

The Objective/Subjective Distinction of the Self: Examining Self-Discrepancy

by

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Abstract

Self-discrepancies have traditionally been measured with the Selves Questionnaire. This is an objective measure, in that it does not assume that individuals are aware of the discrepancies between their various self-state representations. The purpose of this research project was to examine a new method of measuring self-discrepancy: simply asking individuals for their subjective views of their self-discrepancies. These studies aimed to show that objective and subjective measures tap into distinct constructs which function differently depending on the level of deliberation of the testing conditions. The attitudes literature, from which this distinction was borrowed, provided groundwork to predict that subjective self-discrepancy would function better under conditions of deliberation whereas objective self-discrepancy would function better under conditions of spontaneity. In Study 1, both measures of self-discrepancy were used to predict agitation. This study showed that the objective and subjective measures were indeed only modestly correlated with one another. As expected, subjective ought self-discrepancy was a significant predictor of agitation under deliberative but not spontaneous conditions. Contrary to predictions, subjective ideal but not objective ought self-discrepancy significantly predicted agitation under spontaneous conditions. Study 2 predicted dejection from both measures of self-discrepancy, and showed again that they are distinct measures. Subjective ideal self-discrepancy predicted dejection under deliberative but not spontaneous conditions, as expected. However, objective ideal self-discrepancy failed to predict dejection under spontaneous conditions. Self-esteem was the outcome variable of interest in Study 3, where it was measured with the deliberative Rosenberg Self-Esteem Scale (RSE) as well as the spontaneous Implicit Association Test (IAT). Once again, in this study objective and subjective measures of self-discrepancy were shown to be distinct from one another. A structural equation model showed that subjective ideal

self-discrepancy was the only significant predictor of RSE scores, as expected; nothing significantly predicted IAT scores. Explanations for these findings, as well as implications and directions for future research, are discussed.

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Chapter 1

Introduction

Self-Discrepancy Theory

Psychology has long held the view that negative thoughts about oneself can be emotionally distressing, as described by William James in his *Principles of Psychology* (1890/1948). This notion continued to be examined and studied by various psychologists, such as Freud, whose concept of the ego ideal (later the superego) represents an internalized image of the perfect self towards which the ego aspires, and which controls our sense of right and wrong and feelings of guilt (1923/1961). Similarly, Karen Horney theorised that one holds two views of the self: a real self and an ideal self, which represents the type of person we should be. According to her, neurotic individuals have ideal selves that are not realistic, thus they do not live up to the ideal self and consequently feel both a need for perfection and self-hate (1950). From these examples we can see that idealised self-concepts have long been thought to be a cause of negative emotions.

Many of these early theories of the self-concept, including Freud's psychoanalytic theory and Horney's Neo-Freudian psychology, were often not directly testable. More recently, self research has moved towards directly specifiable and testable theories. Self-discrepancy theory, for example, makes explicit and systematic predictions regarding the relationships between self-concept conflicts and their affective consequences. This theory posits that it is the relationships *between* and *among* various self-state representations that produce emotional vulnerabilities, as opposed to the specific content of the self-concept or any self-beliefs (Higgins, 1987; Higgins, 1989; Higgins, Bond, Klein, & Strauman, 1986, Higgins, Klein, & Strauman, 1985).

Self-discrepancy theory states that there are three basic domains of the self: the *actual* self, which represents the attributes that you/another believe you to actually possess; the *ideal* self, which represents the attributes that you/another ideally want you to possess (i.e., hopes, aspirations, and wishes); and the *ought* self, which represents the attributes that you/another believe you should possess (i.e., duties, obligations, and responsibilities; Higgins, 1987).

One can consider different perspectives when considering these various domains of the self. Specifically, each domain of the self can be viewed from two basic standpoints: your *own* personal standpoint (e.g., your beliefs about the attributes you feel you should possess), and that of an important *other*, such as a parent, spouse, or close friend (e.g., your beliefs about the attributes your mother feels you should possess). Individuals can have self-state representations for several different important others (Higgins, 1987).

By considering the different domains of the self and the different standpoints that one can take on in those domains, we can identify six basic self-state representations: actual/own, actual/other, ideal/own, ideal/other, ought/own, and ought/other. The *self-concept* is represented by the first two (especially actual/own), whereas the remaining four constitute *self-guides* for behaviour (Higgins, 1987, 1989). According to self-discrepancy theory, individuals differ in which self-guides they are motivated to follow, and even which self-guides they possess; not everyone has all four types of self-guides (Higgins, 1987). This theory posits that we are motivated to match our self-concept to the self-guides that are personally relevant to us (Higgins, 1987, 1989). For example, someone may be particularly motivated to be the type of person their father thinks they should be, so their ought/other self-guide will be most important in guiding their behaviour, whereas someone else may be more motivated by their own wishes and desires for themselves, so their ideal/own self-guide will be the one that they follow. A chronic mismatch

between one's self-state representations is considered a self-discrepancy. There are obviously a large number of possible self-discrepancies, and previous literature has predominantly focused on the most important set of these: those between an individual's self-concept and their self-guides.

Types of Self-Discrepancies and Their Affective Consequences

A mismatch between one's self-concept and his or her personally relevant self-guides causes that individual to become vulnerable to various emotional responses. Specifically, self-discrepancy theory assumes that each type of self-discrepancy is associated with a different negative psychological situation (Higgins, 1987, 1989). In general, there are two basic types of negative psychological situations: the absence of positive outcomes, and the presence of negative outcomes (Higgins, 1987, 1989). This can be related to self-regulation and goals, in that individuals can either move towards (approach) positive/desired end states, or move away from (avoid) negative/undesired end states (e.g., Higgins, Roney, Crowe, & Hymes, 1994). As mentioned earlier, in self-discrepancy theory it is the relationship *between* self-concepts and self-guides that produces emotional consequences, with different relationships representing different negative psychological situations.

The first type of negative psychological situation, the absence of positive outcomes, is represented by falling short of the ideal self (not obtaining one's wishes or hopes). This type of negative condition is predicted to increase vulnerability to dejection-related emotions. The specific emotions, however, are based on whether the ideal self-guide is from one's own standpoint, or that of an important other. When the discrepancy is between the actual/own and the ideal/own, the individual does not match the ideal state that he or she hoped to attain, and the individual is predicted to be vulnerable to disappointment, dissatisfaction, and frustration.

However, when the discrepancy is between the actual/own and ideal/other, then the individual does not match the ideal state that he or she believes an important other hoped the individual would attain, and he or she is predicted to be vulnerable to shame, embarrassment and feeling downcast (Higgins, 1987). Higgins and colleagues (1994) found that individuals were more likely to approach matches to desired end states when ideal versus ought self-guides were activated, and that predominantly actual/ideal discrepant individuals were more likely to choose approach strategies. In other words, actual/ideal self-discrepancy is seen as an absence of positive outcomes, and individuals self-regulate by moving towards the desired goal (the ideal self-guide).

When one fails to meet their ought self (not fulfilling their duties and obligations), this is represented by the presence of negative outcomes, and the individual is predicted to be vulnerable to agitation-related emotions. As with the ideal self, the specific emotions are based on whether the ought self-guide is from one's own standpoint or that of an important other. When the discrepancy is between the actual/own and ought/own, one does not match the state that he or she believes it is his or her duty to attain, and the individual is predicted to be vulnerable to feelings of guilt, self-contempt, and uneasiness. On the other hand, when the discrepancy is between the actual/own and ought/other, then the individual does not match the state that he or she believes an important other considers to be the individual's obligation to attain, and the individual is predicted to be vulnerable to fear, feeling threatened, and feelings of resentment (Higgins, 1987). Higgins and colleagues (1994) found that individuals were more likely to avoid mismatches to desired end states when ought versus ideal self-guides were activated, and that predominantly actual/ought discrepant individuals were more likely to choose avoidance strategies. In other words, actual/ought self-discrepancy is seen as a presence of

negative outcomes, and individuals self-regulate by moving away from the undesired goal (a mismatch of the ought self-guide).

Magnitude, Accessibility, and Stability of Self-Discrepancy

Self-discrepancy theory proposes that the affective consequences of self-discrepancies are influenced by the magnitude and accessibility of those self-discrepancies (Higgins, 1987, 1989). With regards to the magnitude of self-discrepancies, Higgins and colleagues (1986) found that actual/ideal self-discrepancy was positively related to the amount of dejection felt, and that actual/ought self-discrepancy was positively related to the amount of agitation felt after a negative event-focus task. With regards to the accessibility of self-discrepancies, temporarily increasing the accessibility of either actual/ideal or actual/ought self-discrepancies by priming the relevant self-guides increased dejection- or agitation-related emotions respectively, but only for those individuals with large pre-existing self-discrepancies (Higgins et al., 1986).

Self-discrepancy is an individual difference that has been shown to be relatively stable across time. Specifically, it was shown that while the stability of *specific* self-beliefs at a three-year follow-up was only modest (about 25%), the magnitude and type of *overall* self-discrepancy was significantly correlated across the same three year period for both actual/ideal self-discrepancy ($r = .42, p < .01$) and actual/ought self-discrepancy ($r = .44, p < .01$; Strauman, 1996). Additionally, the associations between ideal and ought self-guides and emotionally significant childhood memories were consistent across the three year study period. At both time points, the magnitude of actual/ideal self-discrepancy was marginally associated with depressive content of childhood memories following ideal self-guide cues (at time 2: $r = .21, p < .10$), and the magnitude of actual/ought self-discrepancy was significantly associated with anxious content of childhood memories following ought self-guide cues (at time 2: $r = .29, p < .05$), even though

the specific content of the ideal and ought domains and the particular memories recalled varied across the study period (Strauman, 1996).

This individual difference has been related to various outcomes in the literature. Most expectedly, self-discrepancy is related to negative emotional states. Specifically, Higgins (1985) showed that actual/ideal self-discrepancy was positively correlated with dejection-related items such as dissatisfaction ($r = .42, p < .01$), shame ($r = .46, p < .001$), feeling blameworthy ($r = .47, p < .001$), and feeling blue ($r = .35, p < .01$), whereas actual/ought self-discrepancy was positively correlated with agitation-related items such as feeling irritated ($r = .33, p < .05$), having spells of terror or panic ($r = .36, p < .01$), and feeling scared for no reason ($r = .30, p < .05$). In another study, individuals with large actual/ideal self-discrepancies felt more dejected following a negative event-focus task than following a positive event-focus task, whereas individuals with large actual/ought self-discrepancies felt more agitated following a negative event-focus task than following a positive event-focus task (Higgins et al., 1986). Although these studies were performed on undergraduate samples, similar results have been found in a clinical study of individuals with diagnoses of either major depression or social phobia. Those individuals with major depression showed significantly higher levels of actual/ideal self-discrepancy than did the social phobia or undergraduate control groups, whereas individuals with social phobia had significantly more actual/ought self-discrepancy than the other groups (Strauman, 1989).

Extensions and Applications of Self-Discrepancy Theory

With the core tenets of self-discrepancy theory having been established, more recently research has moved onto studying extensions of the theory, and researchers have applied self-discrepancy toward the understanding of various psychological outcomes. For example, in

studying cultural differences in self-evaluation, research has shown that even though Asian individuals have larger actual/ideal self-discrepancies than do European Americans, their actual/ideal self-discrepancies are not as strongly related to dejection and depression, due to the emphasis that Asian culture places on viewing oneself as inadequate. Thus, in Asian culture, believing that you are different from how you want to be does not cause the same negative psychological experience that it does for North Americans (Hardin & Leong, 2005; Heine & Lehman, 1999). With regards to health and health behaviour, research has shown that self-discrepancies can cause an inhibitory effect on immunological functioning (Strauman, Lemieux, & Coe, 1993), as well as interact with media exposure to affect body image and eating disorder symptomology (Harrison, 2001). Self-discrepancy has also been shown to be related to relationships, both in general (e.g., Boldero et al., 2009; Robins & Boldero, 2003) as well as romantic relationships specifically (Green, Campbell, & Davis, 2007). For example, re-experiencing emotionally negative past romantic relationships via a priming procedure was found to be related to increased actual/ideal self-discrepancy (Green et al., 2007).

Measuring Self-Discrepancy

As this review illustrates, there is a sizeable literature on self-discrepancies and their effects, and as such one might imagine that there would be a fair amount of work on how they are measured. However, self-discrepancy has typically been measured the same way, the Selves Questionnaire (Higgins, 1987), and there has been very little work examining the underlying assumptions of this measurement technique. This measure asks participants to list up to 10 attributes each for their actual, ideal, and ought selves. Participants are also asked to rate how well each characteristic on the three lists describes them how they are right now. Independent coders then analyse the lists using content overlap analysis to calculate separate ideal and ought

self-discrepancy scores (Higgins, Klein & Strauman, 1985). This questionnaire has also been given in an interview format (Strauman, 1996), as well as a revised version that is easier for respondents to complete (Hardin & Leong, 2005). Despite these slight variations however, these techniques all have the same assumptions. Namely, it is assumed that individuals have awareness of their self-guides. That is, they are able to generate lists of how they actually are, how they would like to be and how they think they should be. However, what the Selves Questionnaire does not assume is that individuals are aware of the discrepancies *between* their actual selves and their self-guides, that they directly compare these different self-state representations or even notice the size of the gap between them. It also does not assume that individuals are *not* aware of these discrepancies, and has no way of differentiating between individuals who are and are not aware of their self-discrepancies. Furthermore, there is nothing built into the Selves Questionnaire about how the individual construes their self-discrepancies. It assumes that two individuals with equal scores are the same, and thus that either everyone construes their self-discrepancies in the same way, or that construal does not matter. In this sense it is an *objective* computation of self-discrepancy. This seems slightly counterintuitive for what is being measured; it may make more sense to simply ask individuals how they view themselves and their self-discrepancies (e.g., asking someone “how close do you feel to the way you ideally want to be?”). This *subjective* method would be simpler, and seems to better fit with the logic of the theory, which relates self-discrepancies to negative affective consequences. Interestingly, this approach has not been utilized in the literature, and therefore little is known about it and how it would function.

Objective versus Subjective Measures in the Attitude Literature

This raises a measurement distinction that has been prominent in other literatures, especially that of attitudes. In particular, there has recently been work done in the attitude literature devoted to studying the use of objective versus subjective measures of attitudinal properties (e.g., See, Fabrigar, & Petty, 2013). Although this work does not directly deal with the self, the lessons it teaches could be relevant to understanding the self, specifically self-discrepancy. Subjective measures of attitudinal properties are those in which individuals are asked to directly report their subjective perceptions of the property being examined. One attitudinal property that could be measured this way is working knowledge (i.e., how much information one currently has in mind about an attitude object). A subjective measure of working knowledge would be to ask an individual to give an estimate of how much they know about the attitude object. Objective measures, on the other hand, are those in which individuals are not directly aware that the structural property in question is being measured, but the investigator makes an inference about the property from the measure. Working knowledge can be objectively measured by having an individual list everything they know about the attitude object. As we can see, this distinction in the attitude literature parallels that of how self-discrepancy can be measured: subjectively, by asking for an individual's perception of their own self-discrepancy, and objectively, as has been commonly done with measures such as the Selves Questionnaire.

Views on the Relationship between Objective and Subjective Measures

Although both subjective and objective measures exist, it is unclear how they relate to one another. In their review, See, Fabrigar and Petty (2013) present three general views on the relationship between subjective and objective measures of attitude properties, including their new perspective, termed the dual-construct perspective. Firstly, a widespread view in the attitude

literature has been that objective and subjective measures of a given structural property measure the same construct, thus the measures are considered interchangeable (See, Fabrigar, & Petty, 2013). This has largely been an assumption in the research, with little work going into explaining or testing whether or not they are in fact they are the same. A literature review found that most studies provide no rationale for choosing one type of measure over the other, and that despite the generally accepted view that these different types of measures are indeed assessing the same thing, it seems that the two types of measures are only at best modestly correlated with one another. For example, the weighted average for measures of working knowledge was found to be only .30 (See, Fabrigar, & Petty, 2013), while See, Petty, and Fabrigar (2008) found that the correlation between objective and subjective measures of affective-cognitive attitude bases was only .11. This suggests that objective and subjective measures of structural properties of attitudes are not interchangeable, as many researchers have previously assumed, and this view is not supported.

Another view held by researchers on the relationship between objective and subjective measures of attitudinal properties is that one type of measure is better (See, Fabrigar, & Petty, 2013). This includes researchers who believe that objective measures of attitudinal properties are always better than subjective measures (e.g., Bassili, 1996), as well as researchers who feel that some attitude properties are best measured by objective measures, while other properties, such as attitude ambivalence, are best measured by subjective measures (e.g., Priester, 2002). If one type of measure were indeed “better” than the other, then it would be expected that studies using the better measure would produce stronger findings. However, a literature review found no evidence of this. For example, when looking at studies of working knowledge and attitude-behaviour consistency, average effect sizes were statistically significant both for studies using objective

measures ($r = .41$, meta-analytic $z = 3.32$, $p < .01$) as well as subjective measures ($r = .20$, meta-analytic $z = 4.82$, $p < .01$). The meta-analytic contrast of these effect sizes was only marginal ($z = 1.65$, $p = .10$). In addition, comparing effect sizes of studies of attitude ambivalence using either objective or subjective measures found that the effect sizes did not differ as a function of the type of measure ($z = 0.55$, $p = .58$; See, Fabrigar, & Petty, 2013). Thus, this view that one type of measure is better is not supported.

The Dual-Construct Perspective

The new perspective proposed by See, Fabrigar, and Petty (2013) is that both objective and subjective measures are useful, and they represent different constructs that can work in different ways. Specifically, they posit that objective measures reflect *ability* processes, whereas subjective measures reflect *motivational* processes. Due to this, these two types of measures can 1) sometimes predict different outcomes, 2) sometimes predict the same outcome but for different reasons, and 3) predict the same outcome under different conditions. Evidence for their theory comes from studies exploring affective-cognitive attitude bases. Attitudes can be based more on affective or cognitive information, and these bases can be measured objectively by asking participants to indicate their feelings, beliefs, and overall attitudes towards various attitude objects. Correlations between affect and attitude, as well as between cognition and attitude, for the objects are calculated, and the difference is taken to create an objective measure of attitude bases. Participants can also be asked “to what extent do you think your attitudes towards (the attitude object) are driven by your emotions?” and “to what extent do you think your attitudes towards (the attitude object) are driven by your beliefs?” The difference between these answers is taken to create a subjective measure of attitude bases (e.g., See et al., 2008).

See, Petty, and Fabrigar (2013) examined the first prediction listed above (i.e., objective and subjective measures can sometimes predict different outcomes) by looking at processing speed, since ability and motivation can be expected to affect it in opposite directions. They found that predominantly affective bases on the objective measure predicted *shorter* reading time of affective material (i.e., ability to process affective information is greater) whereas predominantly affective bases on the subjective measure predicted *longer* reading time of affective material (i.e., motivation/interest in processing affective information is greater).

See and colleagues (2008) tested the second prediction (i.e., objective and subjective measures can predict the same outcome but for different reasons) by examining attitude change as an outcome of both objective and subjective attitude bases. They found that individuals with predominantly affective bases on the objective measure were more receptive to an emotions-focused rather than an attributes-focused appeal, and the opposite was true of individuals with predominantly cognitive bases. The same pattern was found for bases that were assessed with the subjective measure, and both effects remained significant when controlling for the other. In other words, both objective and subjective measures account for separate variance in attitude change.

The final prediction is that objective and subjective measures can predict the same outcome under different conditions. In other words, deliberation is expected to moderate these relationships between objective and subjective measures and their associated outcomes (See, Fabrigar, & Petty, 2013). Because objective measures reflect ability/efficiency processes, it would be expected that under spontaneous conditions where individuals are not using extra effort to compensate for any processing deficits, objective measures would be more predictive of outcomes. On the other hand, subjective measures reflect motivational processes, so it is expected that when individuals have time to compensate for any limitations in processing by

expending more effort, these subjective measures will be more predictive of outcomes (See, Fabrigar, & Petty, 2013). These predictions were tested in several studies (See et al., 2008; See, Petty, & Fabrigar, 2013) and in all, it was found that objective measures had greater effects under more spontaneous conditions, whereas subjective measures had greater effects under more deliberative conditions.

Current Research

It is the goal of this thesis to determine if the objective/subjective distinction can provide unique insights into the self literature. I take this idea of objective versus subjective measures from the attitudes literature and apply it to that of self-concept measurement. Specifically, I examine how similar objective and subjective measures of self-discrepancy are, and see if they are the same or if they function more closely to how they do in the attitudes literature where they are modestly related but distinct. If they are indeed distinct, then I expect to find that deliberation will play a role, such that objective measures of self-discrepancy function better under more spontaneous conditions and subjective measures of self-discrepancy function better under more deliberative conditions. In my first study, I measure ought self-discrepancy both objectively, by using the Selves Questionnaire, and subjectively, by asking individuals how close they feel to how they should be. Participants then complete a measure of agitation-related emotions under either spontaneous or deliberative conditions. The second study is identical to the first, except that ideal self-discrepancy is measured both objectively and subjectively, and the outcome variable being measured is dejection-related emotions. My final study examines an outcome variable for which there exist different measures that have varying levels of deliberation built into them: self-esteem. These studies shed more light on an area that has received very little

attention in the literature thus far: the distinction between objective and subjective measures in the domain of the self.

Chapter 2

Study 1

The goal of Study 1 was to test for the first time the hypothesis that objective and subjective measures of self-discrepancy tap into distinct constructs, and that these are differentially related to outcomes depending on the degree of deliberation of the testing condition. Thus, in Study 1, I measured objective and subjective self-discrepancy and agitation-related emotions, because they have previously been found to be related to ought self-discrepancy (Higgins, 1987). Specifically, I hypothesized that objective ought self-discrepancy would be more predictive of agitation when the outcome was measured under deliberative conditions, whereas subjective ought self-discrepancy would be more predictive of agitation when the outcome was measured under spontaneous conditions.

Methods

Participants

Participants were 196 undergraduate students taking an introductory psychology course at Queen's University. No demographic information was collected. Participants received partial course credit in return for their participation.

Procedure

Study 1 was a 2 (order of self-discrepancy measures: objective first vs. subjective first) x 2 (order of self-discrepancy type: ideal first vs. ought first) x 2 (deliberation: deliberative vs. spontaneous) between-participants design. Participants were randomly assigned to a condition. When they entered the lab, participants received instructions that they would be completing

measures concerning themselves and their emotions and signed an informed consent form (see Appendix A for the letter of information, consent form and all subsequent ethics documents for Study 1). All participants first completed a measure of their actual self (for this measure and all subsequent measures in Study 1 see Appendix B). They then completed measures of both their objective and subjective self-discrepancies, with the order of these being counterbalanced across participants. Participants completed both measures for one type of self-discrepancy (i.e., ideal or ought) before completing the measures for the other type. After completing the self-discrepancy measures, participants completed the dependent variable measure of agitation-related emotions. Participants were assigned to one of two experimental conditions for completing this agitation measure; in the deliberative condition, participants were told to think about their responses carefully and answer according to how they felt over the past week, with the goal being that retrospecting in this way will cause the participants to take their time and be deliberate in their responses, whereas in the spontaneous condition participants were told to answer as quickly as they can according to how they feel right now, to get their non-thoughtful responses. To encourage participants in the spontaneous condition to be as quick in their responses as they can, they were told that they were being timed, and received ostensible feedback on their response time to some practice items before completing the emotion measures. Specifically, when responding to practice items such as “hungry” and “tired”, participants received apparent feedback telling them, at first, that they were responding too slowly, then that they were getting quicker but weren’t quick enough, and finally that they were ready to complete the real questions. All measures were completed using Medialab software.

Materials

Objective ought self-discrepancy. Objective ought self-discrepancy was measured using a modified version of the *Selves Questionnaire* developed by Higgins (1987). After generating a list of 10 characteristics describing how they actually are, participants listed 10 characteristics describing how they think they *ought* to be. For each list, they were asked to rate how well each characteristic describes them, on a scale from 1 ('slightly') to 4 ('extremely').¹ The ought self-discrepancy score was calculated using the content overlap analysis method described by Higgins and colleagues (1985). This entails calculating the number of words that are matching or mismatching between the ought and actual lists. Specifically, in making comparisons between the lists, the coder goes *from* the actual list *to* the ought list. That is, the coder takes one trait from the actual list, looks it up using a thesaurus, and then also looks up each synonym and antonym for that trait (for this study, coding was done using the *Microsoft Word 2011* thesaurus). If the same word as the actual trait appears on the ought list, then this is a match. It is also considered a match if a synonym of the actual trait or a synonym of a synonym of the actual trait appear on the ought list. If an antonym of the actual trait or a synonym of an antonym of the actual trait appear on the ought list, then this is counted a mismatch. Using this method, each actual characteristic could generate multiple matches or mismatches. Additionally, words on the ought list can be counted more than once, if they are matches or mismatches to multiple actual traits. An ought self-discrepancy score was calculated by subtracting the number of matches from the number of mismatches, such that more positive scores indicate more ought self-

¹ Ratings for each trait were measured, as this has traditionally been done in the past. However, these specific item ratings are not traditionally used in the computation of self-discrepancy scores. Here, as well, they were not used in the computation of objective self-discrepancy scores. Alternative analyses were conducted with these ratings and are briefly discussed in the Implications sections.

discrepancy. Scores ranged from -26 to 6, $M = -6.87$, $SD = 6.26$. The skew of this measure was $-.77$ ($SE = .17$) and the kurtosis was $.23$ ($SE = .35$). Due to time and resource constraints, only one coder was used for this measure.

Objective ideal self-discrepancy. Objective ideal self-discrepancy was measured in the same manner as objective ought self-discrepancy, only instead of reporting how they think they *ought* to be, participants listed ten characteristics describing how they would *like* to be. As with objective ought self-discrepancy, scores were calculated using content overlap analysis and determining if the ideal traits were matches or mismatches to characteristics on the actual list. An ideal self-discrepancy score was calculated by subtracting the number of matches from the number of mismatches, such that more positive scores indicate more ideal self-discrepancy. Scores ranged from -23 to 9, $M = -5.37$, $SD = 5.45$. The skew of this measure was $-.83$ ($SE = .17$) and the kurtosis was $.73$ ($SE = .35$).

Subjective ought self-discrepancy. Subjective ought self-discrepancy was measured by asking participants “How close do you feel you are to how you should be?” Participants responded on a scale from 1 (‘not close at all’) to 5 (‘extremely close’). Reverse scores were taken as the index of subjective ought self-discrepancy, such that more positive scores indicate more ought self-discrepancy. The average score was 3.05, $SD = 0.82$. The skew of this measure was $.08$ ($SE = .17$) and the kurtosis was $-.27$ ($SE = .35$).

Subjective ideal self-discrepancy. Subjective ideal self-discrepancy was measured by asking participants “How close do you feel you are to how you would ideally want to be?” Participants responded on a scale from 1 (‘not close at all’) to 5 (‘extremely close’). Reverse scores were taken as the index of subjective ideal self-discrepancy, such that more positive

scores indicate more ideal self-discrepancy. The average score was 3.19, $SD = 0.87$. The skew of this measure was .13 ($SE = .17$) and the kurtosis was .03 ($SE = .35$).

Agitation. The measure of agitation-related emotions that was used was based upon the circumplex model of affect (Russell, 1980) and bipolar nature of mood (Lorr, McNair, & Fisher, 1982). The agitation measure assesses eight emotions representing both ends of the composed-agitated continuum, including four high arousal/negative valence mood states (distressed, anxious, nervous, and fearful) and four low arousal/positive valence mood states (serene, relaxed, calm, and content). Participants rated how much they either felt the emotion in the past week (deliberative condition) or how much they are currently feeling the emotion (spontaneous condition) on a scale from 1 ('not at all') to 7 ('a great deal'). Agitation scores were calculated by adding the scores of the four high arousal/negative valence mood states to the reverse coded scores of the four low arousal/positive valence mood states, such that higher scores indicate more agitation. The Cronbach's alpha coefficient for this measure was .84, indicating high reliability. The mean was 30.58, $SD = 8.80$. The skew of this measure was -.10 ($SE = .17$), and the kurtosis was -.40 ($SE = .35$).

Results

Associations Among Self-Discrepancy Measures

Firstly, I examined the zero-order correlations among the four self-discrepancy variables. The association between the objective measures of ought self-discrepancy and ideal self-discrepancy is important to look at to understand how much these judgments reflect distinct constructs. Namely, I expected to find that they will be related to each other, but not so much that it suggests that the ought and ideal self-guides are redundant. Indeed, in this study the correlation between the objective measures of ought self-discrepancy and ideal self-discrepancy

was $r(194) = .45$ ($p < .001$), which suggests an association but not a redundancy amongst the two constructs. This is moderately higher than the ought self-discrepancy/ideal self-discrepancy correlation of $r = .23$ ($p < .05$) reported by Higgins and colleagues (1986), and slightly lower than the ought self-discrepancy/ideal self-discrepancy correlation of $r = .54$ ($p < .01$) reported by Wasylkiw, Fabrigar, Rainboth, Reid, and Steen (2010).

Similarly, it is also important to look at the correlation between the subjective measures of ought self-discrepancy and ideal self-discrepancy. Although measuring self-discrepancy in this way has not been done in the literature previously, and as such there is no previous work from which to base a prediction, I still expected to find some association between the two constructs, but also to see that they are distinct from one another. In this study, I found that the subjective measures of ought self-discrepancy and ideal self-discrepancy were correlated at $r(194) = .61$ ($p < .001$), which does indeed show that they are associated, even more so than the objective measures are with one another, but this is probably not so much so that they are not distinct constructs.

One of the main goals of this research is to determine whether objective and subjective measures of self-discrepancy represent different constructs. As previously mentioned, there is work in the attitudes literature that suggests that although objective and subjective measures have traditionally been treated as interchangeable, they may not be (See, Fabrigar, & Petty, 2013). From this work, I developed my hypothesis that objective and subjective measures of self-discrepancy will be at best modestly correlated with one another. In this study, the objective and subjective measures of ought self-discrepancy were only correlated at $r(194) = .10$ ($p = .16$), and the objective and subjective measures of ideal self-discrepancy had an even weaker association

at $r(194) = .05$ ($p = .51$). These low correlations confirm my hypothesis and indicate that the two different measures of self-discrepancy are not interchangeable.

Finally, I examined the cross-correlations, that is the zero-order correlations between objective and subjective measures of different types of self-discrepancy (e.g., between objective ought self-discrepancy and subjective ideal self-discrepancy). This was done to see whether it was the measurement method (i.e., objective or subjective measures) or the focal construct (i.e., ought or ideal self-discrepancies) that was the driving force of the associations. Looking at the previous correlations reported for this study, it appears that correlations are higher for the same method of measurement than for the same type of self-discrepancy, therefore I expected that these cross-correlations would be just as low as those between objective and subjective measures of the same type of self-discrepancy. The correlation between objective ought self-discrepancy and subjective ideal self-discrepancy in this study was $r(194) = .20$ ($p = .01$), and the correlation between subjective ought self-discrepancy and objective ideal self-discrepancy was $r(194) = .11$ ($p = .11$). These associations are therefore about the same as those between objective and subjective measures of the same type of self-discrepancy.

Overall, from the pattern of correlations in this study, it can be seen that correlations are higher for the same method of measurement of self-discrepancy (e.g., objective measures of both ought and ideal self-discrepancy) than for the same type of self-discrepancy (e.g., objective and subjective measures of ought self-discrepancy).

Self-Discrepancy Predicting Agitation

After analysing the correlations among the various self-discrepancy variables, I then turned to examining how well self-discrepancy predicts agitation. Specifically, to test the hypothesis that objective ought self-discrepancy will be more predictive of agitation under

spontaneous conditions whereas subjective ought self-discrepancy will be more predictive of agitation under deliberative conditions I conducted a series of regression analyses. The individual regression coefficients for the standardized predictors are presented in Table 1. Before conducting any regression analyses I first standardized the dependent variable, agitation, as well as all predictor variables.

The first multiple regression was conducted only using data from those participants who were in the deliberative condition ($n = 97$). I ran a simultaneous regression, predicting agitation from objective ought self-discrepancy, subjective ought self-discrepancy, objective ideal self-discrepancy and subjective ideal self-discrepancy. Based on self-discrepancy theory, I expected to find that ought self-discrepancy would be significantly associated with agitation (Higgins, 1987). Furthermore, based on previous work done in the attitudes literature (e.g., See, Fabrigar, & Petty, 2013) I predicted that, under these deliberative conditions, subjective ought self-discrepancy would be a stronger predictor than objective ought self-discrepancy. I did not expect ideal self-discrepancy to be related to agitation. From Table 1 we can see that, as expected, subjective ought self-discrepancy was a significant predictor of agitation, and more strongly predicted agitation than did objective ought self-discrepancy, which was not a significant predictor of agitation. A test of the difference of these two coefficients indeed verifies that they are different from one another ($F(1, 92) = 8.27, p < .001$). Also as expected, neither objective nor subjective ideal self-discrepancy was significantly associated with agitation. Overall this model accounted for 22.1% of the variance in agitation ($R^2 = .22, F(4, 92) = 6.53, p < .001$), and the results from it corresponded to my predictions.

Table 1

Summary of Regressions Predicting Agitation from Self-Discrepancy (SD)

Predictor	<i>B</i> Deliberative	<i>B</i> Spontaneous
Objective ought SD	-.10	-.01
Subjective ought SD	.31 **	-.06
Objective ideal SD	-.03	.07
Subjective ideal SD	.20	.32 *

Note: * $p < .05$, ** $p < .01$, all analyses performed with standardized variables

Following this, I ran a second multiple regression, this time only including participants who were in the spontaneous condition ($n = 99$). Similar to the first regression, this was a simultaneous regression, predicting agitation from objective ought self-discrepancy, subjective ought self-discrepancy, objective ideal self-discrepancy and subjective ideal self-discrepancy. Once again, based on self-discrepancy theory, I predicted that ought self-discrepancy would be a significant predictor of agitation, and that ideal self-discrepancy would be unrelated to agitation. Furthermore, again based on previous work done in the attitudes literature, I expected that objective ought self-discrepancy would be the strongest predictor of agitation under spontaneous conditions, more so than subjective ought self-discrepancy. From Table 1 we can see that objective ought self-discrepancy was unrelated to agitation, contrary to my predictions. Subjective ought self-discrepancy was also not a significant predictor of agitation, which fits with expectations for these spontaneous conditions. Also as expected, objective ideal self-discrepancy was unrelated to agitation. However, subjective ideal self-discrepancy turned out to be a significant predictor, which was unanticipated. Overall this model accounted for just under half the variance that the first regression did, with this one accounting for just 9.3% of the variance in agitation ($R^2 = .093$, $F(4, 94) = 2.42$, $p = .05$). The results from this second multiple

regression were generally very mixed; the failure of objective ought self-discrepancy to predict agitation and the appearance of subjective ideal self-discrepancy as a significant predictor were both unexpected outcomes.

Overall from these two multiple regressions we can see some differences between the two conditions; however to make any firm conclusions about them they must be formally tested. To do this I conducted a moderated regression analysis including all participants ($n = 196$). This was a simultaneous regression, predicting agitation from an effects-coded deliberation variable, objective ought self-discrepancy, subjective ought self-discrepancy, objective ideal self-discrepancy, subjective ideal self-discrepancy, and all possible two-way interactions, with those interactions between self-discrepancy variables and deliberation being of most interest. The only significant predictors of agitation in this model were the effects-coded deliberation variable ($B = .32, p < .001$), subjective ideal self-discrepancy ($B = .25, p = .004$), and the interaction term of subjective ought self-discrepancy x deliberation ($B = .19, p = .05$); no other variables or two-way interactions were significant predictors of agitation ($p > .05$). The significant interaction between subjective ought self-discrepancy and deliberation, when interpreted with simple slopes analysis, shows that subjective ought self-discrepancy was predictive of agitation under deliberative ($B = .31, p = .01$) but not spontaneous conditions ($B = -.06, p = .66$).

Discussion

Overall the results for Study 1 showed mixed support for my hypotheses. It does appear that objective and subjective measures of self-discrepancy tap into distinct constructs, and that these constructs are differentially related to agitation under different conditions. Overall the results from the deliberative condition worked as expected, with subjective but not objective ought self-discrepancy predicting agitation, while the spontaneous condition produced more

unclear results. There is some good evidence from this study that the subjective measure of ought self-discrepancy, which has not been studied before, works as it should. That is, subjective ought self-discrepancy was found to be a significant predictor of agitation under deliberative but not spontaneous conditions. One ambiguous finding from this study was the pattern of results for subjective ideal self-discrepancy, which was a significant predictor of agitation in the deliberative but not the spontaneous condition, even though, as shown in the moderated regression, the regression coefficients between the two conditions were not significantly different from one another. This ambiguous finding could be due to random error, it could be a spurious effect, or it could be a real effect; it is hard to say as this is the first study of its kind and more research will be needed to determine the reason behind this result.

Chapter 3

Study 2

Study 2 was a near replication of Study 1, with the aim being to extend the findings to a second outcome variable: dejection-related emotions. Dejection has previously been found to be related to ideal self-discrepancy (Higgins, 1987). Specifically, I hypothesized that objective ideal self-discrepancy would be more predictive of dejection when the outcome was measured under deliberative conditions, whereas subjective ideal self-discrepancy would be more predictive of dejection when the outcome was measured under spontaneous conditions.

Methods

Participants

Participants were 194 undergraduate students taking an introductory psychology course at Queen's University. No demographic information was collected. Participants received partial course credit in return for their participation.

Procedure

The procedure for Study 2 was identical to that of Study 1, with the only change being that participants completed a measure of dejection-related emotions, rather than agitation, after reporting their self-discrepancies (for this measure see Appendix C). Before beginning the study, all participants signed an informed consent form (all ethics documents for Study 2 were identical to those from Study 1, see Appendix A).

Materials

Objective ought self-discrepancy. Objective ought self-discrepancy was measured and coded in the same manner as Study 1. Scores ranged from -33 to 5, $M = -7.73$, $SD = 6.32$. The skew of this measure was -1.02 ($SE = .18$) and the kurtosis was 2.10 ($SE = .35$).

Objective ideal self-discrepancy. Objective ideal self-discrepancy was measured and coded in the same manner as Study 1. Scores ranged from -22 to 4, $M = -5.56$, $SD = 4.80$. The skew of this measure was -0.81 ($SE = .18$) and the kurtosis was 0.58 ($SE = .35$).

Subjective ought self-discrepancy. Subjective ought self-discrepancy was measured and coded in the same manner as Study 1. The average score was 2.92, $SD = 0.87$. The skew of this measure was .29 ($SE = .18$) and the kurtosis was -.15 ($SE = .35$).

Subjective ideal self-discrepancy. Subjective ideal self-discrepancy was measured and coded in the same manner as Study 1. The average score was 3.11, $SD = 0.80$. The skew of this measure was -.08 ($SE = .18$) and the kurtosis was -.20 ($SE = .35$).

Dejection. The measure of dejection-related emotions that was used was similar to that of agitation-related emotions used in Study 1, as it was also based upon the circumplex model of affect (Russell, 1980) and bipolar nature of mood (Lorr et al., 1982). The dejection measure

assesses eight emotions representing both ends of the elated-depressed continuum, including four moderate arousal/negative valence mood states (miserable, unhappy, gloomy, and sad) and four moderate arousal/positive valence mood states (cheerful, happy, delighted, and pleased). Participants rated how much they either felt the emotion in the past week (deliberative condition) or how much they are currently feeling the emotion (spontaneous condition) on a scale from 1 ('not at all') to 7 ('a great deal'). Dejection scores were calculated by adding the scores of the four moderate arousal/negative valence mood states to the reverse coded scores of the four moderate arousal/positive valence mood states, such that higher scores indicate more dejection. The Cronbach's alpha coefficient for this measure was .90, indicating high reliability. The mean was 23.68, $SD = 8.61$. The skew of this measure was .78 ($SE = .18$), and the kurtosis was -.11 ($SE = .35$).

Results

Associations Among Self-Discrepancy Measures

As in Study 1, I began by considering the zero-order correlations among the four self-discrepancy variables. To determine whether the objective measures of ought self-discrepancy and ideal self-discrepancy are distinct from one another, I examined this association. Once again, I expected to find that they would be related to one another without being redundant. In this study, the correlation was $r(192) = .32$ ($p < .001$) between objective measures of ought and ideal self-discrepancy, which is slightly less than in the previous study, but still suggests that these are associated but distinct constructs.

Similar to the objective measures, I also looked at the association between the subjective measures of ought self-discrepancy and ideal self-discrepancy. As was mentioned in Study 1, there is no previous work off which to base a prediction, but I expected that these would be

associated yet distinct constructs, as they were shown to be in Study 1. Indeed, the correlation between subjective measures of ought self-discrepancy and ideal self-discrepancy in this study was $r(192) = .60$ ($p < .001$), which is very close to what was found in Study 1. Once again, we can say that these subjective measures are related to one another, but they are still distinct.

Now turning to the relationships between the different measurement methods, I examined the correlations between objective and subjective measures of the same type of self-discrepancy, once again expecting that they would be at best modestly correlated with one another. In this study, the objective and subjective measures of ought self-discrepancy were only correlated at $r(192) = .13$ ($p = .07$), and the objective and subjective measures of ideal self-discrepancy were correlated at $r(192) = .27$ ($p < .001$). Although these correlations are slightly higher than what was found in Study 1, particularly for the measures of ideal self-discrepancy, they still confirm the hypothesis that objective and subjective measures of self-discrepancy are distinct and not interchangeable.

Finally, I examined the zero-order correlations between objective and subjective measures of different types of self-discrepancy. This was done once again to determine whether it was the measurement method (i.e., objective or subjective measures) or the focal construct (i.e., ought or ideal self-discrepancies) that was the driving force of the associations. Following what was found in Study 1, as well as what was already seen in this study, I expected that these cross-correlations would be just as low as those between objective and subjective measures of the same type of self-discrepancy. The correlation between objective ought self-discrepancy and subjective ideal self-discrepancy in this study was $r(192) = .28$ ($p < .001$), and the correlation between subjective ought self-discrepancy and objective ideal self-discrepancy was $r(192) = .19$

($p < .001$), which are about the same as those between objective and subjective measures of the same type of self-discrepancy.

It appears that the overall pattern of associations between the self-discrepancy variables in this study is very similar to that from Study 1. Once again, the correlations are higher for the same method of measurement of self-discrepancy (e.g., objective measures of both ought and ideal self-discrepancy) than for the same type of self-discrepancy (e.g., objective and subjective measures of ought self-discrepancy).

Self-Discrepancy Predicting Dejection

After analysing the correlations among the various self-discrepancy variables, I then turned to examining how well self-discrepancy predicts dejection. Specifically, to test the hypothesis that objective ideal self-discrepancy will be more predictive of dejection under spontaneous conditions whereas subjective ideal self-discrepancy will be more predictive of dejection under deliberative conditions I conducted a series of regression analyses. The individual regression coefficients for the standardized predictors are presented in Table 2. Before conducting any regression analyses, I first standardized the dependent variable, dejection, as well as all predictor variables.

The first multiple regression was conducted using only data from those participants who were in the deliberative condition ($n = 96$). I ran a simultaneous regression, predicting dejection from objective ideal self-discrepancy, subjective ideal self-discrepancy, objective ought self-discrepancy, and subjective ought self-discrepancy. Based on self-discrepancy theory, I expected to find that ideal self-discrepancy would be significantly associated with dejection (Higgins, 1987). Furthermore, based on previous work done in the attitudes literature (e.g., See, Fabrigar, & Petty, 2013) I predicted that, under these deliberative conditions, subjective ideal self-

discrepancy would be a stronger predictor than objective ideal self-discrepancy. I did not expect ought self-discrepancy to be related to dejection. From Table 2 we can see that, as expected, subjective ideal self-discrepancy was a significant predictor of dejection, and more strongly predicted dejection than did objective ideal self-discrepancy, which was not a significant predictor of dejection. A test of the difference of these two coefficients indeed verifies that they are different from one another ($F(1, 91) = 3.87, p = .05$). Also as expected, neither objective nor subjective ought self-discrepancy were significantly associated with dejection. Overall this model accounted for 24.7% of the variance in dejection ($R^2 = .25, F(4, 91) = 7.45, p < .001$), and the results from it corresponded to my predictions.

Table 2
Summary of Regressions Predicting Dejection from Self-Discrepancy (SD)

Predictor	<i>B</i>	<i>B</i>
	Deliberative	Spontaneous
Objective ideal SD	.16	-.05
Subjective ideal SD	.49 **	.40 **
Objective ought SD	-.04	.03
Subjective ought SD	-.03	.22 *

Note: * $p < .05$, ** $p < .001$, all analyses performed with standardized variables

Following this, I ran a second multiple regression, this time using only data from participants who were in the spontaneous condition ($n = 98$). I again conducted a simultaneous regression, predicting dejection from objective ideal self-discrepancy, subjective ideal self-discrepancy, objective ought self-discrepancy, and subjective ought self-discrepancy. Once again, based on self-discrepancy theory, I predicted that ideal self-discrepancy would be a significant predictor of dejection, and that ought self-discrepancy would not be related to dejection. Furthermore, again based on previous work done in the attitudes literature, I expected that objective ideal self-discrepancy would be the strongest predictor of dejection under

spontaneous conditions, more so than subjective ideal self-discrepancy. From Table 2 we can see that objective ideal self-discrepancy was unrelated to dejection, contrary to my predictions, and that subjective ideal self-discrepancy was a significant predictor of dejection, which also does not fit my predictions. As expected, objective ought self-discrepancy was unrelated to dejection. However, subjective ought self-discrepancy turned out to be a significant predictor, which was unanticipated. Overall this model accounted for even more of the variance than did the first regression, with this one accounting for 36.6% of the variance in dejection ($R^2 = .37$, $F(4, 93) = 13.44$, $p < .001$). The results from this second multiple regression were largely unexpected and did not match my predictions; the failure of objective ideal self-discrepancy to predict dejection and the appearance of both subjective ideal self-discrepancy and subjective ought self-discrepancy as significant predictors were unanticipated outcomes.

Overall from these two multiple regressions we can see some differences between the two conditions; however to make any firm conclusions about them they must be formally tested with a moderated regression analysis. Using data from all participants in this study ($n = 194$), I conducted a simultaneous regression, predicting dejection from an effects-coded deliberation variable, objective ideal self-discrepancy, subjective ideal self-discrepancy, objective ought self-discrepancy, subjective ought self-discrepancy, and all possible two-way interactions, with those interactions between self-discrepancy variables and deliberation being of most interest. The only significant predictors of dejection in this model were subjective ideal self-discrepancy ($B = .49$, $p < .001$), the interaction term of subjective ought self-discrepancy x deliberation ($B = -.15$, $p = .03$), and the interaction term of subjective ought self-discrepancy x subjective ideal self-discrepancy ($B = .14$, $p = .01$); no other variables or two-way interactions were significant predictors of dejection ($p > .05$). The significant interaction between subjective ought self-

discrepancy and deliberation, when interpreted with simple slopes analysis, shows that subjective ought self-discrepancy was predictive of dejection under spontaneous ($B = .24, p = .02$) but not deliberative conditions ($B = -.07, p = .50$). To interpret the significant interaction between subjective ought self-discrepancy and subjective ideal self-discrepancy, I performed a simple slopes analysis at high (one standard deviation above the mean), moderate (the mean), and low (one standard deviation below the mean) levels of subjective ought self-discrepancy. At high ($B = .62, p < .001$), moderate ($B = .48, p < .001$) and low ($B = .34, p < .001$) levels of subjective ought self-discrepancy, subjective ideal self-discrepancy was associated with more dejection. As we can see from the regression coefficients, the relationship between subjective ideal self-discrepancy and dejection became stronger the higher the level of subjective ought self-discrepancy.

Discussion

Once again, as did those from Study 1, the results from Study 2 showed mixed support for my hypotheses. Although the pattern of correlations between the self-discrepancy variables does tend to show that objective and subjective measures of self-discrepancy tap into distinct constructs, objective and subjective ideal self-discrepancy produced very similar results in both spontaneous and deliberative conditions. The results from the deliberative condition came out as expected, with subjective but not objective ideal self-discrepancy predicting dejection, while the spontaneous condition produced more unclear results. The subjective measure of ideal self-discrepancy, which has not been studied before, was predictive of dejection under both deliberative, which was expected, as well as spontaneous conditions, which was unanticipated. Subjective ought self-discrepancy produced an ambiguous result as well, as it was also shown to be a significant predictor of dejection under spontaneous conditions. The reason for these unclear

findings, particularly the appearance of both subjective ideal self-discrepancy and subjective ought self-discrepancy as significant predictors of dejection under spontaneous conditions, is difficult to discern.

Chapter 4

Study 3

In both Study 1 and Study 2, the same outcome variables were measured for all participants, and the testing condition was manipulated to encourage either deliberation or spontaneity in responding. A similar way of studying the same type of phenomenon as in these first two studies would be to examine a construct for which there exists different outcome measures that have varying levels of deliberation built into them. A prime example of this type of construct would be self-esteem. The Rosenberg Self-Esteem Scale (RSE; Rosenberg, 1965) is a well-established measure of self-esteem that is a typical self-report questionnaire, in that it asks participants to rate various items, such as “On the whole, I am satisfied with myself”, on a scale from 1 (‘strongly agree’) to 4 (‘strongly disagree’). This can be considered a deliberative, and subjective, measure, as it assumes that individuals have an awareness of their self-esteem and are capable of reporting on it. Participants can take as much time as is required in completing this subjective self-report scale, and as such they can deliberate on their answers.

Research in the 1990s developed the idea of a distinction between an explicit operation of the self, which functions in a controlled and reflective manner, as well as an implicit operation of the self, which functions automatically (e.g., Greenwald & Banaji, 1995). In contrast to measures of explicit self-esteem such as the RSE, the Self-Esteem Implicit Association Test (Greenwald & Farnham, 2000) was developed to tap into implicit self-esteem. This test specifically measures the strength of automatic associations between the self and pleasant or unpleasant concepts, and

therefore this test assumes that individuals are not deliberating on their answers and are instead categorizing items in a spontaneous manner.

Explicit self-esteem has previously been shown to be related to self-discrepancy; Moretti and Higgins (1990) found that ideal self-discrepancy was significantly correlated with “global” self-esteem, which they measured with the RSE as well as another deliberative measure, the Self-Esteem Inventory (Coopersmith, 1967). Implicit self-esteem has not been studied with regard to self-discrepancy in the literature. The goal of Study 3 was to expand the findings of the first two studies while examining another outcome variable that is related to self-discrepancy and that can be measured with either deliberative or spontaneous measures: self-esteem. It was expected that subjective self-discrepancy would be more strongly associated with explicit self-esteem, as measured with the deliberative RSE, than with implicit self-esteem, as measured with the IAT. Conversely, I also predicted that objective self-discrepancy would be more strongly associated with implicit rather than explicit self-esteem.

Method

Participants

Participants were 94 undergraduate students taking an introductory psychology course at Queen’s University. No demographic information was collected. Participants received partial course credit in return for their participation.

Procedure

Study 3 was a 2 (order of self-discrepancy measures: objective first vs. subjective first) x 2 (order of self-discrepancy type: ideal first vs. ought first) x 2 (order of self-esteem measure: RSE first vs. IAT first) between-participants design, with participants being randomly assigned to a condition. When they entered the lab, participants received instructions that they would be

completing measures about how they view themselves and signed an informed consent form (see Appendix D for the letter of information, consent form and all subsequent ethics documents for Study 3). Participants then completed all measures of self-discrepancy in the same manner as in the previous studies. After completing the self-discrepancy measures, participants completed two dependent variable measures of self-esteem: a measure of explicit self-esteem, the Rosenberg Self-Esteem Scale, and a measure of implicit self-esteem, the Self-Esteem Implicit Association Test (for these measures see Appendix E). The order in which participants completed these self-esteem measures was counterbalanced. All measures were completed using Medialab and DirectRT software.

Materials

Objective ought self-discrepancy. Objective ought self-discrepancy was measured and coded in the same manner as Study 1. Scores ranged from -25 to 4, $M = -6.36$, $SD = 5.62$. The skew of this measure was -0.81 ($SE = .25$) and the kurtosis was 0.92 ($SE = .49$).

Objective ideal self-discrepancy. Objective ideal self-discrepancy was measured and coded in the same manner as Study 1. Scores ranged from -22 to 2, $M = -5.56$, $SD = 4.79$. The skew of this measure was -1.06 ($SE = .25$) and the kurtosis was 1.07 ($SE = .49$).

Subjective ought self-discrepancy. Subjective ought self-discrepancy was measured and coded in the same manner as Study 1. The average score was 3.18, $SD = 0.76$. The skew of this measure was 0.28 ($SE = .25$) and the kurtosis was -0.16 ($SE = .49$).

Subjective ideal self-discrepancy. Subjective ideal self-discrepancy was measured and coded in the same manner as Study 1. The average score was 3.23, $SD = 0.81$. The skew of this measure was 0.29 ($SE = .25$) and the kurtosis was -0.30 ($SE = .49$).

Explicit self-esteem. Explicit self-esteem was measured using the Rosenberg Self-Esteem Scale (RSE; Rosenberg, 1965). The RSE is a 10-item questionnaire that asks participants to rate how well the items describe themselves on a scale from 1 ('strongly agree') to 4 ('strongly disagree'). It includes items such as "On the whole, I am satisfied with myself" and "I feel that I have a number of good qualities" as well as reverse-coded items such as "I certainly feel useless at times". A total self-esteem score was calculated by summing the scores across the 10 items, such that higher scores indicate more explicit self-esteem. The Cronbach's alpha coefficient for this measure was .89, indicating high reliability. Scores ranged from 8 to 30, $M = 19.94$, $SD = 4.69$. The average score in this sample was very close to the mean of 19.78 reported by Moretti and Higgins in their study, which also used undergraduate participants (1990). The skew of this measure was 0.26 ($SE = .25$) and the kurtosis was -0.24 ($SE = .49$).

Implicit self-esteem. Implicit self-esteem was measured using the Self-Esteem Implicit Association Test (IAT; Greenwald & Farnham, 2000). This is a modified version of the general IAT (Greenwald, McGhee, & Schwartz, 1998), which specifically looks at the positive and negative associations one has with the self and with others. This is done in seven steps in which participants rapidly categorize stimuli one at a time with a series of left or right key presses, with response times being measured and averaged for each task variation. In the first block, participants categorized target words belonging to an evaluative dimension, which was labelled pleasant and unpleasant. For example, when pleasant words, such as "marvelous" and "joyful", appeared on the screen participants pressed the left response key (the "e" key on the computer keyboard), and when unpleasant words, such as "tragic" and "painful", appeared on the screen participants pressed the right response key (the "i" key on the computer keyboard; for a list of all target words and sample instructions, see Appendix E). In the second block, participants

categorized words belonging to a self dimension, which was labelled self and other. Self-related words, such as “me” and “mine”, were categorized with the left response key, while other-related words, such as “they” and “others”, were categorized with the right response key.

The third and fourth blocks were a combined judgmental task, where target words from both the evaluative and self dimensions were categorized together. Specifically, participants categorized both pleasant and self-related words with the left response key, and unpleasant and other-related words with the right response key. After one more single dimension block where participants practiced categorizing self and other target words with the opposite keys, there was one more combined judgmental task. In blocks six and seven, participants categorized unpleasant and self-related words together with the left response key, and pleasant and other-related words with the right response key (details for each of the seven blocks can be seen in Table 3). To calculate one’s self-esteem from this task, the fourth block, where both self and pleasant words are categorized together, is compared to the seventh block, where self and unpleasant words are categorized together. If an individual has a positive evaluation of the self, they will be quicker at the block in which self and pleasant words share a key than they are at the block where self and unpleasant words share a key.

Before calculating the overall Self-Esteem IAT score, the response latencies for the two test blocks were transformed, following procedures used by Greenwald and Farnham (2000): the first two trials of each test block were dropped, latencies greater than 3000 ms were recoded to 3000 ms, latencies less than 300 ms were recoded to 300 ms, and all response latencies were log-transformed (base 10) to normalize their distribution. The overall Self-Esteem IAT score was then computed by subtracting the average response time of block 4 from the average response time of block 7, such that more positive scores indicate more implicit self-esteem. Scores ranged

from -0.1682 to 0.1692, $M = 0.0577$, $SD = 0.0554$. A one-sample t -test showed that the mean Self-Esteem IAT score in this sample was significantly greater than zero ($t(93) = 10.09$, $p < .001$), meaning that most participants were faster on the test block that combined the self with pleasant words, replicating the basic effect for this measure. Though this effect was large, Cohen's $d = 0.82$, it is slightly smaller than the effect sizes found in previous work, for example Greenwald and Farnham (2000) showed an effect size of $d = 1.38$, and Karpinski (2004) had an effect size of $d = 1.11$. The skew of this measure was -0.71 ($SE = 0.25$) and the kurtosis was 2.28 ($SE = 0.49$).

Table 3
Procedure for the Self-Esteem IAT

Block	No. of Trials	Function	Items Assigned to Left Key Response	Items Assigned to Right Key Response
1	40	Practice	Pleasant words	Unpleasant words
2	40	Practice	Self words	Other words
3	40	Practice	Pleasant + self words	Unpleasant + other words
4	40	Test	Pleasant + self words	Unpleasant + other words
5	40	Practice	Other words	Self words
6	40	Practice	Pleasant + other words	Unpleasant + self words
7	40	Test	Pleasant + other words	Unpleasant + self words

Results

Associations Among Self-Discrepancy Measures

Firstly, as in the first two studies, I examined the zero-order correlations among the four self-discrepancy variables. When looking at the correlation between the objective measures of ought self-discrepancy and ideal self-discrepancy, I expected to find that they are once again associated but non-redundant measures. In this study, the correlation between these two objective measures was $r(92) = .47$ ($p < .001$), which fits with my prediction and is in line with the first two studies.

Turning next to the association between the two subjective measures of ought and ideal self-discrepancy, I expected that they too would be associated with one another but would still remain distinct constructs, as they were in Studies 1 and 2. Indeed, the correlation between subjective measures of ought self-discrepancy and ideal self-discrepancy was $r(92) = .52$ ($p < .001$) in this study. Although this is slightly lower than the correlations found in the first two studies, we can still say that these subjective measures of self-discrepancy are related to each other without being redundant.

To test again one of the main hypotheses of this research, I also looked at the correlations between objective and subjective measures of the same type of self-discrepancy. As in the first two studies, I hypothesized that objective and subjective measures of self-discrepancy will be at best modestly correlated with one another. In this study, objective and subjective measures of ought self-discrepancy were correlated at $r(92) = .29$ ($p < .01$), and objective and subjective measures of ideal self-discrepancy were correlated at $r(92) = .17$, ($p = .11$). These correlations are slightly higher than what was found in my previous studies, especially for the measures of ought self-discrepancy, but they still confirm the hypothesis that these two different measures of self-discrepancy are not interchangeable.

Finally, I examined the cross-correlations between objective and subjective measures of different types of self-discrepancy, to see whether it was the measurement method (i.e., objective or subjective measures) or the focal construct (i.e., ought or ideal self-discrepancies) that was the driving force of the associations. Following Studies 1 and 2, I expected these correlations to be just as low as those between objective and subjective measures of the same type of self-discrepancy. In this study, the correlation between objective ought self-discrepancy and subjective ideal self-discrepancy was $r(92) = .28$ ($p = .01$), and the correlation between

subjective ought self-discrepancy and objective ideal self-discrepancy was $r(92) = .26$ ($p = .01$). These correlations are about the same as those between objective and subjective measures of the same type of self-discrepancy.

The overall pattern of associations between the self-discrepancy variables in this study closely resembles that of Studies 1 and 2; the correlations are higher for the same method of measurement of self-discrepancy (e.g., objective measures of both ought and ideal self-discrepancy) than for the same type of self-discrepancy (e.g., objective and subjective measures of ought self-discrepancy).

Associations Among Self-Esteem Measures

I examined the correlation between the two measures of self-esteem used in this study: RSE and IAT. Previous work looking at these two measures has found that they are typically weakly correlated with one another. For example, Greenwald and Farnham (2000) found a correlation of $r = .13$ between the two measures, and Karpinski (2004) found them to be correlated at $r = -.07$. In this study, they were very weakly correlated at $r(92) = .01$ ($p = .95$), which fits with previous work.

Self-Discrepancy Predicting Self-Esteem

After examining the correlations among the various variables used in this study, I then turned to analysing how well self-discrepancy predicts self-esteem. Specifically, to test the hypothesis that subjective self-discrepancy will be more predictive of explicit self-esteem, which is measured in a more deliberative manner, whereas objective self-discrepancy will be more predictive of implicit self-esteem, which is measured more spontaneously, I conducted a structural equation model which predicted both RSE and IAT scores from all four self-discrepancy variables. The individual regression coefficients are presented in Table 4. All

variables were standardized prior to analysis. Overall, this model showed good fit, as assessed by several goodness of fit statistics: chi-square(1) = 0.40 ($p = 0.52$), RMSEA = 0.00, GFI = 0.999, TLI = 1.09.

Table 4
Summary of Structural Equation Model Predicting RSE & IAT Scores from Self-Discrepancy

Predictor	B RSE	B IAT
Objective ought SD	-0.09	-0.16
Subjective ought SD	-0.09	0.07
Objective ideal SD	0.03	0.03
Subjective ideal SD	-0.48 *	-0.09

Note: * $p < .001$, analysis performed with standardized variables

Based on previous work done in the attitudes literature (e.g., See, Fabrigar, & Petty, 2013) as well as Studies 1 and 2 in this document, I expected to find that RSE scores, which are measured deliberately, would be most strongly predicted by subjective measures of self-discrepancy. From Table 4 we can see that subjective ideal self-discrepancy was a significant predictor of this explicit self-esteem score, while subjective ought self-discrepancy was not. This fits with the work done by Moretti and Higgins (1990), which showed that ideal self-discrepancy was significantly associated with self-esteem. Also, as expected, neither objective ideal nor objective ought self-discrepancy was significantly associated with RSE scores. To formally test the difference in the ability of subjective ideal versus objective ideal self-discrepancy in predicting RSE scores I created a structural equation model in which those two paths were constrained to be equal to one another. A chi-square difference test between the original model and this constrained model showed that subjective ideal self-discrepancy is a better predictor of RSE scores than is objective ideal self-discrepancy (chi-square(1) = 12.50, $p < .001$). Because neither subjective ought nor objective ought self-discrepancy were significantly different than zero, there was no difference in their ability to predict RSE scores. Finally, I looked at the

difference in the ability of subjective ideal self-discrepancy and subjective ought self-discrepancy to predict RSE scores, and I found that subjective ideal self-discrepancy better predicted RSE scores than did subjective ought self-discrepancy ($\chi^2(1) = 4.69, p = .03$). Overall, the pattern of results of self-discrepancy predicting scores on the RSE fits with my predictions.

When looking at the ability of self-discrepancy to predict scores on the Self-Esteem IAT, I predicted that this outcome measure, which is conducted in a spontaneous manner, would be best predicted by objective measures of self-discrepancy. As seen in Table 4, neither one of the subjective self-discrepancy variables were significantly associated with IAT scores, as expected. However, contrary to my expectations, objective ideal and objective ought self-discrepancy were both unrelated to IAT scores as well. Objective ought self-discrepancy tended in the right direction, but did not reach significance. Formally testing the difference in the ability of objective ideal versus subjective ideal self-discrepancy in predicting IAT scores, I found no difference in their ability ($\chi^2(1) = 0.48, p = .49$). I also found no difference in the ability of objective ought versus subjective ought self-discrepancy to predict IAT scores ($\chi^2(1) = 1.53, p = .22$). Finally, there was no difference in the ability of objective ideal versus objective ought self-discrepancy to predict IAT scores ($\chi^2(1) = 0.82, p = .36$).

Discussion

Once again, the results from this study showed mixed support for my hypotheses. We can see that objective and subjective measures of self-discrepancy seem to tap into distinct constructs, and that these constructs differentially predict self-esteem depending on the level of deliberation built-into the self-esteem measure. Overall, the pattern of self-discrepancy variables in the structural equation model predicting RSE scores worked as expected, with subjective ideal

self-discrepancy being the only significant predictor. However, the self-discrepancy variables in the structural equation model predicting IAT scores did not entirely match my predictions. Although no variables unexpectedly predicted IAT scores, those that were predicted to be significantly associated with this outcome measure (objective ideal and objective ought self-discrepancy) were non-significant. In this model, none of the predictor variables significantly predicted scores on the Self-Esteem IAT.

Furthermore, in looking at the zero-order correlations of IAT scores with various self-discrepancy variables, they are all very weakly correlated: objective ideal self-discrepancy ($r(92) = -.04, p = .67$), subjective ideal self-discrepancy ($r(92) = -.09, p = .37$), objective ought self-discrepancy ($r(92) = -.15, p = .15$) and subjective ought self-discrepancy ($r(92) = -.02, p = .85$). One may think from this that the IAT measure is fundamentally flawed, because it failed to produce any significant results. However, it is hard to explain the lack of results in this way, as the Self-Esteem IAT was conducted following a well-established protocol and it replicated the classic effect of a positivity bias with a strong effect size ($d = 0.82$).

Surprisingly, there has not been much work examining the relationship between self-discrepancy and self-esteem, and this is the first to do so using a subjective measure of self-discrepancy. The only past work to directly look at the relationship between self-discrepancy and self-esteem found that the zero-order correlation between objective ideal self-discrepancy and explicit self-esteem as measured by the RSE was $r = -.55$ ($p < .01$; Moretti & Higgins, 1990). It is important to note that this was a single study, thus there was no attempt at replication. In this study, the zero-order correlation between objective ought self-discrepancy and RSE score was $r = -.21$ ($p > .10$). When controlling for actual-self positivity, the authors found that the partial correlation between ideal self-discrepancy and RSE remained significant ($r = -.47, p < .01$),

while the partial correlation between ought self-discrepancy and RSE was not ($r = -.11, p > .10$), and that these partial correlations were significantly different from one another ($p < .01$). This article attempts to make the case that ideal and not ought self-discrepancy should be related to self-esteem, since ideal self-discrepancy is associated with feeling dejected and worthless, while ought self-discrepancy is associated with agitation and uneasiness. Although it is logical that ideal self-discrepancy should be related to self-esteem, there is no obvious reason why ought self-discrepancy should not be related as well. The RSE contains items such as “I certainly feel useless at times”, and one can certainly see that feeling this way can be expected to lead to feeling uneasy and self-contemptuous, which are symptoms of ought self-discrepancy (Higgins, 1987).

To more closely replicate the findings of Moretti and Higgins (1990) within my own data, I calculated the zero-order correlations between objective ideal self-discrepancy and RSE ($r(92) = -0.12, p = .25$), and between objective ought self-discrepancy and RSE ($r(92) = -.24, p = .02$). I found that the correlation between objective ought self-discrepancy and RSE in my study is very similar to that found by Moretti and Higgins (1990), however in my study it was significant. The correlation between objective ideal self-discrepancy and RSE was much weaker and did not reach significance in my study, as compared to the findings of Moretti and Higgins (1990). Therefore, although my data does not exactly replicate past findings when looking only at objective self-discrepancies, I still found a relationship between objective self-discrepancy and self-esteem. Moretti and Higgins (1990) found that ideal but not ought self-discrepancy was related to RSE scores, whereas I found the reverse. Because these are both just single studies, more work is needed to further elucidate these relationships.

Chapter 5

General Discussion

Summary of Findings

Overall, this set of studies produced mixed support for my hypotheses. It seems that the new subjective measures of ideal and ought self-discrepancy, which have not been studied before, function pretty much in the manner I expected. Specifically, subjective ought self-discrepancy predicted agitation-related emotions under deliberative conditions in Study 1; in Study 2 subjective ideal self-discrepancy predicted dejection-related emotions under deliberative conditions; and in Study 3 subjective ideal self-discrepancy predicted explicit self-esteem, as measured by the Rosenberg Self-Esteem Scale (Rosenberg, 1965). These results all matched my predictions, and they all involved deliberation when completing the outcome measure, either through direct instructions received by the participants, as in Studies 1 and 2, or through the type of outcome measure used, as in Study 3. All of these significant relationships showed that individuals with more subjective self-discrepancy have worse outcomes, in that they feel more agitation and dejection, and they have lower explicit self-esteem.

On the other hand however, these studies also all involved participants completing outcome measures spontaneously, as Studies 1 and 2 instructed some participants to answer rapidly, and Study 3 utilized the Self-Esteem Implicit Association Test (Greenwald & Farnham, 2000), which measures the strength of automatic associations. In Study 1, subjective ideal self-discrepancy was shown to be a significant predictor of agitation under spontaneous conditions; both subjective ideal and subjective ought self-discrepancy were significant predictors of dejection under spontaneous conditions in Study 2; and in Study 3 nothing significantly predicted scores on the IAT. These results all counter my predictions. Objective self-

discrepancies, which I had predicted would be significantly associated with various outcomes under spontaneous conditions, produced no significant findings in any of these studies.

Implications

This program of research has been one of the first to study subjective self-discrepancy, and one of the main goals of this work was to determine whether objective and subjective measures of self-discrepancy are in fact measuring different constructs. Overall, the results from the studies detailed above show that subjective self-discrepancy is distinct from and functions in a different manner than does objective self-discrepancy. This is shown both by the pattern of correlations in the studies, as well as the fact that the results in the studies show different relationships for self-discrepancy depending on whether it was measured objectively or subjectively.

In addition to showing that subjective and objective self-discrepancy are in fact different from one another, the set of studies presented here show that, as predicted, under deliberative conditions subjective self-discrepancy is better at predicting various outcomes. In the three studies I conducted, subjective self-discrepancies were shown to be fairly robust predictors of agitation and dejection under deliberative conditions, as well as explicit self-esteem. In fact, subjective self-discrepancies were also found to be significant predictors of agitation and dejection under spontaneous conditions. This suggests that researchers should more actively consider using subjective measures of self-discrepancy.

When one thinks about self-discrepancy theory logically, subjective measures make more sense than the traditional objective measure. Indeed, if one considers the underlying assumptions of self-discrepancy theory, then subjective measures seem like the more logical approach. The Selves Questionnaire, an objective measure which has been the most commonly used method to

measure self-discrepancies, assumes that individuals are aware of their self-concept and self-guides, and thus can generate lists of how they actually are, how they would like to be and how they think they should be. However, it makes no assumptions about whether or not individuals are aware of the gaps between their various self-state representations, and thus it has no way of differentiating between those individuals who are and those who are not aware of their self-discrepancies. It also does not contain anything about how an individual interprets their self-discrepancies. Individuals with equal scores on the Selves Questionnaire are considered to be the same. An individual who has a 50% match between their actual and ideal selves could consider themselves to be doing pretty well at being who they want to be, whereas another individual who also has a 50% match between their actual and ideal selves could think that they have a long way to go to be who they want to be. It is logical that the second individual would feel more dejected than the first, even though an objective measure of their self-discrepancies would say that these two people should be the same. A subjective measure of self-discrepancy, which would just ask these two individuals how close they feel they are to how they want to be, would demonstrate the difference in how these individuals construe their self-discrepancies. Therefore, subjective measures fit better with the logic of the theory, and the studies presented here show that this is indeed the case. Under deliberative, and sometimes even spontaneous, conditions, subjective self-discrepancy was a better predictor of various outcomes. Subjective measures are also much quicker to administer and easier to score than the coding-intensive Selves Questionnaire. For these reasons, subjective measures of self-discrepancy should be much more widely used in the field than has previously been the case.

The subjective measures of self-discrepancy that were used in these studies can also be considered “global” measures, as they ask for the individual’s subjective perception of their self-

discrepancies in a very broad, global manner (e.g., “How close do you feel you are to how you should be?”). In the Selves Questionnaire, participants rate how well each trait from their ideal and ought self-guides describes them on a scale from 1 (‘slightly’) to 4 (‘extremely’). By averaging these ratings, we can get a different, more trait-specific, subjective measure. I reran the analyses from each study using this specific subjective measure in place of the global subjective measure in order to compare these two types of subjective measures. Overall, from these new analyses, it seems that specific subjective self-discrepancy does not function as well as global subjective self-discrepancy. That is, in Studies 1 and 2, specific subjective self-discrepancy did not predict the outcome measures. In Study 3 however, specific subjective ideal self-discrepancy was predictive of scores on both the RSE ($B = -.35, p = .01$) and IAT ($B = -.32, p = .03$). The global measure of subjective ideal self-discrepancy was a stronger predictor when it was used in the analysis however ($B = -.48, p < .001$), and though global subjective ideal self-discrepancy was not a significant predictor of IAT scores, it was not expected to be. From these alternative analyses, we can see that it is not only the fact that the new measures of self-discrepancy are subjective, but that they are more global in nature, that cause them to function better than the traditional objective Selves Questionnaire. It is perhaps then the case that individuals do better at thinking about their perceptions of themselves and their self-discrepancies in global terms rather than doing so in a trait-by-trait manner. More research will need to be conducted in the future in order to better understand this.

In the studies presented here, objective and subjective measures of self-discrepancy were found to be at best modestly correlated with one another. This has been interpreted as evidence that these objective and subjective measures do indeed tap into distinct constructs. However, there is the possibility that these low correlations were instead found because of low reliability of

the measures that were used. Subjective self-discrepancy was measured with single items, and as such reliability cannot be assessed. However, the subjective measures of self-discrepancy worked as expected and in general produced the hypothesized results. Furthermore, in each study the subjective measures of ideal and ought self-discrepancy were found to be fairly highly correlated with one another (e.g., $r(194) = .61, p < .001$ in Study 1). Thus, it seems unlikely that the single item measures of subjective self-discrepancy that were used in these studies were unreliable.

Although subjective self-discrepancies did very well in my studies and seem to have been measured reliably, objective self-discrepancies failed to produce any significant findings. One way that the reliability of a measure such as the Selves Questionnaire can be assessed is through inter-rater reliability. However, due to time and resource constraints and the fact that coding the Selves Questionnaire is quite an involved process, only one coder was used for this measure. Therefore it is impossible to determine coder-reliability. However, the coding scheme used for this measure is very objective. When coding the Selves Questionnaire, one compares words from two lists of traits (the actual list and the ideal/ought list). If an actual trait and an ideal/ought trait are the same, or if the ideal/ought trait is a synonym of an actual trait, or if it is a synonym of a synonym, then it is coded as a match. If the ideal/ought trait is an antonym of an actual trait, or if it is a synonym of an antonym, then it is coded as a mismatch. This is a very objective coding method that does not allow much room for judgment calls, and if two individuals code the same data with the same thesaurus then they will end up with very similar, if not identical, scores. Indeed, inter-rater reliabilities for this measure are typically quite high. For example, another study conducted in the lab found inter-rater reliabilities of $r = .96 (p < .01)$ for ought self-discrepancy and $r = .99 (p < .01)$ for ideal self-discrepancy (Kack, 2014). Therefore, it is

unlikely that the lack of significant results found for objective self-discrepancies is due to the reliability of coding the Selves Questionnaire.

There is another issue concerning the coding of the Selves Questionnaire measure. When a coder is comparing traits from the actual list to either the ideal or ought list, there are two different ways this can be done: one can either count each ideal/ought trait as a match/mismatch only once, even if it is a match/mismatch to multiple actual traits, or one can count every match/mismatch for each ideal/ought trait. Since the Selves Questionnaire allows at most 10 traits to be listed for each of the actual, ideal, and ought selves, there can be at most 10 matches and 10 mismatches when one utilizes the first scoring method. Therefore, this method bounds the possible scores on the questionnaire at 10 and -10. The second method allows for traits to be counted more than once, thus it has no upper or lower bound on the possible scores. It is not entirely clear which method has been used in the past; some articles make it seem fairly likely that the first “bounded” method was used (e.g., Higgins et al., 1985) whereas others are very ambiguous (e.g., Higgins et al., 1986). In my studies the “unbounded” coding method was used, so each ideal/ought trait could be counted as a match/mismatch multiple times. To test the possibility that this method of coding is responsible for the results, I coded the data from Study 1 using the “bounded” method as well. The correlations between the two types of coding were $r(194) = .81$ ($p < .001$) for objective ought self-discrepancy and $r(194) = .80$ ($p < .001$) for objective ideal self-discrepancy. When running the same regression analyses with the new “bounded” objective self-discrepancy scores, I found a similar pattern of results that did not change any of the substantive conclusions. Therefore, it is unlikely that using the unbounded vs. bounded coding method is responsible for the lack of significant results for objective self-discrepancy.

Furthermore, a possible reason that objective self-discrepancies were not significantly associated with any outcome measures in these studies is that the sample used did not have an adequate magnitude of self-discrepancy that is needed to find these relationships. As explained by Higgins (1999), undergraduate students, such as those who made up the samples in these studies, typically have very small self-discrepancies; in fact they often show more matches than mismatches to their ideal and ought self-guides. This was the case in the studies presented here, as the means for the Selves Questionnaire were negative in all three studies (indicating more matches than mismatches). Typically, relationships between objective self-discrepancies and emotional distress have been shown with undergraduate samples that were selected for their extreme scores on emotion measures (e.g., Higgins et al., 1985) or with clinical samples (e.g., Strauman, 1989). In the Higgins and colleagues (1985) study, for example, 40% of the sample was purposefully selected to be “moderately depressed” based on their BDI scores (Beck, 1967). Because the typical undergraduate sample would have less than 15% with BDI scores that high, their sample had higher than average self-discrepancy scores and thus, the likelihood of finding distinct relationships between different types of self-discrepancies and various types of emotions was increased (Higgins, 1999). In my studies, participants were not selected based on scores on any questionnaires, so therefore the samples used here may have had inadequate objective self-discrepancies needed to show the expected relationships.

Alternatively, another possible explanation for the lack of significant associations with objective self-discrepancy is that, especially in the first two studies, the experimental spontaneous manipulation was inadequate at having participants respond in a truly spontaneous way. That is, it is possible that participants in the spontaneous condition were still responding to the outcome measure in a way that utilized motivational processes and not merely their ability

processes, as was the objective of the spontaneous condition. From the attitudes literature, in particular the work done by See, Petty and Fabrigar (2013), we know that processing motivation is related to subjective measures, whereas processing ability is related to objective measures, and that truly spontaneous conditions should tap into ability and not motivational processes. If the instructions presented in Studies 1 and 2 were inadequate at getting participants to be completely spontaneous in their responses, then it follows that this would reduce the associations that the outcomes have with objective self-discrepancy and strengthen those that they have with subjective self-discrepancy. In both Studies 1 and 2, subjective self-discrepancies were significant predictors under spontaneous conditions, although the type of self-discrepancies were counter to what would be predicted (i.e., ideal predicting agitation and both ideal and ought predicting dejection under spontaneous conditions). However, if the spontaneous manipulation was not successful, then there should not be differences between the two conditions. In both Studies 1 and 2 the results between the spontaneous and deliberative conditions were in fact different from one another, so it is therefore unlikely that the spontaneous manipulation failed at getting participants to respond in a spontaneous manner.

In the studies presented above, both objective and subjective self-discrepancy were included in all analyses, so that when looking at how well objective self-discrepancy predicted the various outcomes subjective self-discrepancy was always controlled for. However, in the past, studies examining self-discrepancy have only measured objective self-discrepancy, and thus they did not control for subjective self-discrepancy. It is therefore possible that this difference is responsible for the lack of significant results associated with objective measures in my studies. In order to more directly replicate these past studies (e.g., Higgins et al., 1985), I ran analyses for each study using only the objective measures of self-discrepancy as predictors. For Study 1

neither objective self-discrepancy measure was predictive of agitation. In Study 2, objective ideal self-discrepancy was predictive of dejection only under deliberative conditions ($B = .25, p = .03$). Finally, in Study 3, objective ought self-discrepancy was predictive of RSE scores ($B = -.23, p = .04$). From this, we can see that in Studies 2 and 3 some past effects are replicated when subjective self-discrepancy is not controlled for. However, these effects are only found in deliberative conditions (Study 2) or with a deliberative outcome measure (Study 3), and thus do not explain why objective self-discrepancies were not predictive of any outcomes in spontaneous conditions.

There is one final reason for objective self-discrepancies failing to produce any significant findings in my studies, and that is simply the fact that in this context, objective self-discrepancies are not better under any conditions. That is, the traditional objective approach to measuring self-discrepancy may not be as good as the new subjective method. There are only a few studies looking at subjective self-discrepancy at this point, and objective self-discrepancy has been shown to work well in other settings. More evidence is certainly needed to show that subjective self-discrepancy is a better approach. However, this does not mean that objective self-discrepancy is not useful, and it does not invalidate past effects that have been shown with objective measures. If anything, if subjective measures of self-discrepancy are in fact better, than this would only strengthen previous significant effects that were shown with objective measures. As discussed previously, subjectively measuring self-discrepancy seems to better fit the logic of self-discrepancy theory. In the context of these studies, that is when looking at negative emotional outcomes and self-esteem, a measure of self-discrepancy that takes into account how one construes their self-discrepancies performs better.

Future Directions

From these implications, we can now turn to future directions for research. One big conclusion that can be drawn from this work is that a subjective approach is potentially a better method of measuring self-discrepancy than the objective measures that have previously been used. With this new knowledge, researchers can now go back and look at the classic self-discrepancy literature and attempt to replicate various past findings with subjective measures of self-discrepancy. For example, subjective self-discrepancy can be explored outside of populations of undergraduate students. One area in particular that can be looked at is clinical populations, such as individuals with diagnoses of depression or anxiety disorders, to replicate the findings of Strauman (1989). It will be interesting to see how a subjective measure functions in this population, and whether, for example, individuals with major depression show significantly higher levels of subjective ideal self-discrepancy. In addition to expanding the research on subjective self-discrepancy beyond an undergraduate population, a number of other research areas exist. One can look at cultural differences in self-evaluation, for example, and see whether there exists a difference in how Asian and North American cultures subjectively view their self-discrepancies (c.f., Hardin & Leong, 2005; Heine & Lehman, 1999). Researchers can also look at how subjective self-discrepancy is related to various health outcomes such as immunological functioning (e.g., Strauman et al., 1993), health behaviours such as body image and eating disorders (e.g., Harrison, 2001), and romantic relationships (e.g., Green et al., 2007). However, beyond simply replicating past studies where significant effects were found for objective self-discrepancy, it might be more prudent for researchers to re-examine constructs that have been explored and failed to find effects. It may be possible that the better-performing

subjective self-discrepancy may be significantly related to outcomes that were found to be insignificant when studied with objective self-discrepancy.

Furthermore, there still exists the issue that objective self-discrepancies did not work as expected in the studies presented here. As explained above, subjectively measuring self-discrepancy works better than an objective measure, and it seems to better fit the logic of self-discrepancy theory. The Selves Questionnaire ignores the matter of how one construes being discrepant from his or her ideal or ought selves, which is addressed by subjectively asking them how close they feel they are to their self guides. One could attempt to modify the Selves Questionnaire or combine objective and subjective measures to continue using the Selves Questionnaire, which has been widely used, but add information about the participant's construal. One possibility of how to go about doing this would be to administer the Selves Questionnaire as usual, and then to ask the subjective questions about how close they view themselves being to their self-guides. After coding the Selves Questionnaire, their score could be weighted by their response to the subjective item. Alternatively, one could show the participant their completed Selves Questionnaire, so that they could see side-by-side their actual, ideal, and ought selves, and ask them to consider the overlaps and discrepancies between these lists. After this, the participant could be asked to subjectively rate how close they are to their ideal and ought selves. Future work can examine the various methodological changes that could be implemented to the measurement of self-discrepancy.

In fact, there does exist a different kind of objective measure of self-discrepancy that has not been discussed here, and which could be compared to subjective self-discrepancy in future research. Nomothetic measures, such as the one used by Hoge and McCarthy (1983), give participants lists of common personality traits that they use to rate both their actual self and self-

guides, as opposed to idiographic measures, such as the Selves Questionnaire, that have participants self-generate adjectives for each self-state representation. Idiographic measures assess more accessible self-discrepancies, since they are generated in free recall, and as such they are more likely to be related to the emotional outcomes that are being studied than are nomothetic measures (Higgins, 1999). Nonetheless, comparing subjective self-discrepancy to a nomothetic measure could potentially shed more light on this novel method of measuring self-discrepancy.

As mentioned above, this is some of the first research to study subjective self-discrepancy, and overall these studies have provided good evidence that it is distinct from objective self-discrepancy. This distinction between objective and subjective measures was borrowed from the attitudes literature (e.g., See, Fabrigar, & Petty, 2013), and applied here to the area of the self. While this area of research is helping us to better understand self-discrepancy and further clarify how and under what circumstances it is related to negative affective outcomes, it can be expanded further than this. Researchers can now begin to examine this objective/subjective distinction for various individual differences in other domains, where it will hopefully offer new insights into those psychological constructs as well.

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Appendix A

Ethics Materials – Studies 1 & 2



November 23, 2012

Ms. Ariel Silver
Master's Student
Department of Psychology
Queen's University
62 Arch Street
Kingston, ON K7L 3N6

GREB Ref #: GPSYC-590-12; Romeo # 6007572
Title: "GPSYC-590-12 Clone of The Meta-Structural Distinction of the Self"

Dear Ms. Silver:

The General Research Ethics Board (GREB), by means of a delegated board review, has cleared your proposal entitled "**GPSYC-590-12 Clone of The Meta-Structural Distinction of the Self**" for ethical compliance with the Tri-Council Guidelines (TCPS) and Queen's ethics policies. In accordance with the Tri-Council Guidelines (article D.1.6) and Senate Terms of Reference (article G), your project has been cleared for one year. At the end of each year, the GREB will ask if your project has been completed and if not, what changes have occurred or will occur in the next year.

You are reminded of your obligation to advise the GREB, with a copy to your unit REB, of any adverse event(s) that occur during this one year period (access this form at https://eservices.queensu.ca/romeo_researcher/ and click Events - GREB Adverse Event Report). An adverse event includes, but is not limited to, a complaint, a change or unexpected event that alters the level of risk for the researcher or participants or situation that requires a substantial change in approach to a participant(s). You are also advised that all adverse events must be reported to the GREB within 48 hours.

You are also reminded that all changes that might affect human participants must be cleared by the GREB. For example you must report changes to the level of risk, applicant characteristics, and implementation of new procedures. To make an amendment, access the application at https://eservices.queensu.ca/romeo_researcher/ and click Events - GREB Amendment to Approved Study Form. These changes will automatically be sent to the Ethics Coordinator, Gail Irving, at the Office of Research Services or irvingg@queensu.ca for further review and clearance by the GREB or GREB Chair.

On behalf of the General Research Ethics Board, I wish you continued success in your research.

Yours sincerely,

A handwritten signature in black ink that reads "Joan Stevenson".

Joan Stevenson, Ph.D.
Professor and Chair
General Research Ethics Board

cc: Dr. Leandre Fabrigar, Faculty Supervisor
Dr. Leandre Fabrigar, Chair, Unit REB
Marie Tooley, Dept. Admin.

Letter of Information TOAST

This research is being conducted by Ariel Silver, Master's Student, under the supervision of Dr. Leandre R. Fabrigar, Associate Professor, of the Department of Psychology at Queen's University in Kingston, Ontario.

The purpose of this research is to determine how our emotions relate to how we view ourselves. During this session you will be asked to answer a variety of questionnaires about yourself and your emotions on the computer. It is anticipated that the total session in which this study is included in will take approximately half an hour to complete. For participating in the session you will earn 0.5 credits. There are no known physical, psychological, economic, or social risks associated with this task. This study has been granted clearance according to the recommended principles of Canadian ethics guidelines, and Queen's policies.

Although it would be greatly appreciated if you answer all the questions as frankly as possible, you should not feel obliged to answer any questions that you find objectionable or that make you feel uncomfortable. You may withdraw from this study at any time up until the end of the study by notifying the experimenter. This will not affect your compensation and your data will be destroyed. However, because responses are anonymous, once the study is completed you can no longer withdraw your data.

We will keep your responses confidential. We will store the data on a password-protected computer until the data is no longer needed. Only authorized personnel will have access to this data. To help us ensure confidentiality, please do not put your name on the questionnaire. The data may also be published but any such presentations will be of general findings and will not breach individual confidentiality. Should you be interested, you are entitled to a copy of the findings. Furthermore, if this research is published, the data will be released upon request to authorized researchers. However, no identifying information will be provided.

In exchange for your participation in all tasks in this experimental session, we will indicate that you have earned 0.5 of a maximum of 5.0 credits or \$5 if you have arranged with the research assistant to be compensated monetarily.

Any questions about study participation may be directed to Ariel Silver, (11as61@queensu.ca) or Dr. Leandre Fabrigar, (613-533-6492, fabrigar@queensu.ca). Any ethical concerns about the study may be directed to the Chair of the General Research Ethics Board at chair.GREB@queensu.ca or 613-533-6081.

Again, thank you. Your interest in participating in this research study is greatly appreciated.

Leandre R. Fabrigar, Ph.D.
Associate Professor

Ariel Silver
Master's Student

**Consent Form
TOAST**

Name (please print clearly): _____

1. I have read the Letter of Information and have had any questions answered to my satisfaction.

2. I understand that I will be participating in the study called TOAST. I understand that this means that I will be asked to complete a variety of questionnaires about myself and my emotions on the computer.

3. I understand that my participation in this study is voluntary and I may withdraw at any time by notifying the experimenter. I understand that every effort will be made to maintain the confidentiality of the data now and in the future. I understand that the data will be stored on a password-protected computer and only authorized personnel will have access to this data. The data may also be published but any such presentations will be of general findings and will never breach individual confidentiality. I understand that if the data is requested by other researchers, the information provided will not permit others to ascertain my identity.

4. I understand that any questions about study participation may be directed to Ariel Silver, (11as61@queensu.ca) or Dr. Leandre Fabrigar, (613-533-6492, fabrigar@queensu.ca). Any ethical concerns about the study may be directed to the Chair of the General Research Ethics Board at chair.GREB@queensu.ca or 613-533-6081.

I have read the above statements and freely consent to participate in this research:

Signature: _____

Date: _____

Debriefing Form TOAST

In the study you have just completed we are interested in examining how people's self-discrepancies are related to various emotional outcomes. Self-discrepancies are when the attributes that you do possess do not align with those that you should or wished you possessed. Self-discrepancies have traditionally been measured with objective, structural measures, such as questionnaires and interviews. Self-discrepancies could also be measured by asking very subjective, global questions about an individual's perception of their self-discrepancies, but this has not been widely done by researchers studying self-discrepancy. Therefore, in the present study, we are testing three hypotheses: 1) objective and subjective measures of self-discrepancy will be at best modestly correlated with one another, 2) objective self-discrepancy will be more predictive of emotional responses in spontaneous contexts, and 3) subjective self-discrepancy will be more predictive of emotional responses in deliberative contexts.

Today you assisted us in answering these three questions. To investigate hypothesis one, we asked you how close you felt you were to how you wanted to be or ought to be, and also asked you to list traits describing the person you are, the person you feel you ought to be, and the person you would ideally like to be, and compared them directly. To examine our other hypotheses, we asked you tell us how you were feeling. For half the participants in our study, we asked them to carefully think about their feelings over the past week. This deliberative context should produce emotional responses that are highly correlated with subjective measures of self-discrepancy. For the other participants in the study, we asked them to quickly answer how they were feeling right now. This spontaneous context should produce emotional responses that are highly correlated with objective measures of self-discrepancy. Note that most people feel some discrepancy between who they are and who they should or want to be and this can be distressing. If you felt uncomfortable doing this task, that is normal.

If answering any of these questions lead you to feel distressed and you would like to speak to someone about your thoughts, please contact Queens' Health Counselling and Disability Services at 613-533-2506, TALK Distress and Information Line at 613-544-1771, or the Canadian Mental Health Association at 416-484-7750.

This study has been granted clearance according to the recommended principles of Canadian ethics guidelines, and Queen's policies.

Any questions about study participation may be directed to Ariel Silver, (11as61@queensu.ca) or Dr. Leandre Fabrigar, (613-533-6492, fabrigar@queensu.ca). Any ethical concerns about the study may be directed to the Chair of the General Research Ethics Board at chair.GREB@queensu.ca or 613-533-6081. You should also feel free to raise any issues of interest or concern with the RA running the session. If the assistant cannot answer your question, he or she will refer you to the principal investigator, Dr. Leandre Fabrigar.

This is an ongoing research project: please do not discuss this project with anyone, as knowledge of what we are trying to find may alter the results we obtain. Thank you.

If you are interested in this area of research you may wish to read the following reference:

Higgins, E. T., Bond, R. N., Klein, R., and Strauman, T. 1986. Self-discrepancies and emotional vulnerability: how magnitude, accessibility, and type of discrepancy influence affect. *Journal of Personality and Social Psychology*, 51(1): 5-15.

Again, thank you. Your interest in participating in this research study is greatly appreciated.

Leandre R. Fabrigar, Ph.D.
Associate Professor

Ariel Silver
Master's Student

Appendix B

Experimental Measures – Study 1

Objective Measure of Self-Discrepancies: Higgins *Selves Questionnaire* (1987)

PERSONAL VIEW OF SELF

This questionnaire concerns how you view yourself. We all think about ourselves to some extent, and often we think about how we really are, what we ought to be like and what we would like to be like. Researchers talk about this in terms of actual, ought, and ideal selves.

Read each statement carefully and take a few moments to think about your response.

ACTUAL SELF

Please list up to ten characteristics about yourself from your own personal standpoint (for example, artistic, nice). These characteristics should describe you as you **actually are**. Some characteristics you may like, others you may not like. It is important that you list those which best describe you.

	Rating			
1. _____	1	2	3	4
2. _____	1	2	3	4
3. _____	1	2	3	4
4. _____	1	2	3	4
5. _____	1	2	3	4
6. _____	1	2	3	4
7. _____	1	2	3	4
8. _____	1	2	3	4
9. _____	1	2	3	4
10. _____	1	2	3	4

Now go back to the above list. For each characteristic you listed, rate the extent to which it best describes you from “1” slightly to “4” extremely.

PERSONAL VIEW OF OUGHT SELF

Please list up to ten characteristics that you believe you **should** to be like (for example, artistic, wealthy, in shape). These characteristics may or may not describe you. These should be things that if you fail to live up to would reflect badly on you.

	Rating
1. _____	1 2 3 4
2. _____	1 2 3 4
3. _____	1 2 3 4
4. _____	1 2 3 4
5. _____	1 2 3 4
6. _____	1 2 3 4
7. _____	1 2 3 4
8. _____	1 2 3 4
9. _____	1 2 3 4
10. _____	1 2 3 4

Now go back to the above list. For each characteristic you listed, rate the extent to which it best describes you from "1" slightly to "4" extremely.

PERSONAL VIEW OF IDEAL SELF

Please list up to ten characteristics that you would **ideally** like to be (for example: artistic, wealthy, in shape). These characteristics may or may not describe you. These should relate to your hopes for yourself, and represent positive goals for who you would ideally like to be.

	Rating
1. _____	1 2 3 4
2. _____	1 2 3 4
3. _____	1 2 3 4
4. _____	1 2 3 4
5. _____	1 2 3 4
6. _____	1 2 3 4
7. _____	1 2 3 4
8. _____	1 2 3 4
9. _____	1 2 3 4
10. _____	1 2 3 4

Now go back to the above list. For each characteristic you listed, rate the extent to which it best describes you from "1" slightly to "4" extremely.

Subjective Measure of Self-Discrepancies

1) How close do you feel you are to how you should be? Think about things that if you failed to live up to would reflect badly on you.

1	2	3	4	5
Not close at all	Somewhat close	Moderately close	Very close	Extremely close

2) How close do you feel you are to how you ideally want to be? Think about your hopes for yourself, and positive goals for who you would ideally like to be.

1	2	3	4	5
Not close at all	Somewhat close	Moderately close	Very close	Extremely close

Measure of Agitation-Related Emotions

Please rate on a scale of 1 (not at all) to 7 (a great deal) how much you are feeling each of the following emotions:

Distressed:

1	2	3	4	5	6	7
not at all						a great deal

Anxious:

1	2	3	4	5	6	7
not at all						a great deal

Serene:

1	2	3	4	5	6	7
not at all						a great deal

Relaxed:

1	2	3	4	5	6	7
not at all						a great deal

Nervous:

1	2	3	4	5	6	7
not at all						a great deal

Calm:

1	2	3	4	5	6	7
not at all						a great deal

Fearful:

1	2	3	4	5	6	7
not at all						a great deal

Content:

1	2	3	4	5	6	7
not at all						a great deal

Appendix C

Experimental Measures – Study 2

Measure of Dejection-Related Emotions

Please rate on a scale of 1 (not at all) to 7 (a great deal) how much you are feeling each of the following emotions:

Miserable:

1	2	3	4	5	6	7
not at all						a great deal

Unhappy:

1	2	3	4	5	6	7
not at all						a great deal

Cheerful:

1	2	3	4	5	6	7
not at all						a great deal

Gloomy:

1	2	3	4	5	6	7
not at all						a great deal

Happy:

1	2	3	4	5	6	7
not at all						a great deal

Delighted:

1	2	3	4	5	6	7
not at all						a great deal

Pleased:

1	2	3	4	5	6	7
not at all						a great deal

Sad:

1	2	3	4	5	6	7
not at all						a great deal

Appendix D

Ethics Materials – Study 3

Letter of Information TOAST2

This research is being conducted by Ariel Silver, Master's Student, under the supervision of Dr. Leandre R. Fabrigar, Associate Professor, of the Department of Psychology at Queen's University in Kingston, Ontario.

The purpose of this research is to study how we view ourselves. During this session you will be asked to list attributes about yourself and answer questions about how you view yourself. It is anticipated that the total session in which this study is included in will take approximately half an hour to complete. For participating in the session you will earn 0.5 credits. There are no known physical, psychological, economic, or social risks associated with this task. This study has been granted clearance according to the recommended principles of Canadian ethics guidelines, and Queen's policies.

Although it would be greatly appreciated if you answer all the questions as frankly as possible, you should not feel obliged to answer any questions that you find objectionable or that make you feel uncomfortable. You may withdraw from this study at any time up until the end of the study by notifying the experimenter. This will not affect your compensation and your data will be destroyed. However, because responses are anonymous, once the study is completed you can no longer withdraw your data.

We will keep your responses confidential. We will store the data on a password-protected computer until the data is no longer needed. Only authorized personnel will have access to this data. To help us ensure confidentiality, please do not put your name on the questionnaire. The data may also be published but any such presentations will be of general findings and will not breach individual confidentiality. Should you be interested, you are entitled to a copy of the findings. Furthermore, if this research is published, the data will be released upon request to authorized researchers. However, no identifying information will be provided.

In exchange for your participation in all tasks in this experimental session, we will indicate that you have earned 0.5 of a maximum of 5.0 credits or \$5 if you have arranged with the research assistant to be compensated monetarily.

Any questions about study participation may be directed to Ariel Silver, (ariel.silver@queensu.ca) or Dr. Leandre Fabrigar, (613-533-6492, fabrigar@queensu.ca). Any ethical concerns about the study may be directed to the Chair of the General Research Ethics Board at chair.GREB@queensu.ca or 613-533-6081.

Again, thank you. Your interest in participating in this research study is greatly appreciated.

Leandre R. Fabrigar, Ph.D.
Associate Professor

Ariel Silver
Master's Student

**Consent Form
TOAST2**

Name (please print clearly): _____

5. I have read the Letter of Information and have had any questions answered to my satisfaction.

6. I understand that I will be participating in the study called TOAST. I understand that this means that I will be asked to list attributes about myself and answer questions about how I view myself on the computer.

7. I understand that my participation in this study is voluntary and I may withdraw at any time by notifying the experimenter. I understand that every effort will be made to maintain the confidentiality of the data now and in the future. I understand that the data will be stored on a password-protected computer and only authorized personnel will have access to this data. The data may also be published but any such presentations will be of general findings and will never breach individual confidentiality. I understand that if the data is requested by other researchers, the information provided will not permit others to ascertain my identity.

8. I understand that any questions about study participation may be directed to Ariel Silver, (ariel.silver@queensu.ca) or Dr. Leandre Fabrigar, (613-533-6492, fabrigar@queensu.ca). Any ethical concerns about the study may be directed to the Chair of the General Research Ethics Board at chair.GREB@queensu.ca or 613-533-6081.

I have read the above statements and freely consent to participate in this research:

Signature: _____

Date: _____

Debriefing Form TOAST2

In the study you have just completed we are interested in examining how people's self-discrepancies are related to their self-esteem. Self-discrepancies are when the attributes that you do possess do not align with those that you should or wished you possessed. Self-discrepancies have traditionally been measured with objective, structural measures, such as questionnaires and interviews. Self-discrepancies could also be measured by asking very subjective, global questions about an individual's perception of their self-discrepancies, but this has not been widely done by researchers studying self-discrepancy. Therefore, in the present study, we are testing three hypotheses: 1) objective and subjective measures of self-discrepancy will be at best modestly correlated with one another, 2) objective self-discrepancy will be more predictive of implicit self-esteem, and 3) subjective self-discrepancy will be more predictive of explicit self-esteem.

Today you assisted us in answering these three questions. To investigate hypothesis one, we asked you how close you felt you were to how you wanted to be or ought to be, and also asked you to list traits describing the person you are, the person you feel you ought to be, and the person you would ideally like to be, and compared them directly. To examine our other hypotheses, we measured your self-esteem in two ways. Your explicit self-esteem was measured by answering questions such as "On the whole, I am satisfied with myself". Your implicit self-esteem was measured using a version of the Implicit Association Test, which measures the strength of automatic associations between concepts by comparing the speed of your key presses during a categorization task. Note that most people feel some discrepancy between who they are and who they should or want to be and this can be distressing. If you felt uncomfortable doing this task, that is normal.

If answering any of these questions lead you to feel distressed and you would like to speak to someone about your thoughts, please contact Queens' Health Counselling and Disability Services at 613-533-2506, TALK Distress and Information Line at 613-544-1771, or the Canadian Mental Health Association at 416-484-7750.

This study has been granted clearance according to the recommended principles of Canadian ethics guidelines, and Queen's policies.

Any questions about study participation may be directed to Ariel Silver, (ariel.silver@queensu.ca) or Dr. Leandre Fabrigar, (613-533-6492, fabrigar@queensu.ca). Any ethical concerns about the study may be directed to the Chair of the General Research Ethics Board at chair.GREB@queensu.ca or 613-533-6081. You should also feel free to raise any issues of interest or concern with the RA running the session. If the assistant cannot answer your question, he or she will refer you to the principal investigator, Dr. Leandre Fabrigar.

This is an ongoing research project: please do not discuss this project with anyone, as knowledge of what we are trying to find may alter the results we obtain. Thank you.

If you are interested in this area of research you may wish to read the following reference:

Higgins, E. T., Bond, R. N., Klein, R., and Strauman, T. 1986. Self-discrepancies and emotional vulnerability: how magnitude, accessibility, and type of discrepancy influence affect. *Journal of Personality and Social Psychology*, 51(1): 5-15.

Again, thank you. Your interest in participating in this research study is greatly appreciated.

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Associate Professor

Ariel Silver
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Appendix E

Experimental Measures – Study 3

Measure of Explicit Self-Esteem: Rosenberg *Self-Esteem Scale* (1965)

Instructions: Below is a list of statements dealing with your general feelings about yourself. If you strongly agree, circle SA. If you agree with the statement, circle A. If you disagree, circle D. If you strongly disagree, circle SD.

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

note: * indicates item was reverse-coded

Measure of Implicit Self-Esteem: *Self-Esteem IAT* (2000)

Evaluative		Target Words	
Pleasant	Unpleasant	Self	Other
Pleasure	Agony	Mine	They
Lovely	Tragic	Myself	Theirs
Wonderful	Horrible	My	Others
Marvelous	Awful	Me	Their
Joyful	Painful	Self	Them
Superb	Humiliate		
Beautiful	Terrible		
Glorious	Nasty		

Sample Instructions

Put your middle or index fingers on the E and I keys of the keyboard. Words representing the categories at the top will appear one-by-one in the middle of the screen. When the item belongs to a category on the left, press the E key; when the item belongs to a category on the right, press the I key. Items belong to only one category. If you make an error, the item will remain on the screen - fix the error by hitting the other key.

This is a timed sorting task. GO AS FAST AS YOU CAN while making as few mistakes as possible. Going too slow or making too many errors will result in an inappropriate score. This task will take about 5 minutes to complete.

Press the SPACE BAR to begin.