Goal and Personality Trait Development in Emerging Adulthood

Brent W. Roberts and Megan O'Donnell
University of Illinois, Urbana–Champaign

Richard W. Robins
University of California, Davis

The present research examined continuity and change in the importance of major life goals and the relation between change in goals and change in personality traits over the course of college ($N = 298$). Participants rated the importance of their life goals 6 times over a 4-year period and completed a measure of the Big Five personality traits at the beginning and end of college. Like personality traits, life goals demonstrated high levels of rank-order stability. Unlike personality traits assessed during the same period and in the same sample, the mean importance of most life goals decreased over time. Moreover, each goal domain was marked by significant individual differences in change, and these individual differences were related to changes in personality traits. These findings provide insights into the relatively unstudied question of how life goals change during emerging adulthood.

What is the conceptual relation between personality traits and goals? Some theorists make a clear distinction between traits—our consistent, patterned ways of thinking, feeling, and behaving—and goals—our aspirations for who we want to become and what kind of life we want to live (McAdams, 1994). According to some perspectives, goals and traits are separate domains that independently contribute to life outcomes and in some cases interact with one another in determining life paths and patterns (Winter, John, Stewart, Klohnen, & Duncan, 1998). Other personality theorists see traits and goals as inseparable (Allport, 1961). For example, Cantor (1990) argued that life tasks can bridge the gap between dispositions and behavior (see also Little, Lecci, & Watkinson, 1992) by representing the cognitive strategies individuals use to express their underlying dispositions. Likewise, Costa and McCrae (1994) view goals as causal outcomes of dispositions; that is, people's life pursuits are, directly or indirectly, an expression of their traits.

One piece of data that would help elucidate the connection between goals and traits is the developmental trajectory of goals over time. If goals are simply a conduit for traits or are expressions of traits, one might expect them to show developmental trends that are similar to those of traits. For example, if agreeableness tends to increase with time, then goals that are linked to agreeableness,

such as goals for helping others in need, also should increase. However, there are very few longitudinal studies reporting patterns of continuity and change in goals. Moreover, there are no studies to our knowledge that have examined the developmental interplay between goals and traits. The present research reports on a longitudinal study of college students who rated the importance of different goals six times over a 4-year period. In addition, these same students reported on their Big Five personality traits at the beginning and end of the 4-year period (Robins, Fraley, Roberts, & Trzesniewski, 2001), providing the opportunity not only to directly compare developmental changes in goals and traits but also to examine whether changes in goals are related to changes in traits.

Major Life Goals as a Conceptual Unit of Analysis

A distinctive feature of personality research over the past 2 decades has been the focus on "midlevel" motivational units of analysis, including personal projects (Little, 1983), life tasks (Cantor, Norem, Neidenthal, Langston, & Brower, 1987), personal strivings (Emmons, 1989), life commitments (Novacek & Lazarus, 1990), possible selves (Cross & Markus, 1991), and wishes (King, 1995; King & Broyles, 1997). These highly contextualized cognitive–motivational units reflect individuals' conscious intentions to shape or adapt to their current environment or life situation. The modal level of analysis for these goal units is the day-to-day choices and actions in one's life (for a review, see Cantor & Zirkel, 1990; Emmons, 1997). Moreover, these goal units are typically assessed idiographically by having individuals list those projects that are particularly relevant or salient to them at the time.

As the midlevel description denotes, motives and goals can be operationalized at a wide range of breadths and can be organized hierarchically (e.g., Austin & Vancouver, 1996). At the top of these hierarchical systems one finds global aspirations for a certain worldview (e.g., Royce & Powell, 1983) and idealized notions of the self (Beach, 1990). At the next level down are more concrete "principles" of what individuals see as desirable expressed most

often as values (e.g., Rokeach, 1973). These values in turn subsume important life goals such as career and relationship aspirations (Winnel, 1987). At an even more specific level are contextualized goals, described as "midlevel units," such as personal strivings (Emmons, 1989). Finally, at the lowest level of the hierarchy are goals for immediate actions and discrete events, such as wanting to have a good day at work.

In the present article, we focus on major life goals, which we have defined as a person's aspirations to shape his or her life context and establish general life structures such as having a career, a family, and a certain kind of lifestyle (Roberts & Robins, 2000). In contrast to midlevel motivational units, major life goals have a longer time line and influence an individual's life over years and decades rather than days and weeks. For example, a typical life goal would be to get married and have children, whereas an analogous midlevel goal would be to find a date for the weekend. Major life goals entail the construction of concrete social contexts such as having a large family, being married, or attaining an affluent lifestyle. These contexts reflect the type and characteristics of roles that people enact. These roles are often interpersonal in nature and may reflect achievements that are associated with different stages of life (e.g., Erikson, 1968).

In our previous research on major life goals, we explored the structure of the only existing measure of major life goals, developed in the 1960s by Richards (1966). Richards's work linked these goals to value domains and interests and demonstrated that major life goals were similar to these domains, but not identical in content. We organized these life goals using principal-components and internal-consistency analyses into seven broad domains: Economic (desiring a high status career), Aesthetic (desiring to produce good artistic work), Social (desiring to help others in need), Relationship (desiring a family), Political (desiring to be influential in public affairs), Hedonistic (desiring to have fun), and Religious (desiring to participate in religious activities). Students rated relationship and hedonistic goals as the most important and religious and aesthetic goals as the least important.

We also found that major life goals were associated with the Big Five, in modest yet theoretically meaningful ways. People who rated economic goals as more important tended to be more extraverted and conscientious and less agreeable and open. Aesthetic goals were exclusively related to openness to experience. Finding social goals more important was related to higher agreeableness, neuroticism, and openness to experience. Relationship goals were associated with higher levels of the two interpersonal components of the Big Five—Extraversion and Agreeableness. In contrast, finding political goals important was related to higher Extraversion, but lower Agreeableness. Similarly, hedonistic goals were associated with higher Extraversion, lower Agreeableness, and higher Openness to Experience. Finally, religious goals were generally not associated with the Big Five. These findings indicate that the importance of major life goals is related in systematic ways to personality traits, but not at a level that would lead one to conclude that traits subsume goals, or vice versa.

As we previously alluded, what is missing from this picture is the relationship between goals and personality traits over time. This issue is especially important because both domains are pre-sumed to be shaped through developmental pressures, especially in young adulthood (Roberts & Wood, in press).

Theories of Adult Development and Their Relation to Goals

The participants in our study were at the cusp of young adulthood, in a period described as "emerging" adulthood (Arnett, 2000). Emerging adulthood is the time in life when individuals make major decisions concerning the shape and content of their life course: Will they marry? Will they have children? Which career will they pursue—the one with high financial rewards or the one that is personally rewarding? An individual's primary task during this transition from adolescence to young adulthood is to determine how one's current goals will develop into coherent adult roles (Arnett, 2000). Erikson (1968) believed that the transition into adulthood is a time when people experiment with different roles and search for their niche in society. It is a fluid and changeable time in one's life when one obtains a broad range of life experiences before having to take on responsibilities that limit one's scope (Arnett, 2000).

The idea that goals serve the purpose of shaping the content of the life course is central to Baltes's (1997) selection, optimization, and compensation model (SOC) of adult development. The selection stage of development, according to this model, is primary in emerging adulthood (Freund & Baltes, 2002; Freund, Li, & Baltes, 1999). This stage entails narrowing down present options, based on current internal and external resources, and developing a personal hierarchy of goals. Selection is rooted in the fact that one's personal and social resources are limited (Baltes, 1997). This finite store of resources leads a person to choose among a set of possibilities, essentially eliminating options as one develops. People should progressively commit to fewer and fewer goals as they winnow down the options to those that best reflect their interests and abilities. For example, during this stage, a person may begin to focus on his or her career and family interests and drop the desire to join the Peace Corps, travel the world, or earn another degree.

One inference from the SOC model is that unlike personality traits, many of which appear to rise with age (Robins et al., 2001; Srivastava, John, Gosling, & Potter, 2003), goals in young adulthood should actually go down in overall importance as people winnow their list of pursuits during the selection process. Although there are no longitudinal studies of the importance of goals in young adulthood, there are cross-sectional studies of goal endorsement, many of which appear to be consistent with the SOC model. For example, both hoped for and feared possible selves decrease in number with age (Cross & Markus, 1991). Interestingly, even the perspective that one could achieve possible selves decreases with age (Cross & Markus, 1991). Similarly, Nurmi (1992) found that percentage of times people nominate family and education goals decreases with age, whereas goals for work and children first increased in young adulthood then decreased thereafter (see also Heckhausen, 1999).

Unfortunately, there are no longitudinal studies reporting on continuity and change in the importance of major life goals. However, there have been a few relevant longitudinal studies of interests and idiographically assessed goals. Consistent with the SOC perspective on goal importance, Nichols (1967) found that interests tended to become more specific and distinct, with people

beginning to concentrate their interests in a particular vocational area, which resulted in an overall mean decrease in interests (Nichols, 1967).

In addition, several studies have longitudinally tracked goals that were assessed using idiographic techniques, such as Emmons (1997) personal strivings approach. Although such techniques provide insights into a person's unique constellation of goals, they make it difficult to track continuity and change because the assessment of goals is open-ended and participants cannot be directly compared. Nonetheless, in one such study, students who transitioned to the work place showed appropriate diminishment in the number of educational goals that they spontaneously mentioned (Nurmi & Salmela-Aro, 2002). In another study, parents whose children were transitioning to elementary school showed decreases in hoped-for parenting selves and increases in feared parenting selves (Morfei, Hooker, Fiese, & Cordeiro, 2001). Beyond mean-level changes in goals, the most consistent conclusion from these initial idiographic longitudinal studies is that the content of goals is quite consistent over time in both young adults and older populations (Frazier, Hooker, Johnson, & Kaus, 2000; Salmela-Aro & Nurmi, 1997). For example, Salmela-Aro and Nurmi (1997) showed that the majority of people who showed interest in achievement, family, or self-related goals at the beginning of college, showed similar levels of interest 2 years later. Unfortunately, given the idiographic nature of the goal assessments used in these studies, it is difficult to quantify the levels of stability in effect size indicators commonly used to track continuity, such as a test–retest correlation coefficient.

The present study extends previous research by examining three types of changes in the importance of major life goals: rank-order stability, mean-level change, and individual differences in change. On the basis of previous research, we expect life goals to show high levels of rank-order consistency. The interesting question in this case is whether major life goals are as consistent as personality traits. We have two, contrasting sets of hypotheses for mean-level change. First, if major life goals are simply a reflection of personality traits, then we would expect the pattern of mean-level changes to mirror the mean-level changes found in personality traits. For example, because agreeableness increases during this age period, goals related to agreeableness, such as social goals, should increase too. In contrast, the SOC model suggests that goals should decrease in importance over time because people generally tend to endorse fewer goals as they age as part of the selection and differentiation process. Finally, we also test for the existence of individual differences in life goal change using the reliable change index (RCI; Robins et al., 2001). The RCI has been used extensively to evaluate the significance of change in therapeutic situations (Jacobson, Roberts, Berns, & McGlinchey, 1999) and has been used in several instances to show that reliable individual differences in trait change exist in young adulthood (Roberts, Caspi, & Moffitt, 2001; Robins et al., 2001). In the present study, we use the RCI to estimate the proportion of people who show significant change in their life goals over the course of college.

How Do Changes in Life Goals Relate to Personality Trait Development?

Life goals can be seen as the link between people's traits and the contexts in which they choose to live their lives (Hogan, 1983;

Roberts & Robins, 2000). Consistent with the perspective that traits entail a disposition to exhibit a particular reaction to a specific set of circumstances (Tellegen, 1991), traits should be differentially related to the content of different goals. The content of goals should act as proxies for the anticipated situation, and the relationship between traits and goals would reflect the fact that people pick goals that reinforce existing traits (Roberts & Caspi, 2003). Therefore, the act of selecting and emphasizing certain goals should help to deepen already existing personality traits. For example, people who possess altruistic traits may engage in activities that reinforce those traits, such as volunteering at a homeless shelter. By accomplishing these tasks, the individual's altruistic tendencies will be reinforced by the accomplishment of these goals and by the social norms and expectations associated with the identity and role of "volunteer."

Two developmental hypotheses follow if goals and traits are linked in this fashion. First, over time, one would assume greater consistency between traits and goals as people learn more about themselves and how goals reflect their dispositions. Thus, one might expect the correlation between traits and goals to increase with time. We tested this hypothesis by comparing the correlation between traits and goals at the beginning of college with the correlations between traits and goals at the end of college, 4 years later. Second, the pattern of relationships between traits and goals should be corresponsive (Roberts, Caspi, & Moffitt, 2003; Roberts & Wood, in press). That is, patterns of predictive relationships between traits and goals, reflected in the static, concurrent correlations, will be mirrored in the relationships between changes in traits and changes in goals. For example, if people endorse economic goals, in part because they are extraverted, then extraversion will be the disposition most likely to change in response to increasing one's endorsement of economic goals over time. We tested this hypothesis by comparing the pattern of concurrent correlations between traits and goals to the pattern of relationships between changes in traits and changes in goals.

An additional set of hypotheses concerning the content of goals and traits emerges from life-span perspectives on developmental tasks in emerging adulthood. During this period, individuals begin to invest in universal life tasks such as choosing a spouse, establishing a career, and becoming part of their community (Helson, Kwan, John, & Jones, 2002). This process has been described as "social investment" and entails investing in social institutions, such as age-graded social roles, outside of one's current identity (Roberts & Wood, in press). It is thought that investment in these social roles is one factor that leads to personality trait development. This principle builds on the fundamental feature of identity development: Creating an identity entails making commitments to societal institutions in the form of social roles, such as work, marriage, family, and community. Moreover, in emerging adulthood, most people make commitments to conventional social roles, such as being married and having a career versus not being married and not having a career. What is interesting about the present study is that the participants were not actually performing these life tasks. Rather, through their investment in long-term life goals, they were preparing for future investment in activities such as forming a family and launching a career. On the basis of the social investment principle, we hypothesized that investing in family and work should be related to increases in agreeableness and conscientiousness. This hypothesis is based on longitudinal

research showing that commitment to a stable marriage-like relationship is associated with increases in constraint, a facet of conscientiousness (Roberts & Bogg, 2004; Robins, Caspi, & Moffitt, 2002), and that investment in work is related to increases in traits related to agreeableness and conscientiousness over time (Roberts et al., 2003).

Method

Participants

The data for this study came from the Berkeley Longitudinal Study (Roberts & Robins, 2004), which was designed to explore personality, achievement motivation, and self-esteem during the college years. A sample of 508 1st-year college students entering the University of California at Berkeley in 1992 received partial course credit for completing questionnaire packets during the 1st week and the end of the first semester of college. Participants were then contacted by mail at the end of the 1st, 2nd, 3rd, and 4th year of college and received monetary incentives ranging from $6 to $20 for their participation. The original sample was 56% women and diverse in ethnicity (43% Asian, 36% Caucasian, 13% Chicano/Latino, 7% African American, 1% American Indian), socioeconomic status (20% with family's 1992 income below $25,000 and 20% with family's income above $100,000), and academic ability (combined SAT scores ranged from 650 to 1540, $M = 1,183$, $SD = 181$).

The sample size varied depending on the analyses and the requirements of the statistical techniques used. Growth modeling resulted in the maximum sample size ($n = 298$) because growth modeling can be used in the presence of missing data. To make the results comparable across different statistical analyses, we used this subsample of 298 as the basis for missing-data imputation. Missing data were imputed with the expectation-maximization algorithm provided by SPSS 11.5. In this process, complete data are used to make the best predictions of the missing values by taking into account current parameter estimates under the assumption that the data are normally distributed (Smits, Mellenbergh, & Vorst, 2002).

To test for attrition effects, we compared the 298 participants to the nonparticipants. Participants had higher high school grade-point averages (3.97 vs. 3.82) and higher Conscientiousness scores in the first week of college (Z scores = .17 vs. −.24), and they were more likely to be women, $\chi^2(1, N = 298) = 5.4$, and had lower ratings of the importance of political goals (2.7 vs. 3.1; all $ps < .05$). Participants and nonparticipants did not differ in total SAT verbal and math scores, Extraversion, Agreeableness, Neuroticism, Openness to Experience, Self-Esteem, Positive or Negative Affect, or the remaining six goal clusters.

Measures

Major life goals. At each time point, participants rated the importance of 26 life goals that assessed seven broad domains. The first domain, labeled Economic goals, consisted of six goals for occupational prestige: having a high-status career, having an influential and prestigious occupation, having a high standard of living and wealth, owning my own business, and making my parents proud. The second domain, labeled Aesthetic goals, consisted of four goals focusing on aesthetic activities: producing good artistic work, writing good fiction and prose, becoming accomplished in one of the performing arts, and being an accomplished musician. The third dimension, labeled Social goals, consisted of three goals: helping others in need, working to promote the welfare of others, and taking part in volunteer community and public service. The fourth dimension, labeled Relationship goals, consisted of three goals also: having a satisfying marriage/relationship, having harmonious relationships with my parents and my siblings, and having children. The Political goal dimension consisted of two goals: being influential in public affairs and becoming a community leader. The Hedonistic goal dimension consisted of three goals: having fun, having new and different experiences, and having an exciting lifestyle. The final goal dimension, Religious goals, consisted of two goals: devoting attention to my spiritual life and participating in religious activities. Participants rated the goals on a 5-point scale ranging from 1 (*not important to me*) to 5 (*very important to me*). Mean reliabilities, averaged across assessments, are shown in Table 1.

Big Five dimensions. The Big Five personality dimensions of Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness to Experience were measured by the 60-item NEO–Five Factor Inventory (NEO-FFI; Costa & McCrae, 1992). Participants completed the NEO-FFI during the Week 1 and Year 4 assessments, using a 5-point scale ranging from 1 (*not very true of me*) to 5 (*very true of me*). Coefficient alpha reliabilities were .83 and .82 for Extraversion, .76 and .77 for Agreeableness, .81 and .83 for Conscientiousness, .84 and .85 for Neuroticism, and .77 and .75 for Openness to Experience, respectively, for the two time points.

Measuring Change in Life Goals

We measured the rank-order stability of each of the seven goal domains by computing correlations between adjacent assessments and across the entire period (i.e., Week 1 to Year 4). Repeated measures analysis of variance (ANOVA) was used to estimate mean-level change in life goals and to test whether the mean-level changes were statistically significant.

We used the RCI to classify people as having decreased, increased, or stayed the same on each life goal dimension (Christensen & Mendoza, 1986; Jacobson & Truax, 1991),

Table 1
Rank-Order Consistency of Goal Importance

Goal domain	Wk1–Sem1	Sem1–Y1	Y1–Y2	Y2–Y3	Y3–Y4	Wk1–Y4	α
Economic	.80	.82	.84	.79	.85	.62	.81
Aesthetic	.77	.77	.75	.83	.83	.55	.77
Social	.72	.76	.77	.78	.78	.53	.82
Relationship	.75	.77	.82	.89	.84	.56	.65
Political	.66	.65	.70	.64	.73	.44	.83
Hedonistic	.68	.73	.70	.77	.80	.51	.65
Religious	.84	.85	.83	.89	.87	.71	.77

Note. $N = 298$; Wk1–Sem1 = first week of school to end of first semester; Sem1–Y1 = end of first semester to end of 1st year; Y1–Y2 = end of 1st year to end of 2nd year; Y2–Y3 = end of 2nd year to end of 3rd year; Y3–Y4 = end of 3rd year to end of 4th year; Wk1–Y4 = 1st week of school to end of 4th year. All correlations shown are statistically significant at $p < .05$.

Table 2
Mean-Level Change (and Standard Deviation) in Goal Importance Over Time

Life goal	Week 1	Sem 1	Year 1	Year 2	Year 3	Year 4	Linear F	d
Economic	3.7 (0.8)	3.6 (0.8)	3.6 (0.8)	3.5 (0.8)	3.4 (0.8)	3.4 (0.7)	61.6*	−.45
Aesthetic	2.3 (1.0)	2.3 (1.0)	2.2 (0.9)	2.2 (1.0)	2.1 (1.0)	2.1 (1.0)	17.7*	−.21
Social	3.7 (0.9)	3.7 (0.9)	3.7 (0.8)	3.7 (0.9)	3.7 (0.9)	3.7 (0.9)	1.1	−.07
Relationship	4.4 (0.7)	4.4 (0.7)	4.4 (0.7)	4.4 (0.7)	4.4 (0.7)	4.4 (0.7)	0.8	−.05
Political	2.7 (1.1)	2.8 (1.0)	2.6 (1.0)	2.6 (1.0)	2.4 (1.0)	2.4 (1.1)	38.4*	−.28
Hedonistic	4.2 (0.7)	4.1 (0.7)	4.1 (0.7)	4.0 (0.7)	4.0 (0.7)	4.1 (0.7)	14.9*	−.25
Religious	2.8 (1.2)	2.7 (1.3)	2.7 (1.3)	2.6 (1.2)	2.6 (1.2)	2.6 (1.3)	12.8*	−.17

Note. $N = 298$; Sem 1 = end of first semester; d = Cohen's d (mean of Year 4 − mean of Week 1/pooled standard deviation).
* $p < .05$.

$$RC = X_2 - X_1/S_{diff},$$

where X_1 represents a person's score at Time 1, X_2 represents that same person's score at Time 2, and S_{diff} is the standard error of difference between the two tests scores, which can be computed using the standard error of measurement:

$$S_{diff} = \sqrt{2(SE)^2}.$$

The standard error of the difference score represents the spread of the distribution of change scores that would be expected if no actual change has occurred. RCI scores smaller than −1.96 or larger than 1.96 are unlikely to occur without true change and are thus considered reliable. Furthermore, if change was random, then we would expect the distribution of RC scores to be normal, with approximately 2.5% below −1.96, 2.5% above 1.96, and 95% of the participants remaining the same.

The availability of multiple waves of data allowed us to use latent growth-modeling techniques (McArdle & Bell, 2000). Latent growth models assess within-individual change over time by estimating an intercept (i.e., average level) and a slope (i.e., per-year change over time) as latent constructs (e.g., Muthén, 1997; Willett & Sayer, 1993). Individual scores at any one time can be modeled as a linear function of a latent intercept and slope, as well as random error. Repeated measurements over time provide multiple indicators of the intercept and slope of each variable, which can then be predicted by or used to predict the intercepts and slopes of other variables (McArdle & Epstein, 1987; Willett & Sayer, 1993). We restricted the analyses to linear models of growth, in which the growth parameters were coded in terms of a proportion of the overall time of the study.[1] We related linear growth rates of the importance of major life goals to individual differences in change in the Big Five. For the latter, we used residualized-change scores computed by predicting Year 4 personality traits scores from Week 1 trait scores and retaining the residuals from the regression equation.

Results

Rank-Order Consistency of Life Goal Importance

Table 1 shows the correlations over time between each contiguous wave of assessment and the 4-year rank-order consistency. In general, consistency was quite high, especially year-to-year, for which the correlations ranged from .64 to .89. The 4-year rank-order consistency estimates were slightly lower, ranging from .44 for political goals to .71 for religious goals. Interestingly, the average 4-year test–retest correlation was .56, which is quite similar to the average 4-year test–retest correlation ($r = .61$) for the Big Five personality traits reported in earlier research using the same sample (Robins et al., 2001).

Mean-Level Change in Life Goal Domains

Mean-level changes for the seven life goal domains were evaluated using repeated measures ANOVA to test whether life goals increased or decreased in importance over time. Table 2 shows the means and standard deviations for the five time points and standardized difference scores (d) from Week 1 to Year 4. Consistent with the selection hypothesis, statistically significant decreases in the level of goal importance from Week 1 to Year 4 were found for Economic ($d = -.45$), Aesthetic ($d = -.21$), Political ($d = -.28$), Hedonistic ($d = -.25$), and Religious ($d = -.17$) goals. Neither Social ($d = -.07$) nor Relationship goals showed significant change over time ($d = -.05$).

Individual Differences in Goal Change

Previous research has demonstrated that personality traits show reliable individual differences in change, but to date, no test of whether goal importance ratings show reliable change has been conducted. To test this possibility, we computed RCIs for the importance ratings of each goal dimension and then classified people as reliable increasers, reliable decreasers, or nonchangers. As the chi-square tests indicate on Table 3, we found reliable individual differences in change for all goal domains. If there were no reliable changes, then we would expect approximately 5% of the sample to be categorized as increasers and decreasers. This assumption was disconfirmed in each case, as the smallest percentage of changers found was 9% (Relationship goals) and the largest 24% (Economic goals). We also found rather large percentages of decreasers on the Religious (14%) and Political (10%) goal dimensions. Consistent with the normative trend, a disproportionate number of individuals decreased across the entire set of goal dimensions. Interestingly, and in the spirit of individual differences in change, significant percentages of individuals contradicted the general downward trend and increased on the importance of goal dimensions that showed a general pattern of decrease, such as the Social (7% increased) and Aesthetic goals (6% increased).

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[1] The relationships between the intercepts and slopes were negative and ranged from −.17 to −.42 ($M = -.27$). The models fit reasonably well, with all CFI values exceeding .98. We attempted several curvilinear models, but in most cases, the models failed to converge.

Table 3

Percentage of Individuals Showing Reliable Change in Goal Importance

Goal domain	Decrease %	No change %	Increase %	$\chi^2(2)$[a]
Economic	21	76	3	407.4
Aesthetic	9	85	6	74.1
Social	9	84	7	73.6
Relationship	6	91	3	15.5
Political	10	85	5	80.5
Hedonistic	9	89	2	47.4
Religious	14	80	6	168.2

Note. $N = 298$.

[a] All values are significant at $p < .05$.

Describing change goal by goal does not reflect the overall amount of change that any given person is prone to experience across all of the goal domains. We summed the number of goals on which each individual changed reliably to determine the modal amount of change a person experienced across the seven goal domains. Sixty-seven percent of the sample experienced reliable change (either increasing or decreasing) on one or more goal dimensions during the 4 years of the study. The average number of reliable changes was 1.1, which is consistent with the fact that most people experienced reliable change on either one (40%) or two (16%) goal dimensions. Ten percent of the sample experienced reliable change on three or more goals, and no participants experienced reliable change in all seven goal domains.

Concurrent Correlations Between Goals and Traits

Table 4 shows concurrent correlations between the seven life goal domains and the Big Five personality traits during the 1st week of college and the Year 4 assessment. Extraversion was related to valuing Economic, Social, Relationship, Political, and Hedonistic goals. Agreeableness was positively related to valuing Social and Relationship goals and negatively related to valuing Aesthetic goals. Openness was related to finding Aesthetic, Social, and Hedonistic goals more important and Economic and Religious

goals less important. Conscientiousness and Neuroticism were not related to any of the goal domains at Week 1.

Our first developmental hypothesis about the relationship between goal and trait development was that the correlation between goals and traits would grow stronger over time. As Table 5 shows, this hypothesis received little support. Of the 11 statistically significant correlations in Week 1, 5 of the corresponding correlations in Year 4 were actually smaller in magnitude. Of the remaining 5 correlations that increased, the magnitude of the increase tended to be small and not statistically significant. We tested the comparability of the correlations during Week 1 and Year 4 between the life goals and personality traits by modeling the manifest correlations in AMOS 4 and fixing the pattern to be equivalent at both time points. Fixing the correlations to be equivalent did not reduce the fit of the overall model, $\chi^2(35, N = 298) = 18.6$, $p > .05$, indicating that the correlations at both times were essentially indistinguishable from a statistical standpoint.

Relations Between Change in Life Goals and Change in Traits

We used latent growth modeling to test whether changes in the importance of life goals were associated with changes in personality traits. The results showed that changes in goal importance were related to a wide range of changes in personality traits (see Table 5). Changes in Economic goals were positively associated with changes in Extraversion ($r = .15$) and Conscientiousness ($r = .19$). Changes in Aesthetic goals were positively related to changes in Openness to Experience ($r = .27$), as well as to changes in Extraversion ($r = .21$). Changes in Social goals were positively linked to changes in the trait of Extraversion ($r = .24$) and Agreeableness ($r = .15$). Changes in Relationship goals showed a significant positive association with changes in Extraversion ($r = .28$), Agreeableness ($r = .26$), and Conscientiousness ($r = .24$). Similarly, changes in Political goals showed a significant positive association with changes in Extraversion ($r = .40$) and Conscientiousness ($r = .21$). Changes in Hedonistic goals were positively related to changes in Extraversion ($r = .38$) and Openness to Experience ($r = .18$). Finally, changes in the importance of Religious goals were unrelated to changes in personality.

Table 4

Correlations Between Personality Traits and Goal Importance in the First Week of College and in Year 4

Goal domain	E		A		C		N		O	
	Wk1	Y4	Wk1	Y4	Wk1	Y4	Wk1	Y4	Wk1	Y4
Economic	**.29**	**.17**	−.10	**−.15**	.10	.03	−.03	.07	**−.26**	**−.20**
Aesthetic	−.04	−.01	−.11	−.07	−.06	−.05	.01	.05	**.34**	**.40**
Social	**.16**	**.23**	**.32**	**.26**	.10	**.16**	−.01	−.04	**.15**	**.16**
Relationship	**.33**	**.38**	**.21**	**.29**	.09	**.19**	−.11	**−.18**	−.11	−.04
Political	**.28**	**.27**	−.10	−.11	.06	.04	−.11	−.07	.02	.10
Hedonistic	**.45**	**.42**	−.02	.08	.05	−.10	−.09	−.04	**.11**	**.17**
Religious	.07	.07	.07	.02	.00	.04	−.04	.01	**−.16**	−.03

Note. $N = 298$. E = Extraversion; A = Agreeableness; C = Conscientiousness; N = Neuroticism; O = Openness to Experience; Wk1 = correlations at the 1st week of college; Y4 = correlations at the end of the 4th year of college. Correlations significant at $p < .05$ are shown in bold.

Table 5
Correlations Between Change in Goal Importance and Change in Personality Traits

Change in goal importance	Change in personality traits				
	Extraversion	Agreeableness	Conscientiousness	Neuroticism	Openness to Experience
Economic	**.15**	.03	**.19**	−.04	−.03
Aesthetic	**.21**	.01	.07	−.10	**.27**
Social	**.24**	**.15**	.12	−.06	.06
Relationship	**.28**	**.26**	**.24**	−.09	.00
Political	**.40**	.07	**.21**	**−.20**	.10
Hedonistic	**.38**	.06	−.01	−.09	**.18**
Religious	−.02	.11	.14	.12	−.07

Note. $N = 298$. Correlations significant at $p < .05$ are shown in bold.

Beyond the fact that changes in goal importance were related to changes in personality traits, we had two specific developmental questions. On the basis of corresponsiveness principle (Roberts et al., 2003; Roberts & Wood, in press), we hypothesized that the pattern of change correlations would mirror the concurrent patterns shown in Table 4. We found good support for this hypothesis. Of the 11 statistically significant cross-sectional correlations during Week 1, 7 of the corresponding change relationships in Table 5 were statistically significant (63%). Of the 15 statistically significant cross-sectional correlations during Year 4, 11 of the corresponding change relationships in Table 5 were statistically significant (73%). To quantify the correspondence between the correlations in Tables 4 and 6, we correlated the concurrent correlations with the change coefficients after converting the numbers to Fisher's Z scores. The correlations between Week 1 concurrent patterns and over time change patterns was .77 ($p < .05$), and the correlation between Year 4 concurrent patterns and over time changes was .77 ($p < .05$). The relatively strong correspondence between concurrent and change patterns indicates that, as hypothesized, the relationship between traits and goals is corresponsive.

Our second developmental hypothesis focused on the content of the change relationships. Specifically, we hypothesized that increasing or, in this case, maintaining high endorsements of goals for conventional social investments, such as wanting to establish a family and investing in a career, would be related especially to Agreeableness and Conscientiousness. We found strong support for this hypothesis. People who valued Economic goals more over time tended to become more Conscientious. Similarly, people who valued Relationship goals more over time tended to become more Agreeable and Conscientious. Also, individuals who found Social goals to be more important over time increased on Agreeableness.

Discussion

The present research examined continuity and change in life goals and the relation between goals and personality trait development. Like personality traits, major life goals demonstrated moderately high levels of rank-order stability. Unlike personality traits assessed during the same period and in the same sample, the mean importance of most life goals decreased with time. Moreover, we found each goal domain to be marked by significant individual differences in change, and these changes were in turn related to changes in personality traits. These findings provide information for the relatively unstudied area of change in life goals that occurs during this stage of development.

Changes in Life Goals in Young Adulthood

In this study, continuity and change were assessed with rank-order consistency, mean-level change, and individual differences in change in life goals over time. Surprisingly, the results showed that life goals were as consistent as personality traits assessed over the same period of time (Robins et al., 2001). It is likely that goals proved to be so stable because the individuals in the study were not experiencing any major life transitions during the time of the study. If goal stability had been measured after the students left college, when some were beginning careers and families, the stabilities may have been much lower because the importance of various goals would fluctuate on the basis of each individual's new life status and the experiences he or she encountered while pursuing and acting on these goals (Salmela-Aro & Nurmi, 1997). The stability of goals may also be less impressive if other types of evaluations are tracked, such as how much people are working on specific goals or the emotions experienced in relationship to goals and goal attainment. Nonetheless, at least for ratings of goal importance, major life goals appear to act very much like traits in their levels of consistency over time.

The fact that life goals were trait-like in their levels of consistency supports the contention that goals are actually reflections of personality traits (McCrae & Costa, 1999). In contrast, the mean-level change in life goals undermines the inference that traits are the overarching cause of life goals. With the exception of the relationship and social goals, all remaining goal dimensions decreased over the 4-year period. Although this does not disprove the possibility that traits cause goals, it does undermine the strong claim that traits are the ultimate cause of goals. The pattern of mean-level changes indicates that normative change in goals does not parallel the normative trends typically found in personality traits, both in the same sample (Robins et al., 2001) and in other longitudinal studies (Roberts et al., 2001).

The pattern of mean-level changes in life goals was consistent with the SOC theory of adult development (Baltes, 1997; Freund & Baltes, 2002; Freund et al., 1999). Young adulthood is the time of selection, when individuals decide where to invest their limited energy. As decisions are made to emphasize certain domains over others, it follows that a person should gradually commit to fewer

and fewer life goals as he or she narrows down the present options to those that best reflect his or her interests and abilities. Moreover, the general pattern during the selection period should be one of decrease overall, and that is what we found. It is clear from studies of other ages that life goals do not always decrease. For example, health-related goals tend to increase with age (Frazier et al., 2000). Nonetheless, during the transition from adolescence to young adulthood, the situational press is to decide or select which goals one wants to invest in.

We also found that like traits, life goals demonstrate notable levels of reliable change over time. Often people assume that if a construct is correlationally stable over time, then individual differences in change over time can be attributed to error. The RCI provides a strong test of this idea because it takes into consideration the amount of random change one would expect given the reliability of the measure under investigation. For each goal domain, we found a larger percentage of individuals showing reliable change than one would expect if the changes were random. This finding is important for several reasons. First, it shows one of the realities of development—despite the population-level trends for consistency and mean-level change, each individual experiences his or her own unique path of development. For example, a subset of individuals showed increases on goals that demonstrated robust mean-level decreases, such as political and aesthetic goals. Second, it demonstrates the necessity of analyzing multiple types of change to truly understand how different psychological constructs develop over time.

Overall, major life goals, when assessed using normative ratings of importance, share some qualities with personality traits, such as relatively high levels of rank-order consistency and significant patterns of individual differences in change. At the same time, they also demonstrate distinct patterns of mean-level change, tending to decrease across most domains that we assessed. This bolsters the conclusion that life goals constitute an independent domain of inquiry (Winter et al., 1998) and that, as a unit of analysis, life goals deserve more attention in longitudinal research.

Relation of Changes in Goals to Changes in Traits

The conclusion that goals do not show exactly the same patterns of change as traits does not negate the possibility that life goals and traits are reciprocally related to one another over time. Instead, this means that changes in specific goals may be related to changes in specific traits. We had three hypotheses related to how changes in goals and changes in traits should be manifest in correlational and change patterns over time. Our first hypothesis was that the concurrent pattern of life goals and traits should become more consistent over time. That is, over time, people come to both understand themselves and their goals better. The effect of this is greater consistency between what people do and what they want to do. For example, a person might desire to be a musician and yet not be very open to experience. Over time, they may find that they do not like playing music or that it exceeds their skills or motivation, and therefore, they diminish their investment in the goal to become a musician and it comes into line with their ratings of openness to experience. If this developmental process occurs for many people, then the concurrent correlation between goals and traits should increase with time. We found no evidence to support this hypothesis. The modal correlation between traits and goals did not in-

crease over time. This provides further support that the link between traits and goals may not be as robust as previously thought.

Our second hypothesis focused on the correspondence between the concurrent pattern of correlations and the pattern of relations between changes in life goals and changes in personality traits over time. Described as the correspondence principle, this hypothesis derives from the assumption that the dispositions that may lead one to select specific goals are themselves reinforced by increasing one's endorsement of these goals. This type of pattern has been demonstrated between traits and the work environment (Roberts et al., 2003) and between traits and the college environment (Roberts & Robins, 2004) but had not been demonstrated in the trait–goal interface. Consistent with the correspondence principle, there was a strong pattern of correspondence between the concurrent correlational pattern and the across-time change patterns. The major implication of this finding is that each person's developmental path is in part determined by his or her preexisting personality characteristics, and most people follow a path that deepens and reinforces those characteristics over time. Thus, development has a predictable pattern, and this pattern is related to one's own characteristics. This, in some respects, guarantees the unique quality of each person's course of development over time.

The third developmental hypothesis had to do with the content of the life goal change. In previous research, we have found that investing in conventional social roles is associated with increases in the personality traits of agreeableness and conscientiousness. We have described this as the social investment principle (Roberts & Wood, in press), which is based, in part, on findings from studies where actual experiences in conventional roles of marriage and work have been found to be associated with increases in these two trait domains (e.g., Neyer & Asendorpf, 2001; Roberts & Bogg, 2004; Robins et al., 2002). Consistent with the social investment hypothesis, increasing one's endorsement of economic and relationship goals was associated with increases in agreeableness and conscientiousness.

There are two interesting implications of this finding. First, it implies that direct experience is not necessary for trait development to occur. Most socialization theories of development posit that development occurs through direct experience of environments, role contingencies, and success and failures in one's daily activities. In contrast, our findings indicate that development may occur even when a person does not yet occupy a specific role. Rather, people may begin to change their personality traits in anticipation of entering specific social roles, especially the two normative social roles of young adulthood, work and marriage. This may come about through revising how one behaves in anticipation of future role demands or because people begin to practice the behaviors that come with these new roles. In essence, people may develop provisional identities that reflect their expectations for how a person should act in work and marriage roles, which presumably call for increases in warmth, cooperativeness, responsibility, and self-discipline (Ibarra, 1999).

Beyond these specific hypotheses, the most salient finding in this study was that changes in extraversion showed more significant relationships to life goal change than any other trait domain. One interpretation of this finding is that the increasing vitality and energy reflected in increasing extraversion was subsequently invested in more and varied life pursuits. Of course, we need to point out that the causal direction is unknown in the present study. We

do not know whether changes in goals caused changes in traits, whether changes in traits caused changes in goals, or both. Nonetheless, the fact that they are correspansive, and that the content overlap mirrors what has been found for real-life experiences, increases our understanding of the developmental process underlying personality development.

Limitations and Future Directions

Although this was the first longitudinal study of normatively assessed life goals and the first study to link changes in goals to changes in personality traits, it has limitations. First, it depended entirely on self-reports over time. Alternatively, one could relate the importance of goals to observer ratings of personality to minimize the methodological overlap. Also, researchers should aim to study the changes in life goals across various age groups and various transitions in life, such as the transition from high school to college or from college to the working world. Studying individuals experiencing major life transitions will allow researchers to test whether life goals stay as stable as personality traits when the context of the individual's life is more fluid and unpredictable.

In addition, studying an older age group or young adults who are in the work force rather than college would allow researchers to assess individuals who are actually acting on their goals and not simply thinking about them (see Nurmi, 1992). For example, a college student may dismiss the importance of economic goals and having a job through which he or she can make a large amount of money to focus on pursuing a career presumed to be personally fulfilling. However, once that individual gains family responsibilities, he or she may realize that it is not only desirable but in fact imperative to have a job that provides a decent income. Though that individual might foresee a decreased level of fulfillment, the knowledge that one is providing for one's own family might outweigh previous notions regarding job satisfaction. Studying the process of dropping goals and the regrets or relief that follow would be a significant contribution to our understanding of how goals shape the life course and how their implementation or lack thereof affects well-being.

We should also note that unlike research on midlevel units of analysis, we focused on importance ratings of major life goals. One of the hallmarks of more idiographic approaches to goal assessment is the wide range of ways in which people are asked to evaluate their goals, such as how much they are working on accomplishing the goal, how happy they are with their progress, and how much conflict they experience between goals (Emmons, 1989; Little, 1983). It is quite possible that change in these alternative ways of evaluating goals would have different patterns of relationships with changes in personality traits over time. Thus, future research should endeavor to incorporate multiple means of assessing goals rather than focusing solely on the importance of goals.

In summary, this study shows that major life goals demonstrate a pattern of development that differs from personality traits. Moreover, changes in life goals are linked to changes in personality traits in several interesting and theoretically relevant ways. Future research should investigate the patterns of continuity and change in life goals across developmental transitions, as well as the interplay between life goals and personality traits over longer periods of time.

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