and avoidance temperaments explained 49% of the variance in CSE.

It may be argued that because avoid temperament is indicated by neuroticism, which is also posited to be a component of CSE, that the relation between avoid temperament and CSE was artificially inflated. While this line of reasoning fits with the argument that CSE should be conceptualized as an indicator of avoidance temperament, I ran a model where avoidance temperament was only uniquely indicated by BIS and NT scores, while CSE loaded on both approach and avoidance temperament. The results were unchanged; the CSE-avoidance factor loading was still significant ( $\beta = -.58$ ), as was the CSE-approach factor loading ( $\beta = .29$ ), both  $p < .05$ . Thus the results were essentially identical regardless of whether neuroticism was or was not included as an indicator of avoidance temperament.

Though the significant relationship with approach temperament was unexpected, the results of Study 1 support the notion that CSE is better characterized as an indicator of avoidance, not approach, temperament. The strength of the relationship between CSE and avoidance temperament was roughly double the magnitude of the relationship between CSE and approach temperament (-.56 compared to .30, respectively, with avoidance temperament accounting for over three times the variance in CSE [.31] compared to approach temperament [.09]). Moreover, setting the relationship between the temperaments and CSE to be equal significantly decreased model fit, indicating that the relationship between CSE and avoidance temperament is significantly stronger than the relationship between CSE and approach temperament.

One limitation of Study 1 is that the data were collected cross-sectionally; all measures were completed at the same point in time, raising the possibility that the relation between CSE and avoidance temperament was artificially inflated due to common method variance (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). However, to the extent that common method variance was inflating the relationships, it is likely that it would have inflated the relation between CSE and both approach and avoidance temperaments, and not solely CSE and avoidance temperament. In other words, it is still likely that CSE exhibits a *relatively* stronger relation with avoidance temperament than approach, regardless of common method variance concerns. Indeed, inflation due to common method variance may explain the unhypothesized significant relation between CSE and approach temperament. In the second study, one goal was to address this concern by measuring CSE at a different point in time from the criterion variables. Separating measurement occasions across time is one way to minimize the effects of common method variance (Podsakoff et al., 2003).



Given the results of the first study suggest CSE is better characterized as an indicator of avoidance temperament, the next link in the hierarchical model of approach and avoidance motivation (Figure 1) is to examine the relation between CSE and motivation. Thus, a second goal of Study 2 was to examine the relation between CSE and motivational constructs. Here, it was imperative to select motivational constructs which have, in the past, been shown to be uniquely related to approach or avoidance temperaments. As mentioned above, variables such as intrinsic motivation have been linked to both approach and avoidance temperaments; as such, demonstrating a relation between CSE and intrinsic motivation would tell us little about CSE's approach/avoidance nature. One set of criterion variables which have been shown to differentially relate to approach/avoidance temperaments, and also represent motivational constructs, are achievement goal orientations (Elliot & Church, 1997; Elliot & Harackiewicz, 1996; Elliot & McGregor, 1999; Elliot & Thrash, 2002).

## Study 2: CSE and Achievement Goal Orientations

Achievement goals, defined as “the reason for or purpose of competence-relevant activity” (Elliot & Harackiewicz, 1996, p. 461), represent general orientations towards tasks or jobs which mediate the relationship between distal biological and personality influences and performance outcomes (Elliot & McGregor, 1999). Achievement goals have been investigated in a variety of psychological disciplines, such as educational (Smiley & Dweck, 1994), organizational (Seijts, Latham, Tasa, & Latham, 2004), and social psychology (Elliot & Harackiewicz, 1996). Given achievement goal orientations represent motivational constructs which are differentially related to approach and avoidance temperaments (Elliot & Thrash, 2002), their relation to CSE is thus similarly informed by whether CSE represents an indicator of approach or avoidance temperament.

Achievement goals vary along two dimensions: (a) the *mastery vs. performance* dimension, which denotes the referent used in evaluating performance on a task (i.e., comparing against the self/absolute standards vs. normative comparisons against others, respectively); and (b) the *approach vs. avoidance* dimension, which denotes the valenced outcomes of self-regulation (i.e., success/gaining competence vs. avoiding failure, respectively; Elliot & McGregor, 2001). The resulting 2 x 2 matrix suggests four achievement goal types. *Mastery-approach* goals are positively valenced goals with reference to the self or an absolute standard (e.g., trying to bowl a perfect game). *Mastery-avoidance* goals are negatively valenced goals with reference to the self or an absolute standard (e.g., an academic trying to avoid losing his or her mastery of a literature by staying on top of all new publications). *Performance-approach* goals are positively valenced goals with reference to others (e.g., to do better than everyone else). *Performance-avoidance* goals

are negatively valenced goals with reference to others (e.g., to not be the worst player on a soccer team). Figure 3 presents a summary of the 2x2 achievement goal orientation model.

		Comparison Standard	
		Self/Absolute Standard (Mastery)	Others (Performance)
Valence	Positive (Approach)	<i>Mastery-Approach Goal</i> - e.g., Trying to do better than one's past performance or achieve a gold standard (e.g., pitch a perfect game)	<i>Performance-Approach Goal</i> - e.g., Trying to do better than others
	Negative (Avoid)	<i>Mastery-Avoidance Goal</i> - e.g., Trying to not do worse than one's past performance or fail to achieve a gold standard	<i>Performance-Avoidance Goal</i> - e.g., Trying to not do worse than others

Figure 3. Conceptual diagram of the 2x2 model of achievement goal orientations (Elliot & McGregor, 2001)

As one might expect based on the similar valences, approach temperaments have been shown to be related to mastery-approach and performance-approach goals, while avoidance temperaments have been shown to be related to mastery-avoid and performance-avoid goals (Elliot & Thrash, 2002). Additionally, avoidance temperaments have been shown to be related to performance-approach goals, demonstrating a phenomenon commonly referred to as “approaching in order to avoid” (Elliot & Church, 1997). That is, in order to avoid a failing performance, individuals orient themselves towards “doing better than everyone else”. While one might also expect that one could “approach in order to avoid” for mastery goals as well as performance goals (i.e., that avoidance temperaments should also be related to mastery-approach goals), the phenomenological experience of mastery and performance goals differ, such that pursuit of mastery-approach goals is incompatible with an avoidance temperament. As Elliot and Church (1997, p. 220) put it, “in most achievement settings, the demonstration of normative ability clearly and directly mitigates any concerns about failure, whereas the development of competence and task mastery often entails a protracted process inclusive of failure experiences.” Given failure experiences are one of the very things that highly avoidant people are trying to avoid, it stands to reason that avoidance temperament should be related to performance-approach, but not mastery-approach, goals. This finding has been replicated in numerous studies (e.g., Elliot & Church, 1997, Elliot & Thrash, 2002).

With respect to CSE, if CSE is more properly conceptualized as an indicator of approach rather than avoidance temperament, we would expect CSE to be positively related to performance-approach and mastery-approach goals, and unrelated to performance-avoid and mastery-avoid goals. However, if CSE is more properly conceptualized as an indicator

of avoidance temperament, we would expect CSE to be negatively related to mastery-avoidance, performance-avoidance, and performance-approach goals, and unrelated to mastery-approach goals. Given the results of Study 1 indicate that CSE is better conceptualized as an indicator of avoidance temperament than approach temperament, I hypothesize the following:

*H2*: CSE will be negatively related to mastery-avoidance, performance-avoidance, and performance approach goals, and unrelated to mastery-approach goals.

## *Method*

### *Participants and Procedure.*

Participants were 139 undergraduate students enrolled in an introductory psychology course who voluntarily completed the study in exchange for extra credit. Participants completed the CSES near the beginning of the term as part of a mass testing procedure. Approximately one month after participants completed the CSES, participants completed the achievement goal orientation measure. In total, 18 individuals did not provide complete survey data, reducing the sample size to 121 for the purpose of hypothesis testing. The average age of participants was 18.9 years, and 75% of the sample was female.

### *Measures*

*CSE.* As in Study 1, the CSES (Judge et al., 2003) was used to assess CSE ( $\alpha = .87$ ; see Appendix G).

*Achievement goal orientations.* Elliot and McGregor's (2001) achievement goal questionnaire was used. This measure was specifically designed to assess achievement goal orientations in a classroom context, making it ideal for the participants. The 12-item measure separately assesses achievement goal orientations using 3 items each for mastery-approach (e.g., "I desire to completely master the material presented in this class;"  $\alpha = .82$ ; see Appendix H), mastery-avoid (e.g., "I worry that I may not learn all that I possibly could in this class;"  $\alpha = .76$ ; see Appendix I), performance-approach (e.g., "It is important for me to do better than other students;"  $\alpha = .96$ ; see Appendix J), and performance-avoid (e.g., "My fear of performing poorly in this class is often what motivates me;"  $\alpha = .66$ ; see Appendix K) orientations. Participants responded using a 7-point Likert scale (1 = not at all true of me and 7 = very true of me).

*Previous academic performance.* Consistent with past research (e.g., Elliot & McGregor, 1999, 2001; Elliot & Thrash, 2002), I also controlled for participants' aptitude by asking them to report their high school average (GPA; reported as a percent ranging theoretically from 0-100) after completing the achievement goal questionnaire. In so doing, any observed relation between CSE and achievement goal orientations is over and above that due to participants' general academic ability.

#### *Analytic Strategy*

I tested the models using AMOS 6.0, with the covariance matrix as input and parameters estimated using maximum likelihood estimation (Chou & Bentler, 1995). Mean scale scores were used as indicators of latent factors; this technique reduces the sample-size-to-parameter ratio, which can adversely impact the standard errors and stability of the estimates (Hall et al., 1999). Three item parcels were used as indicators of the latent CSE factor; the three individual scale items were used as indicators of the four latent achievement goal orientation factors. Previous academic performance was modeled as an observed exogenous variable with paths freed to all four achievement goal orientations, in addition to being correlated with CSE. Consistent with past studies of achievement goal orientations (e.g., Elliot & Church, 1997; Elliot & Thrash, 2002), the error variances of goal orientations of similar valence (approach or avoid) or comparison standard (mastery or performance) were allowed to correlate.

Anderson and Gerbing's (1988) two stage analytic procedure was used. I first assessed the fit of the measurement model, and then assessed the fit of the underlying structural model. Following Hu and Bentler (1999), I assessed model fit using the following indices: (a) chi-square goodness-of-fit to degrees of freedom ratio, (b) Tucker-Lewis Index



(TLI; Tucker & Lewis, 1973), (c) root-mean-square error of approximation (RMSEA; Steiger, 1990), (d) standardized root-mean-square residual (SRMR; Bentler, 1990), (e) and the comparative fit index (CFI). Satisfactory model fit is indicated by TLI and CFI values close to .95, RMSEA values no higher than .08, SRMR values no higher than .10, and a chi-square goodness of fit to degrees of freedom ratio no greater than 2 (Hu & Bentler, 1999).

### *Results and Discussion*

Table 3 presents the means, standard deviations, alphas, and correlations of the variables. As before, the zero-order correlations provide preliminary support for the hypothesis, with CSE being significantly negatively related to mastery-avoid, performance-approach, and performance-avoid goal orientations ( $r = -.24, p < .01$ ;  $r = -.18, p = .05$ ; and  $r = -.18, p < .05$ , respectively) and not related to mastery-approach goal orientations ( $r = -.03, p > .10$ ).

Table 3

## Study 2 Descriptive Statistics, Zero Order Correlations, and Alphas

	Mean	SD	1	2	3	4	5	6	7	8
1. GPA	82.21	8.31	--							
2. Age	18.9	1.63	-.38**	--						
3. Gender	.75	.43	-.06	-.14	--					
4. CSE	3.27	.63	.11	-.08	-.11	<b>.87</b>				
5. Mastery-Approach	5.20	1.11	.17	-.05	.14	-.03	<b>.82</b>			
6. Mastery-Avoid	4.68	1.20	.02	-.00	.10	-.24**	.50**	<b>.76</b>		
7. Performance-Approach	4.84	1.35	.26**	-.02	.03	-.18*	.13	.03	<b>.96</b>	
8. Performance-Avoid	5.32	1.15	-.11	.02	.12	-.18*	.09	.33**	.37**	<b>.66</b>

*Note.*  $N = 121$ , alphas are on the diagonal in bold. GPA = Grade Point Average (1-100). Gender: 0 = male and 1 = female. \*  $p \leq$

.05, \*\*  $p < .01$ . CSE = Core Self-evaluations.

I next tested the fit of the 6-factor measurement model to the data. Table 4 lists the results; the measurement model provided an acceptable fit to the data, with fit indices approaching or surpassing all conventional cutoff criteria. The independence model provided a significantly worse fit to the data than the measurement model, both when examining fit indices and when directly comparing the models using the change in chi-square tests.

Table 4

## Study 2 Model Fit Statistics

	$\chi^2$	df	$\Delta\chi^2$	$\chi^2/df$	TLI	RMSEA	CFI	SRMR
<i>Model</i>								
Hypothesized 6-								
Factor Measurement								
Model	165.24**	90	--	1.84	.91	.08	.93	.08
Independence Model	1215.34**	120	1050.10**	10.13	--	.28	--	--
Hypothesized								
Structural Model	167.88**	92	--	1.83	.91	.08	.93	.08

*Note.*: \*\*  $p < .01$ . TLI = Tucker-Lewis Index (Tucker & Lewis, 1973); RMSEA = root-mean-square error of approximation (Steiger, 1990); SRMR = standardized root-mean-square residual; CFI = comparative fit index.

Given the acceptable fit of the measurement model, I next tested the hypothesized structural model (see Figure 4).<sup>7</sup> The fit indices (Table 4) indicated that the hypothesized structural model again provided an acceptable fit to the data. Given the adequate fit of the hypothesized structural model to the data, I next examined whether the path estimates supported the hypotheses.

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<sup>7</sup> As it was not central to my predictions and was intended only as a control variable to ensure the results do not simply reflect academic ability, I do not depict the relations between academic performance and achievement goals in Figure 2. For those interested, academic ability only significantly predicted performance approach goals ( $\beta = .29, p < .01$ ) and mastery approach goals ( $\beta = .19, p = .05$ ).

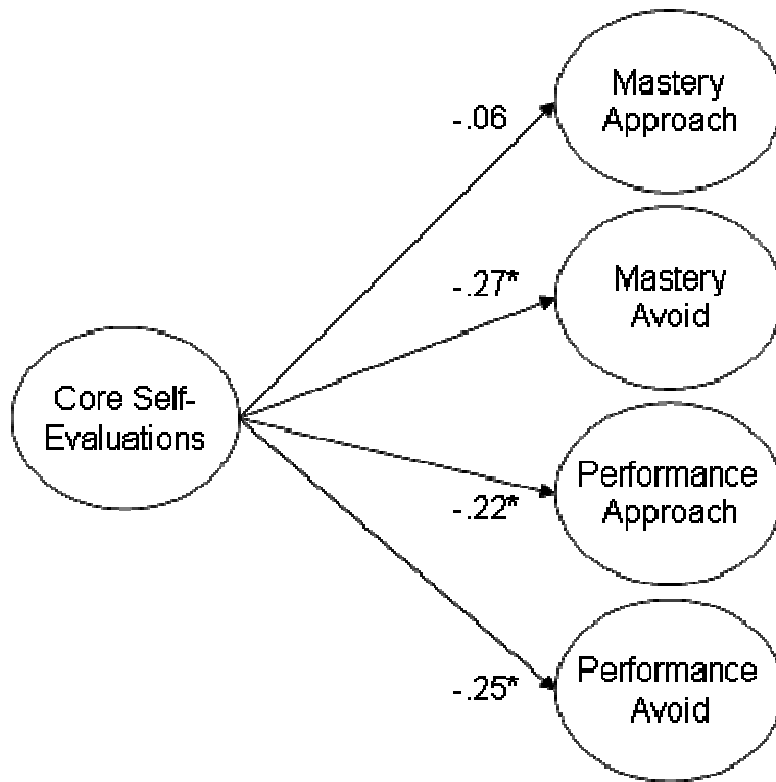


Figure 4. Study 2 standardized path estimates.  $N = 121$ . \*  $p < .05$ . Academic performance, not shown, was also modeled as a predictor of the four achievement goal orientations.

Figure 4 presents the standardized path estimates for the data. Hypothesis 2 posited that CSE would be related to achievement goal orientations in a manner consistent with an avoidance temperament; this hypothesis was supported, with CSE having a significant effect on mastery-avoid ( $\beta = -.27, p < .05$ ), performance-approach ( $\beta = -.22, p < .05$ ), and performance-avoid goal orientations ( $\beta = -.25, p < .05$ ). CSE was also not related to mastery-approach goal orientations ( $\beta = -.06, p > .10$ ). As a supplementary analysis, in order to examine whether the paths differed in terms of their relations to CSE, we set the paths from CSE to mastery-avoid, performance-approach, and performance-avoid to be equal. The change in chi-square was not significant ( $p > .05$ ), suggesting the three avoidance-related goal orientation paths were equally related to CSE. However, when we set the path to mastery-approach to also be equal, the model chi-square was significantly worse ( $\Delta\chi^2 = 4.7, p < .05$ ), suggesting CSE was not equally related to the approach-related goal orientation path. In summary, consistent with past research on the relation between approach/avoidance temperaments and achievement goal orientations, CSE was significantly related to mastery-avoid, performance-approach, performance-avoid, but not mastery-approach goal orientations. These results are exactly the opposite of what one would predict if CSE was conceptualized as an indicator of approach temperament.

The results of the first two studies support the notion that a) CSE is better characterized as an indicator of avoidance temperament, and b) CSE relates to other motivational constructs consistent with how one would expect an indicator of avoidance temperament to relate. These results thus suggest the proper placement of CSE within the hierarchical model of approach and avoidance motivation is as an indicator of avoidance temperament. Using this knowledge, in Study 3 I applied the hierarchical model of approach



and avoidance motivation to explicate the process through which CSE influences job performance.

### Study 3: CSE and Job Performance

Since the results of the first two studies allow us to confidently assert that CSE represents a form of avoidance temperament, Study 3 was designed to test avoidance goals as the mediating mechanism through which CSE influences job performance. Job performance is one of the most important criterion variables in organizational psychology (Arvey & Murphy, 1998); indeed, it has been suggested that improving job performance is the *raison d'être* for much of organizational psychology research (Viswesvaran, 2001). Following Murphy (1989, p. 227), I define job performance as “the set of behaviors that are relevant to the goals of the organization or the organizational unit in which a person works.” These behaviors can take the form of performing tasks required for the position or general behaviors that are either helpful or harmful to the organization as a whole (Murphy, 1989; Rotundo & Sackett, 2002). Such behaviours are inexorably linked to an organization’s ultimate effectiveness and profit (Johnson, 2003; Motowidlo, Borman, & Schmit, 1997).

Given its central role in organizational psychology, there has been extensive research on what influences job performance (Bauer, Bodner, Erdogan, Truxillo, & Tucker, 2007; Johnson, 2003; Tett & Burnett, 2003; Viswesvaran, 2001). Campbell (1990; Campbell et al., 1993) has suggested that motivation (in concert with procedural and declarative knowledge) is one of the main determinants of job performance, and also the determinant which is most likely to be influenced by personality variables (Motowidlo et al., 1997). This viewpoint is consistent with both the hierarchical model of approach and avoidance motivation and numerous other authors (Barrick et al., 1993, 2003; Barrick, Stewart, & Piotrowski, 2002; Borman et al., 1991; Gellatly, 1996; Hollenbeck & Whitener, 1988; Sackett, Gruys, & Ellington, 1998).

While Study 2 examined the relation between CSE and achievement goal orientations, I sought to extend the results of that study by using a related motivational mechanism: the adoption of approach or avoidance goals. Goals are defined as “internal representations of desired states” (Austin & Vancouver, 1996, p. 338) and are well-established mechanisms in self-regulatory processes (Elliot & Friedman, 2007; Emmons, 1986; Locke & Latham, 1990; Pervin, 1989). Similar to achievement goal orientations, goals can be classified as being either approach or avoidance goals (Elliot & Friedman, 2007); in contrast to achievement goal orientations, however, approach or avoidance goals need not be related to a classroom context, as is the case for the majority of the achievement goal orientation literature which uses a 2x2 conceptualization of achievement goals.

Individuals are more likely to adopt goals which are consistent with their stable motivational orientations (Elliot & Friedman, 2007; Higgins, 2000). In other words, CSE should influence the adoption of either approach or avoidance goals in a manner consistent with the approach/avoidance temperamental basis of CSE. Based on the results of the first two studies, this would indicate that CSE will relate to whether one adopts (or not) avoidance goals, but that CSE will have no relation to one’s adoption of approach goals. In particular, I predict that individuals with low CSE are more likely to endorse avoidance goals than individuals with high CSE.

Hypothesis 3: CSE will be negatively related to the endorsement of avoidance goals.

#### *Avoidance Goals and Performance*

The link between avoidance goals and decreased overall functioning has been established across a variety of outcomes including well-being (Elliot et al., 1997),

cognitive/affective variables (Elliot & Sheldon, 1997), and exam performance (Elliot & McGregor, 1999). The deleterious effects of avoidance goals are thought to be due to the fact that avoidance goals (but not approach goals) can induce feelings of threat, anxiety, and worry by diverting attention to possible negative outcomes (Elliot & Sheldon, 1997; Elliot et al., 1997). This notion has received empirical support in the achievement goal orientation domain, with state anxiety and worrying mediating the effects of performance-avoid goals, but not performance-approach goals, on performance (Elliot & McGregor, 1999).

More generally, avoidance goals present increased difficulties for successful self-regulation (Carver, 1996; Carver et al., 2000). In contrast to approach goals, which involve pursuing a single (positive) outcome, avoidance goals require constant vigilance and identification of any potential pathways through which a negative outcome may arise (Carver et al., 2000; Elliot & Sheldon, 1997). Such increased vigilance against potential distractors may plausibly deplete self-regulatory resources to a greater extent than approach goals, leaving fewer resources with which to regulate one's performance on the job (Baumeister & Heatherton, 1996).

It should be noted that avoidance goals do not always lead to decrements in performance. In particular, Higgins (1997, 1998, 2006) has demonstrated that the congruence between individual differences in approach-avoidance and the approach-avoidance framing of the goal can influence performance such that avoid goals lead to better performance for tasks that are fundamentally avoidance in nature. However, given that workplace and organizational strategies, visions and goals are normally fundamentally approach in nature (e.g., organizational visions typically advance an idealized, positive view

of a future organization; Senge, 1990; Zaccaro & Banks, 2001), this would suggest that avoidance goals in a work context are *usually* detrimental to performance.

Hypothesis 4: Avoidance goals will be negatively related to performance.

#### *The Mediating Role of Avoidance Goals*

Because avoidance goals are typically negatively associated with performance (see, e.g., Elliot & McGregor, 1999), this would suggest that individuals with high levels of CSE perform well by *not* adopting avoidance goals. In other words, CSE is negatively related to avoidance goals, and avoidance goals are negatively related to performance, which results in an overall positive indirect (i.e., mediated) relationship between CSE and performance.

Because I posit that CSE is unrelated to approach goals, this would suggest that the effect of CSE on performance is fully mediated through avoidance, not approach, goals.

Based on prior theoretical models, I predict goals will fully mediate the effect of CSE on job performance. Numerous motivation theorists have conceptualized goals as mid-level motivational mechanisms which mediate the effects of biological temperaments and motives, with goals as the more concrete, observable manifestations of these dispositions (see, e.g., Carver & Scheier, 1981, 1999, Elliot & Church, 1997; Elliot & McGregor, 1999, Kanfer, 1992; Vallerand, 1997). In these models, including the hierarchical model of approach and avoidance motivation, which is the foundation of this research, the effects of dispositions on outcomes are indirect and fully mediated by goal constructs (Elliot, 1997; Elliot & Church, 1997; Elliot & Sheldon, 1997). Consistent with these theoretical approaches, I modeled goals as fully mediating the effect of CSE on performance.

Hypothesis 5: CSE will have an indirect effect on performance, fully mediated by avoidance goals.

### *Overview of Study 3*

While Studies 1 and 2 provide evidence supporting the notion that CSE is an indicator of avoidance temperament, both studies are limited in that they were conducted on university students. Although unlikely, it could be argued that the relation of CSE to approach-avoidance constructs may differ for older participants in working contexts. Additionally, while Study 2 separated out the measurement of CSE and achievement goal orientations over a month, all of the data were self-report. Although separating out the measurement of variables across time reduces the plausibility that common method variance is responsible for the relations, the ideal solution is to procure data from multiple sources (Podsakoff et al., 2003).

Thus, in the third study I sought to address these concerns by using a sample of working adults with job performance as the criterion variable. To reduce the plausibility that common method variance influenced the results, the third study a) assesses the antecedent and mediating variables at separate points in time, and b) had work peers provide ratings of the focal participant's performance.

## *Method*

### *Participants and Procedure.*

Participants were 141 working adults employed in a variety of occupations (e.g., consultant, office clerk, graphic designer, systems analyst, operations manager). Participants were employed in a variety of industries including financial (15%), computer (12%), manufacturing (8%), engineering (7%), sales (7%), healthcare (6%), office/administrative support (5%), government (5%), and entertainment/media (5%). Approximately 8% of the sample had a high school degree; 74% had a college/university degree, 16% had a master's degree, and 2% had a doctorate. Participants were recruited using recruitment posters placed in commuter and other public places. Data were collected via two online surveys over the period of a week. Participants initially completed the CSE measure in the first survey, and completed the approach/avoidance goals scale in the second survey. At that time the focal participant was requested to provide the name and email address of a work peer (someone with the same supervisor as the focal participant) who they interacted regularly with and who knew them well enough to evaluate their work behaviours. I then emailed the work peer with a link to an online questionnaire which contained measures to assess the work performance of the focal participant. Participants and work peers were each compensated \$10 for their time.

In total, 101 participants completed surveys at both times (72% retention rate from first to second survey). Due to nonresponse from the work peers, I obtained 76 matched surveys (focal participant and work peer) overall. One participant was identified as a multivariate outlier (Tabachnick & Fidell, 1996) and removed from analysis. In total, the sample size was 75 for the purpose of hypothesis testing. The average age of participants

was approximately 31 years ( $SD = 8.4$ ), and approximately 60% of the sample was female. No significant differences in age ( $t = 1.21, p > .05$ ), gender ( $t = .66, p > .05$ ), tenure ( $t = .65, p > .05$ ), hours worked per week ( $t = 1.41, p > .05$ ), or CSE levels ( $t = -1.45, p > .05$ ) were found between those who did and did not complete the second survey. Similarly, no significant mean differences in gender ( $t = -.98, p > .05$ ), age ( $t = -.02, p > .05$ ), tenure ( $t = -.65, p > .05$ ), hours worked per week ( $t = .67, p > .05$ ), CSE ( $t = -1.03, p > .05$ ), approach ( $t = -.57, p > .05$ ), or avoid ( $t = .76, p > .05$ ) were detected when comparing participants who completed both surveys but had no work peer complete the work peer survey, and those participants who did have a work peer complete the work peer survey.

### *Measures*

*CSE.* As in Study 1 and 2, the Core Self-Evaluations Scale (Judge et al., 2003) was used to assess CSE ( $\alpha = .86$ ; see Appendix G).

*Approach and avoidance goals.* Lockwood, Jordan, and Kunda's (2002) 18-item approach/avoidance scale was adapted to assess approach and avoidance goals in the workplace. Participants responded to questions such as "My major goal at work right now is to avoid becoming a failure" (avoidance;  $\alpha = .86$ ; see Appendix L) and "My major goal at work right now is to achieve my workplace ambitions" (approach;  $\alpha = .90$ ; see Appendix M). Responses were made on a 1 (*Not at all true of me*) to 9 (*Very true of me*) scale.

*Job performance.* Current theoretical conceptualizations of job performance suggest that job performance is a latent construct best indicated by behaviours such as in-role, citizenship, and counterproductive behaviours (Dalal, 2005; Motowidlo et al., 1997; Murphy, 1989; Rotundo & Sackett, 2002; Viswesvaran & Ones, 2000; Sackett, 2002). Therefore, I modeled job performance as a latent factor as indicated by mean scores of in-role behaviour,



citizenship behaviour (separated into citizenship behaviour directed towards individuals or organizations), and counterproductive behaviour (separated into counterproductive behaviour directed towards individuals or organizations). *In-role performance* was assessed using Williams and Anderson's (1991) 7-item in-role behaviour scale ( $\alpha = .85$ ; see Appendix N). Participants indicated their agreement with such statements as "My work peer meets formal performance requirements of the job" using a 1 (*strongly disagree*) to 5 (*strongly agree*) scale. *Citizenship performance* was assessed using Williams and Anderson's (1991) measure of citizenship performance, which assesses citizenship behaviors directed towards the *organization* (e.g., "My work peer's attendance at work is above the norm;"  $\alpha = .75$ ; see Appendix O) and citizenship behaviors directed towards *individuals* in the organization (e.g., "My work peer helps others who have heavy work loads;"  $\alpha = .86$ ; see Appendix P) using a 1 (*strongly disagree*) to 5 (*strongly agree*) scale. *Counterproductive behavior* was assessed using Aquino, Lewis, and Bradfield's (1999) deviant behavior scale, which assesses deviant behavior directed towards the *organization* (e.g., "Left work early without permission;"  $\alpha = .94$ ; see Appendix Q) and deviant behavior directed towards *individuals* in the organization (e.g., "Swore at a co-worker;"  $\alpha = .91$ ; see Appendix R).

#### *Analytic Strategy*

I tested the models using AMOS 6.0, with the covariance matrix as input and parameters estimated using maximum likelihood estimation (Chou & Bentler, 1995). Mean scale scores were used as indicators of latent factors; this technique reduces the sample-size-to-parameter ratio, which can adversely impact the standard errors and stability of the estimates (Hall et al., 1999). Randomized item parcels were formed to create three indicators each for the CSE, approach goals, and avoidance goals latent factors. A latent job

performance factor was modeled using the mean in-role, citizenship, and counterproductive behavior scores as indicator. For citizenship and counterproductive behaviors, separate means were calculated for individual- and organization-directed behaviors, resulting in 5 indicators overall for the latent job performance factor.

I tested the hypothesized model using the two stage analytic procedure recommended by Anderson and Gerbing (1988). I first assessed the fit of the measurement model, and then assessed the fit of the underlying structural model. Following Hu and Bentler (1999), I assessed model fit using the following indices: (a) chi-square goodness-of-fit to degrees of freedom ratio, (b) Tucker-Lewis Index (TLI; Tucker & Lewis, 1973), (c) root-mean-square error of approximation (RMSEA; Steiger, 1990), (d) standardized root-mean-square residual (SRMR; Bentler, 1990), (e) and the comparative fit index (CFI). Satisfactory model fit is indicated by TLI and CFI values close to .95, RMSEA values no higher than .08, SRMR values no higher than .10, and a chi-square goodness of fit to degrees of freedom ratio no greater than 2 (Hu & Bentler, 1999).

### *Results and Discussion*

Table 5 lists the means, standard deviations, alphas, and correlations of the variables. As before, the zero-order correlations support the notion that CSE is associated with avoidance, with CSE being significantly negatively related to avoidance goals ( $r = -.46, p < .01$ ) but unrelated to approach goals ( $r = .22, p > .05$ ).

Table 5

## Study 3 Descriptive Statistics, Zero Order Correlations, and Alphas

	Mean	SD	1	2	3	4	5	6	7	8	9	10
1. Age	30.52	7.31	--									
2. Gender	1.59	.50	.16	--								
3. CSE	3.64	.57	-.14	-.12	<b>.86</b>							
4. Approach	6.84	1.24	-.20	-.03	.22	<b>.90</b>						
5. Avoidance	5.18	1.51	.03	-.11	-.46**	.12	<b>.86</b>					
6. In-role Behavior	4.18	.60	-.04	.01	.16	.08	-.22	<b>.85</b>				
7. OCBI	3.92	.60	.12	.04	.09	.14	.09	.65**	<b>.86</b>			
8. OCBO	3.94	.60	.00	.13	.11	.13	-.29*	.75**	.57**	<b>.75</b>		
9. IP-Dev	1.29	.56	-.19	-.07	.13	-.09	.11	-.44**	-.24*	-.50**	<b>.91</b>	
10. Org-Dev	1.39	.70	.06	-.06	.02	-.18	.20	-.57**	-.31**	-.63**	.71**	<b>.94</b>

*Note.* N = 75, alphas are on the diagonal in bold. Gender: 1 = male and 2 = female. CSE = Core Self-evaluations. OCBI = Organizational Citizenship Behavior - Interpersonal. OCBO = Organizational Citizenship Behavior - Organization. IP-Dev = Interpersonal Deviance; Org-Dev = Organizational Deviance. \*  $p < .05$ , \*\*  $p < .01$ .

I next tested the fit of the 4-factor measurement model to the data. The modification indices suggested allowing the error variance for interpersonal and organizational deviance to covary. Given the addition of this covariance makes conceptual and empirical sense<sup>8</sup>, I allowed the two error variances to covary. Table 6 lists the fit of the 4-factor measurement model to the data; Table 7 provides the factor loadings of the item parcels. The measurement model provided an acceptable fit to the data, with fit indices approaching or surpassing all conventional cutoff criteria, and the measurement model provided a significantly better fit to the data than the independence model.

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<sup>8</sup> See, e.g., Dalal (2005) whose meta-analysis indicated that organizational and interpersonal deviance are highly correlated constructs.

Table 6

## Study 3 Model Fit Statistics

	$\chi^2$	df	$\Delta\chi^2$	$\chi^2/df$	TLI	RMSEA	CFI	SRMR
<i>Model</i>								
Hypothesized 4-								
Factor Measurement								
Model	103.57**	70	--	1.48	.92	.08	.94	.08
Independence Model	666.52**	91	562.95**	4.32	--	.29	--	--
Hypothesized								
Structural Model	106.85	72	--	1.48	.93	.08	.94	.10

*Note.*: \*\*  $p < .01$ . TLI = Tucker-Lewis Index (Tucker & Lewis, 1973); RMSEA = root-mean-square error of approximation (Steiger, 1990); SRMR = standardized root-mean-square residual; CFI = comparative fit index.

Table 7

## Study 3 Measurement Model Indicator Loadings

Indicator	Loading
CSE 1	.76
CSE 2	.83
CSE 3	.79
Approach 1	.71
Approach 2	.86
Approach 3	.91
Avoidance 1	.95
Avoidance 2	.78
Avoidance 3	.85
Performance 1 (OCBI)	.67
Performance 2 (OCBO)	.88
Performance 3 (IRB)	.88
Performance 4 (IP-Dev)	-.52
Performance 5 (Org-Dev)	-.67

*Note.* All loadings were significant at the  $p < .001$  level. CSE = Core Self-evaluations; OCBI = Organizational Citizenship Behavior - Interpersonal. OCBO = Organizational Citizenship Behavior - Organization. IP-Dev = Interpersonal Deviance; Org-Dev = Organizational Deviance.

Given the acceptable fit of the measurement model, I next tested the hypothesized structural model (see Figure 5). I freed paths from the latent CSE factor to both approach and avoidance latent factors, and from both approach and avoidance latent factors to the job performance latent factor. Consistent with James, Mulaik, and Brett's (2006) recommendations and the hierarchical model of approach and avoidance motivation, I modeled a fully mediated model initially, where there was no direct path from the latent CSE factor to the job performance latent factor. I subsequently freed the path between the latent CSE factor and the latent job performance factor to test for partial mediation. The fit indices (Table 6) indicated that the hypothesized structural model again provided an acceptable fit to the data; examination of the chi-square difference between the hypothesized structural model and the partial mediation model indicated the hypothesized structural model (i.e., full mediation model) provided a better fit to the data when contrasted using a chi-square difference test ( $\Delta\chi^2 = .26, 1 \text{ df}, p > .10$ ) Given the adequate fit of the hypothesized structural model to the data, I next examined whether the path estimates supported the hypotheses.



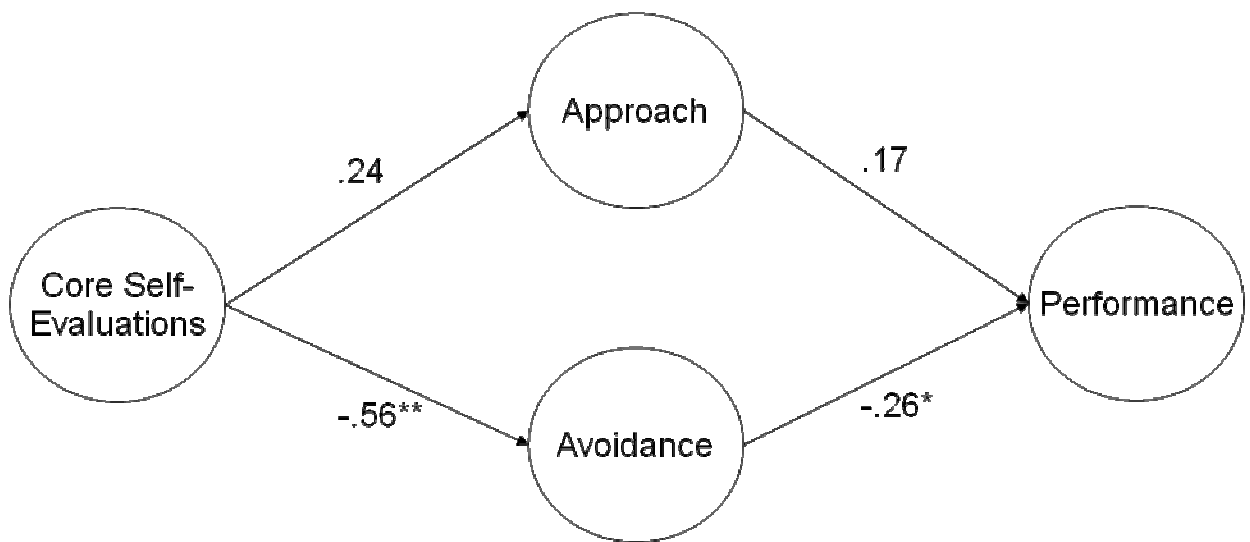


Figure 5. Study 3 standardized path estimates.

Figure 5 presents the standardized path estimates for the data. Hypothesis 3 posited that CSE would be related to avoidance goals; this hypothesis was supported, with CSE having a significant negative effect on avoidance goals ( $\beta = -.56, p < .01$ ). CSE was not significantly related to approach goals ( $\beta = .24, p > .05$ ). Consistent with Hypothesis 4, avoidance goals were significantly related to job performance ( $\beta = -.26, p < .05$ ); approach goals were not significantly related to job performance ( $\beta = .17, p > .05$ ). Hypothesis 5 proposed that the effect of CSE on performance would be mediated through avoidance goals; this hypothesis was supported, with CSE having a significant indirect effect on performance (standardized indirect effect =  $.19, p < .05$ ). Given CSE was significantly related to avoidance but not approach goals, and avoidance but not approach goals were significantly related to performance, this suggests the significant indirect effect is being mediated through avoidance, not approach goals.

Consistent with predictions, Study 3 found that the mediating mechanism underlying the CSE-performance relation relied upon avoidance, not approach goals. Again, these results are exactly the opposite of what one would predict if CSE was conceptualized as an approach tendency; as such, the results illustrate the importance of understanding the motivational underpinnings of the CSE construct.

One curious finding was that approach goals did not predict performance, while avoidance goals did. While not hypothesized, past research in the achievement goal orientation literature has shown that approach goals can predict performance (see, e.g., Elliot & Church, 1997). One potential explanation for this null finding is that the impact of approach (but not avoid) goals is moderated by situational factors (e.g., Stewart, 1996). Such a finding would be consistent with models of the personality-performance relation which

suggest that avoidance constructs (e.g., emotional stability) relate to performance across all job types, while the effect of approach constructs (e.g., extraversion) on performance is less robust and subject to moderation (e.g., Barrick & Mount, 1991; Barrick et al., 2003). For example, Stewart (1996) found that extraversion related differentially to performance, such that extraversion was related to new sales when reward systems provided an incentive for new sales, but extraversion was unrelated to new sales when reward systems provided no such incentive. This finding was attributed to the sensitivity to rewards that are characteristic of extraverts and, more generally, approach tendencies. However, given avoidance results in decreased effort across all tasks, the effect of avoidance on performance should not be moderated by the situation (Barrick et al., 2003). Given the sample was composed of individuals from a multitude of different organizations, this may have attenuated the approach-performance relation while leaving the avoidance-performance relation unaffected.

## CHAPTER 4

### GENERAL DISCUSSION

With the benefit of hindsight, it is now clear that one of the reasons for the decline of personality psychology in the '60s and '70s was due to a preponderance of null results borne out of the lack of a properly articulated theoretical framework to account for the effects of personality variables. These lessons, now almost 40-50 years old, still resonate today: personality constructs, be they new or established, must be placed within a proper theoretical framework or researchers risk weak, null, or even contradictory results. Across three studies, I integrated CSE, a new personality construct, within the hierarchical model of approach and avoidance motivation. The results illustrate how careful consideration of a theoretical framework can influence variable selection and ultimately advance our understanding of mediating processes underlying the personality-performance relation.

In particular, I conducted a confirmatory factor analysis to examine whether CSE was best conceptualized as a form of avoidance temperament (Study 1) and examined how this in turn influenced predictions on the relation between CSE and achievement goal orientations, a well-studied motivational mechanism (Study 2). Finally, in Study 3, I contrasted approach and avoidance personal goals as mediating pathways of the CSE-job performance relation. Across the three studies, using multi-wave and multi-source data, the results a) supported the positioning of CSE as a form of avoidance temperament within the hierarchical model of approach and avoidance motivation, and b) demonstrated that avoidance motivational mechanisms mediate the relation between CSE and job performance. These results also support the application of the hierarchical model of approach and avoidance motivation to

the personality-performance literature in organizational psychology; to my knowledge, this study represents the first to apply this theoretical framework to an organizational setting.

While the hierarchical model of approach and avoidance motivation was explicitly designed to account for personality-performance relations and their mediating mechanisms, I believe that the distinction between approach and avoidance motivational mechanisms can benefit organizational psychology in many other ways. Indeed, the approach/avoidance distinction is fundamental to numerous psychological subdisciplines (Elliot & Covington, 2001), so its exclusion from organizational psychology is the exception rather than the rule. Within the CSE literature, CSE theory was initially developed to account for the effect of personality traits on job satisfaction. Given avoidance goals have been linked to lowered satisfaction in other populations (Elliot et al., 1997), a natural extension of the results would be to consider avoidance goals as the mediator of the CSE-job satisfaction relation. That is, CSE results in increased job satisfaction because it results in adopting fewer avoidance goals, which are themselves negatively related to job satisfaction. This is consistent with Judge et al.'s (2005) notion that people with high CSE have greater satisfaction due to their tendency to choose “the right goals” – though a more appropriate statement may be that people with high CSE have greater satisfaction due to their tendency to avoid choosing the wrong goals. Nevertheless, this example illustrates how the results might inform the selection of theoretically-based mediating mechanisms to explain the relationship between CSE and satisfaction.

Applying the approach/avoidance distinction outside of the CSE literature, it is likely that not only personality traits but also contextual forces influence the adoption of approach or avoidance goals. For example, abusive supervisory styles have been shown to relate

negatively to employee satisfaction (Tepper, 2000). Thus, it is plausible that in response to abusive supervisory styles, employees become focused on avoidance goals, such as focusing on avoiding mistakes so as not to give the supervisor reason to berate them, or even avoiding the supervisor entirely. At the other end of the leadership spectrum, transformational or visionary leadership (Bass & Avolio, 1993; Conger & Kanungo, 1987; Lowe, Kroeck, & Sivasubramaniam, 1996) involves stimulating and inspiring followers to new heights; one possibility is that transformational leaders prompt the adoption of approach goals by their followers, which lead to increased follower well-being and productivity (although approach goals were not related to performance in the present study). In summary, I believe organizational psychology stands to benefit substantially by delineating between approach and avoidance personality and motivational constructs, as suggested by the hierarchical model of approach and avoidance.

The results also speak to the broader conceptualization of CSE, and in this sense it is illuminating to consider my proposed reframing of the CSE construct (as an indicator of avoidance temperament) with that recently proffered by Johnson et al. (in press). In their paper, they suggest redefining CSE as a marker of self-beliefs about *self-regulatory functioning*. Consistent with this new definition, they advocate reconceptualizing the measurement of CSE by including markers of approach motivation alongside traditional CSE indicators. This position is problematic in that a) it confounds personality traits with motivational mechanisms and b) by redefining and changing the measurement of the CSE construct, it is questionable whether or not this “new” construct should be called CSE or something else entirely (e.g., core self-regulatory evaluations).

My position differs in that I do not advocate redefining the CSE construct or its constituent traits, but rather advocate reframing it as an indicator of avoidance temperament. This establishes CSE within a rich theoretical framework which can inform future research directions. It is also not entirely inconsistent with Johnson et al.'s (in press) focus on motivation, in that avoidance temperament energizes activity such as goal selection, which is ultimately a motivational mechanism (Kanfer, 1990). Thus, my approach provides the theoretical basis to make predictions regarding motivational constructs, but also does not require the redefinition of the CSE construct itself. Finally, while the addition of approach temperament/motivation may increase the predictive ability of the CSE construct, I do not see the benefit of confounding approach and avoidance within the same construct. Rather, theoretical parsimony suggests we consider their effects separate from each other.<sup>9</sup>

A final point of discussion regards the relation between CSE and neuroticism. The question may have arisen in some readers minds: whether core self-evaluations? If CSE represents a form of avoidance temperament, does this indicate that it is simply another measure of neuroticism? Is it possible that CSE represent another instance of the “jangle fallacy”- that is, giving new names to old constructs (Block, 1995; Kelley, 1927)? In short, does CSE warrant inclusion in the psychological literature or is it old wine in new bottles? It is my belief that the CSE construct definitely has an important role to play in psychology. As has been convincingly shown, CSE is a better predictor of outcomes than conventional measures of neuroticism (Erez & Judge, 2001; Judge et al., 2003). Judge and Bono (2001b) have argued that this is owing to the broad nature of the CSE measure: traditional approaches to measuring neuroticism are rooted in the clinical tradition of viewing neuroticism as an

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<sup>9</sup> Consistent with this notion, Johnson et al. (in press) suggest examining the effects of their newly conceptualized CSE traits individually and not as indicators of a superordinate CSE latent construct.

indicator of psychopathology, and measures of neuroticism can still reflect these origins in their focus on anxiety to the exclusion of neurotic evaluations of the self. In contrast, the CSES was developed to be used in the larger population and is not focused solely on anxiety (Judge et al., 2003). As such, the CSES is a measure more suited for non-clinical use and especially useful for organizational psychologists, who by and large do not deal with clinical populations. In sum, I do not believe this work discredits the utility of CSE in any way, shape, or form; rather, my aim is simply to reconceptualize the theoretical framework within which CSE is considered.

#### *Limitations and Future Directions*

Individually, each study in this paper possesses limitations such as gathering data cross-sectionally (Study 1) or from the same source (Study 2). Such methodological shortcomings may result in increased levels of common method variance (Podsakoff et al., 2001). However, taken as a whole, the studies provide converging evidence using multi-wave, multi-source data, thus minimizing concerns regarding CMV with any individual study.

A more substantial limitation may exist regarding the cultural context of the research, in that the samples were entirely composed of citizens of Western countries. The negative effects of avoidance goals may be contingent upon the cultural framework of the individual. In a study by Elliot and colleagues (Elliot, Chirkov, Kim, & Sheldon, 2001), it was found that the adoption of avoidance goals by individuals in collectivist cultures such as Russia and Korea was unrelated to subjective well-being. They interpreted their results as indicating the negative effects of avoidance goals may be culturally contingent, as collectivistic cultures promote avoidance motivation (i.e., fitting in vs. standing out) moreso than individualistic



cultures. This provides a better fit between goals and context (similar to Higgins' work on the beneficial effects of matching promotion/prevention focus with promotion/prevention tasks, respectively; Higgins, 1997). Given the current study is premised on the notion that avoidance goals are negatively related to performance, Elliot et al.'s results may imply that CSE may not predict performance in Eastern cultures. However, it should be noted that Elliot et al. examined subjective well-being as an outcome, which is quite different from performance; as such, more research on this topic is needed.

### *Summary*

In discussing problems in core self-evaluation research, Bono & Judge (2003, p. S15) note “progress in this area is mostly likely to be made when the nature of the core self-evaluation construct...is understood, allowing theory to drive further development of the nomological net.” I wholeheartedly agree, and suggest that integrating CSE within the hierarchical model of approach and avoidance motivation has the potential to provide the theoretical understanding needed to benefit future research on the CSE construct.

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APPENDIX A  
Extraversion

Please use the rating scale below to describe how accurately each statement describes you. Describe yourself as you generally are **now**, not as you wish to be in the future. Describe yourself as you honestly see yourself, in relation to other people you know of the same sex and roughly the same age. Please read each statement carefully, and then indicate your response by writing the appropriate number in the space next to each statement.

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

- |   |   |
|---|---|
| <p>___ Am the life of the party.</p> <p>___ Don't talk a lot.</p> <p>___ Feel comfortable around people.</p> <p>___ Keep in the background.</p> <p>___ Start conversations.</p> | <p>___ Have little to say.</p> <p>___ Talk to a lot of different people at parties.</p> <p>___ Don't like to draw attention to myself.</p> <p>___ Don't mind being the center of attention.</p> <p>___ Am quiet around strangers.</p> |
|---|---|

APPENDIX B  
Neuroticism

Please use the rating scale below to describe how accurately each statement describes you. Describe yourself as you generally are **now**, not as you wish to be in the future. Describe yourself as you honestly see yourself, in relation to other people you know of the same sex and roughly the same age. Please read each statement carefully, and then indicate your response by writing the appropriate number in the space next to each statement.

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

- |   |  |
|---|--|
| <p>___ Get stressed out easily.</p> <p>___ Am relaxed most of the time.</p> <p>___ Worry about things.</p> <p>___ Seldom feel blue.</p> <p>___ Am easily disturbed.</p> | <p>___ Get upset easily.</p> <p>___ Change my mood a lot.</p> <p>___ Have frequent mood swings.</p> <p>___ Get irritated easily.</p> <p>___ Often feel blue.</p> |
|---|--|

APPENDIX C  
Behavioral Activation System

**Instructions:** Below are several statements about you with which you may agree or disagree. Using the **new** response scale below, indicate your agreement or disagreement with each item. Please use the following scale to record your responses.

1	2	3	4
Strongly Disagree	Disagree	Agree	Strongly Agree

- \_\_\_\_\_ When I get something I want, I feel excited and energized.
- \_\_\_\_\_ When I'm doing well at something, I love to keep at it.
- \_\_\_\_\_ When good things happen to me, it affects me strongly.
- \_\_\_\_\_ It would excite me to win a contest.
- \_\_\_\_\_ When I see an opportunity for something I like, I get excited right away.
- \_\_\_\_\_ When I want something, I usually go all-out to get it.
- \_\_\_\_\_ I go out of my way to get things I want.
- \_\_\_\_\_ If I see a chance to get something I want, I move on it right away.
- \_\_\_\_\_ When I go after something I use a "no holds barred" approach.
- \_\_\_\_\_ I will often do things for no other reason than that they might be fun.
- \_\_\_\_\_ I crave excitement and new sensations.
- \_\_\_\_\_ I'm always willing to try something new if I think it will be fun.
- \_\_\_\_\_ I often act on the spur of the moment.



APPENDIX D  
Behavioral Inhibition System

**Instructions:** Below are several statements about you with which you may agree or disagree. Using the **new** response scale below, indicate your agreement or disagreement with each item. Please use the following scale to record your responses.

1	2	3	4
Strongly Disagree	Disagree	Agree	Strongly Agree

- \_\_\_\_\_ If I think something unpleasant is going to happen I usually get pretty “worked up”.
- \_\_\_\_\_ I worry about making mistakes.
- \_\_\_\_\_ Criticism or scolding hurts me quite a bit.
- \_\_\_\_\_ I feel pretty worried or upset when I think or know somebody is angry at me.
- \_\_\_\_\_ Even if something bad is about to happen to me, I rarely experience fear or nervousness.
- \_\_\_\_\_ I feel worried when I think I have done poorly at something.
- \_\_\_\_\_ I have very few fears compared to my friends.

APPENDIX E  
Positive Temperament

Listed below are a series of statements a person might use to describe his/her attitudes, feelings, interests, and other characteristics. Read each statement and decide how well it describes you. If the statement is TRUE or MOSTLY TRUE, check the circle in the first column (under the T) in front of that item. If it is FALSE or MOSTLY FALSE, check the circle in the second column (under the F). There are no right or wrong answers, and no trick questions.

Please answer every statement, even if you are not completely sure of your answer. Read each statement carefully, but don't spend too much time deciding on the answer.

- | <u>T</u>              | <u>F</u>              |  |
|-----------------------|-----------------------|--|
| <input type="radio"/> | <input type="radio"/> | I am able to approach tasks in such a way that they become interesting or fun. |
| <input type="radio"/> | <input type="radio"/> | I sometimes rush from one activity to another without stopping to rest.        |
| <input type="radio"/> | <input type="radio"/> | I lead an active life.   |
| <input type="radio"/> | <input type="radio"/> | I lead a very interesting life.  |
| <input type="radio"/> | <input type="radio"/> | I get excited when I think about the future.                                   |
| <input type="radio"/> | <input type="radio"/> | People would describe me as a pretty enthusiastic person.                      |
| <input type="radio"/> | <input type="radio"/> | I can easily find ways to liven up a dull day.                                 |
| <input type="radio"/> | <input type="radio"/> | In my life, interesting and exciting things happen every day.                  |
| <input type="radio"/> | <input type="radio"/> | Other people sometimes have trouble keeping up with the pace I set.            |
| <input type="radio"/> | <input type="radio"/> | I live a very full life.   |
| <input type="radio"/> | <input type="radio"/> | I am usually alert and attentive.  |
| <input type="radio"/> | <input type="radio"/> | I put a lot of energy into everything I do.                                    |
| <input type="radio"/> | <input type="radio"/> | I can make a game out of some things that others consider work.                |
| <input type="radio"/> | <input type="radio"/> | It takes a lot to get me excited.  |
| <input type="radio"/> | <input type="radio"/> | I can work hard, and for a long time, without feeling tired.                   |
| <input type="radio"/> | <input type="radio"/> | My pace is usually quick and lively.   |
| <input type="radio"/> | <input type="radio"/> | Most days I have a lot of "pep" or vigor.                                      |
| <input type="radio"/> | <input type="radio"/> | People would describe me as a pretty energetic person.                         |
| <input type="radio"/> | <input type="radio"/> | In my life, I would rather try to do too much than too little.                 |
| <input type="radio"/> | <input type="radio"/> | I get pretty excited when I'm starting a new project.                          |
| <input type="radio"/> | <input type="radio"/> | I like to stir up some excitement when things are getting dull.                |
| <input type="radio"/> | <input type="radio"/> | I am often playful around other people.  |
| <input type="radio"/> | <input type="radio"/> | I am sometimes "on the go" so much that I wear myself out.                     |
| <input type="radio"/> | <input type="radio"/> | I have more energy than most of the people I know.                             |
| <input type="radio"/> | <input type="radio"/> | I often feel lively and cheerful for no good reason.                           |
| <input type="radio"/> | <input type="radio"/> | People sometimes tell me to slow down and "take it easy."                      |
| <input type="radio"/> | <input type="radio"/> | I am usually enthusiastic about the things that I do.                          |

APPENDIX F  
Negative Temperament

Listed below are a series of statements a person might use to describe his/her attitudes, feelings, interests, and other characteristics. Read each statement and decide how well it describes you. If the statement is TRUE or MOSTLY TRUE, check the circle in the first column (under the T) in front of that item. If it is FALSE or MOSTLY FALSE, check the circle in the second column (under the F). There are no right or wrong answers, and no trick questions.

Please answer every statement, even if you are not completely sure of your answer. Read each statement carefully, but don't spend too much time deciding on the answer.

- | <u>T</u>              | <u>F</u>              |  |
|-----------------------|-----------------------|--|
| <input type="radio"/> | <input type="radio"/> | I often have strong feelings such as anxiety or anger without really knowing why.              |
| <input type="radio"/> | <input type="radio"/> | I sometimes get too upset by minor setbacks.   |
| <input type="radio"/> | <input type="radio"/> | My mood sometimes changes (for example, from happy to sad, or vice versa) without good reason. |
| <input type="radio"/> | <input type="radio"/> | Sometimes I feel "on edge" all day.  |
| <input type="radio"/> | <input type="radio"/> | I frequently find myself worrying about things.  |
| <input type="radio"/> | <input type="radio"/> | My anger frequently gets the best of me.   |
| <input type="radio"/> | <input type="radio"/> | Small annoyances often irritate me.  |
| <input type="radio"/> | <input type="radio"/> | Sometimes I will suddenly feel scared for no good reason.                                      |
| <input type="radio"/> | <input type="radio"/> | I sometimes get all worked up as I think about things that happened during the day.            |
| <input type="radio"/> | <input type="radio"/> | I can get very upset when little things don't go my way.                                       |
| <input type="radio"/> | <input type="radio"/> | I am often nervous for no reason.  |
| <input type="radio"/> | <input type="radio"/> | I often take my anger out on those around me.  |
| <input type="radio"/> | <input type="radio"/> | I would describe myself as a tense person.   |
| <input type="radio"/> | <input type="radio"/> | I often worry about things I have done or said.  |
| <input type="radio"/> | <input type="radio"/> | Sometimes life seems pretty confusing to me.   |
| <input type="radio"/> | <input type="radio"/> | I am sometimes troubled by thoughts or ideas that I can't get out of my mind.                  |
| <input type="radio"/> | <input type="radio"/> | I often have trouble sleeping because of my worries.   |
| <input type="radio"/> | <input type="radio"/> | I don't get very upset when things go wrong.   |
| <input type="radio"/> | <input type="radio"/> | I often feel nervous and "stressed."   |
| <input type="radio"/> | <input type="radio"/> | I have days that I'm very irritable.   |
| <input type="radio"/> | <input type="radio"/> | Little things upset me too much.   |
| <input type="radio"/> | <input type="radio"/> | I am often troubled by guilt feelings.   |
| <input type="radio"/> | <input type="radio"/> | I seem to be able to remain calm in almost any situation.                                      |
| <input type="radio"/> | <input type="radio"/> | I worry about terrible things that might happen.   |
| <input type="radio"/> | <input type="radio"/> | I worry too much about things that don't really matter.  |
| <input type="radio"/> | <input type="radio"/> | Often life feels like a big struggle.  |
| <input type="radio"/> | <input type="radio"/> | Things seem to bother me less than most other people.  |
| <input type="radio"/> | <input type="radio"/> | I sometimes feel angry for no good reason.   |

APPENDIX G  
Core Self Evaluations Scale

**Instructions:** Below are several statements about you with which you may agree or disagree. Using the response scale below, indicate your agreement or disagreement with each item. Please use the following scale to record your responses.

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

- \_\_\_\_\_ I am confident I get the success I deserve in life.
- \_\_\_\_\_ Sometimes I feel depressed.
- \_\_\_\_\_ When I try, I generally succeed.
- \_\_\_\_\_ Sometimes when I fail I feel worthless.
- \_\_\_\_\_ I complete tasks successfully.
- \_\_\_\_\_ Sometimes, I do not feel in control of my work.
- \_\_\_\_\_ Overall, I am satisfied with myself.
- \_\_\_\_\_ I am filled with doubts about my competence.
- \_\_\_\_\_ I determine what will happen in my life.
- \_\_\_\_\_ I do not feel in control of my success in my career.
- \_\_\_\_\_ I am capable of coping with most of my problems.
- \_\_\_\_\_ There are times when things look pretty bleak and hopeless to me.

APPENDIX H  
Mastery-Approach Goal Orientation

**Instructions:** Please indicate the extent to which each of the following items is true for you. Please use the following scale to record your responses.

1	2	3	4	5	6	7
Not at all true of me						Very true of me

1. I want to learn as much as possible from this class.
2. It is important for me to understand the content of this course as thoroughly as possible.
3. I desire to completely master the material presented in this class.

APPENDIX I  
Mastery-Avoid Goal Orientation

**Instructions:** Please indicate the extent to which each of the following items is true for you. Please use the following scale to record your responses.

1	2	3	4	5	6	7
Not at all true of me						Very true of me

1. I worry that I may not learn all that I possibly could in this class.
2. Sometimes I'm afraid that I may not understand the content of this class as thoroughly as I'd like.
3. I am often concerned that I may not learn all that there is to learn in this class.

APPENDIX J  
Performance -Approach Goal Orientation

**Instructions:** Please indicate the extent to which each of the following items is true for you. Please use the following scale to record your responses.

1	2	3	4	5	6	7
Not at all true of me						Very true of me

1. It is important for me to do better than other students.
2. It is important for me to do well compared to others in this class.
3. My goal in this class is to get a better grade than most of the other students.

APPENDIX K  
Performance-Avoid Goal Orientation

**Instructions:** Please indicate the extent to which each of the following items is true for you. Please use the following scale to record your responses.

1	2	3	4	5	6	7
Not at all true of me						Very true of me

1. I just want to avoid doing poorly in this class.
2. My goal in this class is to avoid performing poorly.
3. My fear of performing poorly in this class is often what motivates me.



APPENDIX L  
Avoidance Goals

**INSTRUCTIONS:** Using the scale below, please enter the appropriate number in the blank beside each item.

1	2	3	4	5	6	7	8	9
Not at all true of me								Very true of me

1. In general, I am focused on preventing negative events at work.
2. I am anxious that I will fall short of my responsibilities and obligations.
3. I often think about the employee I am afraid I might become in the future.
4. I often worry that I will fail to accomplish my work goals.
5. I often imagine myself experiencing bad things that I fear might happen to me.
6. I frequently think about how I can prevent failures at work.
7. I am more oriented toward preventing losses than I am toward achieving gains.
8. My major goal at work right now is to avoid becoming a failure.
9. I see myself as someone who is primarily striving to become the employee I “ought” to be – to fulfill my duties, responsibilities, and obligations.

APPENDIX M  
Approach Goals

**INSTRUCTIONS:** Using the scale below, please enter the appropriate number in the blank beside each item.

- | 1                           | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9                     |
|-----------------------------|---|---|---|---|---|---|---|-----------------------|
| Not at<br>all true<br>of me |   |   |   |   |   |   |   | Very<br>true of<br>me |
1. I frequently imagine how I will achieve my hopes and aspirations.
  2. I often think about the employee I would ideally like to be in the future.
  3. I typically focus on the success I hope to achieve at work.
  4. I often think about how I will achieve success at work.
  5. My major goal at work right now is to achieve my workplace ambitions.
  6. I see myself as someone who is primarily striving to reach my “ideal self” – to fulfill my hopes, wishes, and aspirations.
  7. In general, I am focused on achieving positive outcomes at work.
  8. I often imagine myself experiencing good things that I hope will happen to me.
  9. Overall, I am more oriented toward achieving success than preventing failure.

APPENDIX N  
In-Role Behavior

**INSTRUCTIONS:** The statements below concern your work peer's behaviour at work. Please indicate your agreement with each of the following statements based on your **work peer's behaviour**.

**My work peer...**

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

1. Adequately completes assigned duties.
2. Fulfills responsibilities specified in job description.
3. Performs tasks that are expected of him/her.
4. Meets formal performance requirements of the job.
5. Engages in activities that will directly affect his/her performance.
6. Neglects aspects of the job he/she is obligated to perform.
7. Fails to perform essential duties.

APPENDIX O  
Organizational Citizenship Behaviors (Directed to Organization)

**INSTRUCTIONS:** The statements below concern your work peer's behaviour at work. Please indicate your agreement with each of the following statements based on your **work peer's behaviour**.

**My work peer...**

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

1. Attendance at work is above the norm.
2. Gives advance notice when unable to come to work.
3. Takes undeserved work breaks.
4. Spends a great deal of time with personal phone conversations.
5. Complains about insignificant things at work.
6. Conserves and protects organizational property.
7. Adheres to informal rules devised to maintain order.

APPENDIX P  
Organizational Citizenship Behaviors (Directed to Individuals)

**INSTRUCTIONS:** The statements below concern your work peer's behaviour at work. Please indicate your agreement with each of the following statements based on your **work peer's behaviour**.

**My work peer...**

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

1. Helps others who have been absent.
2. Helps others who have heavy work loads.
3. Assists his/her supervisor with his/her work (when not asked).
4. Takes time to listen to co-workers' problems and worries.
5. Goes out of his/her way to help new employees.
6. Takes a personal interest in other employees.
7. Passes along information to co-workers.

APPENDIX Q  
Deviant Behaviors (Directed to Organizations)

**INSTRUCTIONS:** Please indicate the frequency with which **your work peer** has performed the activities listed below in the past 3 months, using the following scale:

1	2	3	4	5
Never	1 to 3 times	4 to 10 times	11 to 20 times	More than 20 times

1. Intentionally arrived late for work.
2. Called in sick when he/she was not really ill.
3. Took undeserved breaks to avoid work.
4. Made unauthorized use of organizational property.
5. Left work early without permission.
6. Lied about the number of hours he/she worked.
7. Worked on a personal matter on the job instead of working for his/her employer.
8. Purposely ignored his/her supervisor's instructions.

APPENDIX R  
Deviant Behaviors (Directed to Individuals)

**INSTRUCTIONS:** Please indicate the frequency with which **your work peer** has performed the activities listed below in the past 3 months, using the following scale:

1	2	3	4	5
Never	1 to 3 times	4 to 10 times	11 to 20 times	More than 20 times

1. Made an ethnic, racial, or religious slur against a co-worker.
2. Swore at a co-worker
3. Refused to talk to a co-worker.
4. Gossiped about his/her supervisor.
5. Made an obscene comment or gesture at a co-worker.
6. Teased a co-worker in front of other employees.