

## MEASURING SELF-DISCREPANCIES ON THE BIG FIVE PERSONALITY TRAITS WITH THE REPERTORY GRID

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*The current paper describes a repertory grid approach for measuring trait-based self-discrepancies. This novel method is strictly empirical and more parsimonious than extant methods for assessing self-discrepancies on personality dimensions. We demonstrated this approach by measuring discrepancies between the actual, ideal, and ought selves on the Big Five personality traits and then assessing their relationships with measures of depression, anxiety, and self-esteem. The results indicated that self-discrepancies on the Big Five personality traits were generally not predictive of psychological well-being. These findings were discussed in the context of previous research and contemporary models that relate self-discrepancies to different emotional states.*

Keywords: *Big Five traits, personality, self-discrepancies, repertory grid*

*“In each kind of self, material, social, and spiritual, men distinguish between the immediate and actual, and the remote and potential, between the narrower and the wider view, to the detriment of the former and advantage of the latter.” (James, 1890, p. 315)*

William James is often cited for the unique distinction he drew between the actual and ideal selves. As described by James, the actual self is one's immediate, conscious sense of self; whereas the ideal self (or potential self) is an image of oneself that is constructed in accord with personally desirable characteristics. Since the publication of James' *The Principles of Psychology* in 1890 psychologists have explored how the actual and ideal selves are constituted and related within the individual's overall self-concept. Rogers (1961), for instance, regarded the actual and ideal selves as internal representations of oneself that are often at odds, and one of the primary goals of therapy is to explore and reconcile the differences between these two selves. Hart, Field, Garfinkle, and Singer (1997) further posited a semantic space model of cognition in which the different selves are situated. Given this semantic space, the proximities between the actual and ideal selves can be measured and correlated with measures of self-esteem and mood. Higgins (1987) also relied on a semantic space model of cognition, and specifically showed that the discrepancy between the ac-

tual and ideal selves regulates particular emotional states such as depression. In the past twenty years, researchers have gone beyond the ideal self, introducing the ought (Higgins, 1987), undesired (Ogilvie, 1987), feared (Carver, Lawrence, & Scheier, 1999), and future (Markus & Nurius, 1986) selves. The overarching goal behind much of this work has been to study how different self-discrepancies (i.e., differences between different selves) are related to distinct emotional states.

Efforts have also been made to integrate self-discrepancy research with modern trait theories of personality. Hart et al. (1997), for instance, examined the relationships between various self-discrepancies and scores on the NEO-FFI (Costa & McCrae, 1992), a measure of the Big Five personality traits: Neuroticism, Extraversion, Openness to Experience, Conscientiousness, and Agreeableness. Hafdahl, Panter, Gramzow, Sedikides, and Insko (2000) further introduced a novel measurement and scoring procedure to obtain scores for different selves (e.g., the actual and ideal selves) on the Big Five factors. They then computed discrepancies between various pairs of selves and correlated the resulting values with measures of depression and self-esteem.

In the current study we measured self-discrepancies on the Big Five traits using a modified version of Kelly's (1955) repertory grid technique. It is well known that the repertory grid is highly

suitied for idiographic research in personality psychology. Given its flexibility, however, it can also be used to address questions concerning trait models such as the Big Five (e.g., see Grice, 2004). Assessing self-discrepancies on personality traits with the repertory grid is in fact a parsimonious process that offers significant advantages over the complex and time-consuming procedures employed in previous studies. Using this straightforward technique, we examined the relationships between different trait self-discrepancies and measures of psychological well-being; specifically depression, anxiety, and self-esteem. We also tested key predictions from Higgins' (1987) self-discrepancy theory and discussed the importance of the current methods and results for future self-discrepancy researchers.

### **Self-discrepancies and personality**

Because of its popularity, Higgins' (1987) self-discrepancy theory has played an important role in studies that have sought to integrate self-discrepancies and trait theories of personality. Building on James' (1890) and Rogers' (1961) original insights distinguishing between the actual and ideal selves, Higgins developed self-discrepancy theory (Higgins, Klein, & Strauman, 1985) to differentiate between the actual and ought selves as well. As stated above, the ideal self (or self-guide) is an individual's representation of his or her hopes and aspirations for him or herself; whereas the ought self is an individual's representation of someone else's beliefs about his or her responsibilities and obligations (Higgins, 1999). The importance of the distinction between the ideal and ought self-guides lies in the connections between different self-discrepancies and particular emotional states. Stated succinctly, self-discrepancy theory posits that discrepancies between the actual and ideal selves will uniquely predict dejection-related emotions (e.g., sadness, disappointment, and depression), whereas discrepancies between the actual and ought selves will uniquely predict agitation-related emotions (e.g., anxiety, nervousness, and guilt).

In an initial effort to explore the boundaries between self-discrepancies and trait models of personality, Hart et al. (1997) related different self-discrepancies to measures of emotional well-being and the Big Five factors of personality. Self-

discrepancies were measured by first asking participants to freely describe themselves and important others using adjective terms. The fifty most prevalent descriptors for each participant were then selected. Finally, the participants were asked to indicate whether or not each adjective described their actual, ideal, ought, future, and undesired selves as well as a number of significant others. In their analysis of the resulting ratings Hart et al. (1997) found that a number of self-proximities (i.e., the opposite of discrepancies) were related to scores on the Big Five traits as measured by the NEO-FFI (Costa & McCrae, 1992). Hart et al. also found that the actual-ideal and actual-ought proximities were associated with both anxiety and depression; however, after statistically controlling for the Neuroticism, Extraversion, and Agreeableness traits, proximities continued to be related to anxiety but not depression. These results were therefore not entirely consistent with the predictions of Higgins' self-discrepancy theory, but nonetheless demonstrated that self-discrepancies could be studied in the context of a personality trait model.

Hafdahl et al. (2000) have more recently devised a method for directly assessing self-discrepancies on the Big Five personality factors. They incorporated the Selves Questionnaire (SQ) into their study, which is a measure often used in studies of Higgins' self-discrepancy theory. To complete the SQ, a participant freely lists descriptive adjectives that apply to the actual, ideal, and ought selves. Adjectives are also listed for these different selves from the viewpoint of some other significant person (e.g., mom, dad, or a romantic partner). Trained judges in Hafdahl et al.'s study then used marker items from Goldberg (1990) to code the responses from the SQ as indicators of the Big Five personality traits. The Big Five traits from Goldberg's analysis are typically referred to as Surgency, Agreeableness, Conscientiousness, Emotional Stability, and Intellect. As part of the coding scheme, scores for the actual, ideal, and ought selves were generated for each of the personality traits. Discrepancy scores were then computed and correlated with a measure of self-esteem and two different measures of depression. The results revealed that actual-ideal and actual-ought discrepancies on the Big Five traits were not correlated with either measure of depression. The actual-ideal and actual-ought discrepancies were found to be correlated with self-esteem, however, for Surgency

and for the average discrepancies across all five traits. The results were therefore inconsistent with Higgins' (1987) self-discrepancy theory but showed that some discrepancies are nonetheless associated with different emotional states.

Hafdahl et al.'s (2000) method was certainly innovative. Using the SQ and a coding system based on marker items for the Big Five, they obtained trait data from free responses and were able to directly assess the various self-discrepancies on each personality dimension. A number of limitations pertaining to their methods, however, can be noted. Foremost, their coding scheme was complex and time-consuming. Participants' responses to the SQ were judged against nearly two-thousand marker adjectives for the Big Five to determine if each particular response was a match (identical to a Big Five marker) or a non-match (not among the nearly two-thousand marker adjectives). More difficult subjective judgments were then made to classify the non-matches. The interrater reliabilities for these judgments were adequate but unimpressive, ranging from .64 to .73 for the five traits. Once the free-response descriptions from the SQ were coded, scores for the actual, ideal, and ought selves were computed using factor loadings for the marker items as weights. Again, this procedure was time-consuming and also subject to the inherent problems of using loadings as weights in computing sum scores. It has been shown that factor-analysis-derived sum scores (essentially factor scores) based on loadings are generally less valid than scores based on the factor score coefficients (Harris, 1985, p. 282-287; Grice, 2001). Finally, by using the free-response format of the SQ, the procedure did not ensure that each of the Big Five traits would be represented sufficiently in the adjectives, or that the five traits would be equally represented. Given these concerns regarding the coding and scoring procedures employed by Hafdahl et al., we sought to utilize a more efficient procedure for obtaining self-discrepancies on personality trait dimensions and subsequently assessing their relationships with measures of psychological well-being.

Kelly's (1955) original repertory grid technique has undergone numerous modifications since its inception, resulting in a wide variety of measurement procedures that are generically referred to as "repertory grids" (see Beail, 1985; Fransella, Bell, & Bannister, 2004). In the typical repertory grid, an

individual rates or ranks a number of people or objects (elements) along a series of bipolar dimensions (constructs). Any number of elements and constructs can be elicited from the person completing the grid, or they can be provided by the examiner. A two-dimensional matrix of ratings or rankings is generated which can subsequently be subjected to a host of statistical analyses and graphing procedures. Grice (2004) recently showed that the repertory grid technique can easily be modified to obtain ratings for personality traits. In his study, participants rated themselves and other individuals on twenty-five marker items for the Big Five personality traits. Total scores, or trait scores, were then computed for the people in each participant's grid and used in subsequent multivariate statistical analyses.

The data acquisition method employed in Grice's study can also be used to assess self-discrepancies on personality traits such as the Big Five. Ratings for the actual, ideal, and ought selves and other significant individuals can be obtained on multiple items for each personality trait. These ratings can then be summed into trait scores for the actual, ideal, and ought selves, as well as for the other rated individuals. Automated procedures can moreover be used to obtain the repertory grid ratings. Likewise, trait scores for the different selves and significant others can be computed directly from the data. Trained judges are therefore not employed in the scoring procedures. Compared to the methods outlined by Hafdahl et al., this summation-based approach is parsimonious, efficient, and strictly empirical. As will be shown below, the trait scores can be transformed into discrepancy scores and correlated with various measures of psychological well-being, similar to previous studies. These discrepancy scores can also be used to assess the specific predictions of Higgins' self-discrepancy theory.

## METHOD

### Participants

One hundred twenty-five undergraduate students (69 women and 56 men), 18 to 29 years of age ( $M = 19.6$ ,  $Mdn = 19$ ,  $SD = 1.76$ ), participated in this study in exchange for course credit. The sample consisted of 81.6 percent Caucasians, 4.8 percent Native Americans, 4.0 percent African Americans,

3.2 percent Asian-Pacific Islanders, 1.6 percent Hispanics, and 4.8 percent of the participants reported their ethnicity as “other.”

## **Materials**

*Rosenberg Self Esteem Inventory.* The Rosenberg Self Esteem Inventory (RSEI; Rosenberg, 1965, p. 17-18) is a ten-item self-report instrument that measures global self-esteem. Participants rate each evaluative item on a 7-point Likert scale ranging from “disagree strongly” to “agree strongly.” Good reliability and construct validity for data generated from the RSEI have been reported (Goldsmith, 1986). Cronbach’s alpha for all ten items in the present study was .88.

*Brief Symptom Inventory.* The Brief Symptom Inventory (BSI; Derogatis, 1975) is a self-report questionnaire that assesses nine primary symptom dimensions (somatization, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism) as well as global psychological distress. The BSI consists of 53-items which participants rate on 5-point scales (ranging from “not at all” to “extremely”) indicating the number of times during the past week they were bothered by a particular symptom. Basic language, equivalent of an American sixth grade education, is used in the instructions and wording of the items. Administration normally takes no more than 10 minutes, and Derogatis and Melisaratos (1983) report strong evidence for convergent and construct validity. The BSI has also been shown to yield data with good test-retest and internal consistency reliabilities. Cronbach’s alpha for all 53 items was .97 for the current data, and alphas for the anxiety and depression scales were .86 and .87, respectively. These two primary scales were examined in the analyses below.

## **Procedure**

Participants rated their actual, ideal, and ought selves, as well as twenty-two other individuals on computers using Idiogrid (Grice, 2002). After reading brief instructions on the computer monitor, participants entered twenty-two names (e.g., Megan, Allen) or titles (e.g., Mom, Uncle Patrick) for individuals who most closely fit provided roles. The

roles, adapted from Kelly (1955, p. 221-222), are listed in the Appendix.

Disregarding misspellings, the participants were not permitted to enter duplicate names or role titles. If the same name or title was entered, they were prompted to think of another person or clarify that the entered name or title was in fact a different person by using a last name initial or other identifying mark. The ideal self was defined as “yourself as you would truly like to be” and the ought self was defined as “yourself as others would expect or like you to be.” Participants then rated their three selves (“myself”, the ideal self, and the ought self) and the twenty-two entered people on thirty marker items for the Big Five. The marker items were randomly selected for each participant from the one-hundred items comprising the International Personality Item Pool (Goldberg, 1999). The Big Five traits were labeled as Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Intellect. Six items were selected for each of the Big Five scales (e.g., six from Extroversion, six from Agreeableness, etc.). A 5-point Likert-type scale (-2 = Very Inaccurate, -1 = Inaccurate, 0 = Neither Inaccurate nor Accurate, +1 = Accurate, +2 = Very Accurate) was used for the ratings, and a standard item stem, “\_\_\_\_\_ is the type of person who \_\_\_\_\_”, was used. The first blank in the stem was replaced with the name or role title of the person being rated, and the second blank was replaced with the personality phrase. For example, “Megan is the type of person who is the life of the party”, or “Mom is the type of person who gets chores done right away.” The twenty-five elements (3 selves and 22 others) were presented in random order to each participant and, for each person, the thirty personality items were presented in random order. The seven-hundred and fifty ratings were recorded in a 25 (roles/elements) x 30 (Big Five markers/constructs) repertory grid. Following completion of the rating procedure, participants completed a demographics sheet, the Brief Symptom Inventory, and the Rosenberg Self-Esteem Inventory. Participants were debriefed and thanked for their participation. Participants completed all tasks in 30 minutes or less.

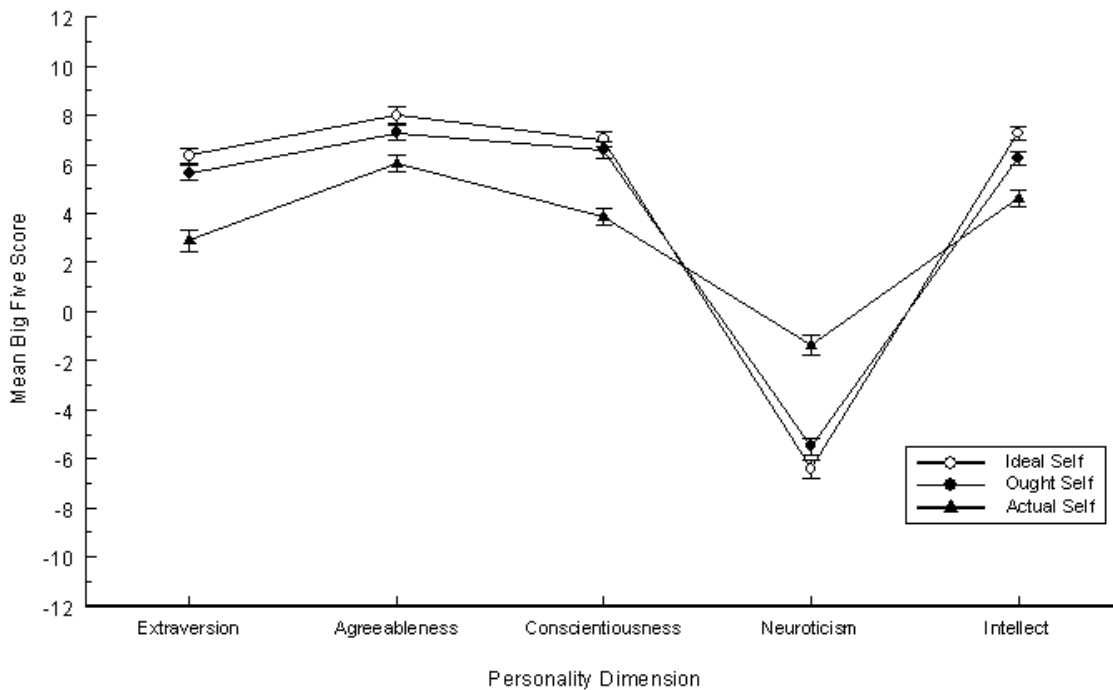
## RESULTS

### Analysis of trait scores

For each participant's grid, the Big Five marker items were keyed in the same direction such that

high scores indicated greater levels of Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Intellect. The six marker items for each trait were then summed separately for the actual, ideal, and ought selves. These sum scores, or *trait scores*, ranged in value from -12 to +12.

Figure 1. Mean summation scores for the actual, ideal, and ought selves on the Big Five personality dimensions.



Means and standard errors were then computed and plotted in Figure 1. As can be seen, the ideal self was rated most extreme on the Big Five dimensions, followed closely by the ought self. The actual self was not rated as extreme as the other two selves on the Big Five traits and was most similar to the ideal and ought selves on Agreeableness and least similar on Neuroticism. Overall the participants viewed themselves as slightly extraverted, agreeable, slightly conscientious, slightly emotionally stable, and relatively high in intellect. They wished or

thought they ought to be more extraverted, more agreeable, more conscientious, less neurotic, and higher in intellect. These results are typical for the college population that was sampled. Lastly, if the Neuroticism trait scores are reflected, it can be seen in Figure 1 that the ideal and ought selves showed less variation in their means across the Big Five dimensions compared to the actual self.

**Analysis of discrepancy scores**

An important premise of self-discrepancy research is that trait scores fail to convey an important aspect of self-concept; namely, the intra-psychic tension between the various selves. In order to capture this aspect of self-concept, discrepancy researchers often compute disparity scores in which large values indicate greater discrepancies between the different selves and small values indicate greater self-congruity. In the current study, Actual-Ideal (A-I) and Actual-Ought (A-O) discrepancy scores were computed for each of the Big Five traits by taking the absolute values of the differences between the respective trait scores. The A-I and A-O discrepancy scores consequently ranged in value from 0 to 24, with 0 representing no discrepancy and 24 representing the greatest discrepancy possible.

As can be seen in Table 1, the average self-

discrepancies for the Big Five traits were small, ranging from 2.44 to 5.50. Examination of frequency histograms also revealed that all discrepancies were positively skewed. Thus, while a wide range of values in both A-I and A-O discrepancies were seen across the Big Five traits, the vast majority of discrepancies were small in magnitude. The largest average A-I and A-O discrepancies were noted for Neuroticism, whereas the smallest averages of the two discrepancies were noted for Agreeableness. The descriptive statistics for the measures of depression, anxiety, and self-esteem reported in Table 1 also reveal low variability in the participants' responses. High scores for the depression, anxiety, and self-esteem measures indicated higher levels of depression, anxiety, and self-esteem. On average the students reported low levels of depression and anxiety and high levels of self-esteem.

Table 1. Summary statistics for self-discrepancies on the Big Five traits and for the three measures of psychological well-being

Measure	<i>M</i>	<i>SD</i>	<i>Mdn</i>	<i>Possible Range</i>	<i>Observed Min</i>	<i>Observed Max</i>
<i>Extraversion</i>						
Actual-Ideal Discrepancy	4.02	4.16	3	0-24	0	21
Actual-Ought Discrepancy	3.78	4.08	2	0-24	0	20
<i>Agreeableness</i>						
Actual-Ideal Discrepancy	2.74	3.14	2	0-24	0	17
Actual-Ought Discrepancy	2.44	2.86	1	0-24	0	17
<i>Conscientiousness</i>						
Actual-Ideal Discrepancy	3.49	3.67	3	0-24	0	15
Actual-Ought Discrepancy	3.36	3.44	2	0-24	0	15
<i>Neuroticism</i>						
Actual-Ideal Discrepancy	5.50	4.95	4	0-24	0	18
Actual-Ought Discrepancy	4.87	4.47	3	0-24	0	18
<i>Intellect</i>						
Actual-Ideal Discrepancy	3.02	2.80	2	0-24	0	13
Actual-Ought Discrepancy	2.49	2.69	1	0-24	0	14
Depression	3.50	4.32	2	0-19	0	19
Anxiety	3.24	4.16	2	0-19	0	19
(RSEI) Self-Esteem	55.09	9.61	57	10-70	22	70

Table 2 displays the bivariate correlations between the Big Five A-I and A-O discrepancies and measures of depression, anxiety, and self-esteem. Consis-

tent with previous studies, the correlations between self-discrepancies were large (> .75) and highly significant within each trait. In other words, partici-

participants reporting high A-I discrepancies for a given Big Five trait tended to report high A-O discrepancies as well. Even across traits the A-I and A-O discrepancies were moderately ( $> .30$ ) and significantly correlated. Those participants reporting high A-I discrepancies on one trait therefore tended to report large A-O discrepancies on the other four traits as well. Lastly, participants reporting high A-I discrepancies for a given trait tended to report high A-I discrepancies on the other four traits, and participants reporting high A-O discrepancies for a given trait tended to report high A-O discrepancies on the other four traits as well.

With regard to the measures of psychological well-being (see Table 2), high A-I discrepancies on Extraversion predicted greater levels of depression and anxiety. Greater A-I and A-O discrepancies on Conscientiousness also predicted higher levels of anxiety. High A-I and A-O discrepancies on Extraversion and Neuroticism predicted lower scores of self-esteem, and high A-I discrepancies on Conscientiousness predicted lower scores of self-esteem. While all of these correlations were statistically significant at the .05 level, the absolute magnitudes were low ( $< .30$ ).

Table 2. Correlations between Big Five Actual-Ideal and Actual-Ought self-discrepancies and psychological well-being scales

	A-I E	A-O E	A-I A	A-O A	A-I C	A-O C	A-I N	A-O N	A-I I	A-O I	Dep	Anx
A-I E	--											
A-O E	.85**	--										
A-I A	.37**	.42**	--									
A-O A	.26**	.38**	.82**	--								
A-I C	.24**	.16	.29**	.23*	--							
A-O C	.32**	.26**	.22*	.19*	.86**	--						
A-I N	.45**	.46**	.37**	.38**	.36**	.34**	--					
A-O N	.41**	.44**	.26**	.32**	.30**	.34**	.86**	--				
A-I I	.40**	.37**	.33**	.33**	.41**	.41**	.32**	.34**	--			
A-O I	.42**	.43**	.33**	.29**	.31**	.34**	.29**	.37**	.76**	--		
Dep	.21*	.12	-.03	-.07	.16	.16	.15	.10	.05	.11	--	
Anx	.22**	.14	-.01	-.05	.22*	.24**	.13	.13	.09	.16	.74**	--
RSEI	-.27**	-.19*	-.02	.01	-.22*	-.16	-.24**	-.20*	-.17	-.15	-.68**	-.55**

Note. A-I E = Actual-Ideal self-discrepancies on Extraversion; A-O E = Actual-Ought self-discrepancies on Extraversion; A-I A = Actual-Ideal self-discrepancies on Agreeableness; A-O A = Actual-Ought self-discrepancies on Agreeableness; A-I C = Actual-Ideal self-discrepancies on Conscientiousness; A-O C = Actual-Ought self-discrepancies on Conscientiousness; A-I N = Actual-Ideal self-discrepancies on Neuroticism; A-O N = Actual-Ought self-discrepancies on Neuroticism; A-I I = Actual-Ideal self-discrepancies on Intellect; A-O I = Actual-Ought self-discrepancies on Intellect; Dep, Anx = Depression and Anxiety BSI subscales, respectively; RSEI = Rosenberg Self-Esteem Inventory.

\*  $p \leq .05$ , \*\*  $p \leq .01$ , two-tailed.

### Semi-partial correlation analyses

Prior research has shown that once variation in ratings of the actual self are controlled, ratings for the ideal self fail to predict measures of psychological well-being (Wylie, 1961). In other words, variation attributable to the actual self ratings *alone* may drive the relationships between the self-discrepancies and measures of psychological well-being. We therefore

computed semi-partial correlations between the A-I and A-O discrepancies and the measures of depression, anxiety, and self-esteem, controlling for the effects of the actual self in each measure of psychological well-being. These semi-partial correlations are reported in Table 3 and show the discrepancies' unique contribution above and beyond the actual self ratings when predicting depression, anxiety, and self-esteem. Only two of the nine original self-

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discrepancy correlations remained significant when actual self ratings were controlled (cf., Table 2). Specifically, the two semi-partial correlations between anxiety and the A-I and A-O discrepancies on Conscientiousness (controlling for actual self Conscientiousness ratings) were statistically significant. Additionally, the semi-partial correlation between anxiety and the A-O Intellect discrepancy (controlling for actual self Intellect ratings) was significant. Participants with greater discrepancies tended to

report higher levels of anxiety. The absolute magnitudes of these statistically significant semi-partial correlations, however, were small ( $< .23$ ). Similarly, all of the nonsignificant values for depression, anxiety, and self-esteem were small in magnitude ( $max = .16$ ). Overall, these results indicate that A-I and A-O discrepancies on the Big Five traits were not effective, unique predictors of depression, anxiety, and self-esteem.

Table 3. *Actual-Ideal and Actual-Ought self-discrepancy semi-partial correlations with psychological well-being measures controlling for Actual Self ratings*

	A-IE	A-O E	A-IA	A-O A	A-IC	A-O C	A-IN	A-ON	A-II	A-O I
Dep	.13	<.01	<.01	-.05	.14	.14	.12	.04	.04	.10
Anx	.16	.04	-.01	-.06	.20*	.22**	.12	.11	.10	.19*
RSEI	-.07	.05	<.01	.03	-.17	-.08	-.03	<.01	-.09	-.07

*Note.* A-IE = Actual-Ideal self-discrepancies on Extraversion; A-O E = Actual-Ought self-discrepancies on Extraversion; A-IA = Actual-Ideal self-discrepancies on Agreeableness; A-O A = Actual-Ought self-discrepancies on Agreeableness; A-IC = Actual-Ideal self-discrepancies on Conscientiousness; A-O C = Actual-Ought self-discrepancies on Conscientiousness; A-IN = Actual-Ideal self-discrepancies on Neuroticism; A-ON = Actual-Ought self-discrepancies on Neuroticism; A-II = Actual-Ideal self-discrepancies on Intellect; A-O I = Actual-Ought self-discrepancies on Intellect; Dep, Anx = Depression and Anxiety BSI subscales, respectively; RSEI = Rosenberg Self-Esteem Inventory.

\*  $p \leq .05$ , \*\*  $p \leq .01$ , two-tailed

**Tests of self-discrepancy theory**

According to Higgins' self-discrepancy theory, discrepancies between the actual and ideal selves should predict self-reported levels of depression when controlling for variability in the Actual-Ought (A-O) discrepancies. In other words, the Actual-Ideal (A-I) self-discrepancy should *uniquely* predict depression. To test this prediction separately for each of the Big Five traits, we regressed the BSI depression scores onto the A-I and A-O discrepancies. A total of five regression analyses were conducted and only the Extraversion model was statistically significant [ $F(2, 121) = 3.63, p = .03, Adjusted R^2 = .04$ ]. Specifically, the Extraversion A-I discrepancy beta weight was significant and positive ( $b = .41, p = .02$ ) while the Extraversion A-O discrepancy beta weight was nonsignificant ( $b = -.23, p = .19$ ). Hence, when predicting depression from Extraversion discrepancies, this aspect of Higgins' self-discrepancy theory was supported. Analyses for the other four Big Five personality traits failed to yield support for self-discrepancy theory when pre-

dicting depression.

Self-discrepancy theory also predicts that discrepancies between the actual and ought selves should *uniquely* predict self-reported levels of anxiety when controlling for variability in the Actual-Ideal discrepancies. To test this prediction separately for each of the Big Five traits, we regressed the BSI anxiety scores onto the A-I and A-O discrepancies scores. Two of the five models for predicting anxiety were statistically significant. The Extraversion model was statistically significant [ $F(2, 121) = 3.74, p = .03, Adjusted R^2 = .04$ ], yielding a significant beta weight for the A-I discrepancy ( $b = .38, p = .03$ ) and a nonsignificant beta weight for the A-O discrepancy ( $b = -.19, p = .28$ ). This result therefore contradicted self-discrepancy theory because the A-O discrepancy was expected to uniquely predict anxiety, not the A-I discrepancy. The regression analysis for Conscientiousness was also significant for predicting anxiety [ $F(2, 121) = 3.82, p = .03, Adjusted R^2 = .04$ ]; however, neither the A-I discrepancy beta weight ( $b = .06, p = .75$ ) nor the A-O discrepancy beta weight ( $b = .24, p =$



.25) was significant in the model.

Similar to the small effect sizes – explaining approximately 4% of the variance in the measures of psychological well-being – of the three significant regression models above, the nonsignificant models also yielded small effect sizes (*Adjusted R*<sup>2</sup> ranging from .00-.01). It should also be noted that scatterplots of the residuals were examined and multicollinearity was checked for each analysis. Slight anomalies were present in some of the plots and moderate levels of multicollinearity were found (tolerance values ranged from .27-.42). These anomalies, however, did not affect the conclusions substantively. Therefore, very little supporting evidence was found for self-discrepancy theory within the Big Five personality traits.

## DISCUSSION

A modified form of Kelly's (1955) original repertory grid technique was used to measure participants' views of their actual, ideal, and ought selves on the Big Five personality traits: Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Intellect. This approach toward measuring the three different selves on the personality traits was automated on a computer, and calculation of the trait scores did not require the use of trained judges. The current repertory grid procedure took about 20 minutes or less for participants to complete on the computer. Furthermore, none of the participants demonstrated overt signs of fatigue or boredom (e.g., selecting the same scale response for all ratings) with the procedures or reported difficulties with completing the ratings. The quickness and ease which participants completed the repertory grid is not surprising given the personal constructs (Big Five marker items) were provided, and the participants were simply required to rate themselves and others. The savings in time and effort afforded by the automated grid procedure was realized in computing the trait scores and discrepancies. The trait scores were computed as simple sums of the ratings, and difference scores were then computed for the discrepancies. This process was much simpler and more efficient than the cumbersome procedures used by Hafdahl et al. (2000) and had the additional benefit of not requiring subjective judgments made by trained research assistants.

Examination of the trait scores for each of the three selves indicated very little separation between the ideal and ought selves. In other words, the participants showed very little discrimination between the ideal and ought selves. Both were rated relatively extreme on the Big Five traits compared to the actual self. The participants viewed themselves as slightly extraverted, agreeable, slightly conscientious, slightly emotionally stable, and relatively high in intellect; whereas they wished or thought they ought to be more extraverted, more agreeable, more conscientious, less neurotic, and higher in intellect. Given the positive valences (e.g., the typical college student values extraversion over introversion) of all but the Neuroticism trait, these results are not surprising.

In previous studies the discrepancies between the actual and ideal selves and the actual and ought selves on the Big Five personality traits have been compared to a variety of psychological constructs, most notably depression, anxiety, and self-esteem. How do the results from the current study, using a repertory grid approach, compare to the findings reported in these previous investigations? Analysis of the self-discrepancies revealed that the participants in this study generally viewed their actual selves as similar to their ideal and ought selves on the Big Five traits. On a 24-point scale, the average absolute discrepancy was approximately 3.5 across all five traits. The discrepancies also appeared to be general; in other words, those individuals with large Actual-Ideal (A-I) or Actual-Ought (A-O) discrepancies on one of the Big Five traits, tended to have large A-I or A-O discrepancies on the other traits. Most of the bivariate correlations revealed that the A-I and A-O self-discrepancies were not significantly associated with the measures of depression and anxiety. The few exceptions involved Extraversion and Conscientiousness. Larger A-I discrepancies on Extraversion were weakly associated with depression and anxiety, and larger A-I and A-O discrepancies on Conscientiousness were weakly associated with anxiety. Comparable correlations were reported by Hafdahl et al. (2000) with largely non-significant results. With regard to self-esteem, however, Hafdahl et al. reported that A-I and A-O Surgency (Extraversion) discrepancies, as well as the average of self-discrepancies across the five personality traits, significantly predicted self-esteem. In the current study, the A-I and A-O Extraversion dis-

crepancies similarly predicted self-esteem. Participants with large self-discrepancies on the Extraversion trait tended to report lower self-esteem. In contrast to Hafdahl et al.'s findings high A-I Conscientiousness, A-I Neuroticism, and A-O Neuroticism discrepancies were also found to significantly predict low self-esteem; although the magnitudes of these effects were small.

Semi-partial correlations were also computed and examined to assess the unique predictive power of the A-I and A-O discrepancies. The computation of these correlations was important because the use of discrepancy scores to predict different psychological states has been an issue of debate. Wylie (1961, p. 105) argued long ago that discrepancy scores may provide little information above and beyond what can be found in ratings of the actual self alone. On the other hand, Higgins, Bond, Klein, and Strauman (1986) have argued that it is not sufficient to measure only the individuals' actual self, the discrepancies between the actual self and the ideal and ought selves must also be measured. We thus computed the semi-partial correlations between the A-I and A-O discrepancies and the measures of depression and anxiety, controlling for the shared variance between the actual self ratings and the three measures of psychological well-being. In other words, the effects of the actual self ratings were removed from the measures of depression, anxiety, and self-esteem. In this way, Wylie's concerns were addressed and the unique relationship between the Big Five self-discrepancies and measures of depression, anxiety, and self-esteem could be assessed. Most of the resulting semi-partial correlations, however, were nonsignificant. Similar nonsignificant results for self-esteem were found by Moretti and Higgins (1990) when using a nomothetic measure of self-discrepancies. The few significant exceptions in the current study involved Conscientiousness and Intellect. Specifically, larger A-I and A-O discrepancies on Conscientiousness and larger A-O discrepancies on Intellect were weakly associated with anxiety. Given the current sample of students, these results likely reflect the parental, peer, and institutional pressure placed on the participants to behave responsibly and succeed in college.

Finally, the primary predictions of Higgins' (1987) self-discrepancy theory were examined in the current data using multiple-regression analyses. Self-discrepancy theory posits that discrepancies

between the actual and ideal selves will *uniquely* predict depression, whereas discrepancies between the actual and ought selves will *uniquely* predict anxiety. The results generally failed to support these predictions. Only one of ten regression analyses was in line with Higgins' theory; namely, A-I discrepancies on Extraversion uniquely predicted scores on the BSI depression scale. This positive result, however, was contradicted by the other regression analysis involving Extraversion which showed the A-I discrepancy to also uniquely predict anxiety. According to self-discrepancy theory, the A-O discrepancy should uniquely predicted anxiety. The current results stand in contrast to numerous studies published by Higgins and his colleagues that support self-discrepancy research (e.g., Higgins, 1987; Higgins, Bond, Klein & Strauman, 1986; Higgins, Klein & Strauman, 1985; and Strauman & Higgins, 1987), but are consistent with the negative results reported by other investigators (e.g., Tangney, Niedenthal, Covert, & Barlow, 1998; Key, Mannella, Thomas, & Gilroy, 2000; and Ozgul, Heubeck, Ward, & Wilkinson, 2003).

A number of factors may explain the largely nonsignificant or contrary findings reported above. First, the college students in this study were not very depressed or anxious, and they reported moderately high self-esteem. The low variability of these measures may have attenuated their relationships with the trait self-discrepancy scores. The distributions for the discrepancy scores were also positively skewed, with most participants indicating low A-I and A-O discrepancies. On the other hand, prior self-discrepancy studies yielding positive results have also employed primarily college students, and it is therefore difficult to clearly attribute the nonsignificant and contrary findings of this study to differences in samples or populations. This issue in fact highlights the need for samples drawn from more diverse populations (e.g., different age groups and social economic backgrounds, clinical populations) in future discrepancy research. More diverse samples would likely remedy the restricted ranges, like those observed in this study, and increase both statistical power and the generalizability of results. Moreover, from the standpoint of Personal Construct Theory (PCT), variability across time in how individuals might apply a set of provided constructs to themselves and others is to be expected. It is thus

reasonable to hypothesize that as individuals mature from adolescence to their senior years their self-discrepancies may change. While the results of the current study do not address these dynamic processes inherent in the PCT perspective of self-concept, the efficient methods presented above for measuring self-discrepancies could prove very useful in such endeavors.

Second, Goldberg's (1999) marker items for the Big Five personality traits were used in the current study. Other studies employed different measures of the Big Five traits; for instance, Hart et al. (1997) measured the five traits using the NEO-FFI (Costa & McCrae, 1992) in their study of self-discrepancies. Other studies relating psychological well-being to personality traits have commonly employed some version of Costa and McCrae's measure of the Big Five (e.g., Ebert, Tucker, & Roth, 2002; Meyer, 2002). It is feasible that using a different set of marker items in the repertory grids would yield different results.

Third, the participants in this study rated their actual, ideal, and ought selves in the context of 22 other individuals. The presentation of the three selves and the 22 other individuals was randomized for each person, and although each rating was made independent of the others it is possible that the context affected the participants' ratings of their actual, ideal, and ought selves. In studies of Higgins' self-discrepancy theory, only the three selves were typically assessed. Similarly, in Hafdahl et al.'s (2000) study of Big Five self-discrepancies, only the actual, ideal and ought selves were assessed. It is impossible to argue the superiority of one approach over the other at this juncture, but collecting ratings of other individuals does provide several potential benefits. For instance, although they were not addressed in the analyses above, it is possible to compute and evaluate discrepancies between the actual self and other individuals (e.g., mom, dad, or significant other). Hart et al. (1997) showed that such discrepancies may also predict different emotional states.

Finally, the repertory grid technique was used in the current study to obtain data on well known personality traits that are considered to be common to all people. Moretti and Higgins (1990) and Higgins (1999), however, have emphasized the importance of obtaining person-specific (i.e., idiographic) data in self-discrepancy research. Higgins (1999) argued that a central moderating variable in discrepancy

research, and particularly in his self-discrepancy theory, is the individual importance each person ascribes to the trait or quality being considered. In Higgins' Selves Questionnaire, participants freely list qualities that they consider to describe their actual, ideal, and ought selves. Because these descriptors are freely elicited, Higgins assumes they are both accessible and important to the individual's self-concept. The items found on a standardized questionnaire, by contrast, may largely prove irrelevant to any given individual's self-concept, or the researcher will not be able to separate the important and unimportant descriptors. In the methods described above, participants could be asked to rate the importance of each Big Five marker item, and then the trait scores could be computed for a reduced set of items. However, given the findings of Hafdahl et al. (2000), it is not clear that such a strategy would alter the current results in regard to self-discrepancy theory. Hafdahl et al. employed the Selves Questionnaire in their study and translated the participant's responses into scores on the Big Five traits. It could be argued that such scores represent more personally relevant data than the summation scores computed above, but the results still failed to support Higgins' self-discrepancy theory. Nonetheless, Kelly's (1955) repertory grid technique is best suited for collecting idiographic data, and can hence easily be used to assess self-discrepancies on individuals' own personal constructs. Moreover, as was recently shown by Grice (2004), both idiographic data and trait data (like the data in this study) collected from repertory grids can be compared and combined. Using the repertory grid technique, Higgins' claim regarding the importance of assessing self-discrepancies idiographically, rather than nomothetically, can be empirically tested.

The current methodology can therefore play an important role in the future of self-discrepancy research. It can also potentially play an important role in building theoretical bridges between PCT, self-concept research, and trait theories of personality. PCT has much in common with contemporary semantic space models of self-concept (e.g., see Cross & Markus, 1994; Markus & Nurius, 1986), and Grice (2004) has recently argued that PCT serves as a propitious framework for addressing the idiographic - nomothetic debate in mainstream personal-

ity psychology. We are hopeful that the techniques and methods described above will lead to new insights and further advances in exploring these theoretical boundaries.

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16. 'A teacher who influenced you most during your education (or the teacher of a subject you liked).'
  17. 'A teacher whose point of view you have found most objectionable (or the teacher of a subject you disliked).'
  18. 'An employer, supervisor, or officer under whom you worked and whom you know fairly well.'
  19. 'A successful person whom you know personally (other than yourself).'
  20. 'A happy person whom you know personally (other than yourself).'
  21. 'The person known to you personally who appears to uphold high ethical standards (other than yourself).'
  22. 'A person you know personally who often has difficulty telling the truth.'

## APPENDIX

### Provided roles

1. 'Your mother (or someone who has been like a mother to you).'
2. 'Your father (or someone who has been like a father to you).'
3. 'Your brother nearest your age. If you have no brother, the person who is most like one to you.'
4. 'Your sister nearest your age. If you have no sister, the person who is most like one to you.'
5. 'Your wife/husband or girlfriend/boyfriend (or someone you would like to have as a romantic partner).'
6. 'Your most recent ex-girlfriend or ex-boyfriend (or someone you have had romantic feelings for in the past).'
7. 'Your closest friend of your same sex.'
8. 'A person of your same sex whom you once thought was a friend but in whom you were badly disappointed.'
9. 'A spiritual person with whom you would be most willing to talk over your personal feelings about religion.'
10. 'A person you dislike.'
11. 'The present neighbor whom you know best (or a neighbor you knew well in the past).'
12. 'A person with whom you have been associated who appeared to dislike you.'
13. 'A person whom you would most like to help or for whom you feel sorry.'
14. 'A person with whom you usually feel most uncomfortable (or a person whom you find to be threatening).'
15. 'A person whom you have recently met whom you would like to know better.'

## AUTHORS' NOTE

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