Aging and Self-Discrepancy: Evidence for Adaptive Change Across the Life Span

Leann K. Lapp & Julia Spaniol

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AGING AND SELF-DISCREPANCY: EVIDENCE FOR ADAPTIVE CHANGE ACROSS THE LIFE SPAN

Leann K. Lapp and Julia Spaniol

Department of Psychology, Ryerson University, Toronto, Ontario, Canada

Background/Study Context: Higgins’ self-discrepancy theory (SDT; Higgins, 1987, Psychological Review, 94, 319–340) postulates that individuals are motivated to decrease the discrepancy between their current and future selves. The objective of the current research was to investigate adult age differences in quantitative and qualitative aspects of self-discrepancy.

Methods: Higgins’ self-guide strength measure (Higgins et al., 1997, Journal of Personality and Social Psychology, 72, 515–525) was utilized to compare self-discrepancy in older (aged 65–84) and younger (aged 17–30) healthy, community-dwelling adults. Additionally, the possible selves generated in the task were analyzed thematically.

Results: Age was associated with lowered expectations concerning both current and future selves, but the magnitude of self-discrepancy remained constant across the life span. Thematically, interpersonal-related possible selves were important for both age groups, whereas significant age differences emerged in several other thematic domains: younger adults generated significantly more related to achievement, whereas older adults were significantly more concerned with duties, obligations, and health.

Discussion: These findings reflect adaptive age-related changes in expectations and motivational priorities in line with life span theories of development.

Life span theories of development describe how goals change with aging, representing an adaptation to diminishing resources (Baltes & Baltes, 1990) and increasingly limited time perspective (e.g., socioemotional selectivity theory; Carstensen, Isaacowitz, & Charles, 1999). Empirical findings suggest that younger adults tend to pursue acquisition-related goals, whereas older adults prioritize maintenance or loss prevention (e.g., Ebner, Freund, & Baltes, 2006), often emphasizing interpersonal relationships (Carstensen et al., 1999). The goal of this study was to extend these findings by comparing younger and older adults on a measure of possible selves and self-discrepancy.

Possible selves are cognitive representations of the self in the future, guiding current behavior (Markus & Nurius, 1986). They bridge cognition and motivation, providing a gateway for studying motivational influences on cognitive aging. Past studies on possible selves and aging show that some selves remain salient over time, whereas others emerge and still others fade away (e.g., Frazier, Hooker, Johnson, & Kaus, 2000). Self-discrepancy
Aging and Self-Discrepancy

theory (SDT) posits that individuals are motivated to narrow the gap between actual and desired selves (Higgins, 1987). Moreover, SDT hypothesizes that specific types of self-discrepancy have specific affective consequences: ideal-actual discrepancies correspond to dejection-related emotions, whereas ought-actual discrepancies lead to agitation-related emotions (Higgins, 1987).

Given that significant self-discrepancies are associated with negative affect, and that older adults tend to maintain well-being despite experiencing increased losses (e.g., Scheibe & Carstensen, 2010), self-discrepancies should decrease with age (e.g., Heidrich, 1999; Ryff, 1991). This has been investigated in only a handful of studies, with varying results. In this study, Higgins’ (Higgins, Shah, & Friedman, 1997) self-discrepancy measure was used for the first time in both younger and older adults. We hypothesized that self-discrepancy would relate to affect (i.e., ideal to depression and ought to anxiety) and would decrease with age. To further access the rich information generated by this task, the possible selves were submitted to a thematic analysis. We expected that older adults would generate more selves from interpersonal and health domains, whereas younger adults would produce more selves relating to achievement and ambition.

METHODS

Participants

Thirty-seven younger adults (aged 17–30) were recruited from Ryerson University and received one course credit upon participation. Seven participants were excluded due to current psychiatric diagnosis, prescription of psychiatric medication, diagnosis of learning disability, or history of symptomatic concussion or head injury. Twenty-eight older adults (aged 65–84) were recruited from a participant database of individuals who had previously participated in studies at Ryerson University. They were screened over the phone prior to participation and received $10. Several participants (six older and four younger adults) failed to complete the self-guide strength and self-discrepancy task (SST) correctly (i.e., responding too quickly and missing ratings or items) and were eliminated from the analyses. Results were unchanged when these individuals were removed. The final sample included 26 younger (mean age = 19.46; SD = 2.53) and 22 older adults (mean age = 73.41; SD = 5.47). Older adults had Mini-Mental Status Examination (MMSE; Folstein, Folstein, & McHugh, 1975) scores of 27 or greater (M = 28.77; SD = 0.87). Older (77% female) and younger (81% female) adults did not differ with respect to sex or proportion of native English speakers. Older adults had significantly more years of education and better performance on the Shipley Vocabulary test (Shipley, 1940). Younger participants had significantly higher scores on Digit Symbol Coding and on all Depression Anxiety Stress Scales (DASS-21) subscales (Lovibond & Lovibond, 1995) (Table 1).

Procedure

Ethical approval was received from the Ryerson University Ethics Board. Participants gave informed consent and completed pen-and-paper versions of the baseline measures, including the Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988). Next, they completed tasks of memory and visual perception (part of another study) and the SST. Participants completed the PANAS for a second time, and older adults took the MMSE. Younger adults were interviewed for demographic information. Lastly,
participants were debriefed and the older adults were compensated. All participants were tested individually, and sessions lasted approximately 60 minutes.

**Main Measure: Self-guide Strength and Self-discrepancy Task (SST)**

The SST (Higgins, Shah, & Friedman, 1997) measures the discrepancy between actual and future selves (ideal and ought, respectively). The ideal-self was defined as “the type of person they would ideally like to be; the type of person they hoped, wished, or aspired to be.” The ought-self was defined as “the person they ought to be; the person whose duty, obligation, or responsibility it is to be” (Higgins et al., 1997). Using E-Prime 2.0 (Psychology Software Tools, Pittsburgh, PA), participants were prompted to type an attribute of the person they would ideally like or ought to be. A total of eight trials (four ideal and four ought) were administered per participant in pseudorandom order. After providing each attribute, participants rated how much they would ideally like to (or ought to) possess the attribute: “For the last attribute, rate the extent to which you would IDEALLY LIKE (OUGHT) TO possess the attribute.” Next, they rated how much they actually possessed the attribute: “For the last attribute, rate the extent to which you believe you ACTUALLY possess the attribute.” Participants made their ratings using a 4-point Likert scale (1 = slightly; 2 = moderately; 3 = a great deal; 4 = extremely). Participants were asked not to repeat any attributes, respond as quickly and as accurately as possible, and to “just put what first comes to mind.” Each of the eight trials required three responses from participants: typing the attribute, first rating, and second rating.

**Analysis**

Demographics and the baseline measures were analyzed using t tests and chi-square tests. For the SST, the actual-self ratings were subtracted from the ideal-(ought-) self ratings

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### Table 1. Baseline measures and the SST

<table>
<thead>
<tr>
<th>Variable</th>
<th>Category</th>
<th>Young (n = 26)</th>
<th>Older (n = 22)</th>
<th>Statistical test</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Digit Symbol Coding</strong></td>
<td></td>
<td>77.54 (16.80)</td>
<td>60.59 (11.50)</td>
<td>t(46) = 4.00</td>
<td>&lt;.001</td>
</tr>
<tr>
<td><strong>Shipley Vocabulary</strong></td>
<td></td>
<td>25.88 (3.65)</td>
<td>36.59 (2.11)</td>
<td>t(41.02) = −12.67</td>
<td>&lt;.001</td>
</tr>
<tr>
<td><strong>DASS Total</strong></td>
<td></td>
<td>16.73 (8.97)</td>
<td>6.23 (4.15)</td>
<td>t(36.48) = 5.33</td>
<td>&lt;.001</td>
</tr>
<tr>
<td></td>
<td><strong>Depression</strong></td>
<td>4.73 (4.11)</td>
<td>1.50 (2.54)</td>
<td>t(42.37) = 3.33</td>
<td>.002</td>
</tr>
<tr>
<td></td>
<td><strong>Anxiety</strong></td>
<td>4.54 (3.35)</td>
<td>1.59 (1.44)</td>
<td>t(35.07) = 4.07</td>
<td>&lt;.001</td>
</tr>
<tr>
<td></td>
<td><strong>Stress</strong></td>
<td>7.15 (4.27)</td>
<td>3.64 (3.33)</td>
<td>t(45.74) = 3.20</td>
<td>.002</td>
</tr>
<tr>
<td><strong>PANAS Positive Pre</strong></td>
<td></td>
<td>28.77 (7.11)</td>
<td>35.68 (5.41)</td>
<td>F(1,46) = 17.30</td>
<td>&lt;.001</td>
</tr>
<tr>
<td></td>
<td><strong>Post</strong></td>
<td>27.69 (6.82)</td>
<td>35.42 (6.01)</td>
<td>F(1,46) = 8.75</td>
<td>.01</td>
</tr>
<tr>
<td><strong>PANAS Negative Pre</strong></td>
<td></td>
<td>14.15 (4.54)</td>
<td>10.59 (0.91)</td>
<td>F(1,46) = 7.81</td>
<td>&lt;.01</td>
</tr>
<tr>
<td></td>
<td><strong>Post</strong></td>
<td>12.81 (3.75)</td>
<td>11.32 (2.46)</td>
<td>F(1,46) = 4.91</td>
<td>&lt;.05</td>
</tr>
<tr>
<td><strong>SST: Mean ratings</strong></td>
<td></td>
<td>13.77 (1.32)</td>
<td>12.57 (1.66)</td>
<td>F(1,46) = 7.81</td>
<td>&lt;.01</td>
</tr>
<tr>
<td></td>
<td><strong>Future</strong></td>
<td>10.27 (1.09)</td>
<td>8.93 (2.07)</td>
<td>F(1,46) = 4.91</td>
<td>&lt;.05</td>
</tr>
<tr>
<td></td>
<td><strong>Actual</strong></td>
<td>6.38 (2.90)</td>
<td>6.18 (4.04)</td>
<td>t(46) = .20</td>
<td>ns</td>
</tr>
</tbody>
</table>

*Note. Data are mean (standard deviation).*
for each attribute listed, and these values were summed across all ideal (ought) trials to
calculate the ideal (ought) self-discrepancy. The ideal and ought discrepancy values were
also summed together for a total discrepancy score. The ratings and discrepancy scores
were analyzed with analyses of variance (ANOVAs) and t tests. Relationships between the
SST and baseline measures were explored with bivariate correlations and separate multiple
regressions. All analyses employed the Bonferroni corrections for multiple comparisons,
and any violations of sphericity were corrected using the Greenhouse-Geisser correction
factor. The alpha level was set to .05, and all tests were two-tailed.

Exploratory qualitative analyses were performed on the attributes generated in the SST. First,
the list of attributes was de-identified so the coder was blind to age group. The list was
reviewed multiple times to identify overarching themes, guided by the coding scheme from
the Possible Selves interview (e.g., Frazier et al., 2000). Eight themes were identified, and
each attribute produced by the SST task was given a code corresponding to one theme. The
number of attributes in each coding domain was counted separately for each participant
and submitted to a generalized linear model assuming a Poisson distribution. Age group
was used as the predictor, and the frequencies of the thematic domains were entered as
dependent variables. Because the thematic domains were understood to represent separate
outcomes, a univariate rather than a multivariate approach was utilized in these analyses.

RESULTS

Demographics and Baseline Measures

Correlations within each group showed that demographic measures did not significantly
correlate with the SST. Older adults had significantly greater positive affect than younger
adults both before and after the SST (Table 1). Younger adults displayed greater negative
affect prior to the SST, but afterward, there was no significant difference between groups.

SST: Magnitude of Self-discrepancy

Bivariate correlations between the ideal and ought ratings and self-discrepancies showed
high interrelatedness between the ideal and ought constructs. There were no within- or
between-group differences for the ideal and ought discrepancy scores. A series of regres-
sions with age and discrepancy scores as predictors and DASS and PANAS subscales as
dependent variables did not reveal significant relationships that would have been predicted
by SDT. Due to the lack of discriminability between the ideal and ought constructs, scores
were collapsed across the ideal/ought dimension, leaving only three outcomes: future-self
ratings, actual-self ratings, and overall discrepancy scores (Table 1).

A mixed ANOVA with time (future vs. actual) and age as the within- and between-
subject variables, respectively, revealed a main effect of time, \( F(1, 46) = 125.14, p < .001, \)
\( \eta^2_p = .73 \), indicating that participants indeed hoped to or believed they ought to possess
their attributes more than they actually possessed them. There was no significant Time ×
Age interaction, but there was a significant main effect of age, \( F(1, 46) = 9.32, p = .004, \)
\( \eta^2_p = .17 \). Follow-up ANOVAs revealed that for both the future, \( F(1, 46) = 7.81, p = .008, \)
\( \eta^2_p = .15 \), and actual, \( F(1, 46) = 4.91, p = .032, \eta^2_p = .10 \), ratings, older adults made
lower ratings than younger adults, indicating they hoped or believed they ought to possess
the attributes less than younger adults did, but also believed that they actually possessed the attributes less than younger adults.

There was no significant age difference in overall discrepancy (i.e., ideal and ought discrepancies combined) between future- and actual-selves. Thus, despite the fact that older adults made lower ratings compared with younger adults, the difference between the future and current ratings did not change with age. There were no significant correlations between overall discrepancy scores and any of the baseline measures.

**SST: Thematic Domains of Possible Selves**

Eight thematic domains captured the attributes generated in the SST (Table 2 and Figure 1). For both groups, the greatest proportion of attributes came from the interpersonal conscientiousness category. For younger adults, the next most frequent categories were achievement process (“focused”), achievement product (“successful”), and dispositional (“happy”). For older adults, the next most frequent categories were duties/obligations (“tolerant”) and mind/cognitive (“educated”). The results of the Poisson regression (Table 2) indicated significant age differences in three thematic domains: achievement product (younger > older), duties/obligations (older > younger), and physical (older > younger).

**DISCUSSION**

Although older adults made lower ratings for both current and future selves, the magnitude of self-discrepancy did not differ between groups. Older adults may be compensating for age-related limitations by lowering expectations, thereby preventing any increase in self-discrepancy. These results diverge from past studies (Ryff, 1991; Heidrich, 1999), which found that older adults rated their future selves lower than younger adults, resulting in smaller self-discrepancies. The divergence could be due to differences in experimental tasks. For instance, previous studies elicited open-ended responses, whereas the SST constrains responses to one-word attributes. Deeper understanding of how self-discrepancy relates to different aspects of future selves and goals is an avenue for future research.

Generally consistent with our predictions, significant group differences were found in the achievement product, duties/obligations, and physical categories. This is consistent with theory (Baltes & Baltes, 1990) and empirical work showing that younger adults prioritize growth and older adults focus on maintenance or loss (e.g., Ebner et al., 2006), especially physical selves (Frazier et al., 2000). For both age groups, however, the greatest proportion of self-attributes were of the interpersonal conscientiousness category, suggesting continuity across the life span. This is partially consistent with socioemotional selectivity theory (Carstensen et al., 1999), which holds that interpersonal concerns are central for older adults. Nevertheless, the results also suggest that interpersonal goals are primary for younger adults. This may reflect the fact that the SST elicits types of selves and not specific goals per se. For example, younger adults may prioritize expanding their social network, whereas older adults might reinforce existing relationships, but both groups may include “kind” as a desirable future self, potentially relevant to both types of interpersonal goals.

As with most cross-sectional research, it must be considered that the pattern of findings may be related not only to age but also to other cohort features. For instance, the younger sample was derived from a university population, which may be particularly...
Table 2. Age differences between thematic domains in the SST

<table>
<thead>
<tr>
<th>Domain</th>
<th>Description</th>
<th>Included</th>
<th>$B$</th>
<th>SE</th>
<th>95% Wald confidence interval</th>
<th>Wald chi-square</th>
<th>$p$ statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Achievement product</td>
<td>End points or fixed states (&quot;successful&quot;)</td>
<td>Age</td>
<td>-1.04</td>
<td>.38</td>
<td>[-1.79, -0.29]</td>
<td>$\chi^2(1) = 7.46$</td>
<td>.006</td>
</tr>
<tr>
<td>Achievement process</td>
<td>Continual state of progress (&quot;motivated&quot;)</td>
<td>Age</td>
<td>-0.63</td>
<td>.32</td>
<td>[-1.27, 7.38E-5]</td>
<td>$\chi^2(1) = 3.84$</td>
<td>.050</td>
</tr>
<tr>
<td>Mind/cognitive Dispositional</td>
<td>Mental/cognitive goals (&quot;wise&quot;)</td>
<td>Age</td>
<td>.18</td>
<td>.32</td>
<td>[-0.45, 0.81]</td>
<td>$\chi^2(1) = 0.31$</td>
<td>.576</td>
</tr>
<tr>
<td></td>
<td>Character traits or states (&quot;happy&quot;)</td>
<td>Age</td>
<td>-0.53</td>
<td>.32</td>
<td>[-1.16, 0.09]</td>
<td>$\chi^2(1) = 2.79$</td>
<td>.095</td>
</tr>
<tr>
<td>Interpersonal conscientiousness</td>
<td>Positive orientation towards others (&quot;loving&quot;)</td>
<td>Age</td>
<td>.16</td>
<td>.19</td>
<td>[-0.21, 0.53]</td>
<td>$\chi^2(1) = 6.70$</td>
<td>.387</td>
</tr>
<tr>
<td>Interpersonal positive regard</td>
<td>Positive evaluation by others (&quot;pretty&quot;)</td>
<td>Age</td>
<td>-0.49</td>
<td>.47</td>
<td>[-1.41, 0.43]</td>
<td>$\chi^2(1) = 1.10$</td>
<td>.295</td>
</tr>
<tr>
<td>Duties/obligation</td>
<td>Qualities typical of &quot;oughts&quot; (&quot;organized&quot;)</td>
<td>Age</td>
<td>.69</td>
<td>.27</td>
<td>[0.16, 1.23]</td>
<td>$\chi^2(1) = 6.46$</td>
<td>.011</td>
</tr>
<tr>
<td>Physical</td>
<td>Reference to physical health or well-being (&quot;fit&quot;)</td>
<td>Age</td>
<td>1.31</td>
<td>.57</td>
<td>[0.19, 2.43]</td>
<td>$\chi^2(1) = 5.22$</td>
<td>.022</td>
</tr>
</tbody>
</table>
achievement-oriented as compared with other similarly aged individuals who are not university students. Likewise, the individuals constituting the older sample are noteworthy in that they self-selected to be in a pool of individuals willing to be contacted on a regular basis to participate in research. As compared with similarly aged individuals in the general population, they may differ on several important factors such as health, mobility, and privilege. Many volunteers in our sample routinely engage in community-enriching activities, including participating in research, and this might reflect a higher tendency towards conscientiousness. In turn, this may be related to greater salience of goals reflecting the theme of duties and obligations. Thus, although the findings are consistent with lifespan theories of development, future studies may consider exploring how these different cohort features may influence the salience of particular possible selves and thematic goal domains.

Lack of an association between the measures of depression, anxiety, and type of self-discrepancy raises concerns about the discriminant validity of the ideal and ought constructs. The empirical literature is equivocal on this front (e.g., Tangney, Niedenthal, Covert, & Barlow, 1998); indeed Higgins (1999) has addressed the need to identify moderators and mediators of the inconsistent self-discrepancy and affect association as another direction for further study.

The current study provides support for both adaptation and consistency in self-discrepancy and possible selves across the life span. These findings indicate which concerns remain as well as emerge in salience for older adults. Future directions include exploring how types of selves correspond to everyday behaviors in older adulthood, especially those implicated in successful aging.

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REFERENCES


