Advances in Cell Aging and Gerontology

Personality and self-esteem development across the life span

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Over the past few decades, there has been an explosion of longitudinal research on the consistency of personality and related constructs such as self-esteem. This plethora of studies has provided sufficient evidence to move researchers toward consensus about the degree to which personality characteristics change over the life course. The emerging story, based on an accumulating body of empirical research, is that personality and self-esteem show remarkable continuity given the vast array of experiences that impinge upon a lived life. At the same time, research also reveals

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Advances in Cell Aging and Gerontology, vol. 15, 163–185

that personality and self-esteem show important and systematic changes that are meaningfully connected to particular life experiences and contexts.

In the first section of this chapter, we review longitudinal evidence that personality and self-esteem show moderate levels of rank-order stability across the life span. This moderate level of stability demonstrates continuity in the way that individuals behave, think, and feel as they age. However, this continuity does not imply that personality and self-esteem are immutable.

Indeed, most studies of personality and self-esteem development reveal interesting patterns of normative change. These systematic normative changes illustrate the role of personality and self as organizational constructs that influence how individuals orient their behavior to meet environmental demands and new developmental challenges (Funder, 1991). In turn, personality and self-esteem are developmental constructs in that they demonstrate changes across the life course (Roberts and Caspi, 2001; Robins, Trzesniewski, Tracy, Gosling, and Potter, 2002), often in response to the environments being mastered (Roberts, 1997). Thus, as individuals experience normative developmental transitions, normative changes in related areas of personality and the self will occur. In the second part of this chapter, we review cross-sectional and longitudinal research on the normative development of personality and self-esteem across the life span.

Normative patterns of change imply a dynamic relation between life events and personality. However, not everyone experiences the same life events at the same time, and consequently there are individual differences in personality and self-esteem change. In the last section of the chapter, we review findings from longitudinal studies that have investigated the impact of socio-contextual factors on personality and self-esteem change. In this section, we explore how different life experiences across generations and across individuals lead to varying patterns of personality and self-esteem change.

1. Rank-order stability of personality and self-esteem across the life span

We first consider the rank-order stability of personality and self-esteem from childhood through adulthood. Rank-order stability is typically assessed using test–retest correlations (i.e. the correlation between scores across two time points). Test–retest correlations reflect the degree to which the relative ordering of individuals is maintained over time; that is, individuals who are high (or low) relative to others at Time 1 remain high (or low) relative to others at Time 2.

High rank-order stability indicates that (a) individuals did not change much over time *or* (b) individuals changed over time, but in more or less the same way (i.e. everyone increased or decreased to the same extent). The latter situation ("b") can occur when a normative developmental event such as puberty impacts all individuals in the same way (e.g. if puberty causes everyone to decline in self-esteem by the same amount). Low rank-order stability indicates that individuals changed over time *and* there were individual differences in the direction of change (i.e. some individuals increased while others decreased). This situation can occur when non-normative

developmental events impact the trait being studied (e.g. if some individuals experience parental divorce and decline in self-esteem whereas others do not experience parental divorce and maintain the same self-esteem level). Low rank-order stability can also occur when the factors that influence the trait are normative but individuals have unique reactions to these events (e.g. if puberty causes some individuals to increase in self-esteem but causes others to decrease in self-esteem). Finally, a low test–retest correlation could simply reflect measurement error; less reliable measures will show lower test–retest correlations.

Below we review the evidence for the rank-order stability of personality and self-esteem, drawing heavily on the findings of two recent meta-analyses (Roberts and DelVecchio, 2000; Trzesniewski et al., in press).

1.1. Personality

Over the past few decades, researchers have debated the degree to which individual differences in personality are stable across the life span. Two contradictory perspectives have been advanced. The *classical trait perspective* states that personality traits are highly heritable, biologically based "temperaments" that are relatively impervious to the influence of the environment during adulthood (McCrae et al., 2000). From this "essentialist" perspective, we would expect to find high rank-order stability, particularly after age 30, when personality is assumed to become "set like plaster" (Costa and McCrae, 1994, p. xx). In contrast, the *contextual perspective* emphasizes the importance of life changes and role transitions in personality development and suggests that personality should be fluid, prone to change, and yield low test–retest correlation coefficients, particularly during adolescence and young adulthood (Lewis, 1999).

Existing longitudinal studies do not support either of these extreme positions. The findings of a recent meta-analysis of the rank-order stability of personality confirmed several general conclusions (Roberts and DelVecchio, 2000). First, rank-order stability is not as high as the classical trait perspective claims, nor as low as the contextual perspective suggests. Overall, test–retest correlations are moderate in magnitude; across all age groups, the median test–retest correlation (unadjusted for measurement error) was 0.50. Thus, the magnitude of rank-order stability, although far from perfect, is still remarkably high. The only psychological construct more consistent than personality is cognitive ability (Conley, 1984).

Second, rank-order stability generally increased across the life span. Test–retest correlations (unadjusted for measurement error) increased from 0.41 in childhood to 0.55 at age 30, and then reached a plateau around 0.70 between ages 50 and 70 (see Fig. 1). This developmental trend points to several interesting findings. Most notably, the level of continuity in childhood and adolescence is much higher than originally expected (cf. Lewis, 1999, 2001). Although childhood character is by no means fate, there are striking continuities that point to the importance of childhood temperament and the effects of cumulative continuity from childhood through adulthood (Caspi, 2000). Even more impressive is the fact that the level of

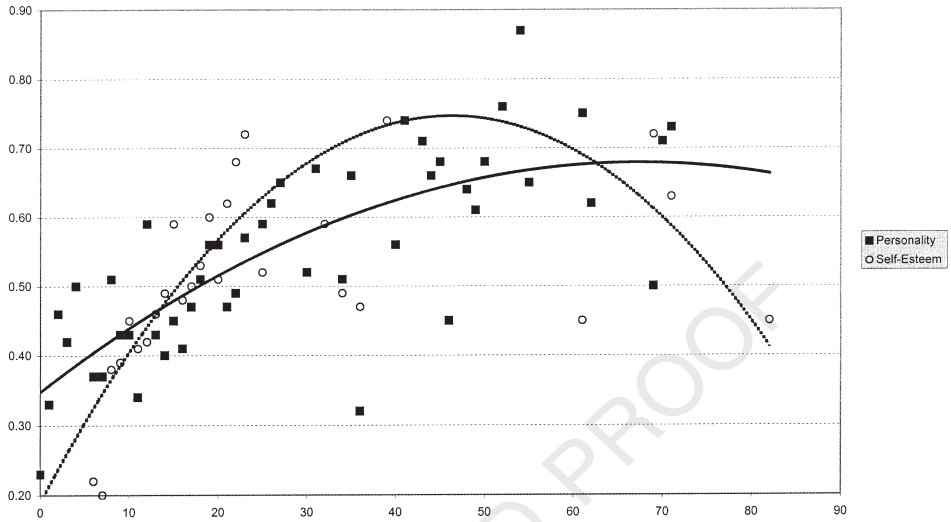

Fig. 1

consistency increases in a relatively linear fashion through adolescence and young adulthood. Young adulthood has been described as demographically dense, such that people make more life-changing decisions (to marry, one's career, children, etc.) during this period than at any other time in the life course (Rindfuss, 1991; Arnett, 2000). Yet, despite these dramatic demographic shifts, personality differences remain remarkably consistent. Finally, the developmental trend in stability suggests that personality continuity in adulthood peaks later than expected. Contrary to the claim that personality traits are essentially fixed and unchanging after age 30 (McCrae and Costa, 1994), the meta-analytic findings show that rank-order stability peaks some time after age 50, but at a level well below unity. Thus, personality traits continue to change throughout adulthood, but only modestly after age 50.

Third, rank-order stability did not vary markedly across the Big Five trait domains, across different assessment methods (i.e. self-reports, observer ratings, and projective tests), or by gender. Moreover, the levels of consistency found in this meta-analysis replicated smaller studies dating back to 1941 (Crook, 1943; Conley, 1984; Schuerger et al., 1989). Apparently, there have been few if any cohort shifts in the level of rank-order stability in personality traits over the past 60 years.

1.2. Self-esteem

Mirroring the debate that occurred in personality psychology, some researchers have argued that self-esteem is a trait-like construct that remains relatively stable over time (e.g. Coopersmith, 1967; Rosenberg, 1986), whereas others have argued that self-esteem should be conceptualized as a state-like process that continually fluctuates in response to environmental stimuli (e.g. Kernis et al., 1992;

Leary and Baumeister, 2000). If the long-term stability of self-esteem is much lower than other trait-like constructs (e.g. personality traits), then self-esteem should not be considered a stable individual-differences construct and should not be used to predict future behavior (Conley, 1984).

Again, a recent meta-analysis has helped to clarify the debate. Trzesniewski et al. (in press) examined the rank-order stability of self-esteem using data from 50 published articles ($N = 29{,}839$). Overall, the findings support the view that self-esteem is a stable individual-difference construct. Test–retest correlations are moderate in magnitude and comparable to those found for personality traits; across all age groups, the median correlation (unadjusted for measurement error) was 0.47.

In contrast to personality, which showed an increasing linear trend, the rank-order stability of self-esteem showed a robust curvilinear trend (see Fig. 1): self-esteem stability (uncorrected for measurement error) was relatively low during early childhood (0.40), increased throughout adolescence (0.51) and early adulthood (0.55 during the college years and 0.65 during the 20s), and then declined during midlife (0.55) and old age (0.48). This curvilinear trend could not be explained by age differences in the reliability of self-esteem measures and generally replicated across different self-esteem scales, gender, ethnicity (Caucasian vs. African-American), nationality (U.S. vs. non-U.S.), and the year the study was conducted.

Several aspects of these findings are noteworthy. First, self-esteem was least stable during childhood. Although the analyses rule out low reliability (defined in terms of internal consistency) as an explanation for this effect, it is possible that the stabilities during childhood were attenuated by other measurement factors, such as poor validity of self-esteem scales for this age group.

Second, self-esteem stability decreased from adulthood to old age. This decline may reflect the dramatic life changes and shifting social circumstances that characterize later adulthood and old age. For example, normative life events such as children moving out of the home, retirement, and death of a loved one, may lead to changes in social roles and corresponding shifts in identity during old age. In addition, maturational changes again become common, such as health problems, which can result in greater dependency on others and reduced feelings of personal agency. These changes may challenge some individuals' view of themselves and thus produce idiosyncratic changes that reduce the stability of self-esteem. Another possibility is that as individuals age they may begin to review their lifelong accomplishments and experiences, leading in some cases to more critical self-appraisals and in other cases to greater acceptance of their faults and limitations. This process would be consistent with Erikson's (1985) notion of old age as a time when people reflect on their lived life. Some individuals may decide that their life has been a success (i.e. develop ego integrity) and thus maintain or increase their self-esteem whereas others may decide that they have failed (i.e. suffer despair) and experience a decline in self-esteem. Thus, a developmental shift toward greater self-reflection in old age may produce increases in self-esteem for some individuals but decreases for others, contributing to lower levels of stability.

Third, at no age did the stability of self-esteem reach unity, even after disattenuating the test-retest correlations for measurement error. Thus, self-esteem continues to change across the life span. The evidence suggests that self-esteem, much like personality traits, is never set like plaster and, in fact, shows even lower levels of stability in old age.

What are the implications of these findings for self-esteem's position in the hierarchy of consistency (e.g. Kelly, 1955; Conley, 1984)? Roberts and DelVecchio's (2000) meta-analysis of personality trait stability provides a useful comparison point. In general, self-esteem and personality traits show similar levels of stability (see Fig. 1). Roberts and DelVecchio (2000) reported uncorrected personality test-retest correlations (controlling for time interval) of 0.43 in childhood, 0.44 in adolescence, 0.54 during the college years, 0.60 for ages 22 to 29, and 0.64 during the 30s. Similarly, Trzesniewski et al. (in press) found uncorrected correlations (controlling for time interval) of 0.40 in childhood, 0.48 in adolescence, 0.55 during the college years, 0.65 for ages 22 to 29, and 0.62 during the 30s. However, Roberts and DelVecchio (2000) reported a test-retest correlation of 0.74 for adults between the ages of 50 and 70 whereas we found a test-retest correlation of 0.49 for this same age range.

Considering the similarity in the stability of self-esteem and personality throughout most of the life span, this large divergence during late adulthood seems puzzling. It is possible that a developmental shift toward greater self-reflection during late adulthood and old age produces changes in self-esteem, but not in basic personality traits. Indeed, reflecting on the overall worthiness of your life may change your self-esteem but it is not likely to have a powerful impact on how sociable, conscientious, and creative you are.

In summary, for both personality and self-esteem neither extreme perspective was supported: both constructs showed moderate stability overall and increasing stability from childhood to adulthood. Interestingly, at no time did the stability of personality or self-esteem reach unity. The evidence suggests that personality and self-esteem never become set like plaster. Nonetheless, we did find substantial levels of continuity across decades of life, suggesting that personality and self-esteem are best characterized as showing both continuity and change across the life span.

2. Mean-level changes in personality and self-esteem across the life course

In the previous section we showed that personality and self-esteem show moderate levels of continuity across the life span when continuity is defined by rank-order stability. We next discuss research in which continuity is defined by mean-level changes. Mean-level change refers to changes in the average trait level of a population, and is typically assessed by mean-level differences in specific traits over time, which indicates whether the sample as a whole is increasing or decreasing on a trait. Mean-level change is conceptually and statistically distinct from rank-order

stability (e.g. Caspi and Roberts, 1999; Robins et al., 2001). For example, individuals in a sample could increase substantially on a trait but the rank ordering of individuals would be maintained if everyone increased by the same amount. Similarly, the rank ordering of individuals in a sample could change substantially over time without producing any aggregate increases or decreases (e.g. if the number of people who decreased offset the number of people who increased). Mean-level changes result from maturational processes or social-contextual factors that influence a population.

2.1. Personality

In this section, we summarize and expand upon our previous extensive review of mean-level changes in personality traits across the life course using the Big Five taxonomy as an organizing framework (Roberts, Robins, Caspi, and Trzesniewski, in press). The Big Five taxonomy is one of the most significant developments in the field of personality psychology in the last few decades. Many personality researchers now believe that the majority of personality traits can be categorized into five broad superordinate categories: extraversion, agreeableness, conscientiousness, neuroticism (or its opposite emotional stability), and openness to experience. One of the primary advantages of the Big Five framework is its ability to organize previous research findings on the development of personality traits into a manageable number of conceptually coherent domains. So, rather than review the voluminous literature on mean-level change for all possible traits, we can examine the evidence within these five broad domains.

Extraversion refers to individual differences in the propensity to be sociable, active, assertive, and to experience positive affect (John and Srivastava, 1999). Roberts et al. (in press) report conflicting patterns of findings across cross-sectional and longitudinal studies that track changes in extraversion. Some cross-sectional and longitudinal studies show decreases with age (Field and Millsap, 1991; McCrae et al., 1999; Lamb et al., 2002), whereas others show no change in measures of extraversion in young adulthood (Robins et al., 2001), middle age (Pedersen and Reynolds, 1998), or old age (Nilsson and Persson, 1984). Some studies have even found increases in extraversion during college and early adulthood (e.g. Haan et al., 1986; Vaidya et al., in press). One possible explanation for the inconsistency could be a gender difference. Two studies that examined gender differences found that women decreased in extraversion and men increased from late adolescence to late adulthood (Goldberg et al., 1998; Srivastava et al., 2002).

A second possibility is that inconsistencies in the literature are due to the multifaceted nature of extraversion. Helson and Kwan (2000) have argued for dividing extraversion into two constituent elements: social dominance and social vitality. Social dominance reflects traits such as dominance, independence, and self-confidence, especially in social contexts. Social vitality corresponds more closely to traits like sociability, positive affect, gregariousness, and energy level. Roberts et al. (in press) report that studies measuring both facets have found divergent trajectories

for social dominance and social vitality in cross-sectional (e.g. Goldberg et al., 1998) and longitudinal studies (Helson et al., 2002). A meta-analysis of the existing literature could provide a clearer picture of the overall extraversion trajectory and help determine whether the facets of extraversion show divergent developmental paths.

The second domain of the Big Five, Agreeableness, refers to traits that reflect individual differences in the propensity to be altruistic, trusting, modest, and warm (John and Srivastava, 1999). Roberts et al. (in press) report consistent evidence for increases in agreeableness. Several large cross-sectional studies have shown that agreeableness increases with age (e.g. Goldberg et al., 1998; McCrae et al., 1999). In addition, longitudinal studies have reported increases in agreeableness in young adulthood (Stein et al., 1986), middle age (Haan et al., 1986), and old age (Field and Millsap, 1991). The finding that agreeableness increases across the life course was substantiated by the largest cross-sectional study performed to date (Srivastava et al., 2002). Srivastava et al. (2002) found that agreeableness increased from age 21 to 60 with accelerated growth occurring between the late 20s and the 40s.

Conscientiousness, the third Big Five domain, refers to the propensity to be self-controlled, task-oriented, goal-directed, planful, and rule-following (John and Srivastava, 1999). Like agreeableness, conscientiousness seems to increase with age (Roberts et al., in press). Several cross-sectional studies have found a positive relationship between age and conscientiousness (e.g. Goldberg et al., 1998; McCrae et al., 1999). Closer examination of the age trajectory shows that although conscientiousness increases throughout the life course, most of the growth occurs in the 20s and then slows throughout the 30s, 40s and 50s (Srivastava et al., 2002).

Longitudinal research supports the inference that conscientiousness increases most in young adulthood and tapers off in middle and old age. For example, the evidence for increasing conscientiousness is most consistent in young adulthood across numerous longitudinal studies (e.g. Haan et al., 1986; Stein et al., 1986; Helson and Moane, 1987; McGue et al., 1993; Roberts et al., 2001; Robins et al., 2001; Vaidya et al., in press). In contrast, longitudinal studies tracking change in conscientiousness in middle age and beyond show somewhat contradictory patterns. Some studies show increases (Helson and Wink, 1992; Cartwright and Wink, 1994), whereas others find decreases (Costa et al., 2000). More recently, Helson et al. (2002) examined several facets of conscientiousness in a sample of 21- to 75-year-olds followed for up to 40 years, and found that four facets increased with age (self-control, good impression, achievement via conformance, and inflexibility) and two facets decreased (responsibility and socialization).

In summary, previous studies consistently show increases in conscientiousness during adolescence and early adulthood and a majority of studies show increases in conscientiousness during adulthood and old age. However, more research is needed throughout adulthood and later life before firm conclusions can be made about how conscientiousness changes beyond age 30. In particular, research is needed that tracks the developmental trajectory of specific facets of conscientiousness.

The fourth domain of the Big Five is Neuroticism or its converse, Emotional Stability. This domain contrasts even-temperedness with the experience of anxiety, worry, anger, and depression (John and Srivastava, 1999). Findings from several large cross-sectional studies suggest that neuroticism decreases with age from late adolescence to old age (Goldberg et al., 1998; McCrae et al., 1999). However, Carstensen et al. (2000) found a curvilinear developmental trajectory for negative emotions: decreasing neuroticism up to age 60 and then a slight increase after age 60.

Roberts et al. (in press) reported that the longitudinal evidence points to declines in neuroticism during late adolescence and early adulthood (Baltes and Nesselroade, 1972; McGue et al., 1993; Carmichael and McGue, 1994; Viken et al., 1994; Watson and Walker, 1996; Roberts et al., 2001; Robins et al., 2001) and midlife (Costa et al., 2000). However, the evidence for change in old age is equivocal with many studies showing no change (Field and Millsap, 1991) or increases (Leon et al., 1979).

In summary, neuroticism tends to decrease from adolescence to midlife and then remains stable or slightly increases during old age. However, some studies have found a gender difference in the neuroticism trajectory. Both Goldberg et al. (1998) and Srivastava et al. (2002) found a stronger decline in neuroticism for women than for men. Thus, it is possible that some of the inconsistencies found in previous research may be due to underlying gender differences. More research is needed to examine the role of gender before firm conclusions can be made about the trajectory of neuroticism across the life course.

The final domain of personality traits is Openness to experience, which refers to individual differences in the propensity to be original, complex, creative, and open to new ideas (John and Srivastava, 1999). Roberts et al. (in press) report that cross-sectional studies do not provide a clear picture of age differences in openness to experience. Costa and McCrae (1988) and McCrae et al. (1999, 2000) found a negative relation between openness to experience and age, in samples drawn from nine countries. Similarly, Srivastava et al. (2002) found that openness to experience decreased from age 21 to 60. However, Goldberg et al. (1998) and Helson and Kwan (2000) did not find any significant relation between measures of openness to experience and age in samples ranging in age from 18 to 75.

Unfortunately, longitudinal studies do little to clarify the nature of age-related changes in openness to experience. Studies of adolescents and young adults generally show increases in openness to experience (Baltes and Nesselroade, 1972; Robins et al., 2001; Vaidya et al., in press); however, the evidence for increases in openness during this age period is confounded by the fact that all of these studies tracked personality change in college students who are ostensibly being socialized to be more open to experience (Sanford, 1956). Beyond the college years, Roberts et al. (in press) report that the evidence is equivocal, with some studies demonstrating increases (Helson et al., 2002), some decreases (Field and Millsap, 1991), and others no change (Costa and McCrae, 1988).

Thus, a murky picture emerges with regard to mean-level changes in openness to experience. It is possible that the relation between age and openness is non-linear

or that the same construct is not being measured across studies or age periods. Like other Big Five dimensions, future developmental research might benefit from differentiating among the facets of openness. For example, it may be that wisdom increases with age (Baltes and Staudinger, 2000), but traits like creativity, openness to feelings, and openness to ideas may decrease.

The previous sections focused on whether or not personality changes throughout the life course. Although the findings were not unequivocal, they do suggest that personality continues to show some changes throughout the life course. However, the research we have reviewed so far does not provide a direct test of the classical trait perspective. Recently, Srivastava et al. (2002) tested two hypotheses related to the classical trait perspective using data from a large cross-sectional sample of individuals ranging in age from 21 to 60: (1) there is no change in personality after age 30 (i.e. the slope after age 30 is not significantly different from zero), and (2) change after age 30 is smaller than change prior to age 30 (i.e. the slope for ages 31–60 is significantly smaller than the slope for ages 21–30). They found that change in each trait after age 30 was significantly different from zero, except for neuroticism for men. Thus, they did not find support for the hypothesis that traits stop changing after age 30. There was mixed support for their second hypothesis that the rate of change after age 30 is slower than the rate of change prior to age 30. For some traits, the rate of change after age 30 was slower (conscientiousness for men and women and extraversion for men), but other traits showed an increase in rate of change after age 30 (agreeableness for men and women and openness for men), and others showed an equal rate of change before and after age 30 (neuroticism for men and women and openness and extraversion for women).

In conclusion, our review of the literature on mean-level changes in personality leads us to conclude that personality continues to change throughout the life course, however the rate of change may slow after early adulthood. Although there were some contradictory findings for each trait, we can nonetheless reach some tentative conclusions about the general pattern of change. Overall, the research suggests that extraversion decreases and agreeableness and conscientiousness increase from early childhood to old age. Neuroticism increases in early childhood, decreases from adolescence to midlife, and appears to plateau or increase into old age. The results for openness to experience were too mixed to draw any conclusions about its normative trajectory.

Overall, age-related changes in personality generally replicate across gender, country, and study design. This consistency lends strength to the argument that the observed normative changes are maturational and not the result of social influences. For example, results based just on cross-sectional studies confound age and cohort and results based just on longitudinal studies confound age and time of measurement. The combination of both types of studies affords the most robust test of whether personality demonstrates coherent patterns of change with age (Schaie, 1965). That is, finding consistency across cross-sectional and longitudinal studies lends confidence to the interpretation that the change observed is attributable to age, not cohort or time of measurement effects.

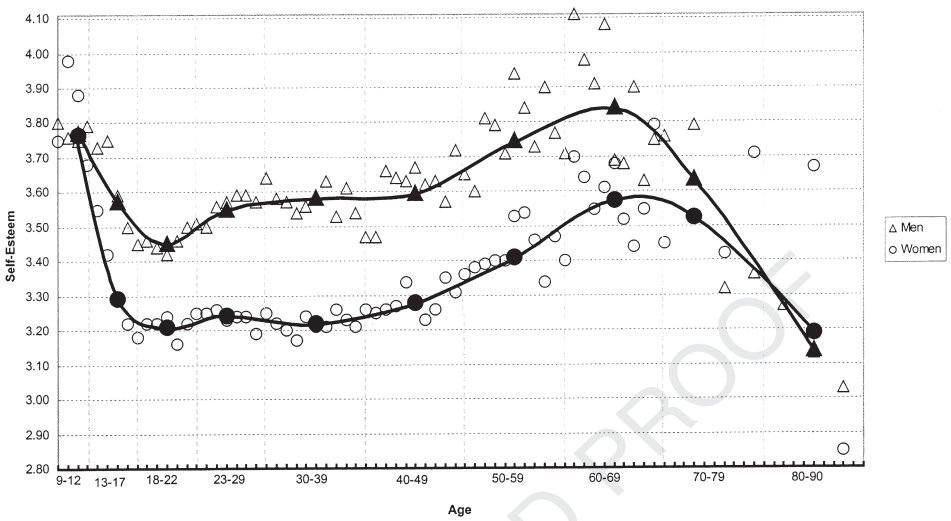

Fig. 2

2.2. Self-esteem

Researchers have long debated whether self-esteem shows normative age changes. Wylie (1979) initiated this debate with her influential review of the self-esteem literature. She concluded that there are no systematic age differences in self-esteem. Although this conclusion has been widely debated (e.g. McCarthy and Hoge, 1982; O'Malley and Bachman, 1983; Rosenberg, 1986; Demo, 1992; Twenge and Campbell, 2001), these debates have failed to lead to any consensus about the normative development of self-esteem.

To obtain a more comprehensive picture of normative age differences in self-esteem, we review the findings from two recent studies of self-esteem development, a meta-analysis of 86 published articles (Trzesniewski et al., 2001) and a large, cross-sectional study ($N = 326{,}641$) of individuals aged 9 to 90 (Robins et al., 2002). The two studies generally converged in their findings, and together help clear up inconsistencies in the extant literature and suggest several conclusions about the way self-esteem develops from childhood to old age. Below we describe the findings within developmental periods (childhood, adolescence, adulthood, old age). Figure 2 shows the trajectory of self-esteem across the life course, separately for males and females, based on findings from the cross-sectional study.

2.2.1. Childhood

Both studies indicated that young children have relatively high self-esteem, which gradually declines over the course of childhood. The meta-analysis showed a moderate drop in self-esteem between ages 7 and 8 and ages 8 and 9 (1/3 and 1/4 standard deviation, respectively), followed by smaller yearly drops between the ages of 9 and 12. Beginning at age 9, the cross-sectional study showed that children (aged

9–12) rated themselves well above the scale midpoint and higher than during any subsequent period in the life span.

Some researchers have speculated that children have high self-esteem because it is artificially inflated, and that the subsequent decline reflects an increasing reliance on more realistic information about the self (Harter, 1998). For example, as children develop cognitively, they begin to base their evaluations of self-worth on external feedback and social comparisons, which may produce more accurate judgments of where they stand in relation to others (Ruble et al., 1980). It is also possible that as children transition from preschool to elementary school they experience more negative feedback from teachers, parents, and peers, and their self-evaluations correspondingly become more negative (Eccles et al., 1993).

2.2.2. Adolescence

The decline in self-esteem that began during childhood continues into adolescence, producing a substantial cumulative drop. For example, the meta-analysis revealed a one full standard deviation drop when 7- and 8-year-olds are compared to 13- and 14-year-olds. Similarly, the cross-sectional study showed a half standard deviation drop from its high point at age 10 to its low point at age 17.

The adolescent drop in self-esteem appears to be particularly robust. It replicates across gender, although it is much more pronounced for girls, across several ethnic groups (Blacks, Whites, Latinos, Asians), and across U.S. and non-U.S. citizens. Researchers have attributed the adolescent decline in self-esteem to maturational changes associated with puberty, cognitive changes associated with the emergence of formal operational thinking, and socio-contextual changes associated with the transition from grade school to junior high school (Simmons et al., 1979; Wigfield et al., 1991; Harter, 1998). Although our findings do not point to any particular explanation for why self-esteem declines during adolescence, they do raise questions about the validity of certain theoretical explanations. For example, the claim that the decline represents the transition from grade school to junior high school needs to be reconciled with the fact that the decline also occurs for non-U.S. participants whose educational systems may not involve such transitions.

2.2.3. Adulthood

The meta-analysis included few studies that examined self-esteem during adulthood. These studies showed slight increases from young adulthood to middle adulthood and slight decreases from middle adulthood to old age (up to age 87). The findings from the cross-sectional study replicated the gradual increase throughout adulthood. In addition, the cross-sectional study showed that adult self-esteem peaked during late adulthood. Thus, other than childhood, the mid-60s seem to represent the apex of self-esteem across the life course.

General theories of adult development provide some explanation for why self-esteem peaks during midlife. Erikson (1968), Jung (1958), Neugarten (1967), Levinson (1978), and others have theorized that mid-life is characterized by a focus on activity, achievement, power, and control. For example, Erikson suggested that the maturity and superior functioning associated with mid-life is linked to

the ''generativity'' stage, during which individuals tend to be increasingly productive and creative at work, while at the same time promoting and guiding the next generation. Similarly, Mitchell and Helson (1990) described the latter part of midlife as a period characterized by higher levels of psychological maturity and adjustment, and noted that during the post-parental period ''the energy that went to children is redirected to the partner, work, the community, or self-development'' (p. 453). Role theories of aging suggest that over the course of adulthood individuals increasingly occupy positions of power and status, which might convey a sense of self-worth (Sarbin, 1964; Dannefer, 1984; Helson et al., 1984; Hogan and Roberts, in press). As Gove et al. (1989) noted, ''during the productive adult years, when persons are engaged in a full set of instrumental and social roles, their sense of self will reflect the fullness of this role repertoire... there will be high levels of instrumentality, competitiveness, and socioemotional support. Levels of life satisfaction and self-esteem will also be high'' (p. 1122).

2.2.4. Old age

The meta-analysis did not turn up enough studies of self-esteem during old age to be informative. However, the cross-sectional study showed that self-esteem dropped substantially beginning around age 70. Interestingly, the majority of the decline occurred between the 70s and 80s (about one-third of a standard deviation), rather than between the 60s and 70s (about one-tenth of a standard deviation). By the 80s, self-esteem levels were as low as those found during adolescence. Nonetheless, self-esteem levels in the oldest age groups still averaged above the midpoint of the scale, and only 26% of the 70 to 90-year-olds reported low self-esteem (either a 1 or a 2).

Old age involves a number of changes that might contribute to declines in self-esteem, including spousal loss, decreased social support, declining physical health, cognitive impairments, an increase in elder abuse, and a downward shift in socioeconomic status. However, several theories of aging suggest an alternative view. Jung (1958), Erikson (1968), Neugarten (1967), Levinson (1978), Baltes and Mayer (1999), and others hold that persons in old age tend to be wiser and more comfortable with themselves. According to Erikson (1968), the final stage of life is a time of ''post-narcissistic love of the human ego – not of the self – as an experience which conveys some world order and spiritual sense'' (p. 81). Erikson thus provides an alternative interpretation of the self-esteem drop: it is not that deep-seated feelings of self-worth are declining in old age, but rather that older persons increasingly accept their faults and limitations and correspondingly have a diminished need for self-promotion and self-aggrandisement, which might artificially boost reports of self-esteem earlier in life. This suggests that during old age defense mechanisms such as denial might no longer inflate feelings of self-worth. Thus, the decline in self-esteem might not be part of a larger pattern of deteriorating emotional health in old age, but rather a specific shift in self-conceptions that contributes to a more modest, humble, and balanced view of the self.

Overall, our review of the literature on personality and self-esteem development suggests that these characteristics generally change in a positive direction, at least

over the first 40 years of adulthood. Once people emerge from adolescence, they become warmer, more responsible, more emotionally stable, and more confident as they progress through young adulthood and enter middle age. However, it is important to note that this positive portrait may not hold into old age. As the findings for neuroticism and self-esteem suggest, the direction of change shifts after age 60 or 70. During this latter part of life, neuroticism increases and self-esteem decreases. However, these findings are based on a small set of studies and strong conclusions cannot be made. Thus, more research is needed beyond age 60 to better understand how we grow throughout our life span. Importantly, these findings show that personality characteristics, long thought to be immutable, not only change, but also continue to develop later in the life course than most theorists suggested. It appears that development does not end with the advent of adulthood.

3. Socio-contextual factors that influence personality and self-esteem change

Our review of the literature demonstrates that personality and self-esteem are stable individual-difference constructs that show systematic change across the life course. We found that as people move through adulthood, they become less sociable, more agreeable, more responsible, less anxious and neurotic, and more confident and secure.

These patterns reflect changes that occur at the group level. However, based on different life experiences, individuals may vary in the extent to which they experience these changes, producing individual differences in change. That is, factors in addition to chronological age, such as key social roles and events, define and shape one's position in the life course, and thereby determine the way personality and self develop (Caspi and Roberts, 2001). When these factors are non-age-dependent (e.g. divorce) or non-normative (e.g. early death of a spouse), they will differentially impact people's life trajectories and thus produce individual differences in intra-individual change.

From a sociogenic perspective, the social structure is, in part, responsible for personality and self-esteem development; that is, psychological change results from the way a person interfaces with society through their ongoing participation in social roles (Aldwin and Levenson, 1994; Caspi and Roberts, 1999). There is now a growing body of research demonstrating non-trivial relationships between changes in personality and self-esteem and sociogenic factors. The two main sociogenic factors associated with personality and self-esteem change are work and relationship experiences.

3.1. Work experiences

Individuals are assumed to change their personality and self-conceptions as they learn the norms associated with their work roles (Sarbin, 1964). In addition, many self-esteem theories suggest that mastery experiences in work and achievement

domains contribute to feelings of self-worth, whereas failure experiences negatively impact self-esteem (Coopersmith, 1967; Rosenberg, 1979; Covington, 1992; Dweck, 1999; Harter, 1999). Thus, over time, positive experiences at work are likely to engender higher levels of conscientiousness and self-esteem. Previous longitudinal research generally supports this assumption. For example, having a high status job predicts increased dependability and responsibility (e.g. Elder, 1969; Roberts, 1997) and increased self-esteem (Bachman and O'Malley, 1977; Owens, 1994; Elliott, 1996). In addition, work satisfaction is associated with decreases in neuroticism (Roberts and Chapman, 2000) and increases in self-esteem (Mortimer et al., 1982).

3.2. Relationship experiences

Individuals may change their personality traits based on feedback they receive in their social roles from peers, which is one of the essential ideas of symbolic interactionism (Stryker and Statham, 1985). Moreover, self-esteem is generally believed to derive in part from feeling loved and accepted by others (Mead, 1934; Rogers, 1959; Coopersmith, 1967; Rosenberg, 1986; Felson, 1989; Leary and Downs, 1995; Harter, 1999). For example, according to Murray et al.'s (2000) dependency model, how you feel about yourself is regulated by how you think your close relationship partner feels about you. Thus, satisfying and supportive relationships should promote feelings of self-worth. Consistent with this, several longitudinal studies have shown that healthy social relationships prospectively predict increasing emotional stability and self-esteem. For example, positive relationship experiences (e.g. low martial tension, high martial satisfaction) are related to decreases in neuroticism and increases in self-esteem (Andrews and Brown, 1995; Roberts and Chapman, 2000). Similarly, positive relationships with family and peers is related to better adjustment during difficult transitions, such as the transition to junior high school and from college to the work force (e.g. Mortimer et al., 1982; Fenzel, 2000).

Consistent with these findings, Robins, Caspi, and Moffitt (in press) found that relationship experiences during young adulthood could serve as a catalyst for personality change. Young adults in dissatisfying and abusive relationships became more anxious, angry, and alienated over time. In contrast, young adults who remained in a stable relationship during their 20s became more cautious and restrained in their thoughts, feelings, and behaviors. This finding provides a plausible causal account for a particular intra-individual developmental pathway. Impulse control tends to increase in young adulthood, but the reason for this change is not fully understood (Roberts et al., 2001). Robins et al.'s findings suggest that settling down in an intimate relationship may be a contributory cause. It may be that the norms, expectations, and sex-role stereotypes associated with intimate relationships create an environmental press for a more controlled, cautious, and traditional approach to life. Likewise, the finding that individuals in unhappy relationships tend to become more hostile, anxious, and alienated over time dovetails with recent

research on depression. Negative relationship experiences – including dissatisfaction (Whisman and Bruce, 1999) and dissolution (Monroe et al., 1999) – increase the risk of depression. However, the mediating mechanism remains to be understood. Repeated acts of aggression, recurrent negative emotional states, and other aversive experiences that chronically occur in maladaptive intimate relationships may increase an individual's disposition toward negative emotionality, which is a risk factor for depression (Krueger, 1999).

One additional sociogenic factor, historical context, has been long identified as a critical influence on personality development (Stewart and Healy, 1989). Different historical periods bring different opportunities, values, and social roles that are thought to influence the personalities of individuals living through those times (Baltes and Nesselroade, 1972; Twenge, 2001). Elder's (1979) study of the Great Depression is a classic example of how pervasive deprivation had differential developmental influences on the personality development of younger vs. older children. More recent research has demonstrated the influence of modern historical phenomena. For example, Agronick and Duncan (1998) investigated the personality changes associated with the perceived importance of the women's movement of the 1960s and 1970s. Women who felt that the women's movement was important showed increases in social poise and self-assurance and decreases in several measures of norm-adherence. Roberts and Helson (1997) explored the antecedents and consequences of changes in culture or climate that occurred in the United States between 1950 and 1985, described as the "culture of narcissism." They found that changes in cultural climate were associated with increases in narcissism and decreases in social responsibility (e.g. decreasing psychological maturity). Similarly, Twenge and Campbell (2001) found that college students' self-esteem rose between 1968 and 1994, a time during which a "culture of self-worth" presumably emerged.

These studies demonstrate that changes in personality and self-esteem are associated with experiences in careers, marriage, and the culture at large. Several aspects of these studies are worth highlighting. It seems apparent that certain life experiences are associated with increases in traits related to the functional definition of maturity. People who achieve more in work and remain in stable relationships become more conscientious (Roberts, 1997; Robins, Caspi, and Moffitt, in press). In addition, people who have satisfying jobs and marriages tend to increase in emotional stability and gain self-esteem (Roberts and Chapman, 2000; Robins, Caspi, and Moffitt, in press). It should also be noted that life experiences can counteract the developmental trends toward maturity. For example, the culture of narcissism in the United States during the 1960s, 1970s, and 1980s was associated with decreases in norm-adherence – a facet of conscientiousness (Roberts and Helson, 1997). Thus, although developmental changes oriented toward increasing maturity may be normative, countervailing societal or other socio-contextual forces may thwart these changes.

One problematic aspect of most research exploring the relationship between social structures and personality development is the assumption that environments only affect change in personality. We describe this perspective as the "exposure" model of

personality development in which it is often assumed that mere exposure to the social structure, role, or context will facilitate change in personality. Exposure models ignore the fact that personality and social structure are often reciprocally related (Kohn and Schooler, 1978, 1982; Schooler et al., 1999). Roberts, Caspi, and Moffitt (2002) have proposed that the most likely effect of life experience on personality development is to deepen the characteristics that lead people to those experiences in the first place. Roberts, Caspi, and Moffitt (in press) characterized this pattern of development as "corresponsive." For example, individuals drawn to stimulating work because of their own intellectual complexity will become more intellectually complex because of their experiences. Similarly, individuals with low self-esteem will seek out information and interaction partners who confirm their negative self-views, just as individuals with high self-esteem will seek out contexts that confirm their positive self-views (Swann, 1996). Thus, people are not rudderless ships buffeted by the whims of the social context. Rather, the type of change they demonstrate will often grow out of their individuality and will therefore be somewhat predictable.

Exposure models also overlook the fact that social contexts may facilitate the more ubiquitous psychological phenomenon of adulthood: consistency. We believe that this more common effect of social context arises from people's attempts to build a personal niche that fits with their values, goals, and personality traits. At its broadest level the personal niche is built around primary social roles found in one's marriage, career, family, and community (e.g. religious, volunteer, and leisure time roles). To the extent that people can build a niche that fits with their psychological profile, then psychological adjustment should be facilitated, as should growth in the direction of the expectations of the social roles selected. In addition, because this niche should successfully reinforce a person's already existing dispositions, there should be less need for change and thus greater levels of consistency.

In our most recent research we tested these ideas by examining whether a person's fit with their school environment influenced the way their personality and values changed during college (Roberts and Robins, 2002). Consistent with our expectations, students who fit better with the school environment changed in the direction of the values of the school environment, becoming more competitive and more emotionally stable. Person–environment fit was also related to satisfaction with college, higher levels of self-esteem, and higher overall levels of personality consistency. This is one of the first studies to identify and test an environmental mechanism that is simultaneously associated with both change and continuity in personality over time.

Finally, the fact that personality change is associated with life experiences has important ramifications for how one conceptualizes the field of personality psychology and personality development in particular. From a theoretical perspective, we must ask why personality would remain an open system that is characterized by both consistency and change? What factors contribute to increasing consistency? What adaptive function, if any, does malleability serve in old age? Answering these questions entails a stark revision of our modal conceptualization of

traits that is intrinsically more dynamic (e.g. Pervin, 1994). Rather than simply assuming that traits are consistent because they are traits, we need to understand the processes that account for continuity and change in personality (Whitbourne, 2001). From an applied perspective, we can speculate that developmental periods during which stability is relatively low may be ideal targets for intervention programs because it is during these times when personality and self-esteem may be particularly malleable.

4. Conclusion

In summary, although previous research provides some insight into the developmental course of personality and self-esteem, the field has not yet reached consensus on the overall trajectory of these constructs across the life span. As our review suggests, inconsistencies and gaps in the literature limit the conclusions that can be reached about personality and self-esteem development. For example, the meta-analyses revealed a lack of longitudinal studies of the rank-order stability of personality and self-esteem during childhood and old age. These age groups are marked by numerous maturational and interpersonal changes, and may be periods of rapid transformation and instability. Thus, more longitudinal studies are needed during these age groups before we fully understand the stability of personality and self-esteem across the entire life span.

Our qualitative review of mean-level personality change also revealed inconsistencies and gaps in the literature. Although we were able to discern some consistent developmental changes for the Big Five dimensions, the findings were often equivocal. Meta-analytic techniques are needed to more accurately quantify the findings from the existing research literature, and gain a more precise picture of the trajectory of personality across the life span. A meta-analysis would also help identify relevant moderators. For example, the few studies that examined change separately for males and females suggest that gender may be a significant moderator of the developmental trajectory (e.g. extraversion increases for males and decreases for females). Finally, a meta-analysis would reveal gaps in the literature. For example, our qualitative review turned up only a few studies of childhood and adolescent personality development. The results from a quantitative review would provide a foundation for future studies of personality development, and eventually contribute to a complete understanding of how personality changes from conception to death.

The research literature provides a somewhat clearer picture of the normative development of self-esteem. Self-esteem appears to be relatively high in childhood, drop during adolescence, rise gradually throughout adulthood, and then decline sharply in old age. However, the findings for old age were based on relatively few studies. Moreover, the bulk of the self-esteem literature relies on non-representative samples of particular age cohorts. An important direction for future research is to examine age differences in self-esteem across the entire life span, particularly into old age, using a cross-sequential design and more representative samples. By following

multiple cohorts over time, we could tease apart aging and cohort effects and thus determine if the old age drop is (a) replicable and (b) due to maturational or cohort effects. Moreover, future studies could begin to ask what are the mechanisms of self-esteem change and identify the factors that promote or diminish self-esteem across the life span.

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