THE IMPOSTER PHENOMENON: INSECURITY CLOAKED IN SUCCESS

by

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Abstract

The imposter phenomenon (IP) is a label used to describe a person's chronic feelings of inadequacy in spite of repeated success (Clance & Imes, 1978). Imposters are unusual in that they seem to have low opinions of themselves, yet they are still highly competitive and ambitious. The present study is an attempt to understand why imposters demonstrate this pattern of success striving in light of their chronic insecurities. Previous research has established a clear link between IP and low self-esteem. However, self-esteem may also differ in the extent to which it is secure or fragile. It was shown here that the imposter phenomenon is linked to fragile self-esteem, as indicated by self-esteem instability, discrepant self-esteem, and contingencies of self-worth. This finding lends to the interpretation that the imposters' ridgid success striving may be a compensatory effort to avoid to a constant negative self-view. In addition, the literature suggests that imposters may hold conflicting motivations to approach success and avoid failure. It was postulated that imposters may, therefore, be particularly sensitive to reward and punishment, which would be indicated by higher levels of the Behavioural Activation (BAS) and Inhibition (BIS) Systems. However, only BIS positively predicted IP. This finding suggests that imposters are more motivated by the threat of failure than the promise of success.

Introduction

The imposter phenomenon (IP) is a label used to describe a person's chronic feelings of inadequacy in spite of repeated success (Clance & Imes, 1978). People who experience the imposter phenomenon have a strong desire to be recognized for their intelligence, but also harbour secret and intense feelings of self-doubt. Imposters are typically high-achievers, though their lingering insecurities often frustrate their ability to function optimally and with joy (Clance & O'Toole, 1988). Imposters fear they have achieved beyond their capabilities and intellect, and feel they must continue to function above themselves to avoid detection as the frauds they believe they are.

It is known that self-doubt and fear of failure typically preclude success striving. However, imposters, who characteristically doubt their own talents and abilities, are nevertheless dedicated to lofty pursuits and establishing their superiority. The present study is an attempt to understand why imposters demonstrate this pattern of success striving in spite of their chronic insecurities. Previous research has only examined the imposers' self-esteem level. Yet there is reason to believe imposters' self-views may be considerably more complex. An emerging body of literature focuses on how self-esteem may differ in the degree to which it is secure or fragile. Evidence from this line of research suggests that the imposters' characteristic approach to achievement goals is symptomatic of fragile self-esteem. The primary goal of this study was, therefore, to establish a theoretical and empirical relationship between the imposter phenomenon and self-esteem fragility.

In addition, the internal conflict between the desire to feel smart and successful and the fear of failure is viewed as a perpetual approach-avoidance goal conflict. This pattern of achievement motivation may signal a heightened sensitivity to cues of punishment and reward

among imposters. Reinforcement sensitivity theory states that the Behavioral Inhibition (BIS) and Activation Systems (BAS) are responsible for punishment and reward sensitivity, respectively (Gray, 1978). Extreme levels of BIS and BAS functioning have been linked to a variety of maladaptive behaviours, affective styles and traits. To date, no study has investigated the role of BIS and BAS in the imposter phenomenon. Thus, the secondary goal of this study was to present theoretical and empirical evidence that the imposter phenomenon (IP) involves higher than normal levels of BIS and BAS functioning.

IP: An Overview

Clance and Imes (1978) coined the term "imposter phenomenon" based on their clinical work with highly accomplished female clients who believed they were undeserving of their success. Although these women were highly regarded for their professional and academic feats, many did not see themselves as the capable persons they felt others perceived them to be. Clance and Imes (1978) described this pattern as an "internal experience of intellectual phoniness" (pp. 1), a pattern they presumed was exclusive to women due to socialization differences between the genders. Most subsequent studies, though, have found that females and males experience the imposter phenomenon with the same frequency (e.g. Cozzarelli & Major, 1990; Cromwell, Brown, Sanchez-Huceles & Adair, 1990; Harvey, 1981; Topping & Kimmel, 1985).

It is held that imposters chronically underestimate their own natural abilities and competence (e.g.Clance & Imes, 1978; Clance and O'Toole, 1988). They feel as though they are unworthy of their own accomplishments and ultimately fear that they will one day be discovered as the frauds they believe they are. To punctuate this point, Clance and Imes (1978) offer this account from a client discussing her experiences as a PhD candidate: "I was convinced that I

would be discovered as a phony when I took my comprehensive doctoral examination. I thought the final test had come." Other specific fears liked to the imposter phenomenon are fear of failure (Fried-Buchalter, 1997) and fear of evaluation (Chrisman, Pieper, Clance, Holland & Glickauf-Hughes, 1995).

To combat their insecurity, imposters tend to hold themselves to excessively high standards (Thompson, Foreman & Martin, 2000). Landford and Clance (1993) have suggested that the "imposter phenomenon [. . . is] a result of seeking self-esteem by trying to live up to an idealized image to compensate for feelings of insecurity and self-doubt" (pp.1). This position is supported in research linking the imposter phenomenon to hyper-competitiveness (Ross, Stewart, Mugge & Fultz, 2001), achievement pressures, (Kolligan & Sternberg, 1991) and perfectionism (Street & Lester, 2000; Thompson et al., 2000). Such may be the explanation for the imposters' relentless motivation to achieve.

Imposters also tend to rely on external approval to fulfill their need for validation. Given that imposters fail to internalize a sense of competence (Clance & Imes, 1978), they must look outward for constant feedback. Indeed, the imposter phenomenon has been related to constructs such as need for approval (Cromwell, Brown, Sanchez-Huceles & Adair, 1990), public self-consciousness (Striegel-Moore et al., 1993), and self-monitoring (Topping & Kimmel, 1985). It is presumed that imposters use achievement striving as a means to gain recognition from others (Clance & Imes, 1978). It is likely, then, that imposters feel they must convince others of their competence and intellect, so that they themselves can be convinced of it too.

However, like others who doubt their abilities, imposters are sometimes inclined to reject new challenges and opportunities for academic or professional advancement (Clance & O'Toole, 1988). Imposters are particularly prone to shame, humiliation, and other negative social emotions

(Clance, 1985). As such, they are often reluctant to set their goals too high- settling instead for what is safer and more certain so as to avoid public failure (Clance & O'Toole, 1988). In this respect, the imposter phenomenon is a major hindrance to personal development.

Anxiety is a familiar feeling for the imposter, especially in evaluative settings (Ross et al., 2001; Thompson, Davis & Davidson, 1998). Although, since the literature suggests that imposters are in large part successful individuals, many are presumed to be quite capable of performing under stress. Yet a solid performance under any circumstance provides little respite from the imposters' pervasive fears, as inevitably all imposters anxiously await the challenges forthcoming with uncertainly about their ability to replicate previous successes (Clance & O'Toole, 1988).

From a mental health point of view, the imposter phenomenon coincides with a number of negative outcomes. The imposter phenomenon has been positively linked to measures of depression (Street & Lester, 2000; Chrisman et al., 1995), generalized anxiety (Cozzarelli & Major, 1990; Ross et al., 2001) , and eating disorders (Bardone-Cone et al., 2010; Striegel-Moore et al., 1997) and negatively related to a general measure of mental health (Sonnack & Towell, 2001). On well-being, the imposter phenomenon has also been related to lower satisfaction (Thompson, Davis & Davidson, 1997) and higher discrepancy scores on the Affect Balance Scale (ABS) (Chrisman et al., 1995). Altogether, it is apparent that the imposter phenomenon entails quite a large degree of suffering.

Patterns that Reinforce IP

The imposter phenomenon is self-perpetuating. Clance and O'Toole (1988) outlined what is referred to as the "imposter cycle", a process whereby imposters inadvertently maintain their assumed identities as 'intellectual frauds'. This cycle is expressed in the following way:

First, imposters are faced with an important project or task. The task is immediately appraised as a threatening test of ability. This causes anxiety for the imposter, as it is feared his or her incompetence may be exposed in the event of failure. The imposter reacts to this anxiety in one of two ways: by taking a time-consuming perfectionist approach to the task to minimize the chance of failure; or if the sense of threat is too aversive, by procrastinating on the task only complete it in a last-minute, frenzied manner.

Upon completing the task, positive feedback is received. However, the imposter denies that success had anything to do with his or her ability. If the imposter over-prepared, then success is attributed to hard work. Alternatively, if the imposter procrastinated, then success is viewed as accidental or lucky. These conditions only reinforce the imposter's deep-seated belief that his or her achievements are not a true reflection of personal ability, or lack thereof. The cycle then repeats itself.

Evidence of the imposter cycle goes beyond Clance and Imes' (1978) initial qualitative observations. For instance, a number of empirical studies have documented the compulsive work habits of the imposter. King and Cooley (1995), for example, reported a significant positive correlation between the imposter phenomenon and time spent on academic endeavors, whereas other studies have identified other elements of perfectionism in the imposter phenomenon (e.g. Ross & Krukowski, 2003; Thompson et al., 2000). Procrastination and other self-handicapping behaviours have been linked to the imposter phenomenon in the works of Corzelli and Major (1990), Cowman and Ferrari (2002) and Want and Kleitman (2006). And the imposter's tendencies to discredit personal successes have been reported in the works of Cherpas (1988) Chrisman et al. (1995) and Thompson et al (2000).

In addition to the imposter cycle, Clance and Imes (1978) have identified two other types of behaviour that they believe act to strengthen imposter feelings. It is posited that, for the imposter, the function of these behaviours is to garner validation of the self. This is achieved by gaining the approval of others by means of impression management.

First, Clance and Imes (1978) noted that many imposters report withholding their own true ideas and opinions in interactive settings, even when prompted to do so. Instead, they will opt to say what it is they think will please others most, especially in the presence of important others, such as superiors or respected colleagues. They engage in "intellectual flattery", so to speak; believing their own ideas hold less merit by virtue of their origin.

Although imposters truly do doubt their abilities, another side of them feels special, bright, and capable. Imposters yearn to be recognized for their intelligence. This desire is so compelling that they will go to great lengths just to impress others. The second type of behaviour Clance and Imes (1978) identified involves the use of social perceptiveness and charm to win the favor of people they judge to be important. They note that imposters typically exhibit a pattern of seeking approval from a respected or admired other, only for that person to be discredited in the imposter's eyes once approval has given. The imposter reasons that, "any person who believes me to be intelligent must either be a bad judge of intelligence or unintelligent them self". Nevertheless, the imposter will inevitably seek out new sources of approval, only to repeat the same pattern over again.

The behaviours outlined above indicate that imposters requires constant validation from others, particularly from those whom they respect or are in some way their superior. When positive feedback is given, however, imposter ultimately find reasons to refute it. The imposters' need for validation is insatiable, apparently.

The Etiology of IP

It is evident that the imposter phenomenon is markedly resilient. Once it takes hold, it is difficult to shake, and many of the compensatory behaviours imposters turn to for relief end up reinforcing or even worsening their state. While understanding the conditions that maintain the imposter phenomenon is paramount to understanding the construct as a whole, understanding its origins is equally important for the same reason. Indeed, much attention has been given to the etiology of the imposter phenomenon in the literature. A review of the research suggests that it is within the child's family-of-origin where the imposter phenomenon sets its roots, and that societal and situational factors may act to either trigger or exacerbate the condition.

Clance and Imes (1978) were the first to suggest that the imposter phenomenon may originate from early experiences with the family. From their research, they extrapolated two common scenarios from childhood in which the imposter phenomenon seems to take shape. In both scenarios, it is ridgid roles and labels assigned by the family that incite imposter feelings; the imposter phenomenon results when there is discrepancy between the child's own self-view and a particular identity foisted upon the child by the family.

In the first scenario, the child grows up with a sibling or cousin who is acknowledged as the one and only intellectual member of the family (Clance & Imes, 1978). By default, the child is thus granted the consolatory role as the socially skilled or sensitive one in the family. Implicitly, the child learns that intelligence is not what he or she is valued for. This child, however, would still have been rather bright during his or her formative years and would have been made aware of it through sources outside the family.

These conflicting messages confuse the child about his or her about their intellectual status. Imposter patterns begin to emerge. A part of the child is convinced by the family's

prophecy, but there is competing desire to prove the contrary. The child goes on to achieve at a similar rate as his or her intellectual counterpart in the family, but the family still does not offer fair recognition of the child's capabilities. Hence, the fledgling imposter continues to achieve while failing to internalize a healthy sense of personal competence.

The second scenario observed by Clance and Imes (1978) is, in essence, the reverse of the first, in that the eventual imposter is the child who is praised as the intellectual of the family. This child's precocity is celebrated by the family. Within the family, stories are told of how the child mastered many skills with ease. Over time, the child internalizes the idea that intelligence is equated to mastery without effort.

The reality is, of course, is that success seldom comes without challenge. And the child will inevitably face this reality. As the child's standards for success increases with age, so too does the effort required to meet them. The more effort needed to stay ahead, the more the child begins to doubt the family's estimation of his or her natural abilities. Imposter thoughts start to emerge. The child will think, "If I was truly smart, I would not have to try so hard to succeed." In spite of growing doubts, the child feels pressure to live up to expectations imposed by the family.

Much of the quantitative research connecting the imposter phenomenon to the early family dynamic has examined correlations between the imposter phenomenon and the Family Environment Scale (FES; Moos & Moos, 1986). This line of research indicates that the imposter phenomenon is linked to greater achievement orientation within the family (King & Cooley, 1995), low family cohesion and expressiveness, and high family conflict and control (Bussotti, 1990). Indeed, King and Cooley's (1995) finding lends support to Clance and Imes' observations implicating achievement-related messages in the development of imposter patterns. Meanwhile, results from Bussoti (1990) help further illuminate the imposter's early family environment;

suggesting it is one that lacks social and emotional closeness, has a high degree of hostility between members, and imposes strict rules and regulations on children.

Beyond family-based explanations, it has also been argued that the imposter phenomenon is elicited by wider social and situational factors. Harvey (1985) suggested that the imposter phenomenon is related to "how you feel about a particular role you are playing" (pp.5). With this, Harvey is referring to the idea that the imposter phenomenon is provoked by the perception that a role one is playing is largely inconsistent with one's own self-view.

For instance, Harvey (1981) has shown that people who believed their vocations were atypical for their gender and ethnicity were likely to feel like imposters. This is something that occurs when one holds a position that is traditionally held by members of an out-group (e.g. a female in a male dominated field), suggesting that one's social identity may contribute to the expression of imposter feelings in a process similar to Steele's (1995) notion of stereotype threat.

Harvey (1985) has also posited that the imposter phenomenon can be spurred on by new and unfamiliar roles. New roles take time before they are integrated into a cohesive self-concept (Donahue, Robins, Roberts & John, 1993). Harvey argues that it is during this adjustment period when people are particularly prone to imposter feelings. This is especially the case when one is hastily thrust into a role in which he or she must play the part of an expert, such as when one receives an unexpected promotion for example.

Harvey's overall position reflects the general idea that being an imposter constitutes a particular feeling of inauthenticity in one or more roles the person has assumed. However, this account the imposter phenomenon casts a much wider net than most other definitions offered in the literature. While the imposter phenomenon surely does involve a sense of false self-expression, the majority of studies would suggest that this sense is specifically derived from the

imposter's fear that he or she is inadequate for an assumed role. From the imposter's point of view, then, the feeling is not just, "I do not belong here", but rather, "I'm afraid I'm not good enough to be here."

IP and Goal Pursuit

The purpose of this study is to understand the nature of the imposters' continued motivation to achieve in spite of self-doubts about their competence. In doing so, of course it is important to consider what the research currently says about imposters in relation to the goals they pursue, how they react to social feedback, their strategies for self-presentation, and, finally their self-esteem. Current findings in each of these areas have strong implications for how the imposter phenomenon may be linked to self-esteem fragility, as well as, Gray's (1972) notion of BIS and BAS.

Given that the imposter's most salient concerns all in some way pertain to achievement, it follows that the imposter phenomenon should be examined in relation to goal theory. Goal theory posits a fundamental distinction between performance goals and mastery goals (Elliot & McGragor, 2001). The former consists of pursuits that are ego-dependent in nature, where success is measured against some external criteria, such as grades or social feedback; the later involves goals that are more intrinsically motivated, where success is determined based on internal standards (Elliot & Dweck, 1988).

Performance goals are maladaptive for a number of reasons. They result in less sustained effort over time, feelings of helplessness in the face of challenge (Dweck & Legget, 1988), and lower ratings of psychological well-being (Kaplan & Maehr, 1999). Individuals who habitually pursue performance goals are quick to fixate on their perceived inadequacies when faced with obstacles, as each challenge is considered a potential threat to the ego. On the contrary, a mastery

orientation to goal pursuit is considered to be adaptive in that it leads to outcomes opposite to those brought about by performance goals.

Studies by Langford (1990) and Kumar and Jagacinski (2006) examined relationships between the imposter phenomenon and goal-orientation. Both studies demonstrated that imposters are inclined toward performance goals. Such findings are in agreement with what is known about the competitive nature of imposters at the interpersonal level and their apparent indifference for environmental mastery (September et al., 2000). Given their high need for social recognition and approval, imposters would appear to be especially motivated to position themselves ahead of whomever they might reference as competition. It seems reasonable to infer that this type of competitive mentality might orient the individual toward the adoption of performance goals.

Indeed, the typical imposter is clearly motivated to achieve. Claims of the imposters' achievement driven nature are supported not only by real world observations of their tendency to attain exceptionally high educational and professional statuses (Clance and Imes, 1978), but also by various empirical measures of self-report. For instance, Kolligan and Sternberg (1991) reported a positive correlation between their Perceived Fraudulence Scale- an alternative measure of the imposter phenomenon- and the achievement pressure scale, indicating that imposters tend to perceive greater pressure to achieve from others compared to non-imposters; and Ross et al. (2001) reported positive correlations between the Clance Imposter Phenomenon Scale (CIPS)and the hypercompetitive attitude scale, suggesting that imposters have a strong appetite for "winning" and have a highly sensitive aversion to failure.

The imposters' achievement motivation is believed to be linked with their strong desire to look smart and gain the approval of others (Clance and Imes, 1978). It is likely that such desires

emanate from the imposter's larger motive to bolster his or her feelings of self-worth (Langford & Clance, 1993). The imposter is overly reliant on external feedback for gauging his or her value as a person; this, in contrast to the healthy individual who derives a sense of self-worth from within. For that reason, imposters are characteristically high self-monitors (Kolligan & Sternberg, 1991) and publicly self-conscious (Striegel-Moore et al., 1993), both of which are traits that entail heightened sensitivity to social cues.

Provided that the imposters' sense of self-worth depends so heavily on external sources of evaluation, it should be expected that they would show greater reactions to self-relevant information, both negative and positive. Results of a study by Thompson et al. (1997) suggest that this is only partly the case, indicating that imposters were more aversely affected by negative performance feedback than non-imposters, but no different from non-imposters on their reactions to positive feedback. Like others with low self-esteem, imposters are known for internalizing failure and externalizing success (Chae et al., 1995; Clance & Imes, 1978; Topping & Kimmel, 1985). It is possible that reactivity to negative feedback may be amplified by the imposters' apparent readiness to perceive self-relevance in failure. And though one might expect imposters to be less reactive to positive feedback on account of their inability to take ownership for their success, the results of Thompson et al. (1997) might reflect a balance between that, and the imposters' feeling that success is absolutely critical.

With their feelings of self-worth at stake, imposters place themselves under immense pressure to succeed, so much so that it is harmful to many aspects of their lives. In addition to the maladaptive nature of their goals, the manners in which imposters pursue those goals are equally as harmful. Both fear of failure and uncertainty in one's abilities are closely related to the imposter experience. Such dubious thoughts can cause significant distress for imposters,

especially in achievement situations. As a reaction to this many imposters will adopt perfectionist (Thompson, Foreman & Martin, 1999; Ferrari and Thompson, 2006) and self-handicapping behaviours (Ross et al., 2001; Want and Kleitman, 2006) in order to minimize the potentially damaging effects of failure.

IP and Self-Esteem

It is apparent that self-esteem plays a critical role in the imposter phenomenon. As evidenced by a number of correlational findings, a clear link between the imposter phenomenon and low-self-esteem exists (e.g. Chrisman et al., 1995; Cozarelli & Major, 1990; Topping & Kimmel, 1985; Ross & Krukowski, 2003; Sonnack & Towell, 2001). That imposters generally lack self-esteem would appear be congruent with many of their characteristic thoughts and behaviours; such as fearing and avoiding evaluation, as well as, making self-deprecating attributions for success and failure outcomes. On the contrary, however, one might consider the imposter's overwhelming drive to achieve to be counter-indicative of someone who lacks self-esteem *in whole*. Since imposters seem to be so highly motivated to achieve, it would be reasonable to expect that they must at some level possess belief in their abilities.

Research on the imposter phenomenon to date has limited itself to the question of whether imposters generally hold themselves in high or low regard (i.e. high or low self-esteem). In the past two decades, however, scholarly conceptualizations of self-esteem have shifted away from its original construal as a single dimensional quality that varies only in terms of its level, to a construct that is multifaceted in a number of important ways.

Kernis (2005) showed that individual differences exist in the degree to which people experience short-term contextually dependent fluctuations in self-esteem. Such differences, as Kernis' work has demonstrated, predict a host of behavioural patterns and psychological

outcomes (e.g. Kernis, Cornell, Sun, Barry & Harlow, 1993; Kernis, Grannemann & Barclay, 1992; Waschull & Kernis, 1996). In addition, Greenwald and Banaji (1995) distinguish between implicit and explicit self-esteem. Studies have shown that implicit and explicit self-esteem each vary uniquely within individuals and their relative differences are predictive of many meaningful outcomes (e.g. Bosson, Brown, Zeigler-Hill & Swann, 2003; Greg & Sedikides, 2010; Zeigler-Hill & Terry, 2007). Last, Crocker and her colleagues have noted that people differ in the extent to which they base their self-worth on outcomes in specific life domains (Crocker & Knight, 2005; Crocker & Wolfe, 2001. These facets of self-esteem have never been explored in relation to the imposter phenomenon. Hence, knowledge of how self-esteem operates within the imposter dynamic is largely incomplete.

It is held that people are motivated to protect and enhance their self-esteem. Self-esteem regulating motives are thought to underlie much behaviour. In some situations, self-enhancement and self-protection motives may in many cases be served by similar behaviours (e.g. self-handicapping). In others situations the two motives lead to very different paths (Baumeister, Tice & Hutton, 1989).

In achievement situations, for example, people must choose between pursuing relatively safe goals for which the chance of failure is low, and more ambitious goals where the chance of failure is high. When self-esteem is invested, there is a risk versus reward trade-off inherent to goal pursuit. The motive to self-protect would orient the individual to goals that are easily attainable. This way the individual's self-esteem remains intact. Alternatively, the motive to self-enhance would have the individual pursue more challenging feats, as gains in self-esteem can only be made this way.

The self-enhancement motive is typically exhibited among individuals with high self-esteem (e.g. Bosson, Brown, Ziegler-Hill & Swann, 2003; Brown, Collins & Scmidt, 1988) and less so among individuals with low self-esteem (e.g. Brown et al., 1988). Initially, it was argued these differences emerged because of an inherent motive to seek confirmation of one's existing self-views to maintain a consistent self-image. This idea would be proved false (Aronson & Carlsmith, 1962; Maracek & Mettee, 1972), however, as it has since been determined that the desire to feel good about oneself is practically universal.

Performance expectations may determine whether one chooses self-protection or enhancement strategies. McFarlin and Blascovich (1981) demonstrated that while low self-esteem individuals wish for success just as much as high self-esteem individuals, low self-esteem individuals were merely less willing to strive for high achievement because they lack confidence in their abilities (as cited in Baumeister et al., 1989). Still, the underlying motivation for both groups is to optimize feelings of self-worth.

Imposters demonstrate a number of tendencies indicative of their low self-esteem. Most obviously, they fear failure, self-deprecate, and show signs of poor adjustment. However, unlike what is typically observed among people with low self-esteem, imposters appear to endorse both self-enhancing and self-protective strategies for self-esteem regulation. It is evident that the imposter's typical patterns are not merely symptomatic of low self-esteem, but instead may indicate a more complex dynamic of self-evaluation. Hence, exploration of the other facets of self-esteem in relation to the imposter phenomenon is certainly warranted.

Self-esteem fragility. Kernis (2005) uses the term "self-esteem fragility" to capture the essence of self-esteem instability, discrepant self-esteem, and contingent self-worth. On the whole, self-esteem fragility is meant to reflect insecure feelings of self-worth. Its three separate

markers each provide a unique perspective on the mechanisms that underlie such tenuous self-regard.

In addition, Kernis et al. (2000) theorized that self-esteem fragility is but one aspect of the self-system that reflects whether a person has a strong or weak sense of self overall. Campbell et al.'s (1996) measure of self-concept clarity taps into this larger self system and the extent to which it is secure or fragile. In the present study, the self-concept clarity is treated as another indicator of self-esteem fragility. Thus the author uses the term self-esteem fragility to refer to Kernis' original markers of fragility and (poor) self-concept clarity, inclusively.

Following a review of the literature it would appear self-concept fragility accounts for many of the tentative behaviours that characterize imposters. Hence, the present study looked for a direct relationship between self-concept fragility and the imposter phenomenon. What follows will be an extensive review of the four separate components of self-concept fragility.

Self-esteem instability. Self-esteem instability refers to the extent to which a people experience contextually dependent, short-term variability in their feelings of self-worth (Kernis, 2005). A stable sense of self-esteem reflects feelings of self-worth that are well-anchored and well-internalized, far removed from the banality of the day-to-day. Unstable self-esteem is highly malleable or "suggestible" by contrast. For the person with unstable self-esteem, feelings of worth are constantly subject to the valence of the immediate situation. Self-esteem stability, then, is a measure of one's self-involved reactivity to everyday situations and events- a measure that may predict many characteristic motivations and behaviours of the seemingly tentative imposter.

People with stable and unstable self-esteem differ primarily in their sensitivity to self-relevant information. For people with unstable self-esteem, feelings of self-worth will spike and dip in a manner that corresponds to positive and negative daily events; this is because people

with unstable self-esteem tend to perceive greater self-relevance in everyday situations (Grenier et al., 1999). In fact, Kernis (2005) has noted that people who have unstable self-esteem are so sensitive to self-relevant information, that they often will judge events to be self-relevant even when they are not.

A major corollary of self-esteem instability is an excessive concern with the approval of others. A number of findings support this assertion. For instance, studies by Kernis and his colleagues have linked self-esteem stability to increased public self-consciousness (Kernis et al., 1992) and externally regulated behaviour (Kernis et al., 2000). In addition, Grenier et al. (1999) found that people with unstable self-esteem more easily recall negative events that involve social rejection. Altogether, these results suggest that when self-esteem is unstable, goal-oriented behaviour and subsequent feelings of self-worth are both largely driven by how the individual feels he or she is perceived by others.

Given that self-esteem instability entails heightened receptiveness to self-relevant information and social feedback, it is logical to presume that more ego-oriented concerns would prevail among those affected by it. Externally driven behaviours are said to be derived from self-esteem protection and enhancement motives (Plant & Ryan, 1985; Ryan & Deci, 2000). This connection supports the assertion that people with unstable self-esteem are highly ego-involved.

Research examining self-esteem enhancement and protection as a function of self-esteem stability and level has yielded complex findings. What has emerged is a rather pervasive self-esteem level X stability interaction effect. This effect has been demonstrated across a number of studies with various criterion variables. Theoretical considerations and empirical findings are discussed in the following paragraphs.

Stability aside, it has been generally found that people with high self-esteem engage in self-enhancing strategies, while their counterparts with low self-esteem do not. However, since positive feelings toward the self are most vulnerable among individuals with unstable self-esteem, it would make sense that individuals with high and unstable - compared with other self-esteem types would use self-enhancing strategies with the most frequency.

Studies by Kernis and his colleagues show that this is indeed the case. In one study, it was shown that following positive feedback people with high-unstable self-esteem were most likely to make self-enhancing excuses so their performance on an experimental task would seem more impressive (Kernis et al., 1992). In another study, individuals with high-unstable self-esteem were most likely to embrace positive and reject negative feedback (Kernis et al.,1993).

By definition, individuals with low-unstable self-esteem do sometimes feel better about themselves relative to others. Thus logic would have it that they must be doing something to prevent a continuous negative self-view. To date, however, there is no concrete evidence to suggest that individuals with low-unstable self-esteem self-enhance anymore than their stable counterparts. In an attempt to explain these surprising non-findings, Kernis (2003) proposed that low-unstable self-esteem may be related to more subtle, indirectforms of self-enhancement, such as in-group favouritism and passive downward comparison. This explanation is appealing, as several studies not concerned with stability have suggested that low self-esteem individuals overall seem partial to these forms of self-enhancement (e.g. Brown et al., 1988; Gibbons & McCoy, 1991).

Like self-enhancing strategies, greater self-protection should also result from greater self-esteem instability. Indeed, self-esteem that is vulnerable should be closely guarded, regardless of

its level. However, this expectation of a main effect of instability on self-protection has received only partial support in the research.

Again, it is people with high-unstable self-esteem that demonstrate the greatest commitment to self-protection. Perhaps the most powerful example of this is found in Kernis et al.'s (1993) feedback reaction study, where it was shown that people with high-unstable self-esteem were more likely to attempt to discredit or deride individuals who judged them negatively. Similarly, another study found that high-unstable self-esteem was positively associated with self-reported anger and hostility (Kernis, Granneman & Barclay, 1989), both secondary emotions derived from perceived threats (Zeigler-Hill, 2006).

Evidence of self-protectiveness among people with low unstable self-esteem is mixed. For instance, on one hand, Kernis et al. (1992) found having low-unstable self-esteem is related to greater reports of self-handicapping following failure. Yet in a separate study, Kernis et al. (1993) found that people with low-unstable self-esteem were the least likely to disagree with negative feedback, showing no signs of self-protective resistance or denial. Hence, the expected self-regulatory patterns among people with low unstable self-esteem are dubious at best.

A number of factors have been identified to account for why individual might possess unstable self-esteem. Early psychodynamic theorists (see Fenichel et al., 1945) spoke of 'reactive state self-esteem' as indicative of dependent personalities; similarly, Rado (1928) discussed the excessive reliance on love and approval from significant others as a maintenance strategy for precarious self-esteem (as cited in Butler, Hokanson & Flynn, 1994). More recent research has associated self-esteem instability with an overreliance on external validations of self-worth (e.g. Morf & Rhodewalt, 2001) and low self-concept clarity (Kernis et al., 2000).

and the imposter phenomenon alike, the magnitude of reactivity is largely dependent on the valence of the feedback provided.

With self-esteem instability, the type of feedback that one is most reactive to would seem dependent upon the individual's self-esteem level. Specifically, positive feedback has been shown to have the most positive impact on individuals with high-unstable self-esteem; this is likely because they are inclined to exaggerate the importance of their success for the purpose of self-enhancement. Individuals with low unstable self-esteem, however, do not show greater than usual increases in self-esteem following positive feedback; it is speculated that they are reluctant to bolster their self-esteem to levels they could not conceivably justify or defend. Negative feedback, on the other hand, appears to be the most damaging to people with low unstable self-esteem. Since self-esteem instability is characterized by vulnerable feelings of self-worth, this pattern is not unexpected. People with high unstable self-esteem, however, do not appear to be as thwarted by negative feedback; this is likely so due to their greater use of self-protective strategies.

Imposters would appear to show similar patterns of feedback reactivity to people with low-unstable self-esteem. That is, imposters seem to be excessively derogated by negative feedback but relatively non-responsive to positive feedback (Cozzareli & Major, 1990; Thompson et al., 1998). Intuitively, this pattern of responding is likely explained by the imposters' tendency to internalize and generalize their failures while externalizing their successes. The imposters' characteristically low self-esteem provides solid grounds to expect their patterns in feedback response, and in general, to resemble those specifically linked to having low unstable self-esteem.

Having a more tenuous self-concept may be at the heart of both the imposter phenomenon and self-esteem instability. For the imposter phenomenon, this idea was proposed by Leonard and Harvey (2008), who believed that imposter behaviour was invoked by perfectionist-like attitudes coupled with a weakly held self-concept. For self-esteem instability, Kernis et al. (2000) reported a negative correlation with Campbell's measure of self-concept clarity, indicating confused, conflicted and variable self-knowledge among people with unstable self-esteem.

In coping with a poorly defined self-concept, individuals must rely more heavily on social feedback to evaluate their worth. As a corollary, it is acknowledged that with the imposter phenomenon and self-esteem instability alike, individuals show greater tendencies to seek approval from others. In fact, the desire to be recognized has been identified as a critical component of the imposter experience.

It stands that there is an incredible degree of overlap in themes emerging in both the imposter and stability literature. Indeed, self-esteem instability would appear to inspire the same tenuous behaviour that is typical of imposters. In addition, the literature indicates qualitative differences in the way self-esteem instability is expressed when accompanied by high and low self-esteem. Given the already established link between the imposter phenomenon and low self-esteem, it is inferred that low-unstable self-esteem may be an even more important component of the imposter phenomenon. Therefore, it is hypothesized that self-esteem instability should positive predict the imposter phenomenon even after controlling for the effect of self-esteem level. An instability and level of self-esteem interaction effect is also hypothesized, as instability should be most positively related to the imposter phenomenon among individuals with low-self-esteem.

Contingent self-worth. Contingent and unstable self-esteem are conceptually quite similar. Like self-esteem instability, contingent self-worth is also thought to involve feelings of self-worth that are heavily invested in the outcomes of specific self-relevant events (Crocker, Brook, Niiya & Villacorta, 2006). The two constructs are also equally important in terms of their similar implications for ego-involved behaviour (Crocker et al., 2006; Deci & Ryan, 1995; Grant & Dweck, 2003), which is what links them both to the imposter phenomenon.

Contingent self-worth specifically refers to staking one's feelings of self-worth in selected performance outcomes (Deci & Ryan, 1995). That is, contingent self-worth is based on whether individuals live up to personal or externally imposed standards of worthiness. Contingent self-worth is, hence, the antithesis of "true self-esteem" which, according to Deci and Ryan (1995), is more solidly based and stable.

Contingent self-worth is considered to be fragile because it requires continuous validation for its maintenance. Individuals with contingent self-worth are highly motivated to prove they possess the qualities which form the basis of their self-esteem. This claim has been supported by studies which have established a clear relationship between contingent self-worth and the adoption of self-validating goals (Park, Crocker & Vohs, 2006). Goals that are self-validating involve the demonstration of one's ability relative to others (i.e. norm-referenced ability). With successful self-validation the individual effectively boasts his or her most cherished traits and abilities, while failed attempts at self-validation indicate the individual lacks these coveted qualities (Crocker et al., 2006).

It comes as a rather obvious observation that any goal described as self-validating would, in the context of achievement goal theory, be analogous to a goal that is performance-based. In that respect, it can be said that both contingent self-worth and the imposter phenomenon predict

the same relative pattern of ego-involved goal-pursuit. Therefore, with contingent self-worth and the imposter phenomenon alike, the desire to affirm one's abilities would appear to be of paramount importance in the larger pursuit of self-acceptance.

The life domains in which people base their self-esteem vary between individuals. Guided by previous research and theory, Crocker and colleagues have identified seven discrete domains on which college students commonly base their self-worth: academics, appearance, approval from others, competition, family support, religion, and virtue. In pursuing positive self-feelings, individuals will invest their efforts toward the separate domains in which they stake their self-worth. For example, research shows that people whose self-esteem is contingent on appearance are likely spend more time exercising, and that people whose self-esteem is contingent on academics are likely to spend more time studying, and so on (Crocker, 2002).

Interestingly, there is no solid research indicating whether imposter feelings are typically limited to specific life domains, or if they are experienced more globally. Traditionally, writings on the imposter phenomenon seem to focus on its manifestation in situations requiring some display of intellectual competence- either academically or professionally; whether this accurately captures the whole of the imposter experience or is simply an artifact of the population and context in which it is studied cannot be determined at this point. Given the current evidence though, it seems fair to presume that the imposter phenomenon is mainly activated by the perception that one's skills and abilities are in some way under public evaluation. Thus, it is presumed, here, that imposter feelings are centered on the individual's sense of competence. What remains inconclusive, though, is whether all domains of competence may be subject to imposter feelings, or whether imposter feelings are reserved for intellectual considerations specifically. The answer to this question, however, is beyond the scope of this study.

According to the model of contingent self-worth, contingent domains are the greatest potential source of positive self-feelings, but are also where people are most vulnerable. That is to say, success in a contingent domain should trigger punctuated increases in self-esteem, though failure in the same domain should deflate one's self-esteem on an equal scale (Crocker, 2002). This idea has been qualified by the results of Crocker, Sommers & Luhtanen (2002) which found that having academic-contingent self-esteem was associated with greater boosts to self-worth on learning of admittance to graduate school and greater declines following rejection.

With the imposter phenomenon, though, greater emotional reactivity has been shown to occur primarily following negative outcomes (Thompson et al, 1998). Specifically, imposters do not show any more positive emotion than normal in light of positive feedback, but tend to overreact upon receiving negative feedback. This pattern is consistent with results published in the self-esteem instability literature, which found that heightened emotional and behavioural reactivity to positive and negative events was moderated by global self-esteem level, such that among individuals with unstable self-esteem, those with high self-esteem tended to overreact to positive events while those with low self-esteem tended to overreact to negative events. This pattern may well exist for with contingent self-esteem also, but there is no research to date to support this claim.

Research shows that motivation based on contingent self-worth, though powerful in the short-run, is associated with a high degree of stress (Crocker et al., 2006). In a study of college freshman, for example, Crocker and Luhtanen (2003) found that students with high academic contingent self-esteem reported more daily hassles at the conclusion of their first year, including more time pressure, poor satisfaction with their abilities, conflicts with instructors, and less interest in their courses (as cited in Crocker et al., 2006). In another study on adolescents, global

contingent self-worth was found to be correlated with anxiety and depression scores on the Psychopathology Questionnaire (Bos, Huijding, Muris, Vogel & Biesheuvel, 2010). It is natural that contingent self-worth would involve more daily pressure, as each performance or behaviour is more critical when its impact on self-esteem is direct and significant. Indeed, the prevalence of self-validating goals in the behavioural repertoire surely would be taxing over time.

The imposter phenomenon, too, has also been noted for its stress inducing effects. Numerous links have been made between the imposter phenomenon and stress (e.g. Henning, Ey & Shaw, 1998; Oriel, Plane & Mundt, 2004), anxiety (e.g Kolligan & Sternberg, 1991; Topping & Kimmel, 1985), and depression (e.g. Kolligan & Sternberg, 1991; Street & Lester, 2000) in various demographics. In one particular study, the imposter phenomenon was found to be associated with burnout among medical students in residency (Legassi, Zibrowski & Goldszmidt, 2008), strongly suggesting that that people who experience the imposter phenomenon impose and/or perceive a higher grade of stress in their achievement strivings. It is certainly evident that imposters experience a greater than normal amount of stress in their lives, and a strong possibility that this is the case because imposters are perpetually concerned with how their performance or behaviours might reflect their competence and impact their self-esteem.

In light of the evidence, it seems to be reasonable to suspect that contingent self-worth may account for the imposters' ego-oriented goal-pursuits and outcome reactivity. Research shows that with the imposter phenomenon, as with contingent self-worth, there is a strong tendency to pursue goals to affirm one's most valued competencies, which in the long run seems to result in emotional and cognitive exhaustion. King and Cooley's (1995) research on the family history of the imposter provides extra support to this notion, in which it was found that imposters are likely to have come from achievement-oriented families. This suggests that from an early age

imposters may have been socialized to derive self-esteem from specific competencies emphasized by the family. There is a distinct possibility that contingent self-worth and the imposter phenomenon are, indeed, related.

It is hypothesized that global contingent self-worth, as indicated by total scores on the Contingencies of Self-Worth Scale (i.e. the sum total of all contingency domains), will positively predict the imposter phenomenon, even after controlling for the effect of self-esteem level. While it appears that no contingent self-worth and self-esteem level interactions have been reported in previous studies, an interaction effect will tested in the present study, with the expectation that contingent self-esteem will more positively predict the imposter phenomenon among individuals with low self-esteem. This prediction is made in light of Kernis' (2005) conceptualization of contingent self-esteem as a marker of self-esteem fragility.

Discrepant self-esteem. An extensive amount of research has been dedicated to understanding how the unconscious mind influence a person's attitudes. Attitudes represent favourable or unfavourable judgements toward objects, such as issues or persons. Of particular interest to this study, is how the unconscious mind operates on peoples' attitudes toward themselves, or in other words, their self-esteem.

The ontology of the implicit attitude is still rather underdeveloped; however, Epstein's (1994) cognitive experiential theory may provide an initial framework toward its understanding. Epstein proposes that people have two interacting models of information processing, one that is rational, and one that is emotionally driven and largely experiential. The rational model is conscious and deliberate, and is reflective of more higher-order processing; whereas emotional processing mostly occurs outside human awareness. These two systems of information processing correspond with two separate realities of human experience, one cognitive and one

experiential; both of which include schemas about the self, which in turn, would appear to interact in their generation of self-regulatory behaviour.

Implicit attitudes are the product of past experiences of which the conscious mind is seemingly unaware. The existence of implicit attitudes is evidenced in a number of research initiatives demonstrating that attitudes can be triggered by subliminal stimuli, and can be in such a rapid fashion that conscious processing is precluded. Subsequent research has shown that these implicit attitudes can affect a wide range of human behaviour (e.g. Greenwald & Banaji, 1995).

Implicit self-esteem is considered a "self-specific" implicit attitude. While implicit attitudes correspond generally with past experiences, implicit self-esteem corresponds with past experiences that have some perceived relevance to the self (Greenwald & Banaji, 1995). Like other implicit attitudes, implicit self-esteem is activated outside the grasp of the conscious mind; instead, it is automatic, over-learned, and unconscious. The psychological importance of the implicit self-esteem has been well documented in recent literature, as its relative levels within people have been shown to have far-reaching implications (e.g. de Jong, Sportel, de Hullu & Nauta, 2012; Jordan, Whitfield & Ziegler-Hill, 2007).

Given that until recently attitudes were presumed to operate mostly on a conscious level, direct self-report measures have been used almost exclusively for their assessment. Implicit attitudes, by contrast, require indirect measures (Grenwald & Banaji, 1995). Traditionally, indirect measures have had a place in psychological research largely to reduce demand characteristics and the effects of self-presentation. However, quite apart from their usual use, indirect measures, according to Grenwald and Banaji (1995) are theoretically essential for studying unconscious thought.

The task of measuring implicit self-esteem comes with considerable challenge. Provided that implicit self-esteem is largely an abstract concept, its operationalization involves giving shape to a hypothetical structure of the mind that cannot be seen nor accessed through introspection; it is something that merely tugs at our strings from the depths of our emotional core. Given its enigmatic nature, then, it should come as no surprise that there is little consensus on a single strategy for measuring the implicit self-esteem construct.

The literature has seen a number of separate assessment tools developed to measure implicit self-esteem(i.e. the Implicit Association Task (IAT), Initials-Birthday Preference Task, Implicit Self-Evaluation survey, Supraliminal Attitude Prime Task, Subliminal Attitude Prime Task, Stroop Colour Naming Task, and Ambiguous Statements Task; Bosson, Swann & Pennebaker, 2000). While each method used to measure implicit self-esteem is unique in its own right, they all seem to rest on the principle that attitudes can be primed by exposure to attitude-laden objects, which then impact behaviour in some quantifiable way. What makes these measures appear so different on the surface is that each test involves the presentation of different attitude-laden objects (e.g. valenced words, phrases, numbers, etc.) as stimuli and the recording of different behaviour as a response (e.g. attitude ratings, reaction time scores, word completion etc.).

With the intent of providing a clearer understanding of the construct Bosson et al. (2000) performed a comprehensive evaluation of the various "idiosyncratic" strategies for measuring implicit self-esteem. Their study revealed many problematic areas in the measurement of implicit self-esteem. Most glaringly, different measurement tools for implicit self-esteem showed very poor convergent validity, as intercorrelations among them ranged from -.14 to a modest .23

This poses a rather large conundrum for implicit self-esteem research, as it would appear that the tools designed for its study are simply not measuring the same underlying construct, or at the very best, are measuring different dimensions of a crudely understood construct.

The self-esteem IAT and initials-birthday preference task stand out as the only tests to demonstrate an acceptable degree of test-retest reliability over time, a desirable property given that implicit self-esteem is thought to be automatic, overlearned, and hence resistant to change. Moreover, the self-esteem IAT and the initials-birthday preference task were also the only two measures to meet any of the authors' subjective criteria for predictive validity. These results suggest that the self-esteem IAT and the initials-birthday preference task may be the most effective measures available for tapping implicit self-esteem.

In spite of the inherent challenges operationalizing implicit self-esteem, the construct has certainly earned its place in self-psychology over the past decade. Implicit self-esteem is theoretically and empirically distinct from its explicit self-reportable counterpart, and there is a growing body of research linking implicit self-esteem to a wide range of psychological and behavioural outcomes independent of, or in combination with explicit self-esteem. This shows that, while the structure of implicit self-esteem is not yet fully defined, the tools designed for its measurement still detect meaningful and consequential differences between people, whatever those differences they may be.

A handful of studies have demonstrated that implicit self-esteem has predictive validity separate from explicit self-esteem. Spalding & Hardin (1999), for instance, showed that implicit and not explicit (self-reportable) self-esteem predicted interviewer ratings of non-verbal anxiety during clinical interviews. Similarly, Franck, De Raedt & De Houwer (2007) showed that after controlling for depression levels at baseline measurement, implicit and not explicit self-esteem

was predictive of subsequent depression levels at a 6 month follow up. Last, Aidman and Carroll (2003) found that implicit and not explicit self-esteem was related to same sex favouring of male and female oriented words. Together, each of these studies provide evidence that implicit self-esteem has consequences for psychological functioning that are entirely independent of explicit self-esteem.

There is typically congruence between a person's implicit and explicit self-esteem levels. However, this is not always the case. A number of research initiatives have been focused on the outcomes of having uneven levels of implicit and explicit self-esteem (i.e. discrepant self-esteem). What the research shows is that discrepant self-esteem predicts many of the same psychological consequences of self-esteem instability and contingent self-worth (e.g. narcissism, emotional volatility, defensiveness), all of which underscored by high ego-involved self-regulation.

While it is known that people can simultaneously hold conflicting attitudes and beliefs in virtually every domain, research shows that such dissonance is often unpleasant and leads to undesirable outcomes (Wheeler, Brinol & Petty, 2006). For that reason, it is believed that people are motivated to resolve discrepancies in their thinking, whether self-relevant or otherwise. Wheeler, Brinol and Petty (2006) demonstrated that people engaged in more effortful deliberation of self-relevant information when the information was related to an area in which there was discrepancy. It is presumed that such purposeful processing of discrepancy-related information was reflective of the persons' efforts to minimize the dissonance in their attitudes and beliefs.

Much attention has been given to people with high-discrepant self-esteem in the literature. High-discrepant is marked by high levels of explicit, but low levels of implicit self-

esteem. A number of studies have linked this type of self-esteem to a narcissistic style of self-promotion. In this context, self-promotion is likely a compensatory measure for feelings of insecurity.

On direct self-enhancement, studies have investigated the effects of discrepant self-esteem on self-ratings and self-serving beliefs. In one study, participants were asked to rate the desirability of several written personality profiles, and then asked to rate the extent to which they self-identified with each profile. Results showed that individuals with high-discrepant self-esteem were most likely to self-identify with positively rated profiles (Bosson, Brown, Ziegler-Hill & Swann, 2003). Similarly, by manipulating state-implicit self-esteem using a word priming technique, Kernis et al. (2005b, study 1) showed that self-enhancement, as measured by positive ratings of self-identified attributes, was greatest among individuals with high explicit self-esteem in the low state-implicit self-esteem condition. As evidenced in both studies, such self-serving attributions clearly indicate excessive efforts to bolster self-esteem among high-discrepant self-esteem individuals.

On indirect self-enhancement, studies have investigated the effects of discrepant self-esteem on participant ratings of others, and out-groups. For instance, Kernis et al. (2005b, study 2) had participants rate a job candidate's qualifications after observing a mock interview. Using the same state-implicit self-esteem induction, it was revealed that participants in the high-discrepant self-esteem rated the candidate's qualifications the most negatively on a number of dimensions.

Likewise, Jordan, Spencer and Zana (2005) explored racial discrimination among people with self-esteem discrepancies. In their study, a sample of Caucasian students was divided into experimental conditions, where they were each given scenarios in which a hypothetical student

had transgressed against another. The scenarios were identical in both conditions, with exception only to the offending student's name; name 1- John Proudfoot-was intended to convey a Native-American identity, whereas name 2- John Pride-was intended to convey a Caucasian identity. Participants then selected what they believed was the most appropriate punishment for the offending student. Among individuals with high-discrepant self-esteem, more severe punishments for the Native-American student compared to the Caucasian student were recommended. No differences were revealed for other self-esteem types.

While the literature seems to have focused largely on the acute personality and behavioural markers of high-discrepant self-esteem, there seems to be comparatively less interest in the psychological consequences of low-discrepant self-esteem. An extensive search of the literature yielded only a few published studies testing hypotheses explicitly concerned with low-discrepant self-esteem- two of which that are particularly relevant to the imposter phenomenon will be discussed in turn.

Schroder-Abe, Rudolph & Schultz (2007) explored implicit and explicit self-esteem in relation to attribution styles, nervousness, physical sickness, and anger expression as indicators of maladjustment. Interestingly, while the authors predicted that both forms of discrepant self-esteem (high and low) would predict maladjustment equally, individuals with low-discrepant self-esteem (e.g., those with high implicit and low explicit self-esteem) proved to be worse off on all counts.

As there has been considerable focus on the role of causal attribution in the imposter experience, the results of Schroder-Abe, et al., (2007) are of particular interest to the present research. The study revealed that people with low-discrepant self-esteem were most likely to exhibit what is considered to be a "depressive" or "self-defeating" attribution style, in that they

characteristically attribute negative outcomes to internal, stable, and generalized factors, whereas they attribute positive outcomes to external, temporary, and specific factors. This pattern of causal attribution mimics that which so essentially characterizes imposters.

Ziegler and Terry (2007) explored explicit and implicit self-esteem in relation to trait perfectionism. Theorizing that individuals high in implicit but low in explicit self-esteem should be exhibit overt compensatory behaviours to gain a more consistently positive self-view, the authors hypothesized that low-discrepant self-esteem would predict higher self-reported perfectionism. In line with their expectations, results showed that individuals with low-discrepant self-esteem did indeed tend to rate themselves higher on a composite measure of maladaptive perfectionism- comprised of the Concern over Mistakes, Parental Expectations, Parental Criticism, and Doubts about Actions subscales of the Multidimensional Perfectionism Scale (Frost, Marten, Lahart & Rosenblade, 1990).

The imposter phenomenon is, too, involves a number of perfectionist tendencies (Clance and Imes (1978). At the trait level, positive correlations have been reported between the imposter phenomenon and both the Perfectionistic Cognitions Inventory and Perfectionistic Self-Presentation Scale (Ferrari and Thompson, 2006). In addition, Thompson, Foreman and Martin (2000) found that imposters were more likely to report concern with mistakes made during an experimental task. Indeed, perfectionism is thought to be a fundamental component of the imposter phenomenon. Since low-discrepant self-esteem underlies perfectionism, then it may also underlie the imposter phenomenon in turn.

A strong link has been implicated between the imposter phenomenon and low-discrepant self-esteem though their shared associations with other constructs. Thus, it is hypothesized that low-discrepant self-esteem (high implicit, low explicit) will positively predict the imposter

phenomenon. That is, a significant interaction between implicit and explicit self-esteem is expected, such that implicit self-esteem will most positively predict the imposter phenomenon among individuals with low explicit self-esteem.

Self-Concept Clarity. Current conceptualizations of the self-concept draw distinctions between its self-evaluative and self-knowledge components. Whereas self-esteem is considered the product of the self-evaluative component of the self-concept, self-concept clarity refers to the structure of the knowledge component. Specifically, self-concept clarity is the "extent to which self-beliefs are clearly and confidently defined, internally consistent, and stable" (Campbell et al., 1996). If the self-concept is poorly articulated the person will be more sensitive to external evaluative information, contributing to self-esteem fragility (Kernis et al., 2000) and, as is expected here, concomitant imposter tendencies.

To bring the concept of clarity into better focus, Campbell and her colleagues refer to its similarity with other, more traditional constructs. Identity is one such construct with which the concept of clarity significantly overlaps. The passage through various stages of identity formation (e.g. Erikson, 1955) can be viewed as partly analogous to the process by which people progress from poor to adequately defined self-concepts. However, as Campbell et al. (1996) have noted, the theory of identity formation recognizes discrete stages, each of which is delineated by qualitatively rich and nuanced elements, which renders the process, as a whole, difficult to operationalize. By contrast, self-concept clarity is a one dimensional construct. Campbell et al. (1996) also point to a number of other similar constructs that are narrower in focus compared with self-concept clarity, such as Rosenberg's (1965) self-concept stability, role variability (Block, 1991), and self-consistency (Gergen & Morse, 1961) among others in the literature.

Self-concept clarity, much like other structural concepts (e.g. self-complexity, compartmentalization, etc...), is neither dependent, nor reflective of one's actual self-knowledge (Campbell et al., 1996). Any particular set of self-beliefs may be organized in any number of ways. In other words, the same self-knowledge may be construed with varying degrees of complexity and held with varying levels of confidence. Therefore, self-concept clarity is not a function of the actual content which comprises the self-concept, but rather, it refers to how well that content is schematically organized to provide a coherent self-view.

An important corollary of clarity and self-knowledge independence is that clarity is oblivious to the accuracy of self-knowledge. Self-beliefs, notwithstanding their falsehood, may still be held with strong, articulated conviction. Thus, self-concept clarity does not necessarily entail well calibrated self-knowledge or keen personal insight. For example, someone who is unskilled may be falsely convinced of his or her competence (see: "Dunning-Kruger effect"; Kruger & Dunning, 1999); this sense of competence may be patently etched into the self-concept with no consequence to clarity.

Research with the Self-Concept Clarity Scale (SCCS; Campbell et al., 1996) has underlined several negative consequences of possessing an ill-defined sense of self. For example, low clarity has been associated with neuroticism and ruminative self-attention (Campbell, 1996) social comparison, depression, and anxiety (Butzer & Kuiper, 2006), poor subjective well-being (Ritchie, Sedikides, Wildschut, Arndt & Gidron, 2011), and self-handicapping (Thomas & Gadbois, 2007). Indeed, these findings lend to the conclusion that uncertainty of the self breeds a specific self-conscious style of maladaptive thought and behaviour.

In addition, several important findings with respect to self-esteem have been documented in the self-concept clarity literature. For instance, beginning with the premise that low self-

esteem is related to greater susceptibility to self-relevant social cues (see: Brockner, 1983) and is related to several traits under the negative affectivity umbrella, Crocker (1990) proposed and supported the hypothesis that low self-concept clarity is a concomitant of low self-esteem; a finding which has been found consistent with subsequent research (e.g. Crocker et al., 1996; Wu, 2009). Kernis (2000) later extended this logic to his work on self-esteem stability; like Brockner and Campbell before him, he reasoned that if self-knowledge is confused or conflicted it is less likely to provide consistent input into one's thoughts and behaviours- thereby promoting greater variability in responses to immediate self-salient cues (Kernis et al., 2000). Results of Kernis et al. (2000) showed that low concept clarity is, in fact, also associated with greater self-esteem instability.

Dissonance within the self-concept would appear to be a central component of the imposter phenomenon. Imposters are very much assumed to be internally conflicted. From Clance and Imes' (1978) proposition that imposter feelings are incited when family labels and internal beliefs are in disagreement, to Harvey's (1985) suggestion that imposter feelings arise from identity-role incongruence, it would seem that when the sense of self is sufficiently disrupted, susceptibility to the imposter phenomenon is a serious possibility.

Though the idea of insecurity or lack of clarity is seldom discussed explicitly in the imposter literature, it is a latent theme that underscores several different research initiatives. Research linking the imposter phenomenon to self-handicapping (e.g. Want & Kleitman, 2006), self-monitoring (Harvey, 1981), and public self-consciousness (Striegel-Moore et al., 1993) all lend to the interpretation that imposters have tenuous self-views. Moreover, a study by Leary et al. (2000) found that when asked to predict their score on an upcoming test, imposters reported significantly higher scores when told their predictions would be confidential rather than public.

These findings are indicative of a more tentative brand of self-confidence reflecting poorly structured self-knowledge.

Indeed, uncertainty in one's self-beliefs would appear to be an important precursor to the imposter phenomenon. This brand of uncertainly is adequately captured by the self-concept clarity construct. Therefore, it is hypothesized here that self-concept clarity will negatively predict the imposter phenomenon. That is, higher degrees of imposter feelings are proposed to be affiliated with a lower sense of clarity in self-knowledge and evaluation. Connecting the imposter phenomenon to the construct self-concept clarity should offer greater insight into the imposters' conflicting self-beliefs and motivations.

Behavioural Inhibition and Activation Systems

The constructs previously reviewed in relation to the imposter phenomenon centered on notions of the self. Quite separate from the self literature, the origins of the Behavioural Inhibition and Activation Systems (BIS and BAS) are in Grey's Reinforcement Sensitivity Theory (RST) (Gray, 1970; Gray, 1978), which quantifies personality in terms of the individual's sensitivity to cues of punishment and reward in the environment. The imposter phenomenon is seen as the result of a maladaptive personality (Ross & Krukowski, 2003). Thus, if BIS and BAS truly do regulate personality, then it is logical to implicate them in the etiology of the imposter phenomenon.

RST states that BIS and BAS are responsible for motivation (and behaviour), affect and ultimately personality traits. These two systems are defined in terms of their sensitivity to environmental stimuli. BIS is sensitive to signals of punishment. It elicits anxiety and other forms of negative affect (Smillie, Dalglesh & Jackson, 2007), which leads to the avoidance of behaviours that are expected to lead to negative consequences. On the contrary, BAS is sensitive

to signals of reward. It triggers positive affect when rewards are anticipated and approach behaviour directed at obtaining those rewards.

Much of the literature on RST has attempted to explain the Gray's dimensions of BIS and BAS with reference to Eysenck's highly influential and pioneering biological model of personality. In fact, Eysenck's model may be considered the basic framework from which RST was modified. Eysenck originally proposed that extraversion and neuroticism as the two basic dimensions of personality. His model was depicted by two lines intersecting at 90 degrees representing the two orthogonal dimensions (and four quadrants) on which personality could be mapped. Extraversion, he believed, was controlled by activation thresholds in the ascending reticular activating system- a proposition which proved to be fundamentally flawed- while neuroticism was thought to result from activity in the limbic system (Corr, 2004). In Gray's (1970) publication, he proposed several changes to the structure of Eysenck's model as well as alternative explanations for the neurological of the basis of personality. This proposal would form the basis of RST.

Gray (1970) argued that Eysenck's dimensions of extraversion and neuroticism were essentially derivatives of the more fundamental BIS and BAS systems. It was proposed that the dimension of extraversion resulted from a balance of BIS and BAS (i.e. extraversion= –BIS +BAS; introversion= +BIS –BAS), whereas neuroticism (i.e. general arousability) reflected their combined effects (i.e. neuroticism= +BIS +BAS; emotional stability= –BIS –BAS). However, in response to physiological evidence suggesting that cues of punishment are, on average, more arousing than cues of reward, Gray proposed that the dimensions of BIS and BAS should not contribute equally to the evocation of extraverted and neurotic behaviour. Visually, then, Gray's dimensions of punishment and reward sensitivity represent a 30 degree counter-clockwise

rotation from the extraversion and neuroticism dimensions in Eysenck's model (as illustrated in figure *1*; Corr, 2004).

Although RST has had a profound impact on the field of personality, evaluations of its central postulates have yielded rather bewildering results (Smillie, Dalgleish & Jackson, 2007). While the balance of evidence seems to fall in favour of RST and its predictions, contradictory findings are by no means in short supply. As a result of these unexpected findings, Gray's original theory underwent major revision with the publication of Gray and McNaughton's (2000)

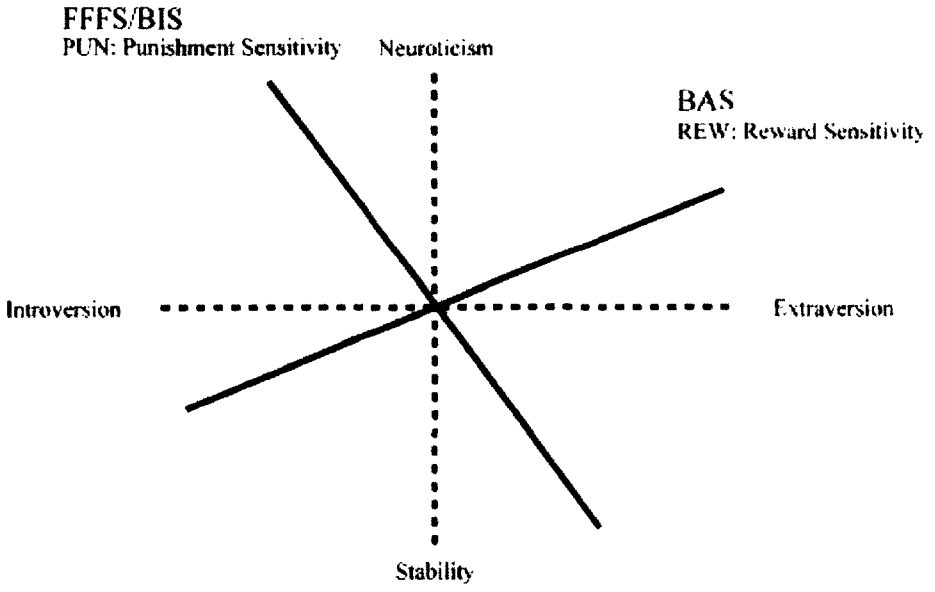

Figure 1. Positioning of BIS/FFFS and BAS in relation to Eysenck's dimensions of extraversion and neuroticism (Corr, 2004).

second edition book on the "Neuropsychology of Anxiety". Though RST in its revised form may well prove to be better fitted to experimental results, unfortunately, to date, studies on the validity of its predictions have been scant (Berkman, Lieberman & Gable, 2008). That being the case, it is important to note that most theoretical discussions of BIS and BAS, including this one, refer to the two systems specified in the original RST model.

Currently , the bulk of RST research is conducted using Carver and White's (1994) BIS and BAS scale, which was designed to assess BIS and BAS strength according to the original RST model (Smillie, Pickering & Jackson, 2006). The scale is comprised of a single subscale for measuring BIS strength and three separate subscales for measuring BAS strength: a) Reward Responsiveness- reflecting the degree to which rewards lead to positive affect; b) Drive- reflecting one's appetitive-goal orientation; and c) Fun-Seeking- reflecting one's tendency to pursue stimuli for the sake of excitement. The separate BAS subscales each reflect divergent theoretical discussions on the manifestation of BAS activity (Carver & White, 1994). This four subscale (factor) solution has been supported by factor analyses with a variety of samples (Caver & White, 1994; Jorm et al., 1999).

The remainder of this review will center on research that links BIS and BAS activity to various patterns associated with the imposter phenomenon. The review will highlight that while BIS activity appears to be unequivocally related to many imposter-like patterns, the relationship beween the imposter phenomenon and BAS activity is far less certain. In light of mixed evidence on the possible involvement of BAS strength in the imposter-prone personality, it will nevertheless be argued that imposters, by virtue of their strong achievement-orientation, are likely predisposed with a higher degree of BAS strength relative to non-imposters.

Virtually all accounts of the imposter phenomenon behaviour emphasize the imposter's apprehensive nature. Heightened BIS activity is thus strongly implicated in the imposter-prone personality. Indeed, the putative outputs of BIS are identified in many patterns associated with the imposter phenomenon at the behavioural, emotional, and trait levels. Such unanimous findings beg the conclusion that the imposter phenomenon must be impelled by a high degree of BIS activity.

At the emotional level, the imposters' propensity to negative affectivity strongly implicates BIS' involvement. RST holds that BIS is responsible for the elicitation of anxiety and, more broadly, negative affect. It is known that high anxiety is a common issue with the imposter phenomenon and that negative affectivity is also a strong positive correlate. In addition, the imposter phenomenon has also been associated with more specific negatively charged feelings like guilt and humiliation. These links clearly lend to the conclusion that BIS activity may be exceptionally high among imposters.

At the behavioural level, the imposters' pervasive fears manifest as avoidant behaviours. Imposter fears directly motivate behaviour aimed at preventing the object(s) of those fears from materializing. It is known, for instance, that imposters are more likely than non-imposters to adopt performance-avoid goals (Kumar & Jagacinski, 2006), meaning that they are likely to avoid situations that may result in negative judgements of their competence. Consistent with this notion are findings of the imposters' proclivity toward self-handicapping and perfectionism. As discussed in a previous section of this paper, self-handicapping allows for face-saving excuses in the event of failure, whereas perfectionism involves taking all possible measures to minimalize chances of failure and conceal perceived shortcomings. Indeed, this defensive brand of self-presentation that imposters seemingly cling to is surely reflective of their strong sensitivity to punishment.

At the trait level, too, there is strong evidence connecting BIS activity with the imposter phenomenon. RST fundamentally states that the Eyesnckian traits introversion and neuroticism are primarily the result of strong BIS activity. Research has also consistently demonstrated that introversion and neuroticism are, likewise, related to the imposter phenomenon (Langford & Clance, 1993). Moreover, recent RST research indicates that the imposter's characteristically low

self-esteem may, in part, also be a function of higher BIS activity (Erdle & Rushton, 2010; Heimpel, Elliot & Wood, 2006).

Certainly, a great deal of the imposter experience is traceable to the imposters' chronic fear of being judged below some self-prescribed standard of competence. Imposters fear evaluation, failure and exposure of perceived ineptitude and ample evidence shows that they often behave accordingly. It stands that a significant portion of imposter phenomenon, then, may be explained in simple terms by their strong sensitivity to punishment. Hence, the expectation that strong BIS activity may play a significant role in the imposter phenomenon appears well substantiated. Therefore, it is hypothesized here that the imposter phenomenon will be positively predicted by BIS activity.

Unfortunately, evidence linking BAS to the imposter phenomenon is not nearly as decisive. Indeed, the imposters' strong desires for success and consequent patterns of achievement certainly indicate at least some degree heightened BAS activity. However, other patterns of emotion, behaviour, and trait expression thought to be fundamental outputs of BAS functioning are simply not demonstrated by imposters. The nature of the relationship between BAS functioning and the imposter phenomenon is, thus, comparatively more complex.

The position taken here is that, on account of their strong achievement driven nature, higher BAS activity must be a constituent of the imposters' personality make-up. In addition to qualitative observations suggesting that imposters are typically highly accomplished individuals (Clance & Imes, 1978; Clance & O'Toole, 1988), empirical research has also demonstrated that they are highly competitive (Ross et al., 2001) and tend to adopt more performance-approach goals compared to non-imposters. Two important conclusions are drawn from these findings: first, it is clear that imposters are concerned with outperforming others; second, it is likely that

the desire to do so is underscored by need to demonstrate ability rather than the fear of revealing inability. It is highly likely, then, that many of the imposters' achievement initiatives are a function of appetitive, BAS-driven motivation.

If high BAS activity is positively related to the imposter phenomenon, it is logical to expect that other outputs of BAS would likewise be observed among imposters. On the contrary, fundamental indications of BAS activity such as positive affectivity, extraversion, and impulsivity are actually found to be negatively or otherwise not related to the imposter phenomenon. In addition, the imposters' characteristically low self-esteem may also signal low BAS activity (Heimpel et al., 2006). The failure to observe these crucial outputs of BAS in the imposter phenomenon casts serious doubt over the supposition that the two constructs are related.

That contradictory evidence exists on linking BAS to the imposter phenomenon relationship is by no means considered unusual. In actuality, the BAS construct has a history of producing results both inconsistent and incompatible with theory. For instance, a number of studies have failed to establish empirical links between BAS and impulsivity (Franken & Muris, 2006; Smillie et al., 2007), the very trait that according to theory most closely reflects BAS functioning. What's more, Carver (2004) showed that BAS positively predicts greater emotional reactivity (i.e. frustration) in response to the omission of an expected reward. These findings are truly contradictory to the central tenets of RST on the expression of BAS activity. In light of findings such as these, it is generally conceded that the original RST does not provide a good enough account of how appetitive motivation maps onto various traits and emotional dispositions.

Inconsistent findings on tests of RST's central postulates on BAS have led to many revisions of the original theory, one example of which is Corr's (2000) joint subsystems hypothesis. Rather than viewing BIS and BAS as independent motivational systems exerting their own separable effects, as was stipulated in RST's original form, Corr (2004) has argued that the two subsystems are constantly interacting to effect behaviour. Essentially, the joint subsystems hypothesis specifies that both BIS and BAS exert both facilitory and antagonist effects; specifically, BIS facilitates responses to aversive stimuli and antagonizes responses to appetitive stimuli, whereas the opposite is true of BAS.

An important stipulation of the joint systems perspective is that many patterns of behaviour originally thought to be related to one subsystem only should be considered the result of BIS and BAS' joint influence. Consequently, as joint subsystems BIS and BAS may potentially confound statistical tests seeking to establish bivariate links between a single subsystem and its hypothetical output. It is reasonable to imagine, for example, that many effects of BAS might not be observed in a high anxiety sample. That is to say, a strong influence from BIS might effectively suppress certain indicators of BAS functioning (and vice versa). From this, it can be inferred that high BAS activity may still play a role in the imposter phenomenon, despite the failure to observe certain BAS-related dispositions in the imposters' personality.

BAS functioning reveals itself in a number of different patterns. It is assumed here that more direct manifestations of BAS (e.g. approach motivation) are less susceptible to suppression from BIS, as compared to BAS correlates that may be considered secondary (e.g. positive emotionality). If imposters are, in actuality, characterized by high BIS and high BAS functioning, then their patterns of appetitive motivation in the absence of positive emotionality, extraversion and proper self-esteem may not be such an anomaly after all.

It is proposed here that evidence of BAS functioning among imposters is most likely to take the form of raw achievement motivation, and not the positive emotions that generally result from the attainment of reward. While one might argue that positive emotions and appetitive motivation and somewhat mutually dependent, the position taken here is that it is the anticipation of positive feelings (or a reduction of negative feelings), rather than the experience itself, that drives goal oriented behaviour. The emphasis is that it is not a must for the individual to be emotionally influenced by the actual attainment of reward in order to be driven toward it. This is almost certainly true of imposters who reflexively disqualify the positive implications of their hard-earned achievements.

Carver and White's BAS subscales include fun-seeking, drive and reward responsiveness. Upon visual inspection of the items belonging to these subscales, it is apparent that the assessment of BAS fun-seeking and reward responsiveness is largely dependent on the extent that the respondent perceives a connection between his or her own positive emotions and various cues of reward; the assessment of BAS-Drive, however, would appear not to be influenced by the respondent's emotional susceptibilities.

The imposters' characteristic drive to achieve must be a function of high BAS activity. However, with the inhibiting effect of high anxiety, it is believed that emotional evidence of BAS activity in the imposter population is simply undetectable or negated entirely. Therefore, proposing that the imposter phenomenon is related BAS fun-seeking and BAS reward responsiveness would be far too optimistic. Since BAS drive would appear to tap into BAS output that is purely behavioural, its theoretical link with the imposter phenomenon is much stronger. Therefore, it is hypothesized here that the imposter phenomenon is positively predicted by BAS drive, but is unrelated to BAS fun-seeking and reward responsiveness.

Overview of the Current Study

The objective of the present study is to shed light on the imposter's paradoxical pattern of success-striving in the face of self-doubt. Previous studies have linked the imposter phenomenon to low self-esteem. However, it is proposed that the imposter may also have fragile and ambivalent self-views, which require constant validation from external sources. This may explain the imposter's desire to be, or at least appear successful. It addition, it is believed that the imposters conflicting motives to be optimally successful while minimizing the chances of failure may represent significantly strong sensitivities to both cues of reward and punishment. The present study therefore tested the following hypothesis:

1) The imposter phenomenon should be significantly predicted separately by each marker of fragile self-esteem, even after controlling for individual differences in explicit self-esteem level. These markers include a) self-esteem instability, b) discrepant self-esteem, c) contingencies of self-worth, and d) poor self-concept clarity.
2) Given that reliable qualitative differences are observed in way fragile self-esteem is expressed in high and low self-esteem individuals, it is expected that self-esteem level would moderate the effect of self-esteem fragility on the imposter phenomenon, such that fragility was expected to have a stronger positive effect on the imposter phenomenon among individuals with low self-esteem.
3) The imposter phenomenon should be positively predicted by BIS and BAS-Drive.

Method

Participants

Participants were 312 students at Carleton University. The sample was recruited through the Carleton University SONA participant pool and with recruitment posters located throughout the university campus. 73% of the participants were female. The mean age of the sample was 21 years, with participants' ages ranging from 17 to 60. Participants came from a variety of majors: 74.3% arts and social sciences, 13.2% natural sciences and math, 3.8% engineering and industrial design, 2.1% computer science, 2.1% undeclared, 1.7% business, 1.7% journalism, and 1% fine arts.

Measures

The imposter phenomenon: The Clance Imposter Phenomenon Scale (CIPS; Clance, 1985). The CIPS is a 20 item self-report survey designed to measure the extent to which the respondent has thoughts and feelings that are characteristic of the imposter phenomenon. The items assess various imposter patterns, including: attributing of success to external or temporal causes, disregarding positive feedback, feeling like one has deceived others into overestimating oneself, feeling less capable than one's peers, fear of evaluation and failure, and the desire to be special (Langford & Clance, 1993). Items are rated on a 5-point likert scale ranging from 1 "not true at all" to 5 "very true", and include statements like, "Sometimes I'm afraid others will discover how much knowledge or ability I really lack" and "At times, I feel my success has been due to some kind of luck". The respondent's total score is the sum of his or her scores on all the items is. Total scores may range from 20 to 100. Scoring guidelines suggest total score cut-offs at 40 or less for respondents with few imposter characteristics, 41-60 for respondents with moderate imposter experiences, 61-80 for respondents with frequent imposter feelings, and 80 or

more for respondents with intense and enduring imposter experiences. The CIPS has been deemed suitable for use with both clinical and non-clinical samples (Holmes, Kertay, Adamson, Holland & Clance, 1993) and has shown good internal reliability, with reported Cronbach alphas ranging from .92 to .96 (Holmes et al., 1993; Chrisman et al.,1995). The scale's validity and other psychometric properties have been supported in a number of studies (e.g. Holmes et al., 1993; Chrisman et al, 1995; French, Ullrich-French, & Follman, 2008)

Explicit self-esteem: The Rosenberg self-esteem scale (RSES; Rosenberg, 1965). The RSES is a widely used 10 item self-report measure of global self-esteem. Each item is a statement concerning self-worth and/or self-acceptance. Items are rated on a 4 point scale ranging from "strongly agree" to "strongly disagree", and include statements like "On the whole, I am satisfied with myself" and "I take a positive attitude toward myself". The sum of all items is the respondent's total score. Total scores may range from 10 to 40; higher total scores indicate higher self-esteem. The theoretical midpoint of the RSES is a total score of 25; though a sample of the Canadian general population recorded a mean score of 30.22 with a standard deviation of 4.69. The Cronbach alpha obtained from the sample was .80 (Schmitt & Allik, 2005). High indices of internal reliability are generally consistent across samples. The test-retest reliability coefficient for a 2 week period was .85 (Silbert & Tippet, 1965), indicating scores are fairly stable over time.

Implicit self-esteem: Convergent validity between different implicit self-esteem measures is generally low (Bosson, Swan, and Pennebaker, 2000). Therefore, two measures of implicit self-esteem were be included in the present study so each of their results in relation to the RSES and CIPS could be compared. The measures were included on the bases of their previously

demonstrated predictive utility and their temporal stability relative to other measures of implicit self-esteem.

The Self-Esteem Implicit Association Test (IAT; Greenwald & Farnham, 2000) was one of the measures administered. The self-esteem IAT is a computer-based categorization task that measures the participant's automatic associations of self-relevant and non-self-relevant words with pleasant and non-pleasant words. For each trial a target word appeared in the center of the computer monitor. Participants were instructed to classify the target word as quickly as possible as a "self" versus "non-self" word or a "pleasant" versus "unpleasant" word.

A total of 7 blocks of trials were run. Blocks 1, 2 and 4 were practice blocks where the categorization task concered only one dichotomy (i.e. self versus non-self only, or pleasant versus unpleasant only). Blocks 3 and 6 were practice blocks where the categorization task concerned both dichotomies (i.e. self versus non-self and pleasant versus unpleasant). Blocks 5 and 7 were the experimental trials, where the task was identical to blocks 3 and 6. All practice blocks consisted of 20 trials each; the experimental blocks consisted of 40 trials each. The participant's implicit self-esteem score is a function of the mean response time for the me-pleasant block subtracted from the mean response time for the me-unpleasant block. Thus, scores reflect the degree of automaticity with which participants associate pleasant versus unpleasant words with the self. The test-retest correlation coefficient for the IAT is .69 (Bosson, Swan, and Pennebaker, 2000).

The Initials Preference Task (IPT; Stieger, Voracek & Formann, 2012) was the other implicit self-esteem measure used. Participants were instructed to rate their personal preference for each letter of the alphabet on a scale from 1 "Strongly Dislike" to 10 "Strongly Like". Preference scores were calculated by taking the participant's mean rating for his or her first and

last initials and subtracting by his or her mean rating of all other letters in the alphabet. The greater the preference shown for one's own initials, the greater one's implicit self-esteem. This measure is based on the principle that people tend to more favourably evaluate stimuli associated with the self as an automatic, unconscious expression of implicit self-esteem. Test-retest correlation coefficients for the initials preference task range from .56 (at 7 day follow up; Rudolph et al., 2008, Study 1) to .68 (at 183 day follow up; Rudolph et al., 2008, Study 2).

Self-esteem instability (statistical): To compute an index of self-esteem instability, repeated measures of a modified version of RSES (RSESm) were taken. The modified RSES differed from its standard version in two ways: first, written instructions directed participants to base their responses to the scale items based on how they felt about themselves at the *exact moment of testing*, as opposed to how they *generally* felt about themselves day-to-day; second, the range of possible responses for each item is expanded from a 4-point to 10-point likert scale. These modifications allowed for greater test-retest variability in self-esteem scores. The index of self-esteem instability was the within-person standard deviation of modified RSES scores taken over time, such that larger values indicated greater instability. This approach to measuring self-esteem instability was informed by Kernis et al (1992).

Self-esteem instability (self-reported): Participants identified the extent to which they anticipated their responses to each item of the RSES might change on a day-to-day basis. Possible responses range from 1 "little to no change" to 5 "extreme change". The sum of all items was the respondent's total score. Higher scores indicated greater self-reported instability. This approach to measuring self-reported instability was informed by Kernis et al (1992).

Contingent Self-Worth: The Contingencies of Self-Worth Scale (CSWS: Crocker, Luthanen, Cooper & Bourvette, 2003). The CSWS is a 35 item self-report survey designed to

assess the degree to which individuals base their self-worth on seven separate domains (i.e. academic competence, appearance, approval from others, competition, family support, God's love, and virtue). Items are rated on a 7 point likert scale ranging from 1 "strongly disagree" to 7 "strongly agree, and include statements like "When I think I look attractive, I feel good about myself" (appearance), and "I don't care if other people have a negative opinion about me" (others' approval). Crocker et al. (2003) reported Cronbach alphas ranging from .82 (academic competence & others' approval) to .96 (God's love); test-retest reliability coefficients ranged from .59 (academic competence & family support) to .88 (God's love) after a 5.5 month follow-up.

Self-Concept Clarity: The Self-Concept Clarity Scale (SCCS; Campbell et al., 1996). The SCCS is a 12 item self-report survey designed to assess the extent to which the individual's self-beliefs are confidently expressed and internally and temporally consistent. Items are rated on a 5-point likert scale ranging from 1 "strongly disagree" to 5 ''strongly agree", and include statements like, ''Even if I wanted to, I don't think I could tell someone what I'm really like", and "My beliefs about myself often conflict with one another". Higher scores reflect greater clarity. Campbell et al. (1996) reported an average Cronbach alpha of .86 from three independent samples; the average test-retest correlation coefficient was .75 from two independent samples after four and five month follow-ups respectively.

Behavioural Inhibition and Activation Systems (BIS/BAS): BIS and BAS scales (Carver& White, 1994). The BIS and BAS scales are a combined 20 item self-report measure designed to assess the respondents' relative sensitivity to the behavioural inhibition and activation systems. Items are rated on a 4-point likert scale ranging from 1 "very true for me" to 4 "very false for me", and include statements such as, "Even if something bad is about to happen to me, I rarely

experience fear or nervousness" (for BIS) and "I go out of my way to get things I want" (for BAS-Drive). The measure is comprised of 1 scale measuring BIS sensitivity and 3 scales measuring the BAS subcomponents of Reward Responsiveness, Drive, and Fun Seeking. Total scores are the sum of the items that correspond with each scale, respectively. Some items are reverse coded. Obtained from a large community-based sample, Cronbach alphas were .76 for BIS, .83 for BAS, .65 for reward responsiveness, .80 for drive, and .70 for fun seeking (Jorm et al., 1999).

Self-Deception Enhancement and Impression Management: The Balanced Inventory of Desirable Responding (BIDR; Paulhus, 1991). The BIDR is a 40 item self-report survey designed to assess the extent to which respondents tend to misrepresent themselves on self-report measures by responding in a socially desirable manner. The BIDR consists of two subscales, one for *self-deceptive enhancement* and the other for *impression management*. Items are rated on a 7 point likert scale ranging from 1 "not true" to 7 "very true", and include statements like "I am a completely rational person" (for self-deceptive enhancement) and "Once in a while I laugh at a dirty joke" (for impression management). Some items are reverse coded. For scoring, items rated with 6s and 7s (i.e. extreme ratings) are each given a score of 1, while items rated with numbers less than 6 are each given a score of 0. Total scores are comprised of the number of items given a score of 1. Cronbach alphas range from .67 (for SDE) to .85 (for IM).

Procedure

The entire study was administered online with Qualtrics survey software. Participants were emailed links to access two separate online surveys. The first survey included all measures

listed in the previous section[1], except the RSESm. To prevent fatigue from confounding the self-esteem IAT results, participants completed the self-esteem IAT first, followed by the Achievement Goals Questionnaire, the BIDR, the BIS/BAS Scales, the CIPS, the CSWS, the Multidimensional Perfectionism Scale, the RESES, self-reported stability, the IPT, and the SCCS- in that sequence. The second survey included the RSESm only. To obtain and index of self-esteem instability, participants were instructed to complete the second survey twice a day, on fixed 12-hour intervals, over any consecutive four day period.

Data Cleaning and inclusion criteria. Data was imputed for missing values. On scales for which a participant completed at least 80% of the items, the items left blank were substituted for the participant's average score for the other items. When participants completed less than 80% of a scale, their data for that particular scale was excluded from the analysis.

Random responding appeared to be an issue with the IPT. 55 participants assigned the same rating to each letter of the alphabet. These participants were considered non-compliant, and their IPT data was excluded from the analysis.

Data from the self-esteem IAT was excluded from the analysis entirely. The dataset contained a great number of extremely long latency scores for individual trials, many in excess of 10 seconds. It is possible that this was due to technical problems with the software used to administer the IAT (i.e. slow loading times between trials). Alternatively, it may have represented a compliance issue with participants.

[1] The Achievement Goals Questionnaire-Revised (Elliot & Murayama, 2008) and the Multidimensional Perfectionism Scale (Frost, Marten, Lahart &Rosenblate, 1990) were also administered during the initial testing session for future research considerations.

Results

In the present study, the imposter phenomenon is characterized as an abnormal pattern of success-striving in the face of intense self-doubt. Previous research suggests that the fragility of one's self-view may impel compensatory self-enhancing behaviours to balance out feelings of insecurity. Thus it was anticipated that fragility- as indicated by self-esteem instability, discrepant self-esteem, contingencies of self-worth, and (poor/low) self-concept clarity- would predict imposter scores.

In addition, several findings within the fragility literature suggest qualitative differences in the way fragility is expressed in the presence of high and low explicit self-esteem levels. Among individuals with low self-esteem, fragility tends to be associated with more subtle forms of self-enhancement that appear to be in line with imposter patterns. Thus, it was expected that the anticipated relationship between the imposter phenomenon and fragility would be moderated by the individuals' explicit self-esteem level, in that a more positive relationship between the two variables was posited among individuals with low self-esteem.

Finally, the imposters' approach to achievement goals appears to reflect a motivational style that is highly sensitive to punishment and highly appetitive at the same time; Grey's Reinforcement Sensitivity Theory (1972) states that BIS and BAS, respectively, are responsible for these separate motivational dispositions. Whereas BAS-Reward Responsiveness and BAS-Fun-Seeking do not seem to be implicated in any of the imposter tendencies, the opposite case has been made for BAS-Drive. Thus, it was expected that BIS and BAS-Drive would positively predict imposter scores.

Preliminary Analysis

Distributions of scores on most measures were approximately normal. However, a significant bimodal distribution emerged for self-reported stability. Still, all major assumptions of regression were fulfilled without any transformation to the predictor variables when testing the subsequent models.

Descriptive statistics and reliability coefficients for the imposter phenomenon and its predictors are provided in Table 1. The descriptive statistics in the present sample were generally comparable to those found in the literature (where comparisons were available). However, the mean score imposter score (M = 62.2) reported here was fairly high relative to those reported in other studies that employed student (e.g. Bernard et al., 2002: M= 52.6; Castro et al., 2010: M = 55.19; Cowman & Ferrari, 2002: M = 59.25; King & Cooley, 1995: M = 56.99; Kuman & Jagacinski, 2006: M = 55.99) and community samples (e.g. Holmes et al., 1993: M = 56.48; Want & Kleitman, 2006: M = 53). Guidelines for interpreting scores from the Clance Imposter Phenomenon Scale (CIPS) suggest that scores of 40 or less indicate that respondents have few imposter experiences; scores between 41 and 60 indicate moderate imposter experiences; scores between 61 and 80 indicate frequent imposter experiences; and scores of 81 and above indicate respondents often have intense imposter experiences (Clance ,1995). Thus, the average person in the present sample fell just above the cut-score for frequent imposter experiences.

Cronbach alphas ranged from .68 (for BAS-Drive and Fun-Seeking) to .92 (for CIPS and RSES). Such values indicate "minimally acceptable" to "very good" internal reliability, respectively (Devellis, 1991, p. 85). It is noted that the small number of items that comprise the BIS and BAS scales and the dichotomous scoring procedure for the Self-Deception Enhancement

(SDE) and Impression Management (IM) scales may account for their lower alpha coefficients relative to the other scales included in the study.

Table 1

Descriptive statistics and reliability coefficients for the imposter phenomenon and its predictors

	N	Min	Max	M	SD	α
CIPS	306	28	98	62.2	13.11	.92
RSES	292	6	40	26.9	7.12	.92
SR Instability	291	10	45	24.1	8.82	-
Instability	41	.53	13.7	4.3	3.25	-
IPT	237	-3.6	5.8	1.8	1.79	-
CSWS	300	49	140	96.8	15.8	.87
SCCS	288	13	60	35.9	9.26	.9
SDE	311	0	20	6.4	3.73	.75
IM	311	0	20	7.2	3.86	.76
BAS-Drive	307	4	16	11.4	2.37	.68
BAS-Fun Seeking	307	6	16	12.4	2.23	.68
BAS-Reward Responsiveness	307	11	20	17.6	2.19	.75
BIS	307	10	28	21.8	3.81	.78

Note: CIPS: Clance Imposter Phenomenon Scale, RSES: Rosenberg Self- Esteem Scale, IPT: Initials Preference Task, CSWS: Contingencies of Self-Worth Scale, SCCS: Self-Concept Clarity SDE: Self Deceptive Enhancement, IM: Implression Management

Given that much of the literature has focused on the prevalence of the imposter phenomenon in the female population, the effect of gender on the imposter phenomenon was tested. An independent samples t-test revealed a small but significant effect of gender on imposter scores, such that females (M = 63.17, SD = 13.12) on average reported higher imposter scores than males (M = 59.01, SD = 12.65), $t(224) = 2.34$, $p < .05$; d = .32. Although several other (quantitative) studies have reported similar gender differences with respect to the imposter phenomenon (e.g. King & Cooley, 1995; Kumar & Jagacinski, 2006; Oriel et al., 2004) it seems that the majority of studies have found non-significant differences between male and female scores (albeit females still generally score higher) (e.g. Bernard et al., 2002; Casselman et al., 2006; Castro et al., 2004; Chae et al., 1995; Cowman & Ferrari, 2002; Ewing, Richardson, James-Myers & Russell, 1996; Ferarri & Thompson, 2006; Fried-Buchalter, 1997; Thompson et al., 1998) with respect to the imposter phenomenon.

Likewise, given that the imposter phenomenon is said to be triggered by role transitions, the relationship between of "years enrolled in degree program" was examined with the anticipation that individuals newer to their degree program would report higher imposter scores. As anticipated, a small and moderately significant negative correlation was revealed between the two variables, $r(295) = -.10$, $p < .10$, indicating that individuals who have spent fewer years in their current degree programs were more likely to report imposter feelings. The relationship between of age and the imposter phenomenon was also investigated; a small but significant negative correlation was revealed between the two variables, $r(304) = -.16$, $p < .01$, indicating that older individuals were less likely to report imposter feelings.

Main Analysis

The imposter phenomenon as a function of explicit self-esteem level and fragility of self-view. A correlation matrix of fragility markers and the imposter phenomenon is displayed in Table 2. Markers of fragility were generally correlated amongst themselves in the directions expected, with correlation coefficients ranging from .5 to -.58 (all *p*s < .01). However, contingent self-worth was neither correlated with self-reported instability nor statistical instability. This finding runs counter to the assumption that commonality exists among all the identified markers of fragility.

Table 2

Correlations among self-esteem, markers of fragility, and the imposter phenomenon

	1	2	3	4	5	6	7	8	9
1. CIPS	-								
2. RSES	-.62**	-							
3. SR Instability	.31**	-.49**	-						
4. Instability	.58*	-.45**	.51**	-					
5. IPT	-.02	.30**	-.09	.50**	-				
6. CSWS	.42**	-.19**	.09	.15	.16*	-			
7. SCCS	-.62**	.69**	-.50**	-.58**	.09	-.38**	-		
8. SDE	-.05	.23**	-.17**	-.08	.24**	.04	.21**	-	
9. IM	-.01	.17**	-.18**	-.07	.14*	.16**	.13*	.52**	-

Note: *$p < .05$ **$p < .001$; CIPS: Clance Imposter Phenomenon Scale; RSES: Rosenberg Self-Esteem Scale; IPT; Initials Preference Task; CSWS: Contingencies of Self-Worth Scale; SCCS: Self-Concept Clarity Scale, SDE: Self-Deceptive Enhancement, IM: Impression Management

Importantly, implicit self-esteem was positively correlated with explicit self-esteem ($r = .30, p < .01$). This finding is highly desirable given the crucial theoretical link between the two variables. Implicit self-esteem was also positively correlated with statistical instability ($r = .5, p < .01$) and contingencies of self-worth ($r = .16, p < .05$). This relationship was unexpected since implicit self-esteem is considered an indicator of good adjustment. between IPT and CIPS). Last, all variables correlated with the imposter phenomenon in the directions expected, with significant correlation coefficients ranging from -.62 to .58 (all *p*s <.01; note that no relationship was hypothesized.

Structure of regression analyses: The imposter phenomenon, explicit self-esteem and self-esteem fragility. The framework presented in this study posits that explicit self-esteem level should moderate the effect of each fragility marker on the imposter phenomenon. To test these hypotheses, a series of stepwise regression analyses were run with explicit self-esteem level and each respective fragility marker entered as predictors of the imposter phenomenon at step 1, and the interaction term of the two predictors entered at step 2. Interaction terms represent the product term between two mean-centered predictors, as outlined in Cohen, Cohen, West and Aiken (2003). Significant interactions were analyzed by investigating simple slopes, depicted in Figures 1 and 2. The values used to generate each simple slope represents predicted CIPS scores at one standard deviation above or below the mean of each predictor variable. The significance of each simple slope was also tested, as discussed in Aiken and West (1991).

The imposter phenomenon as a function of explicit self-esteem level and self-reported instability. As expected, at step 1 the regression analysis revealed a main effect for explicit self-esteem level (b = -1.13), $t(288) = -11.46, p < .001$; $pr = -.56$, indicating the lower the

individuals' self-esteem, the higher their imposter score. However, contrary to expectations, no main effect was revealed for self-reported stability (b = .03), $t(288) = .34, p > .5; pr = .02$.

As anticipated, at step 2 the analysis revealed a significant explicit self-esteem level X self-reported stability interaction (b = .01), $t(287) = 2.2, p < .05; f^2 = .02$. Simple slopes are depicted in Figure 1. Tests of the simple slopes indicate that the nature of the interaction was not as predicted. It was predicted that the effect of self-reported stability on the imposter phenomenon would be more positive among individuals with low self-esteem. Instead, the positive effect was slightly smaller and only marginally significant among individuals with low self-esteem (b = .21), $t(287) = 1.75, p < .10$, whereas a significant effect was observed among individuals with high self-esteem (b = .338), $t(287) = 1.95, p < .05$. Model fit statistics are provided in Table 3.

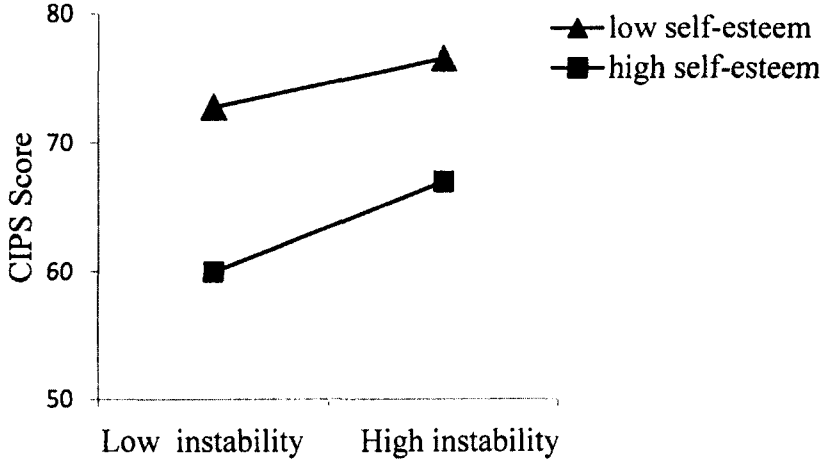

Figure 1. Imposter scores as a function of explicit self-esteem level and self-reported instability.

Table 3.

Imposter scores as a function of self-esteem level and self-reported instability

		b	ΔR^2	ΔF	Δp
Step 1			.38	88.39	.000
	RSES	-.1.13**			
	Self-reported instability	.03			
Step 2			.01	4.84	.029
	RSES	-1.05**			
	Self-reported instability	.03			
	RSES X Self-reported instability	.01*			

Note: *$p < .05$ **$p < .001$; RSES: Rosenberg Self-Esteem Scale

The imposter phenomenon as a function of explicit self-esteem level and statistical instability. As expected, at step 1 the regression analysis revealed main effects for explicit self-esteem level (b = -1.24), $t(36) = -6.12, p < .001; pr = -.71$, and statistical instability (b = 1.35), $t(36) = 2.71, p < .01; pr = .41$, indicating that the lower the individuals' self-esteem or the more the individuals' self-esteem fluctuates over time, the higher their imposter score. However, contrary to expectations the explicit self-esteem level X statistical stability interaction term entered at step 2 was not related to imposter scores (b = .039), $t(35) = .95, p > .05; f^2 = .03$. Model fit statistics are provided in Table 4.

Table 4.

Imposter scores as a function of self-esteem level and statistical instability

		b	ΔR^2	Δ F	Δp
Step 1			.67	37.16	.000
	RSES	-1.24**			
	Statistical instability	1.35*			
Step 2			.01	.89	.351
	RSES	-1.22**			
	Statistical instability	.96			
	RSES X Statistical instability	.04			

Note: *$p < .05$ **$p < .001$; RSES: Rosenberg Self-Esteem Scale

The imposter phenomenon as a function of explicit self-esteem level and implicit self-esteem level. As expected, at step 1 the regression analysis revealed a main effect for explicit self-esteem level (b = -1.22), $t(234) = -12.56$, $p < .001$; $pr = -.63$, indicating that the lower the individuals' explicit self-esteem the higher their imposter score. Surprisingly, an additional main effect of implicit self-esteem also emerged (b =1.31), $t(234) = 3.34$, $p < .001$; $pr = .21$, indicating that the higher the individuals' implicit self-esteem, the higher their imposter score. This finding was not anticipated since implicit self-esteem, as mentioned before, should theoretically predict desirable, adaptive outcomes.

As anticipated, at step 2 a marginally significant explicit self-esteem level X implicit self-esteem level interaction (b = .10), $t(233) = 1.84$, $p < .10$; $f^2 = .01$ emerged. Simple slopes are depicted in Figure 2. Tests of the simple slopes indicate that the nature of the interaction was not as predicted. It was predicted that the effect of implicit self-esteem on the imposter phenomenon would be positive only among individuals with low self-esteem. Instead, a slightly larger positive effect was revealed for individuals with high (b = .82), $t(233) = 3.2$, $p < .001$ compared with low (b = .61), $t(233) = 3.55$, $p < .001$ self-esteem. Model fit statistics are provided in Table 5.

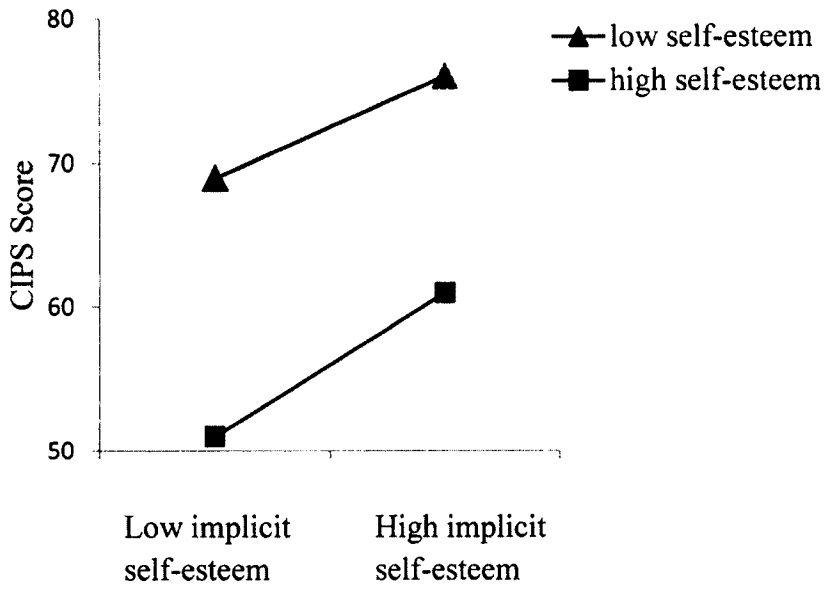

*Figure 2.*Imposter scores as a function of explicit self-esteem level and implicit self-esteem level.

Table 5.

Imposter scores as a function of explicit self-esteem level and implicit self-esteem level

		b	ΔR^2	Δ F	Δp
Step 1			.40	79.04	.000
	RSES	-1.22**			
	IPT	1.31**			
Step 2			.10	3.39	.067
	RSES	-1.22**			
	IPT	1.39**			
	RSES X IPT	.10†			

Note: $^{\dagger}p < .10$, $*p < .05$, $**p < .001$; RSES: Rosenberg Self-Esteem Scale, IPT: Initials Preference Task

The imposter phenomenon as a function of explicit self-esteem level and contingent self-worth. As expected, at step 1 the regression analysis revealed main effects for explicit self-esteem level (b = -1.03), $t(287) = -12.8, p < .001$; $pr = -.60$, and contingent self-worth, (b =.27), $t(287) = 7.44, p < .001$; $pr = .40$, indicating that the lower the individuals' explicit self-esteem or the more contingent the individuals' self-worth, the higher their imposter score. However, contrary to expectations the self-esteem level X contingent self-worth interaction tested at step 2 showed virtually no effect at al. (b = 0), $t(286) = -.26$, $p < .50$; $f^2 = 0$. Model fit statistics are provided in Table 6.

Table 6.

Imposter scores as a function of explicit self-esteem level and contingent self-worth

		b	ΔR^2	Δ F	Δ *p*
Step 1			.48	132.72	.000
	RSES	-1.03**			
	CSW	.27**			
Step 2			0	.04	.067
	RSES	-1.03**			
	CSW	.27**			
	RSES X CSW	0			

Note: *$p < .05$ **$p < .001$; RSES: Rosenberg Self-Esteem Scale, CSW: Contingencies of Self-Worth Scale

The imposter phenomenon as a function of explicit self-esteem level and self-concept clarity. As expected, at step 1 the regression analysis revealed main effects for explicit self-esteem level (b = -.37), $t(283) = -6.1, p < .001$; $pr = -.34$, and self-concept clarity, (b = -.37), $t(283) = -6.13, p < .001$; $pr = .34$, indicating that the lower the individuals' explicit self-esteem or the poorer (lower) the individuals' clarity of self-concept, the higher their imposter score. Contrary to expectations, however, the self-esteem level X self-concept clarity interaction tested at step 2 was non-significant (b = .06), $t(282) = 1.42$, $p < .10$; $f^2 = 0$. Model fit statistics are provided in Table 7.

Table 7.

Imposter scores as a function of explicit self-esteem level and contingent self-worth

		b	ΔR^2	Δ F	Δ *p*
Step 1			.48	119.79	.000
	RSES	-.69**			
	CSW	-.53**			
Step 2			0	2.01	.158
	RSES	-.68**			
	CSW	-.55**			
	RSES X CSW	.01			

Note: *$p < .05$ **$p < .001$; RSES: Rosenberg Self-Esteem Scale, CSW: Contingencies of Self-Worth Scale

The imposter phenomenon as a function of BIS and BAS

A correlation matrix of fragility markers and the imposter phenomenon is displayed in Table 8. The BAS subscales positively correlated amongst themselves, with correlation coefficients ranging from .32 to .41 (all *p*s < .001). Interestingly, BAS-Reward Responsiveness was positively correlated with BIS ($r = .31, p < .001$). This relationship is unusual as BIS and BAS (general) are presumed to be orthogonal, and when occasional correlations are reported between then, they are typically negative. Last, as expected, the imposter phenomenon was strongly and positively correlated with BIS ($r = .51, p < .001$). However, contrary to expectations, BAS-Drive was not positively related to the imposter phenomenon.

Table 8.

Correlations among the BIS/BAS Scales and the imposter phenomenon

	1	2	3	4	5
1. CIPS	-				
2. BAS-Drive	-.05	-			
3. BAS-Fun Seeking	-.13*	.41**	-		
4. BAS-Reward Responsiveness	-.013	.32**	.32**	-	
5. BIS	.51**	.08	-.16*	.31**	-

Note: *$p < .05$ **$p < .001$

The regression analysis revealed the expected positive effect of BIS on the imposter phenomenon (b = 1.96), $t(300) = 10.5$, $p < .001$; $pr = .54$, such that higher BIS scores predicted higher imposter scores. This indicates that imposters may be more sensitive to aversive cues relative to non-imposters. However, the expected positive effect of BAS-Drive on the imposter phenomenon was non-significant (b = .29), $t(300) = 0.9$, $p > .10$; $pr = .05$, suggesting that imposters and non-imposters are actually no different in terms of their positive orientation to goal attainment. Interestingly, a negative effect of BAS-Reward Responsiveness on the imposter phenomenon was revealed (b = -1.04), $t(300) = -3.05$, $p > .01$; $pr = -.52$, such that lower Reward Responsiveness scores predicted higher imposter scores. This indicates that imposters are less sensitive to cues of reward relative to non-imposters. Model fit statistics are provided in table 9.

Table 9.

Imposter scores as a function of BIS and BAS

		b	R^2	F	*p*
Model			.28	29.76	.000
	BAS-Drive	.29			
	BAS- Fun Seeking	-.02			
	BAS-Reward Responsiveness	-1.04*			
	BIS	1.96**			

Note: *$p < .05$ **$p < .001$

Discussion

The broad scope of this study was to understand why imposters strive to meet such high standards of success despite their apparent lack of confidence. In this study, the imposter phenomenon was conceptualized as a largely maladaptive pattern of thought and behaviour emerging from a person's tendency to view the self with ambivalence. Results generally supported this idea, as all but one marker of self-esteem fragility predicted imposter scores. This provides a more thorough understanding of the imposter's self-view, as previous studies have simply examined self-esteem level in relation to the imposter phenomenon. The specific expectation that fragility would be most predictive of the imposter phenomenon among individuals with low self-esteem was unsupported. Instead, the effect of fragility was either similar for everyone or stronger among individuals with high self-esteem, depending on the fragility marker tested. Last, it was posited that the imposters' unrelenting drive to succeed and intense fear of failure may reflect equally strong sensitivities to appetitive and aversive stimuli. The results, however, suggest that the imposter phenomenon involves a high sensitivity to aversion only, as BIS was found to positively predict imposter scores, whereas BAS was not.

With exception to discrepant self-esteem, all markers of fragility were significant predictors of the imposter phenomenon after accounting for the effect of self-esteem level. Importantly, this indicates that with respect to the self-concept, the imposter phenomenon is much more than a case of low self-esteem. Rather, in line with its present conceptualization, the imposter phenomenon would appear to also involve a strong sense of insecurity, marked by mixed feelings toward the self. This result is important because it indicates that examining self-esteem level alone is no longer adequate for a full understanding of imposter phenomenon and other self-esteem-related traits.

The main message conveyed by the present study is that imposters are not entirely convinced of their perceived inadequacies. While they tend to think poorly of themselves overall, it appears their negative self-regard is neither constant nor deeply rooted. Previous research has found that people with such tenuous feelings toward the self tend to employ more strategies toward self-protection and enhancement. Hence, the imposter's approach to goal pursuit may be viewed as a compensatory, ill-fated strategy toward achieving a more stable and positive self-view. Yet the pursuit of success may actually be counter-productive for imposters, as they tend to feel less and less comfortable in their own skin the more they are recognized for their accomplishments.

In contemplating why discrepant self-esteem stood alone among fragility markers as the only non-significant predictor of the imposter phenomenon, the validity of the implicit self-esteem measure used in this study is called into question. Implicit self-esteem is said to be a person's unconscious attitude toward the self. However, researchers remain skeptical as to whether extant measures of the construct actually capture these unconscious attitudes, as opposed to other phenomena. The fact that the IPT was positively correlated with self-esteem instability, contingencies of self-worth, self-deceptive enhancement and impression management in this study lends to the suspicion that the measure taps into something other than a person's automatic feelings of self-worth. Given its relationships to other variables in this study, one possibility is that the IPT may have assessed individual differences in unconscious or indirect self-enhancement, or perhaps it was even a marker of fragility in its own right. Certainly, this was not the first study ever to report counter-theoretical findings involving implicit self-esteem. Previous studies have found higher levels of implicit self-esteem among depressed in-patients

(De Raedt, Schacht, Franck & De Houwer, 2006) and in individuals with bulimia nervosa (Cockerham, Stoppa, Bell & Gregg, 2009), for example.

Although it was expected on the basis of previous empirical findings, evidence that the imposter phenomenon involves high implicit self-esteem is also largely at odds with ontological perspectives for both constructs. Theory and research suggest that the imposters' chronic self-doubts are rooted in early experiences (Clance & Imes, 1978), as are implicit attitudes (Greenwald & Banaji, 1995; Rudman, 2004). These conditions stipulate that the imposter's implicit self-esteem should be impoverished from childhood and resistant to the positive effects of recent successes. Certainly, this perspective would appear to sit much better with the assertion that imposters are unable to internalize their success (Clance & Imes, 1978). The positive relationship observed between IPT (when accounting for the effects of explicit self-esteem) and the imposter phenomenon, in this context, is considered to be counter-theoretical; this casts further doubt on the construct validity of the IPT as a measure of implicit self-esteem.

Specific hypotheses concerning self-esteem level X fragility marker interactions were unsupported. Although self-esteem level did significantly interact with self-reported instability and implicit self-esteem, the nature of those interactions was the reverse of what was expected. That is, self-reported instability and implicit self-esteem were more positively predictive of the imposter phenomenon among individuals with high self-esteem. In addition, the same type of interaction was observed between self-esteem level and statistical instability, but the effect, though larger in size relative to the two other interactions, was not statistically significant due to the small number of observations for statistical instability. Nonetheless, this gives reason to believe that the observed interactions represent a real and fairly reliable effect.

It is well-known that imposters have low self-esteem. And previous studies have noted many qualitative differences in the way fragility is expressed among individuals with high versus low self-esteem. On those grounds, it seemed logical to expect that there may be a synergistic effect of having low and fragile self-esteem on the emergence of imposter feelings beyond the individual effects of both factors.

In practice, though, studies tend to find greater effects of fragility among individuals with high, rather than low self-esteem. The results of this study were consistent with that trend. It is understandable why fragility might be more strongly related to maladaptivity for high self-esteem individuals. Compared with high-stable individuals, those with high-unstable self-esteem should be worse off as they are less convinced of their own value or worth. In contrast, it is possible that individuals with low-unstable self-esteem are in some respects better off than their stable counterparts because they do not endorse a fixed negative view of themselves. Though the imposter phenomenon may be maladaptive on the whole, it is a complex and multifaceted construct (Chrisman et al., 1995; Fried-Buchalter, 1992) that may conceivably involve some small elements of healthy functioning. Thus, it may be entirely different sources of variability in imposter scores that are accounted for by fragility among high versus low self-esteem individuals.

Desire for success and fear of failure were viewed as competing motivations within the imposter. The former was thought to impel imposters toward opportunities for achievement, while the latter would antagonize such pursuits. Indeed, higher levels of performance-approach and performance-avoid goals have been found for imposters relative to non-imposters in previous research. Thus, it was thought that imposters would be particularly sensitive to both

appetitive and aversive cues in the environment. The present results did not support this, as BIS, but not BAS, positively predicted the imposter phenomenon.

It is possible that the imposters' success striving is not actually appetitive in nature, but instead may be driven by their fear of failure. The imposters' success striving is already viewed as a strategy to achieve a more coherent and (positive sense) of self. Although this may look like approach motivation on the surface, there is reason to think that BIS may be responsible for it. It is known that BIS creates action through the elicitation of anxiety. And anxiety is present when there is internal dissonance, such as when one has mixed attitudes toward the self. Thus, if achieving a more stable (and positive) self-view is the true motive behind the imposters' relentless success striving, then it might rightly be viewed as avoidance motivation.

Limitations

The present is study is subject to all the major limitations inherent to studies that employ online data collection methods. Thus, limitations affecting the representativeness of the sample, response rates, and technical difficulties unbeknownst to the researcher (on the participant's end) may have potentially impacted the validity of the results. Indeed, the markedly high dropout rate was the most visible limitation of the study. As a consequence, fewer observations (data points) were available for measures administered toward the end of the study.

Due to technical limitations, the study measures were administered to all participants in the same sequence. It is presumed that order effects did not impact the vast majority of the results. However, it is plausible that the self-relevant thoughts activated by measures of explicit self-esteem may contaminate subsequent measures of implicit self-esteem, or vice versa. As such, it is typically recommended that researchers counterbalance measures of implicit and explicit self-esteem (Bosson et al., 2000).

Future Directions

It is evident that issues with the self-concept are at the heart of the imposter phenomenon. This study primarily focused on the nature of the imposters' self-evaluations. However, there are other unexplored facets of the imposter's self-concept that represent opportunities for future research. For example, Harvey (1985) theorized that imposter feelings emerge when a person's roles are atypical of the self-concept. It may be informative to explore this idea within the context of the self-complexity literature. Is a person who maintains multiple self-salient roles and role-specific identities more prone to imposter feelings because of a fragmented self? Or does a fragmented self render the person less vulnerable to feelings of inauthenticity, as atypical roles are not as easily defined? Important questions such as these may be addressed through this proposed line of research.

Last, findings from the present study regarding implicit self-esteem are in need of conceptual replication. Given the dubious reputation of existing implicit self-esteem measures, it is important to show that the findings generated with one measure are replicable with others. Currently, the IPT and self-esteem IAT are considered the best options for assessing implicit self-esteem. Thus, future research should determine whether the imposter phenomenon and other study variables relate to the self-esteem-IAT in the same manner as the IPT.

Conclusions

The present study highlights the importance of recognizing a distinction between secure versus fragile forms of self-esteem, and provides some evidence that this broad distinction is captured by measures of self-esteem (in)stability, discrepant self-esteem, contingencies of self-worth, and self-concept clarity. Results of the present study indicate that the imposters' self-esteem tends to be highly fragile. While it has been known for some time that imposters are

burdened by low self-esteem, the results of the present study would suggest that their negative self-views are not entirely fixed. Thus, imposters usually have low, but variable opinions of themselves. This insecurity would seem to motivate the imposter's rigid success striving. With imposters, success striving is viewed as compensatory behaviour, as a number of previous findings strongly suggest that the imposter's ego is heavily invested in his or her goals. The view that imposters are oriented toward achievement as much as they are away from failure may be inaccurate. The fact that only BIS (and not BAS) positively predicted the imposter phenomenon lends to the interpretation that imposters seek success not to feel successful per se, but to avoid a constant negative self-view.

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Appendix A

The Clance Imposter Phenomenon Scale

For each question, please circle the number that best indicates how true the statement is of you. It is best to give the first response that enters your mind rather than dwelling on each statement and thinking about it over and over.

1. I have often succeeded on a test or task even though I was afraid that I would not do well before I undertook the task.

1	2	3	4	5
(not at all true)	(rarely)	(sometimes)	(often)	(very true)

2. I can give the impression that I'm more competent than I really am.

1	2	3	4	5
(not at all true)	(rarely)	(sometimes)	(often)	(very true)

3. I avoid evaluations if possible and have a dread of others evaluating me.

1	2	3	4	5
(not at all true)	(rarely)	(sometimes)	(often)	(very true)

4. When people praise me for something I've accomplished, I'm afraid I won't be able to live up to their expectations of me in the future.

1	2	3	4	5
(not at all true)	(rarely)	(sometimes)	(often)	(very true)

5. I sometimes think I obtained my present position or gained my present success because I happened to be in the right place at the right time or knew the right people.

1	2	3	4	5
(not at all true)	(rarely)	(sometimes)	(often)	(very true)

6. I'm afraid people important to me may find out that I'm not as capable as they think I am.

1	2	3	4	5
(not at all true)	(rarely)	(sometimes)	(often)	(very true)

7. I tend to remember the incidents in which I have not done my best more than those times I have done my best.

1	2	3	4	5
(not at all true)	(rarely)	(sometimes)	(often)	(very true)

8. I rarely do a project or task as well as I'd like to do it.

1	2	3	4	5
(not at all true)	(rarely)	(sometimes)	(often)	(very true)

9. Sometimes I feel or believe that my success in my life or in my job has been the result of some kind of error.

1	2	3	4	5
(not at all true)	(rarely)	(sometimes)	(often)	(very true)

10. It's hard for me to accept compliments or praise about my intelligence or accomplishments.

1	2	3	4	5
(not at all true)	(rarely)	(sometimes)	(often)	(very true)

11. At times, I feel my success has been due to some kind of luck.

1	2	3	4	5
(not at all true)	(rarely)	(sometimes)	(often)	(very true)

12. I'm disappointed at times in my present accomplishments and think I should have accomplished much more.

1	2	3	4	5
(not at all true)	(rarely)	(sometimes)	(often)	(very true)

13. Sometimes I'm afraid others will discover how much knowledge or ability I really lack.

1	2	3	4	5
(not at all true)	(rarely)	(sometimes)	(often)	(very true)

14. I'm often afraid that I may fail at a new assignment or undertaking even though I generally do well at what I attempt.

1	2	3	4	5
(not at all true)	(rarely)	(sometimes)	(often)	(very true)

15. When I've succeeded at something and received recognition for my accomplishments, I have doubts that I can keep repeating that success.

1	2	3	4	5
(not at all true)	(rarely)	(sometimes)	(often)	(very true)

16. If I receive a great deal of praise and recognition for something I've accomplished, I tend to discount the importance of what I've done.

1	2	3	4	5
(not at all true)	(rarely)	(sometimes)	(often)	(very true)

17. I often compare my ability to those around me and think they may be more intelligent than I am.

1	2	3	4	5
(not at all true)	(rarely)	(sometimes)	(often)	(very true)

18. I often worry about not succeeding with a project or examination, even though others around me have considerable confidence that I will do well.

1	2	3	4	5
(not at all true)	(rarely)	(sometimes)	(often)	(very true)

19. If I'm going to receive a promotion or gain recognition of some kind, I hesitate to tell others until it is an accomplished fact.

1	2	3	4	5
(not at all true)	(rarely)	(sometimes)	(often)	(very true)

20. I feel bad and discouraged if I'm not "the best" or at least "very special" in situations that involve achievement.

1	2	3	4	5
(not at all true)	(rarely)	(sometimes)	(often)	(very true)

Appendix B

The Rosenberg Self-Esteem Scale - modified

Instructions: Below is a list of statements dealing with your feelings about yourself. Please circle the number that best reflects how much you agree or disagree with each statement at this particular moment.

	Strongly Disagree									Strongly Agree
1. On the whole, I am satisfied with myself.	1	2	3	4	5	6	7	8	9	10
2. At times, I think I am no good at all.	1	2	3	4	5	6	7	8	9	10
3. I feel I have a number of good qualities.	1	2	3	4	5	6	7	8	9	10
4. I am able to do things as well as most other people.	1	2	3	4	5	6	7	8	9	10
5. I feel I do not have much to be proud of.	1	2	3	4	5	6	7	8	9	10
6. I certainly feel useless at times.	1	2	3	4	5	6	7	8	9	10
7. I feel that I'm a person of worth, at least on an equal plane with others.	1	2	3	4	5	6	7	8	9	10
8. I wish I could have more respect for myself.	1	2	3	4	5	6	7	8	9	10
9. All in all, I am inclined to feel that I am a failure.	1	2	3	4	5	6	7	8	9	10
10. I take a positive attitude toward myself.	1	2	3	4	5	6	7	8	9	10

Appendix C

The Initials Preference Task

Instructions: Some people find certain letters in the alphabet more likeable than others. Please circle the number that best reflects how much you like or dislike each letter.

	Strongly Dislike									Strongly Like
A	1	2	3	4	5	6	7	8	9	10
B	1	2	3	4	5	6	7	8	9	10
C	1	2	3	4	5	6	7	8	9	10
D	1	2	3	4	5	6	7	8	9	10
E	1	2	3	4	5	6	7	8	9	10
F	1	2	3	4	5	6	7	8	9	10
G	1	2	3	4	5	6	7	8	9	10
H	1	2	3	4	5	6	7	8	9	10
I	1	2	3	4	5	6	7	8	9	10
J	1	2	3	4	5	6	7	8	9	10
K	1	2	3	4	5	6	7	8	9	10
L	1	2	3	4	5	6	7	8	9	10
M	1	2	3	4	5	6	7	8	9	10
N	1	2	3	4	5	6	7	8	9	10
O	1	2	3	4	5	6	7	8	9	10
P	1	2	3	4	5	6	7	8	9	10
Q	1	2	3	4	5	6	7	8	9	10
R	1	2	3	4	5	6	7	8	9	10
S	1	2	3	4	5	6	7	8	9	10
T	1	2	3	4	5	6	7	8	9	10
U	1	2	3	4	5	6	7	8	9	10
V	1	2	3	4	5	6	7	8	9	10
W	1	2	3	4	5	6	7	8	9	10
X	1	2	3	4	5	6	7	8	9	10
Y	1	2	3	4	5	6	7	8	9	10
Z	1	2	3	4	5	6	7	8	9	10

Appendix D

Contingencies of Self-Worth Scale

INSTRUCTIONS: Please respond to each of the following statements by circling your answer using the scale from "1 = Strongly disagree" to "7 = Strongly agree." If you haven't experienced the situation described in a particular statement, please answer how you think you would feel if that situation occurred.

		Strongly Disagree	Disagree	Disagree Somewhat	Neutral	Agree Somewhat	Agree	Strongly Agree
1.	When I think I look attractive, I feel good about myself.	1	2	3	4	5	6	7
2.	My self-worth is based on God's love.	1	2	3	4	5	6	7
3.	I feel worthwhile when I perform better than others on a task or skill.	1	2	3	4	5	6	7
4.	My self-esteem is unrelated to how I feel about the way my body looks.	1	2	3	4	5	6	7
5.	Doing something I know is wrong makes me lose my self-respect.	1	2	3	4	5	6	7
6.	I don't care if other people have a negative opinion about me.	1	2	3	4	5	6	7
7.	Knowing that my family members love me makes me feel good about myself.	1	2	3	4	5	6	7
8.	I feel worthwhile when I have God's love.	1	2	3	4	5	6	7
9.	I can't respect myself if others don't respect me.	1	2	3	4	5	6	7
10.	My self-worth is not influenced by the quality of my relationships with my family members.	1	2	3	4	5	6	7
11.	Whenever I follow my moral principles, my sense of self-respect gets a boost.	1	2	3	4	5	6	7
12.	Knowing that I am better than others on a task raises my self-esteem.	1	2	3	4	5	6	7
13.	My opinion about myself isn't tied to how well I do in school.	1	2	3	4	5	6	7
14.	I couldn't respect myself if I didn't live up to a moral code.	1	2	3	4	5	6	7
15.	I don't care what other people think of me.	1	2	3	4	5	6	7
16.	When my family members are proud of me, my sense of self-worth increases.	1	2	3	4	5	6	7
17.	My self-esteem is influenced by how attractive I think my face or facial features are.	1	2	3	4	5	6	7
18.	My self-esteem would suffer if I didn't have God's love.	1	2	3	4	5	6	7

		Strongly Disagree	Disagree	Disagree Somewhat	Neutral	Agree Somewhat	Agree	Strongly Agree
19.	Doing well in school gives me a sense of self-respect.	1	2	3	4	5	6	7
20.	Doing better than others gives me a sense of self-respect.	1	2	3	4	5	6	7
21.	My sense of self-worth suffers whenever I think I don't look good.	1	2	3	4	5	6	7
22.	I feel better about myself when I know I'm doing well academically.	1	2	3	4	5	6	7
23.	What others think of me has no effect on what I think about myself.	1	2	3	4	5	6	7
24.	When I don't feel loved by my family, my self-esteem goes down.	1	2	3	4	5	6	7
25.	My self-worth is affected by how well I do when I am competing with others.	1	2	3	4	5	6	7
26.	My self-esteem goes up when I feel that God loves me.	1	2	3	4	5	6	7
27.	My self-esteem is influenced by my academic performance.	1	2	3	4	5	6	7
28.	My self-esteem would suffer if I did something unethical.	1	2	3	4	5	6	7
29.	It is important to my self-respect that I have a family that cares about me.	1	2	3	4	5	6	7
30.	My self-esteem does not depend on whether or not I feel attractive.	1	2	3	4	5	6	7
31.	When I think that I'm disobeying God, I feel bad about myself.	1	2	3	4	5	6	7
32.	My self-worth is influenced by how well I do on competitive tasks.	1	2	3	4	5	6	7
33.	I feel bad about myself whenever my academic performance is lacking.	1	2	3	4	5	6	7
34.	My self-esteem depends on whether or not I follow my moral/ethical principles.	1	2	3	4	5	6	7
35.	My self-esteem depends on the opinions others hold of me.	1	2	3	4	5	6	7

Appendix E

The Self-Concept Clarity Scale

Instructions: Please respond to each of the following statements. For each statement, circle **SD** if you strongly disagree, **D** if you disagree, **N** if you neither agree nor disagree, **A** if you agree, and **SA** if you strongly disagree.

1. My beliefs about myself often conflict with one another.	SD	D	N	A	SA
2. On one day I might have one opinion of myself and on another day I might have a different opinion.	SD	D	N	A	SA
3. I spend a lot of time wondering about what kind of person I really am.	SD	D	N	A	SA
4. Sometimes I feel that I am not really the person that I appear to be.	SD	D	N	A	SA
5. When I think about the kind of person I have been in the past, I'm not sure what I was really like.	SD	D	N	A	SA
6. I seldom experience conflict between the different aspects of my personality.	SD	D	N	A	SA
7. Sometimes I think I know other people better than I know myself.	SD	D	N	A	SA
8. My beliefs about myself seem to change very frequently.	SD	D	N	A	SA
9. If I were asked to describe my personality, my description might end up being different from one day to another day.	SD	D	N	A	SA
10. Even if I wanted to, I don't think I could tell someone what I'm really like.	SD	D	N	A	SA
11. In general, I have a clear sense of who I am and what I am.	SD	D	N	A	SA
12. It is often hard for me to make up my mind about things because I don't really know what I want.	SD	D	N	A	SA

Appendix F

BIS/BAS Scales

Instructions: Each item of this questionnaire is a statement that a person may either agree with or disagree with. For each item, indicate how much you agree or disagree with what the item says. Please respond to all the items; do not leave any blank. Choose only one response to each statement. Please be as accurate and honest as you can be. Respond to each item as if it were the only item. That is, don't worry about being "consistent" in your responses. Choose from the following four response options:

1 = very true for me, 2 = somewhat true for me, 3 = somewhat false for me, 4 = very false for me

1. A person's family is the most important thing in life.	1	2	3	4
2. Even if something bad is about to happen to me, I rarely experience fear or nervousness.	1	2	3	4
3. I go out of my way to get things I want.	1	2	3	4
4. When I'm doing well at something I love to keep at it.	1	2	3	4
5. I'm always willing to try something new if I think it will be fun.	1	2	3	4
6. How I dress is important to me.	1	2	3	4
7. When I get something I want, I feel excited and energized.	1	2	3	4
8. Criticism or scolding hurts me quite a bit.	1	2	3	4
9. When I want something I usually go all-out to get it	1	2	3	4
10. I will often do things for no other reason than that they might be fun.	1	2	3	4
11. It's hard for me to find the time to do things such as get a haircut.	1	2	3	4

12. If I see a chance to get something I want I move on it right away.	1	2	3	4
13. I feel pretty worried or upset when I think or know somebody is angry at me.	1	2	3	4
14. When I see an opportunity for something I like I get excited right away.	1	2	3	4
15. I often act on the spur of the moment.	1	2	3	4
16. If I think something unpleasant is going to happen I usually get pretty "worked up."	1	2	3	4
17. I often wonder why people act the way they do.	1	2	3	4
18. When good things happen to me, it affects me strongly.	1	2	3	4
19. I feel worried when I think I have done poorly at something important.	1	2	3	4
20. I crave excitement and new sensations.	1	2	3	4
21. When I go after something I use a "no holds barred" approach.	1	2	3	4
22. I have very few fears compared to my friends.	1	2	3	4
23. It would excite me to win a contest.	1	2	3	4
24. I worry about making mistakes.	1	2	3	4

Appendix G

The Balanced Inventory of Desirable Responding

Instructions: using the scale below as a guide, write a number beside each statement to indicate how true it is.

1	2	3	4	5	6	7
not true			somewhat			very true

____ 1. My first impressions of people usually turn out to be right.

____ 2. It would be hard for me to break any of my bad habits.

____ 3. I don't care to know what other people really think of me.

____ 4. I have not always been honest with myself.

____ 5. I always know why I like things.

____ 6. When my emotions are aroused, it biases my thinking.

____ 7. Once I've made up my mind, other people can seldom change my opinion.

____ 8. I am not a safe driver when I exceed the speed limit.

____ 9. I am fully in control of my own fate.

____ 10. It's hard for me to shut off a disturbing thought.

____ 11. I never regret my decisions.

____ 12. I sometimes lose out on things because I can't make up my mind soon enough.

____ 13. The reason I vote is because my vote can make a difference.

____ 14. My parents were not always fair when they punished me.

____ 15. I am a completely rational person.

____ 16. I rarely appreciate criticism.

____ 17. I am very confident of my judgments

____ 18. I have sometimes doubted my ability as a lover.

____ 19. It's all right with me if some people happen to dislike me.

____ 20. I don't always know the reasons why I do the things I do.

____ 21. I sometimes tell lies if I have to.

____ 22. I never cover up my mistakes.

____ 23. There have been occasions when I have taken advantage of someone.

____ 24. I never swear.

____ 25. I sometimes try to get even rather than forgive and forget.

____ 26. I always obey laws, even if I'm unlikely to get caught.

____ 27. I have said something bad about a friend behind his/her back.

____ 28. When I hear people talking privately, I avoid listening.

____ 29. I have received too much change from a salesperson without telling him or her.

____ 30. I always declare everything at customs.

____ 31. When I was young I sometimes stole things.

____ 32. I have never dropped litter on the street.

____ 33. I sometimes drive faster than the speed limit.

____ 34. I never read sexy books or magazines.

____ 35. I have done things that I don't tell other people about.

____ 36. I never take things that don't belong to me.

____ 37. I have taken sick-leave from work or school even though I wasn't really sick.

____ 38. I have never damaged a library book or store merchandise without reporting it.

____ 39. I have some pretty awful habits.

____ 40. I don't gossip about other people's business.