An Idiographic Approach to Personality Development:
Examining Change and Consistency in Self-Concept

Joshua J. Jackson¹, Alexandra N. Lord¹, Michael J Strube¹, & Peter D. Harms²

¹Washington University in St. Louis, ²University of Alabama

Correspondence concerning this article should be addressed to Joshua J. Jackson, 1 Brookings Dr., St. Louis, MO 63130. Email: j.jackson@wustl.edu

Abstract

The field of personality development almost exclusively relies on nomothetic measures (i.e., measures that are designed to capture universal, shared characteristics). Over-reliance on nomothetic measures can neglect important, individualized aspects of personality that are not captured with standard nomothetic measures. The current study takes an individual, idiographic approach to studying personality development by examining the development of one's self-concept. Participants ($N = 507$) provided 20 answers to the question "who am I?" four times across a four-year period in college. These self-defining statements were categorized into seven categories (loci, activities and interests, traits, self-evaluation, goals, ideology, and student), and their change and consistency were examined in multiple ways—using rank-order consistency, mean-level change, individual differences in change, and ipsative consistency. Analyses revealed that self-concept is moderately consistent across time, but that mean-level changes occurred in six of the seven categories. Further, mean-level change in self-complexity, or the number of categories used, was also found. Mean-level changes were qualified by significant individual differences in change as well as by a wide distribution of ipsative consistency. The results suggest that young adults are both changing and maintaining the ways they describe themselves over time, some more than others. The diverse content and consistency at the individual-level demonstrates the need for more individual, idiographic assessments to thoroughly examine personality development.

Personality is a broad, complex system that includes many constructs, such as traits, values, and goals (Mayer, 2005; McAdams & Pals, 2006; Roberts & Wood, 2006). These constructs can range from broad to narrow, and general to domain-specific. As Allport (1937) described, another meaningful distinction can be made between universal, common traits, which are similar in everyone, and idiosyncratic, individual traits, which are unique to an individual. A common-trait perspective, such as the Big Five, is the predominant model within personality psychology, and it assumes that these characteristics exist in everyone similarly across contexts and time. In contrast to this perspective, the individual-trait perspective holds that the structure of personality may differ at the individual level and convey unique characteristics that are particular to a single person (Beck & Jackson, 2019; Grice, Jackson, & McDaniel, 2006). For example, a man named Phil and his brother Bill might both be described as being highly extraverted according to a common-trait perspective such as the Big Five; however, according to the individual-trait perspective, Phil's behavior may differ from his brother Bill's behavior to the point where describing both people as extraverted would gloss over important and different causes of their behavior.

The distinction between common- and individual-trait perspectives is often captured with reference to nomothetic and idiographic approaches to personality science, respectively.¹ Nomothetic approaches seek to capture what is true in general (across people, contexts, and time), whereas idiographic approaches seek to capture what is unique to a specific individual (Allport, 1937; Beck & Jackson, 2019; Grice et al., 2006). Despite calls for more individualized and idiographic approaches to personality assessment, few idiographic studies of personality exist due to assessment, interpretation and analytic difficulties (Beck & Jackson, in press; Lamiell, 1981; Paunonen & Jackson, 1985; Pelham, 1993; Runyan, 1983; Shoda, Mischel, &

Wright, 1994). More recently, researchers have employed pseudo-idiographic approaches by examining nomothetic measures across time, within person (e.g., Conner, Tennen, Fleeson, & Barrett, 2009); however, these approaches do not represent a true idiographic approach in the Allportian sense as they assume common characteristics across all people in the sample.

Individualized, idiographic assessment is especially important for understanding development, as processes that are responsible for change and stability are likely individualized (Beck & Jackson, 2019; Allport, 1961; Block, 1971). The majority of studies of personality development use common personality traits as the level of analysis (cf., McAdams, 2015). These trait-centric studies find high levels of test-retest consistency and relatively modest mean-level changes – painting a picture of relatively modest changes in personality across the lifespan. However, in spite of this evidence, people often feel as if they have changed quite a bit; feelings that may not align with personality trait ratings (Oltmanns, Jackson & Oltmanns, 2019; Robins, Nofhle, Trzesniewski, & Roberts, 2005). One recent study investigated the rank order consistency of idiographic personality across a 2-year period (Beck & Jackson, 2019). Idiographic personality defined as the individualized structure of behavior found modest levels of consistency, with large levels of individual differences suggesting some people are not consistent in their personality at all. It is thus likely that idiosyncratic personality development is being overlooked or missed because of the almost ubiquitous use of nomothetic measures. To examine whether idiosyncratic changes in personality are occurring, the current study uses an idiographic, individual-trait approach to personality development that assesses personality through people's own definitions of themselves, i.e. through their self-concept.

Self-Concept as an Idiographic Measure of Personality

Self-concept is defined as a person's description of his or her identity (Oyserman, Elmore, & Smith, 2012). It is a multidimensional construct that includes both domain-specific and global descriptions or evaluations of the self (e.g., skills, physical attributes, and social memberships). As such, self-concept falls under the umbrella of personality (Robins, Tracy, & Trzesniewski, 2008). Self-concept is also related to personality *traits* in that the self-concept can include self-perceptions about one's typical thoughts, feelings, and behaviors—the defining features of traits (Roberts & Jackson, 2008). Nevertheless, self-concept differs from personality traits in a few meaningful ways. First, self-concept is broader than personality traits (Robins et al., 2008). A person may incorporate social roles and memberships, such as a job title (e.g., professor), or physical/demographic descriptors (e.g., Latina), into his or her self-concept, descriptors that are often left out of personality trait assessments. Second, the self-concept is unique to the individual; no two people will have the same exact self-concept, whereas two people may have the same Big Five personality trait profile. Third, as a consequence of self-concept being broad and being unique to each individual, self-concept is typically assessed using more idiographic measures where participants answer open-ended questions about the self.²

To more thoroughly understand how self-concept is an idiographic measure of personality (i.e., how it captures individual, as opposed to common, traits), one can take a closer look at how it is typically measured. The prototypical idiographic measure of self-concept is the Twenty Statements Test (TST; Kuhn & McPartland, 1954). The Twenty Statements Test has participants respond to the question “Who am I?” with 20 different [single-sentence] statements about themselves. The free-response nature of the TST makes it an ideal way to assess idiographic, individual traits for a number of reasons. Responses are less constrained; people are free to list any characteristic that comes to mind, and, therefore, to be as unique, complex, and

varied as they would like. In contrast, due to design constraints, nomothetic, common-trait measures are unable to capture the multitude of ways in which people differ from one another. The result is that some researchers feel as though trait measures do not adequately assess the uniqueness of a person (e.g., Cervone, 2005). Moreover, unlike nomothetic trait measures, with the TST people are not forced to answer questions about particular characteristics that they have rarely used or never even thought of before, that they may not understand, or that may not be relevant to them. Therefore, people are not influenced by researchers' ideas of which personality characteristics are important. Instead, open-ended responses allow people to emphasize the characteristics most important to them, similar to Allport's idea of Cardinal Traits (Allport, 1937). Thus, it can also be argued that participants' responses to the TST are more valid in that responses are generated entirely by the self and are, therefore, not influenced by differences in item interpretations, reading comprehension, response scale use (e.g., extreme responding), or reference bias.

Importantly, the TST should not be considered an assessment panacea. Rather, it is a complementary perspective to nomothetic, common-trait assessment that allows for a potentially more nuanced examination of within-person changes of personality due to its idiographic, free-response nature (Allport, 1961; Block, 1971). By using free responses, not prescribed traits, the TST may provide an individual more freedom to change through more response options. For this reason, the current study used the TST to track the development of self-concept across four years during early adulthood, an important time for personality development (Arnett, 2000; Roberts, Walton, & Viechtbauer, 2006).

Self-Concept Development in Adulthood

Self-concept is thought to be a relatively malleable construct that may change across time and context (Diehl, Youngblade, Hay, & Chui, 2011). Most research on self-concept development has focused on changes during childhood and adolescence (cf., Diehl et al., 2011). During adolescence, positive and negative attributes become simultaneously represented in the self-concept, and self-concept becomes more abstract and differentiated according to social roles (see Harter, 2003 for a more detailed description). There is much less known about the development of self-concept after adolescence. The lack of research on self-concept development in adulthood is due in part to the unsubstantiated belief that self-concept development is completed once a person reaches adulthood, a belief that researchers have only recently begun to challenge (Diehl et al., 2011). In one of the only developmentally informed study during adulthood that used the TST, younger and older adults differed in endorsement rates of TST-derived categories. For example, younger adults used more family roles and personal relationships in their self-concept compared to older adults, while older adults used more life circumstances (e.g., neighborhood) in their self-concept compared to younger adults (McCrae & Costa, 1988). Thus, it would appear that the content of self-concept can change during adulthood along several different dimensions. However, this remains unclear as the study was cross-sectional.

The vast majority of self-concept studies in adulthood have been cross-sectional, with the exception of two longitudinal studies. One examined self-concept two times across 4 years of college and once more 10 years after graduation, finding high rank-order consistency in self-concept. In addition to rank-order consistency, mean-level changes occurred such that people decreased in sociability and unconventionality across adulthood (Mortimer, Finch, & Kumka, 1982). Unfortunately, this study used a nomothetic measure of self-concept, so it was unable to

appropriately address idiosyncratic change. The second longitudinal study, which assessed self-concept at two times over a two-year period using an idiographic, free-response measure, found mean-level changes in some aspects of self-concept (e.g., increases in ideological attitudes; Filipp & Klauer, 1986), but no change in self-complexity (i.e., the number of different aspects or categories used in the self-concept). However, more time-points are needed in order to better understand these changes.

Together, cross-sectional and longitudinal evidence indicates that self-concept is not completely stable in adulthood.³ However, these studies have a number of shortcomings; namely, they either used a nomothetic measure of self-concept, were cross-sectional, or consisted of few time-points (Filipp & Klauer, 1986; McCrae & Costa, 1988; Mortimer et al., 1982). Thus, no study exists that has adequately assessed self-concept development in adulthood using an open-ended, idiographic measure of self-concept, with a well-powered, longitudinal design.

The Current Study

The current study examined the development of self-concept during young adulthood as a way to examine personality development idiographically. To do so, we measured self-concept four times over the course of four years during college using the Twenty Statements Test (TST). Each statement was initially coded into one of 64 subcategories and each of these subcategories was then coded into one of seven different general categories (i.e., higher-order aspects of self-concept). Utilizing these higher-order self-concept categories, we employed different indices of change and stability to address 5 questions: 1) Do people maintain their relative rank-ordering on each self-concept category across time? 2) Do people change over time in the amount that they use each self-concept category to describe themselves? 3) Do individual differences in the development of self-concept exist? 4) Is the within-person profile of self-concept stable across

time, or do people tend to reconfigure their self-concept? 5) Do people change in the number of categories that they use (i.e., self-complexity)? By applying an individual, idiographic approach to personality development using self-concept, as opposed to relying on the nomothetic, common-trait measures that nearly all studies use, we are able to provide a unique perspective on personality development during young adulthood.

Method

Participants

The current research involved a 4-year longitudinal study of college students. Data were collected at Harvard University from 1960 to 1967 as part of the Harvard Student Study (King, 1973). Participants were 507 unmarried, predominantly white, undergraduate men (freshman year: $M_{\text{age}} = 18.07$, $SD_{\text{age}} = 0.55$) who entered Harvard University in the years 1960 and 1961 and graduated in the years 1964 and 1965.

Procedure and Measures

Participants completed a variety of questionnaires, interviews, and experiments each year of their time at Harvard. Self-concept was measured four times across all four years of college using the Twenty Statements Test (Kuhn & McPartland, 1954) in which participants answered the question “Who am I?” with 20 different single-sentence statements about themselves. The statements were then coded by the original researchers into 64 subcategories (e.g., place of residence, interpersonal activities, positive physical traits, work goals; see supplemental materials) and seven higher-order categories (loci, activities and interests, traits, self-evaluation, goals, ideology, and student). These seven categories represent general, higher-order aspects of self-concept. They are idiographic in the sense that the specific contents of each category are unique to the person. Statements in the loci category referred to a participant’s placement in a

geographical or social setting. They included demographic information, such as sex, age, name, place of residence, ethnicity, race, social class, and social affiliations and memberships (e.g., “I am Phil; “I am an American;” “I am a younger sibling;” “I am an eagle scout;” “I am a member of Adam’s House [residence hall]”). Statements in the activities and interests category described a participant’s likes, dislikes, actions, and occupations. Examples include, “I am an artist,” “I am an athlete,” “I am a lover of Indian culture,” “I am a hater of baseball.” Statements in the traits category were any adjectives, positive or negative, such as “I am honest,” “I am hopeful,” “I am impatient,” and “I am stubborn.” Statements in the self-evaluation category were positive or negative attitudes about oneself and one’s abilities, such as “I am a wonderful guy,” “I am confused about who I am,” “I am a talented writer,” and “I am a bad golfer.”⁴ The goals category included any statements related to goal-striving, such as “I am going to make a million,” “I am a future scientist,” and “I am a procrastinator.” The ideology category included philosophical or political statements as well as beliefs or ideas, such as “I am a skeptic,” “I am a romantic,” “I am a dreamer,” and “I am a pacifist.” Finally, the student category included characteristics related to a participant’s role as a student, such as “I am a student,” “I am a here on scholarship,” and “I am on the dean’s list.”⁵

In order to track change and stability in the self-concept categories over time, the following measures were derived: *category frequency*, or the number of times (0-20) that a category was used in a person’s self-concept (i.e., in his 20 statements); *self-complexity*, or the total number of different categories (1-7) used in a person’s self-concept; and *subcategory match count*, or the number of statements in a person’s self-concept at one time-point (0-20) that matched those at another time-point, where a match was counted if both statements fell into the same subcategory (of 64 possible subcategories).⁶ Since each statement could only match to one

other statement and since there were 20 statements in the self-concept at each time-point, the highest possible number of matches was 20 (i.e., perfect consistency) and the lowest was zero (i.e., no consistency). Together, these measures of self-concept allowed us to assess whether individuals are changing or maintaining the ways they describe themselves across time in a variety of ways.

Analyses

Do people maintain their relative rank-ordering on each self-concept category across time? Rank-order consistency, or the degree to which participants maintain their ordering relative to one another, was assessed for each self-concept category using test-retest correlations of category frequency across each time-point. Larger test-retest correlations for a category represent greater rank-order consistency, where participants who use that category to describe themselves more than others do, continue to do so over time.

Do people change over time in the amount that they use each self-concept category to describe themselves? To assess mean-level change in self-concept, we used multilevel linear modeling (MLM), which tracked each self-concept category over time in a separate growth model for each person. More specifically, we used two-level hierarchical generalized linear models for each self-concept category frequency, with an assumed Poisson distribution underlying the counts. At Level 1 of the model, self-concept (i.e., category frequency) was predicted by time. Time was a continuous variable that represented the number of years that had passed since a participant entered college. At this level of the model, we tested for linear and quadratic effects. At Level 2, the Level 1 parameters were predicted separately for each person. Two separate models were conducted. The first model included an intercept and linear

component; the second added a quadratic component. The Level 2 error structure was defined by random (and correlated) residuals.⁷

Do individual differences in the development of self-concept exist? To test for individual differences in self-concept development, we examined the residual variances for the linear and quadratic components in the previously described MLM models. Likelihood ratio tests were conducted in which a model that freely estimated all elements of the tau (T) matrix was compared to a model that fixed a residual variance to 0 (separately for linear and quadratic models). If these models are different in their fit, then the former, more fully specified model is more appropriate and indicates the presence of significant variability in the linear or quadratic components, which would suggest that not all people are changing according to these average linear or quadratic trends.

Is the within-person profile of self-concept stable across time, or do people tend to reconfigure their self-concept? Ipsative consistency was assessed using subcategory match counts. To calculate subcategory match counts, a participant's statements at one time-point were matched to statements at another time-point based on whether or not they fell into the same subcategory (of which there were 64). This was done for each wave of time so that each participant has four match counts, one for the Time 1 to Time 4 wave, one for the Time 1 to Time 2 wave, one for the Time 2 to Time 3 wave, and one for the Time 3 to Time 4 wave. The match count at each wave can be thought of as an ipsative consistency score in the sense that it considers a participant's entire self-concept, or profile of statements, at once and captures how much of the entire self-concept, or 20 statements, is changing or remaining stable. A match count of 0 indicates no matches or consistency, whereas a 20 indicates perfect consistency (i.e., that all

statements remained the same, at least in terms of their subcategory, from one time-point to the next).

Do people change in the number of categories that they use (i.e., self-complexity)?

Rank-order consistency of self-complexity was assessed using test-retest correlations of self-complexity across each time-point, with higher test-retest correlations representing greater rank-order consistency. Mean-level change in self-complexity was analyzed in a two-level multilevel generalized linear model using the same two-step analyses described above for category frequency (and the same diagnostic and bootstrapping follow-ups). However, to more closely approximate a Poisson distribution, self-complexity was inverted. Thus, the variable analyzed in the MLM model was the number of unused categories at a particular time (ranging from 0 to 6). To assess individual differences in the development of self-complexity, the residual variance in the linear component of the self-complexity MLM model was examined in the same way as those in the category frequency models described above. Significant variability in the linear component would suggest that self-complexity is changing in different ways for different people.

Results

As a first step, we examined the correlations between the seven self-concept categories at each time-point. The resulting correlations suggest that the categories are fairly distinct from one another (see Table 1). The largest correlation at Time 1 was found between loci and traits ($r = -.47, p < .05$) and the largest at Time 4 was between loci and self-evaluation ($r = -.38, p < .05$). A look at the mean category frequencies at both Time 1 and 4 (i.e., at freshman year and senior year) points to participants describing themselves primarily using loci ($M_{T1} = 4.72, M_{T4} = 3.72$) and activities and interests ($M_{T1} = 3.77, M_{T4} = 3.71$) and seldom using goals ($M_{T1} = 0.75, M_{T4} =$

0.78). This suggests that a participant would be more likely to describe himself by saying “I am a younger sibling” or “I am a fan of Beethoven” than by saying “I want to be a doctor.”

Do People Maintain Their Relative Rank-Ordering on Each Self-Concept Category Across Time?

To examine rank-order consistency for each category, we obtained the test-retest correlations from Time 1 to Time 2, 2 to 3, and so on (see Table 2). We found that participants maintained modest rank-order consistency in the self-concept categories ($r = .20-.74$). For example, freshmen who included more loci in their self-concept than other freshmen did at Time 1 tended to include more loci than other people after four years ($r = .49, p < .05$). On average, across all waves of time, participants exhibited the most rank-order consistency in their use of the loci category (mean $r = .60$) and the lowest in their use of the goals category (mean $r = .30$) and ideology category (mean $r = .29$).

Do People Change Over Time in the Amount That They Use Each Self-Concept Category to Describe Themselves?

Table 3 and Figure 1 provide a summary of the results from the Poisson MLM models.⁸ Figure 1 displays the category-specific, mean-level trends and their confidence bands amid every participant’s raw trajectories. These raw trajectories illustrate a great deal of movement in self-concept over time at the individual level. Mean-level trends indicate that, with the exception of the goals category ($b_{\text{linear}} = -0.02, b_{\text{quadratic}} = 0.05, p < .05$), the use of all other categories changed significantly ($p > .05$) over time. Use of the loci category declined steadily over time ($b_{\text{linear}} = -0.13$); the use of the activities and interests category declined at first but then increased later ($b_{\text{quadratic}} = 0.03$); the use of the traits category declined steadily over time ($b_{\text{linear}} = -0.06$); the use of the self-evaluation category was steady at first and then declined ($b_{\text{linear}} = -0.03, b_{\text{quadratic}} = -$

0.03); the use of the ideology category declined steadily over time ($b_{\text{linear}} = -0.11$), and the use of the student category increased but then later declined ($b_{\text{quadratic}} = -0.06$). Indices of effect size reveal that the size of these changes were small to modest over the four years ($|d| = .01-.31$; see Table 3). Over the course of four years, participants' use of the loci category changed the most ($d = .31$) and their use of the traits category changed the least ($d = -.01$).

Do Individual Differences in the Development of Self-Concept Exist?

Although the normative, mean-level changes were rather modest, there was substantial individual variability in both the linear and quadratic components, suggesting that self-concept did not develop in the same way for all participants. More specifically, for all seven self-concept categories, there was significant variability in the linear component. In addition, the quadratic components for four of the categories (activities and interests, traits, self-evaluation, and ideology) showed significant variability, further underscoring individual differences in self-concept development. The results are summarized in Table 3 as well as in Figures 1, 2, and 3 (each representing a unique way to observe the large amount of individual variation in self-concept development). As one can see in the raw individual trajectories in Figure 1, participants differed greatly from one another in the amounts and directions of change in their self-concept, with individual trajectories going in every which way.

This variability is more specifically illustrated in Figures 2 and 3, which show the distributions of linear and quadratic growth curve components, respectively, across participants for each of the different self-concept categories. One can see that in the spread of the traits category, for example, some participants are changing very little in their use of that category to describe themselves while a number of participants are changing quite a lot – some who are increasing in their use of traits and others who are decreasing. The traits category appears to have

the most individual variation compared to the other categories, with the 95% confidence interval for the linear component [-0.61 to 0.76 counts per year] and for the quadratic component [-0.19 to 0.14] indicating that many participants declined and many increased across the four years. In contrast, the loci category appears to have the least individual variation [95% confidence interval for the linear component: -0.34 to 0.09 counts per year; quadratic component: -0.02 to 0.03].

Is the Within-Person Profile of Self-Concept Stable Across Time, or Do People Tend to Reconfigure Their Self-Concept?

The purpose of the mean-level change approach is to assess which aspects of the self-concept are changing and how much; however, this does not tell us about the self-concept as a whole. To examine how much each participant was changing as a whole—whole in this case meaning all 20 statements—we examined ipsative consistency. To assess ipsative consistency (i.e., profile similarity) over time, we counted the number of subcategory matches, or the number of statements in a person's self-concept at one time-point (0-20) that match (i.e., fell into the same subcategory, of 64 possible subcategories, as) those at another time-point, for each participant at each wave of time. Each statement could only match to one other statement. A statement match count of 0 indicates no matches or consistency, whereas a 20 indicates perfect consistency (i.e., that all statements remained the same from one time-point to the next).

At each wave of time, we examined the distribution of subcategory match counts across participants (see Figure 4). The average mean match count across all four waves of time ($M_{Mean} = 7.24$) indicates that ipsative consistency was moderate, especially considering that a match could only occur if the statements fell into the same subcategory of 64 possible subcategories. The wave with the highest mean match count ($M = 7.95$) was the Time 3 to Time 4 wave, suggesting that participants' self-concepts were somewhat more consistent toward the end of their college

experience. The wave with the lowest mean match count ($M = 6.44$) was the Time 1 to Time 4 wave, which is not surprising given that this wave spanned the greatest amount of time.

Nevertheless, this mean indicates that freshmen entering college described themselves in some of the same ways four years later. Moreover, as seen in Figure 4, the range of match counts at each wave was large (e.g., range at the Time 1 to Time 4 $\min = 0$, $\max = 20$), with some participants using all of the same subcategories to describe themselves a year to four years later (i.e., keeping their self-concept in tact) and some using none of the same subcategories (i.e., completely reconfiguring their self-concept). This range, along with the average standard deviation in the match counts across all four waves ($M_{SD} = 3.21$), indicates that there is considerable variability in ipsative consistency across participants. During any given wave of time, some participants were remaining stable and using the same subcategories over time and others were not.

To assess whether people were stable in their number of matches, which would indicate that there are individual differences in ipsative consistency, we correlated the match counts at each wave with those at the other waves (see Table 4). Correlations were moderate ($r = .19-.47$), indicating that ipsative consistency remained somewhat consistent from wave to wave. Thus, not only were there considerable differences across individuals in their amount of ipsative consistency during any one wave of time, but these individual differences were relatively consistent over time such that participants with greater ipsative consistency (i.e., more subcategory matches) than other participants at one wave of time were somewhat likely to have greater ipsative consistency than other participants at later waves as well. In other words, those who reconfigured their self-concept were likely to keep reconfiguring, whereas those who kept their self-concept more consistent over time, continued to do so.

Do People Change in the Number of Categories That They Use (i.e., Self-Complexity)?

Test-retest correlations revealed that rank-order consistency in self-complexity, or the number of categories used, was low to modest ($r = .12-.43$, see Table 2). Rank-order consistency was lowest during the first wave ($r = .12, p > .05$), suggesting that freshman with greater self-complexity than their peers do not maintain that rank as sophomores. In regard to mean-level changes in self-complexity, Table 3 and Figure 1 summarize findings. The linear component evidenced a slight increase in the number of *unused* categories (i.e., inverted self-complexity; $b = 0.04, p < .05$), but the overall level of unused categories was generally low throughout. Said another way, self-complexity, the number of *used* categories, decreased slightly over time and was generally high throughout college. There was significant variability (i.e., individual differences) in this trend, specifically in the linear component (95% CI [0.07, 0.18] categories per year).⁹ As illustrated in Figure 2, the variability appears low compared to the variation surrounding linear change in self-concept categories, even compared to the loci category, which had the smallest individual variation.

Discussion

In the current study, we tracked self-concept development four times over four years during young adulthood. To do so, we used an idiographic assessment, a technique rarely used to address personality development. As indicated by multiple indices, we found evidence for both consistency and change in self-concept. Specifically, we found modest levels of rank-order consistency and mean-level change across a four-year period. Further, these general trends did not apply to everyone, as there were sizeable individual differences in mean-level change and ipsative consistency. Viewed as an idiographic way to study personality development, our study reaffirms the co-existence of change and consistency in personality across time, even during the tumultuous period of young adulthood. Moreover, the study extends the breadth of personality

development findings to non-trait-centric measures and identifies a great deal of idiosyncratic change in personality that may have otherwise been overlooked by a standard nomothetic trait approach. Overall, our findings speak not only to the kinds of development occurring during young adulthood but also to the assessment methods used to address issues of consistency and change.

The Development of Self-Concept in Young Adulthood

Compared to changes in personality traits, the development of self-concept, as measured via the TST, was hypothesized to have less consistency for at least three reasons. First, nomothetic measures of personality traits have more constrained response options, and thus less breadth in content compared to the more idiographic measures of self-concept, perhaps leading to overestimates of stability. Second, idiographic measures, like the one used in the current study, do not ask for “general patterns” or “how people behave typically,” terms that minimize differences across time. Instead, free-response measures of self-concept allow people to write whatever is important to them at the moment. Finally, idiographic, free-response measures are uninfluenced by differences in item interpretation and response scale use, which serve to increase consistency estimates within nomothetic measures.

Despite these reasons to expect greater amounts of inconsistency in self-concept compared to personality traits, self-concept was quite consistent across time. Some self-concept categories even evidenced levels of consistency on par with personality traits (Roberts & Delvecchio, 2000). Moreover, the number of matches from wave to wave in one’s self concept was relatively large, on average. This relative consistency across multiple metrics can be interpreted in the context of people’s need for coherence in their identities (Swann & Bosson, 2008). Because of this need, people tend to seek out experiences and environments and to

perceive the world in a way that confirms their identity (i.e., self-verification), and their self-concept.

Despite this relatively consistency, mean level changes in category use were found. Specifically, participants decreased in their use of loci, traits, self-evaluation, and ideology to describe themselves over the course of the college experience. Further, they decreased and then increased in their use of activities and interests, and they increased and then decreased in their use of student-related characteristics. One possible explanation for these changes in self-concept is that they reflect a change in needs, namely the need to belong and to feel distinct—two other important identity needs that people have besides the need for coherence (Brewer, 2012). Previous research finds that people alter their self-concept in order to fit in (Richman, Slotter, Gardner, & DeWall, 2014). Drawing on this research, it is possible that at the beginning of the college experience, students were most likely concerned with belonging, so they used certain categories to define themselves that would help them find their fit, such as loci (e.g. “I am a member of Adam’s House [residence hall]”) and ideology (e.g. “I am a pacifist”). According to optimal distinctiveness theory, the more that the need to belong is satisfied, the more people will focus on satisfying the need to feel distinct (Brewer, 2012). It is thus likely that over time participants used certain categories less because their needs shifted to distinctiveness, using activities and interests in their self-concept more often as a way to differentiate themselves from a typical student. For example, Phil might use loci in his self-concept, such as “I am a member of Adam’s House [residence hall]”, in order to bond with his fellow students. Once that bonding has occurred and he shifts to needing to feel more distinct from his peers, he begins using activities and interests in his self-concept more, such as “I am a singer”, because that category potentially helps him to fill that need more so than the loci category.

Another possible explanation for the observed changes in self-concept is provided by social role theory, which holds that people define themselves based on their social role(s), or the role they fill in the society in which they live (Eagly & Wood, 2012; Stryker, 2007). As mentioned above, participants' use of activities and interests in their self-concept decreased and then increased, whereas their use of the student category did the opposite, increasing and then decreasing. That is, student-related characteristics were important in the thick of the college experience and less so at the beginning and end, whereas the reverse was true for activities and interests. Social role theory would suggest that these changes in self-concept occurred because participants were moving into and out of their role as a student. When students first enter college and begin their role as a student, their activities and interests are important in defining the self as they are likely trying to figure out what to pursue in college and probably do not yet fully identify as students.

A third possibility is that participants were altering their self-concept in order to fit a particular life narrative that they were constructing. That is, they were potentially altering their self-concept at the same time that they were altering and crafting their life story. People craft stories or narratives about their lives in order to give their lives meaning, and young adulthood, or emerging adulthood, is a time of self-exploration and independence when much of this crafting first occurs and a narrative identity emerges (Arnett, 2000; McAdams, 2015). Similarly, people are preparing for their adult life, which results in a winnowing of life options and an increased need to choose certain life goals over others (Hill et al., 2011).

Despite relatively consistency and normative change, there were a great number of developmental differences at the individual level such that some people were changing more than others and in different directions. We also found individual differences in ipsative or profile

consistency where some people used the same categories in their self-concept over time, and other people tended to reconfigure their self-concept. For personality traits, there are relatively modest amounts of individual differences in mean-level as well as ipsative change, especially at older ages, with most individual differences in personality trait change occurring in young adulthood (Donnellan et al., 2007; Robins, Fraley, Roberts, & Trzesniewski, 2001; Oltmanns, Jackson & Oltmanns, 2018; Schwaba & Bleidorn, 2018). Self-concept development, in contrast, appears to be quite idiosyncratic, with some people showing no consistency whereas others show perfect consistency. This range in response is likely due to assessment method and scope of self-concept. Idiographic assessments are likely to be influenced more so by contextual factors (Beck & Jackson, in press), leading to decreased consistency. Moreover, the broader scope of the self-concept makes it more likely for someone to identify with a different concept compared to a fairly rigid Likert assessed personality scale, which is asking for generalities. Our findings suggest that some people's personalities are not consistent at all, at least in terms of their self-concept.

Idiographic Personality Assessment

The current study represents a successful application of an idiographic approach to personality development, a field that relies almost entirely on nomothetic assessment methods. Idiographic personality assessment can be very difficult to code and analyze, which is in part why most personality development research uses a nomothetic approach. Occasionally, previous research uses idiographic analyses similar to the multi-level modeling used in the current study (Conner et al., 2009); however, without idiographic measurement, such analyses do not represent a true individual-level approach. That is, idiographic statistical analyses may place emphasis on the individual by reducing the amount of aggregation involved, but if the measures used in these

analyses are nomothetic then the information entered into the idiographic analyses will have already included aggregation and will not be unique to the individual.¹⁰ Though time consuming to collect, these types of assessments may be especially useful in capturing important individual differences that are overlooked and not captured by traditional trait measures.

The current study used idiographic assessment methods. In addition to these methods are new idiographic analytic procedures that can be analyzed with a single subject ($N = 1$). These new idiographic analytic methods can be interpreted with only a single subject and can also employ idiographic assessment methods. These methods have gained prominence in other fields, primarily clinical psychology (e.g. Beltz, Wright, Sprague, & Molenaar, 2016; Fisher et al., 2017; Wright et al., 2018). One study that has investigated idiographic personality development, but using nomothetic trait assessments, found that the structure of personality differs from person to person and that this structure is relatively consistent over a two-year period (Beck & Jackson, 2019). However, this consistency was only for some people, as there were large individual differences in consistency. Along with the current results, these two studies suggest that there is less consistency in personality than is currently reported and that this consistency likely can be attributed to nomothetic assessments and analytic procedures.

Limitations

Although these data are exceedingly novel as no other study has measured idiographic self-concept longitudinally during young adulthood, the data are not without limitations. Because of the nature of the sample (male college students during the 1960s), the current findings may not extend to female, non-college, or modern young adults. Nevertheless, we might expect similar findings in a female, non-college sample, as more modern samples show mostly similar personality development patterns across gender and college attendance (Lüdtke, Roberts,

Trautwein, & Nagy, 2011). Moreover, a study of moral development within this dataset found similar findings to more modern dataset (Bollich et al., 2016). Another limitation is the coding of self-statements. The coding scheme used in the previous study was made by the original researchers. This limited our ability to use alternative coding schemes and to use the information provided in participants' statements to its full capacity. There are multiple accepted ways to code the TST, the current study included; however, there is no single, unanimous way, which is a limitation of the field in general (McCrae & Costa, 1988). Also, inherent in any coding scheme for any open-ended measure is aggregation (in this case the aggregation of statements into categories) and, thus, the possibility of losing information about any one individual.

Lastly, the TST may pose some limitations in measuring self-concept. More specifically, the "Who am I?" question itself might suggest self-concept stability because it does not ask about a particular time frame (e.g., "Who am I today?") or about the contextualized self (e.g., "Who am I with my friends?"). The TST might also have an affirmational bias such that individuals may be more likely to respond "I am..." and less likely to respond "I am not..." (the latter being a negational identity), thus potentially limiting their responses and preventing them from describing the true nature of their self-concept (Zhong, Phillips, Leonardelli, & Galinsky, 2008). Also, the TST is not intended to capture the size or magnitude of the self-concept as responses are limited to 20, and participants are encouraged to include all 20.

Conclusion

The purpose of the current study was to examine idiographic consistency and change in personality across a four-year period during young adulthood via self-concept. We found evidence for both self-concept consistency and change. Individual differences in change in terms of mean-level and ipsative consistency were also found, solidifying that the development of self-

concept is not a unitary process. The current study suggests that previous personality trait development work may underestimate the degree of idiosyncratic change in personality and fail to examine the breadth of personality due to reliance on nomothetic measures. Less reliance on nomothetic trait measures is recommended.

References

- Allport, G. W. (1937). *Personality: a psychological interpretation*. Oxford, England: Holt.
- Allport, G. W. (1961). *Pattern and growth in personality*. Oxford, England: Holt, Reinhart & Winston.
- Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist*, 55(5), 469–480. <https://doi.org/10.1037//0003-066X.55.5.469>
- Beck, E. D., & Jackson, J. J. (2019). Consistency and Change in Idiographic Personality: A Longitudinal ESM Network Study. DOI: [10.31234/osf.io/pb92q](https://doi.org/10.31234/osf.io/pb92q).
- Beck E. D. and Jackson, J. J. (in press) Within-Person Variability. Rauthmann, J. F. (ed). In *The Handbook of Personality Dynamics and Processes*. Elsevier.
- Beltz, A. M., Wright, A. G., Sprague, B. N., & Molenaar, P. C. (2016). Bridging the nomothetic and idiographic approaches to the analysis of clinical data. *Assessment*, 23(4), 447-458.
- Block, J. (1971). *Lives through time*. Psychology Press.
- Bollich, K., Hill, P. L., Harms, P.D., & Jackson, J.J. (2016). When friends and society's expectations collide: A longitudinal study of moral-decision making and personality across college. *PLOS One*, DOI: [10.1371/journal.pone.0146716](https://doi.org/10.1371/journal.pone.0146716)
- Brewer, M. B. (2011). Optimal distinctiveness theory: Its history and development. P. AM Van Lange, A. Kruglanski, & ET Higgins, *Handbook of theories of social psychology*, 2, 81-98.
- Cervone, D. (2005). Personality architecture: Within-person structures and processes. *Annual Review Psychology*, 56, 423-452.

- Conner, T. S., Tennen, H., Fleeson, W., & Barrett, L. F. (2009). Experience sampling methods: A modern idiographic approach to personality research. *Social and personality psychology compass*, 3(3), 292-313.
- Diehl, M., Youngblade, L. M., Hay, E. L., & Chui, H. (2011). The development of self-representations across the life span. *Handbook of life-span development*, 611-646.
- Donnellan, M. B., Conger, R. D., & Burzette, R. G. (2007). Personality development from late adolescence to young adulthood: Differential stability, normative maturity, and evidence for the maturity-stability hypothesis. *Journal of Personality*, 75(2), 237-263.
<https://doi.org/10.1111/j.1467-6494.2007.00438.x>
- Eagly, A. H., & Wood, W. (2011). Social role theory. *Handbook of theories in social psychology*, 2, 458-476
- Filipp, S. H., & Klauer, T. (1986). Conceptions of the self over the life span: Reflections on the dialectics of change. *The Psychology of Control and Aging*, 167-205.
- Fisher, A. J., Reeves, J. W., Lawyer, G., Medaglia, J. D., & Rubel, J. A. (2017). Exploring the idiographic dynamics of mood and anxiety via network analysis. *Journal of Abnormal Psychology*, 126(8), 1044
- Grice, J. W., Jackson, B. J., & McDaniel, B. L. (2006). Bridging the idiographic-nomothetic divide: A follow-up study. *Journal of Personality*, 74(4), 1191-1218.
<https://doi.org/10.1111/j.1467-6494.2006.00407.x>
- Harter, S. (2003). The development of self-representations during childhood and adolescence. In M. R. Leary & J. P. Tangney (Eds.), *Handbook of self and identity* (pp. 610-642). New York, NY, US: The Guilford Press.
- Hill, P. L., Jackson, J. J., Roberts, B. W., Lapsley, D. K., & Brandenberger, J. W. (2011).

- Change you can believe in: Changes in goal setting during emerging and young adulthood predict later adult well-being. *Social psychological and personality science*, 2(2), 123-131.
- Kuhn, M. H., & McPartland, T. S. (1954). An empirical investigation of self-attitudes. *American Sociological Review*, 19(1), 68–76.
- Lamiell, J. T. (1981). Toward an idiographic psychology of personality. *American Psychologist*, 36(3), 276–289. <https://doi.org/10.1037//0003-066X.36.3.276>
- Lüdtke, O., Roberts, B. W., Trautwein, U., & Nagy, G. (2011). A random walk down university avenue: Life paths, life events, and personality trait change at the transition to university life. *Journal of Personality and Social Psychology*, 101(3), 620–637. <https://doi.org/10.1037/a0023743>
- Marsh, H. W. (1990). Causal ordering of academic self-concept and academic achievement: A multiwave, longitudinal panel analysis. *Journal of Educational Psychology*, 82(4), 646–656. <https://doi.org/10.1037/0022-0663.82.4.646>
- Mayer, J. D. (2005). A tale of two visions: can a new view of personality help integrate psychology? *The American Psychologist*, 60(4), 294–307. <https://doi.org/10.1037/0003-066X.60.4.294>
- McAdams, D. P., & Olson, B. D. (2010). Personality development: Continuity and change over the life course. *Annual Review of Psychology*, 9, 517–542. <https://doi.org/10.1146/annurev.psych.093008.100507>
- McAdams, D. P., & Pals, J. L. (2006). A new Big Five: Fundamental principles for an integrative science of personality. *American Psychologist*, 61(3), 204–217. <https://doi.org/10.1037/0003-066X.61.3.204>
- McCrae, R. R., & Costa, P. T. (1988). *Age, personality, and the spontaneous self-concept*. 43(6),

S177-185.

- Molenaar, P. C. M., & Campbell, C. G. (2009). The new person-specific paradigm in psychology. *Current Directions In Psychological Science*, 18(2), 112–117.
- Mortimer, J. T., Finch, M. D., & Kumka, D. (1982). Persistence and change in development: The multidimensional self-concept. *Life-Span Development and Behavior*, 4, 263–313.
- Oltmanns, J. R., Jackson, J. J., & Oltmanns, T. F. (2019). Personality change: Longitudinal self-other agreement and convergence with retrospective-reports. *Journal of personality and social psychology*. DOI: 10.1037/pspp0000238
- Paunonen, S. V., & Jackson, D. N. (1985). Idiographic measurement strategies for personality and prediction: Some unredeemed promissory notes. *Psychological Review*, 92(4), 486–511. <https://doi.org/10.1037//0033-295X.92.4.486>
- Pelham, B. W. (1993). The idiographic nature of human personality: examples of the idiographic self-concept. *Journal of Personality and Social Psychology*, 64(4), 665–677. <https://doi.org/10.1037/0022-3514.64.4.665>
- Richman, S. B., Slotter, E. B., Gardner, W. L., & DeWall, C. N. (2014). Reaching out by changing what's within: Social exclusion increases self-concept malleability. *Journal of Experimental Social Psychology*, 57, 64–77. <https://doi.org/10.1016/j.jesp.2014.11.008>
- Roberts, B. W., & Delvecchio, W. F. (2000). The rank-order consistency of personality traits from childhood to old age: A quantitative review of longitudinal studies. *Psychological Bulletin*, 126(1), 3–25. <https://doi.org/10.1037//0033-2909.126.1.3>
- Roberts, B. W., & Jackson, J. J. (2008). Sociogenomic personality psychology. *Journal of Personality*, 76, 1523-1544.
- Roberts, B. W., & Mroczek, D. (2008). Personality trait change in adulthood. *Current Directions*

- in Psychological Science*, 17(1), 31–35. <https://doi.org/10.1111/j.1467-8721.2008.00543.x>
- Roberts, B. W., Walton, K. E., & Viechtbauer, W. (2006). Patterns of mean-level change in personality traits across the life course: A meta-analysis of longitudinal studies. *Psychological Bulletin*, 132(1), 1–25. <https://doi.org/10.1037/0033-2909.132.1.1>
- Robins, R. W., Fraley, R. C., Roberts, B. W., & Trzesniewski, K. H. (2001). A longitudinal study of personality change in young adulthood. *Journal of Personality*, 69(4), 617–640.
- Robins, R. W., Nofle, E. E., Trzesniewski, K. H., & Roberts, B. W. (2005). Do people know how their personality has changed? Correlates of perceived and actual personality change in young adulthood. *Journal of personality*, 73(2), 489–522.
- Robins, R. W., Tracy, J. L., & Trzesniewski, K. H. (2008). Naturalizing the self. In O. P. John, R. W. Robins, & L. A. Pervin (Eds.), *Handbook of personality: Theory and research* (pp. 421–447). New York, NY, US: The Guilford Press.
- Runyan, W. M. (1983). Idiographic goals and methods in the study of lives. *Journal of Personality*, 51(3), 413–437. <https://doi.org/10.1111/j.1467-6494.1983.tb00339.x>
- Shoda, Y., Mischel, W., & Wright, J. C. (1994). Intraindividual stability in the organization and patterning of behavior: Incorporating psychological situations into the idiographic analysis of personality. *Journal of Personality and Social Psychology*, 67(4), 674–687. <https://doi.org/10.1037/0022-3514.67.4.674>
- Schwaba, T., & Bleidorn, W. (2018). Individual differences in personality change across the adult life span. *Journal of personality*, 86(3), 450–464.
- Stryker, S. (2007). Identity theory and personality theory: Mutual relevance. *Journal of Personality*, 75(6), 1083–1102. <https://doi.org/10.1111/j.1467-6494.2007.00468.x>
- Swann, W. B., Jr., & Bosson, J. K. (2008). Identity negotiation: A theory of self and social

interaction. In O. P. John, R. W. Robins, & L. A. Pervin (Eds.), *Handbook of personality: Theory and research* (pp. 448-471). New York, NY, US: The Guilford Press.

Wright, A. G., Gates, K., Arizmendi, C., Lane, S., Woods, W., & Edershile, E. A. (2018).

Focusing personality assessment on the person: Modeling general, shared, and person specific processes in personality and psychopathology.

Zhong, C.-B., Phillips, K. W., Leonardelli, G. J., & Galinsky, A. D. (2008). Negational categorization and intergroup behavior. *Personality and Social Psychology Bulletin*, 34(6), 793–806. <https://doi.org/10.1177/0146167208315457>

Footnotes

¹ There are many different ways to use the terms nomothetic and idiographic—so many that there have been calls for the discontinued use of the terms (Runyan, 1983). Recently, idiographic has become a way to refer to within-person analyses, and nomothetic a way to refer to between-person analyses. Much personality development work has been idiographic in this within-person sense. In the current paper, however, we refer to idiographic and nomothetic in terms of the type of assessment—whether the assessment refers to characteristics assumed to be the same across everyone (i.e., nomothetic) or to characteristics that are unique to a person (i.e., idiographic).

² Even so, some measures of self-concept exist that are not idiographic but that are nomothetic or reactive. These kinds of measures have less construct validity, as respondents are more influenced by researchers and by responses biases (Brinthaupt & Erwin, 1992), and tend to be less sensitive to change (Bengtson, Reedy, & Gordon, 1985; Filipp & Klauer, 1986) compared to idiographic, spontaneous measures of self-concept, such as the Twenty Statements Test. Because we are interested in an idiographic approach, this paper will focus on idiographic measures of self-concept as opposed to nomothetic ones.

³ The aspects of self-concept that change during adulthood depends on the measure and coding scheme used. Because there is no consistent way to measure or code the self-concept, it is difficult to offer a coherent summary of how the self-concept changes during adulthood.

⁴ Statements in the self-evaluation category sometimes included especially evaluative adjectives; thus, the traits category was not the only category to include adjectives.

⁵ See supplemental materials for additional examples.

⁶ Because the archival data included statements that were coded into categories and subcategories but did not include the original verbal statements made by participants, statements were matched based on whether or not they fell into the same subcategory—the lowest level of categorization present in the data. Regardless, each statement could only match to one other statement.

⁷ Follow-up diagnostics indicated that the models produced residuals that generally met assumptions (e.g., homogeneous across Level 2 units, homoskedastic [Level 1], normally distributed [Level 2], absent severe outliers, independent across levels), but there were occasional violations. To insure the integrity of the conclusions, we conducted two follow-up procedures. First, we identified the most extreme cases (using Cook's distance at Level 1 and at Level 2) and conducted analyses excluding these cases to determine if they were affecting results in an unusual way. Second, we conducted bootstrapping analyses (both case and residual resampling approaches) to verify conclusions with empirical sampling distributions. These follow-up procedures produced inferences that match those reported in the Results section.

⁸ The linear effects come from models that contained only a linear term. If the quadratic term is included, the value and significance of the linear effect would depend on the centering location for the time variable, limiting its interpretability. The quadratic effects come from models that included both linear and quadratic components.

⁹ Variability in the quadratic component of the self-complexity model could not be tested as the quadratic component had to be fixed to allow model estimation.

¹⁰ Here we are referring to a more contemporary understanding of a nomothetic approach as an approach that involves aggregation. Some argue that such conceptions of a nomothetic approach are not necessarily referring to a true nomothetic approach, which seeks to

capture what is true in general, not just across people but across time and context as well (Grice et al., 2006).

Table 1.

Descriptive Statistics and Correlations of Self-Concept

	Loci	Activities	Traits	Self-Evaluation	Goals	Ideology	Student	Self-Complexity
Loci	-	.00	-.28 *	-.38 *	-.06	-.11 *	.22 *	.11 *
Activities	-.18 *	-	-.17 *	-.25 *	.03	.02	.04	.16 *
Traits	-.47 *	-.12 *	-	.33 *	.02	-.08	-.23 *	.19 *
Self-Evaluation	-.41 *	-.25 *	.34 *	-	.06	.03	-.26 *	.32 *
Goals	-.17 *	.05	.05	-.01	-	-.01	.05	.35 *
Ideology	-.02	-.01	-.17 *	-.06	.00	-	-.22 *	.22 *
Student	.17 *	-.09	-.23 *	-.20 *	-.09 *	-.16 *	-	.02
Self-Complexity	-.07	.13 *	.16 *	.17 *	.34 *	.25 *	.03	-
Time 1 <i>M (SD)</i>	4.72 (3.55)	3.77 (2.89)	2.75 (2.68)	3.09 (2.41)	0.75 (1.10)	1.66 (1.82)	1.29 (1.52)	5.39 (1.16)
Time 4 <i>M (SD)</i>	3.72 (3.51)	3.71 (3.11)	2.76 (3.06)	2.87 (2.53)	0.78 (1.12)	1.33 (1.98)	1.44 (1.69)	5.00 (1.41)

Note. Values below the diagonal are correlations at Time 1. Those above the diagonal are correlations at Time 4.

* $p < .05$.

Table 2.

Rank-Order Consistency of Self-Concept

	Time 1 - Time 2	Time 2 - Time 3	Time 3 - Time 4	Time 1 - Time 4
Loci	.53* [0.46, 0.59]	.63* [0.56, 0.69]	.74* [0.69, 0.79]	.49* [0.41, 0.57]
Activities	.29* [0.2, 0.37]	.44* [0.35, 0.52]	.51* [0.43, 0.59]	.20* [0.09, 0.29]
Traits	.40* [0.32, 0.48]	.52* [0.44, 0.59]	.49* [0.4, 0.57]	.38* [0.28, 0.46]
Self-Evaluation	.34* [0.25, 0.42]	.40* [0.31, 0.48]	.46* [0.37, 0.54]	.27* [0.17, 0.36]
Goals	.26* [0.17, 0.34]	.30* [0.21, 0.39]	.29* [0.18, 0.38]	.32* [0.22, 0.41]
Ideology	.29* [0.2, 0.38]	.33* [0.23, 0.42]	.33* [0.23, 0.42]	.22* [0.12, 0.32]
Student	.24* [0.14, 0.32]	.42* [0.34, 0.51]	.27* [0.17, 0.37]	.27* [0.18, 0.37]
Self-Complexity	.12 [0.03, 0.21]	.40* [0.31, 0.49]	.43* [0.34, 0.52]	.15 [0.05, 0.25]

Note. * $p < .05$.

Table 3.

Mean-Level Change in Self-Concept: Summary of Hierarchical Generalized Linear Models and Variance Tests

Category	Linear Effect				Quadratic Effect				Linear T	Quadratic T	<i>d</i> Time 1		
	b	SE	Lower 95% CI	Upper 95% CI	b	SE	Lower 95% CI	Upper 95% CI	χ^2 (df = 2)	χ^2 (df = 3)	Time 2	Time 3	Time 4
Loci	-0.13	0.016	-0.16	-0.10	0.0019	0.012	-0.021	0.025	93.43	2.73	0.18	0.31	0.28
Activities	-0.02	0.016	-0.052	0.012	0.028	0.012	0.0051	0.052	142.54	35.93	0.14	0.02	0.02
Traits	-0.059	0.020	-0.098	-0.021	-0.029	0.018	-0.065	0.0070	95.90	56.07	-0.09	0.08	-0.01
Self-Evaluation	-0.032	0.016	-0.063	0.0012	-0.033	0.014	-0.060	0.0063	44.78	23.84	-0.06	-0.02	0.08
Goals	-0.024	0.036	-0.095	0.046	0.05	0.027	0.0026	0.10	13.47	7.24	0.14	0.14	-0.03
Ideology	-0.11	0.027	-0.16	-0.060	0.036	0.022	0.0076	0.080	80.39	29.87	0.25	0.17	0.18
Student	0.012	0.022	-0.030	0.054	-0.062	0.019	-0.098	-0.025	12.33	7.23	-0.17	-0.16	-0.09
Inverted Self-Complexity	0.044	0.015	0.014	0.073	-0.019	0.012	-0.042	0.004	9.80		-0.19	-0.24	-0.31

Note. Bold values are significant at $p < .05$. Inverted self-complexity is the number of unused categories in the self-concept. Linear and quadratic tau (T) columns indicate the results of the likelihood ratio tests used to examine the residual variances of the linear and quadratic effects. A significant χ^2 value indicates the presence of significant variability in the linear or quadratic components. Positive values for d indicate a higher value for Time 1; pooled standard deviations for the two time periods used as denominator in Cohen's d

calculation. The average time at which measures were collected at Time 1, Time 2, Time 3, and Time 4 were .31, 1.72, 2.81, and 3.69 years in school, respectively.

Table 4.

Individual Differences in Ipsative consistency of Self-Concept: Subcategory Match Counts Across Waves

Match Counts	Wave 1	Wave 2	Wave 3	Wave 4
Wave 1	-			
Wave 2	.39 *	-		
Wave 3	.21 *	.27 *	-	
Wave 4	.32 *	.19 *	.47 *	-
<i>M (SD)</i>	6.97 (2.95)	7.61 (3.31)	7.95 (3.46)	6.44 (3.10)

Note. * $p < .05$. Greater correlations represent greater consistency in subcategory match counts across waves. Subcategory match count refers to the number of statements at one time point that fell into the same subcategory (of 64 possible subcategories) as statements at another time point, with each statement only able to match with one other statement for the possibility 0-20 matches at each wave of time. Wave 1 corresponds to the statements that matched at Time 1 and Time 2. Wave 2 corresponds to the statements matched that at Time 2 and Time 3. Wave 3 corresponds to the statements that matched at Time 3 and Time 4. Wave 4 corresponds to the statements that matched at Time 1 and Time 4.

Figure 1. Mean-level change in self-concept: category use and [inverted] self-complexity over time. Time in these analyses was a continuous variable reflecting the number of years in school. As such, the analyses took into account participants that participated at different times during their time in school and those who spent more than four years in school. The average time at which measures were collected at Time 1, Time 2, Time 3, and Time 4 were .31, 1.72, 2.81, and 3.69 years in school, respectively.

Figure 2. Individual differences in self-concept change: distribution of linear coefficients across participants for each self-concept category and for self-complexity. In other words, the hierarchical generalized linear model for each self-concept variable generated a linear coefficient for each participant, which are plotted here and represent variation or individual differences in the linear trend. Significant variation, or individual differences, in the linear trend was found for each category as well as for self-complexity.

Figure 3. Individual differences in self-concept change: distribution of quadratic coefficients across participants for each self-concept category. In other words, the hierarchical generalized linear model for each self-concept category generated a quadratic coefficient for each participant, which are plotted here and represent variation or individual differences in the quadratic trend. Significant variation, or individual differences, in the quadratic trend was found for the activities, traits, self-evaluation, and ideology categories.

Figure 4. Ipsative consistency of self-concept: distribution of subcategory match counts across participants at each wave of time. Subcategory match count refers to the number of statements at one time point that fell into the same subcategory (of 64 possible subcategories) as statements at another time point, with each statement only able to match with one other statement for the possibility 0-20 matches at each wave of time.