

Personality Trait Change in Adulthood

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ABSTRACT—Recent longitudinal and cross-sectional aging research has shown that personality traits continue to change in adulthood. In this article, we review the evidence for mean-level change in personality traits, as well as for individual differences in change across the life span. In terms of mean-level change, people show increased self-confidence, warmth, self-control, and emotional stability with age. These changes predominate in young adulthood (age 20–40). Moreover, mean-level change in personality traits occurs in middle and old age, showing that personality traits can change at any age. In terms of individual differences in personality change, people demonstrate unique patterns of development at all stages of the life course, and these patterns appear to be the result of specific life experiences that pertain to a person's stage of life.

KEYWORDS—personality development; personality traits; mean-level change; individual differences in change

Personality traits are defined as the relatively enduring patterns of thoughts, feelings, and behaviors that distinguish individuals from one another. Whether personality traits continue to develop in adulthood depends in part on how one defines “relatively enduring.” In the past, some researchers took that phrase to mean—and the empirical literature to indicate—that personality traits stopped changing in adulthood (McCrae & Costa, 1994). Since 1994, cross-sectional and longitudinal studies of personality-trait change in adulthood have forced a reevaluation of the assumption that personality traits do not change in adulthood (e.g., Mroczek & Spiro, 2003; Roberts, Walton, & Viechtbauer, 2006; Srivastava, John, Gosling, & Potter, 2003). Research now shows that personality traits continue to change in adulthood and often into old age, and that these changes may be quite substantial and consequential. In this article, we provide an overview of the evidence for personality-trait change in

adulthood and outline some of the possible reasons for these changes. Before we discuss these findings further, we describe what we mean by change.

DEFINITIONS OF PERSONALITY CONTINUITY AND CHANGE

Researchers often fail to clarify what they mean when they describe personality as consistent or changeable. Part of the difficulty arises from the multiple indices for tracking continuity and change—such as mean-level change, rank-order consistency (relative ordering of people over time), structural consistency (e.g., similar factor structures over time), and individual differences in change. A complete understanding of personality continuity and change can only come from a thorough examination of multiple indices, as they are often independent of one another and therefore provide different answers to the question, “Do personality traits change?” (Roberts, Wood, & Caspi, in press).

In this article, we focus exclusively on mean-level change and individual differences in change, because these indices most directly reflect increases or decreases in traits at the population level (mean-level change) and at the individual level (individual differences in change), respectively. Mean-level change refers to gains and/or losses in specific personality traits over a pre-specified period of time and age in the life course for a population of individuals. Individual differences in change reflect deviations from these overall, mean-level patterns. That is, some people will change much more or less than the norm.

MEAN-LEVEL CHANGES IN PERSONALITY TRAITS

Recent cross-sectional and longitudinal research has converged on the finding that personality-trait development can and does occur in all age periods of adulthood, including old age. Specifically, cross-sectional research has shown that middle-aged individuals tend to score higher than young adults on agreeableness and conscientiousness and lower on extraversion, neuroticism, and openness (Srivastava, John, Gosling, & Potter,

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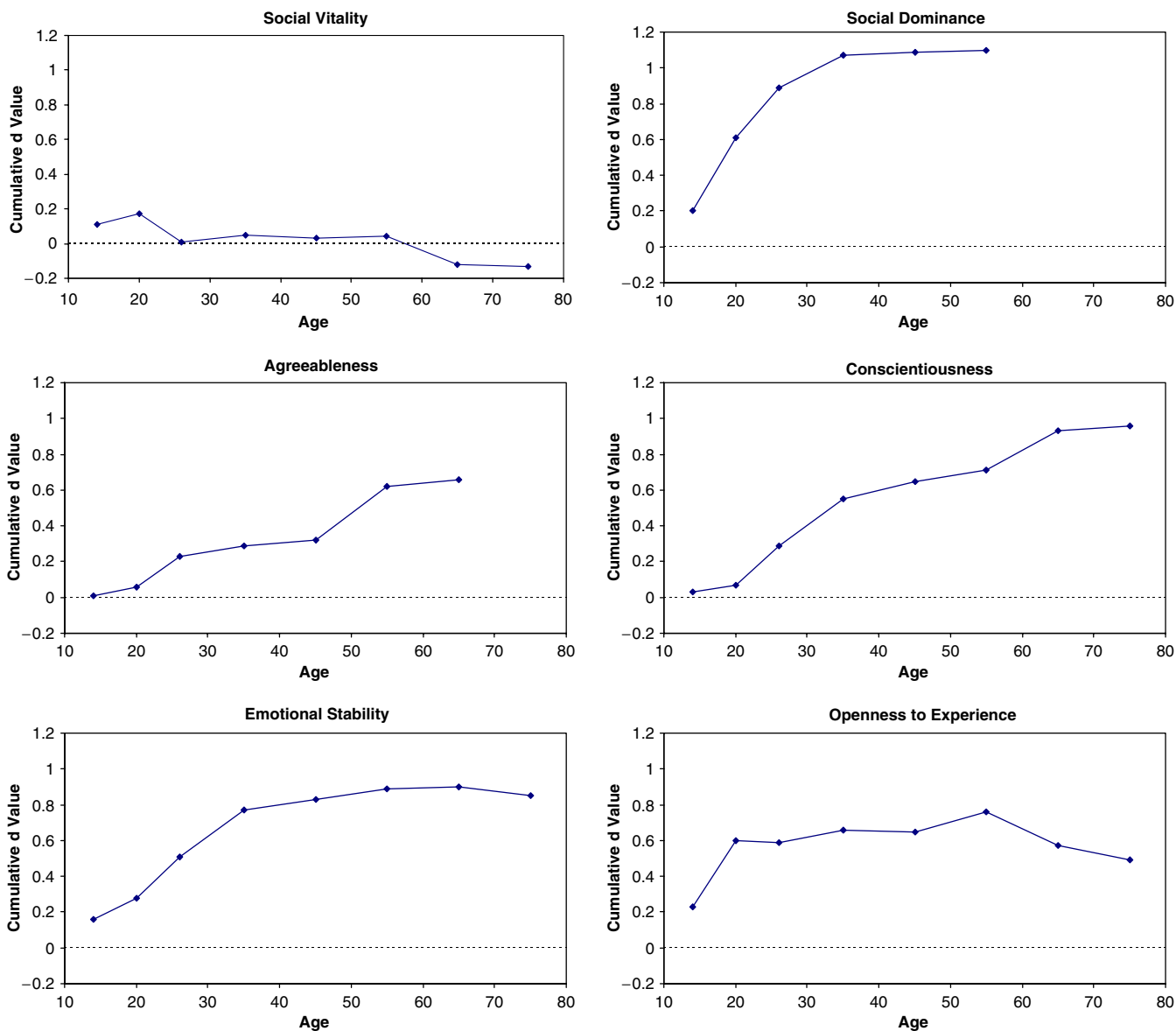


Fig. 1. Change in personality traits over time for six trait domains. These graphs were created by adding average amounts of standardized mean-level change from separate decades of the life course together, under the assumption that personality-trait change may be cumulative. Extraversion is broken into its constituent subdomains of social vitality and social dominance.

2003). Moreover, within middle age, 60-year-old participants scored higher than 40-year-old participants on most dimensions (though it should be noted that these results may be confounded by cohort effects such as historical events or changes in cultural climate).

Longitudinal studies, mostly of Western cultures, have found strikingly similar results. Changes in mean levels of personality traits were recently examined in a meta-analysis of 92 longitudinal studies covering the life course from age 10 to 101 (Roberts, Walton, & Viechtbauer, 2006). As in the cross-sectional studies, significant mean-level change in all trait domains was found at some point in the life course, and statistically significant change was found in 75% of personality traits in middle age

(40–60) and old age (60+). Clearly, personality traits continue to develop in adulthood.

Graphs showing cumulative change across the life course are shown in Figure 1. The findings were organized according to a modified Big Five framework (e.g., Extraversion, Agreeableness, Conscientiousness, Emotional Stability, and Openness to Experience) in which the domain of Extraversion was further divided into the subdomains of social vitality (e.g., gregariousness) and social dominance (e.g., assertiveness). The results showed that people became more socially dominant over time, especially in young adulthood. Social vitality showed small increases in adolescence and then small decreases late in life. Although much of the change on agreeableness was positive, the increase

was only statistically significant in old age. People showed little change on conscientiousness in adolescence but then showed remarkable gains in young adulthood and midlife. Emotional stability showed steady increases through midlife. Finally, individuals demonstrated gains in openness to experience in adolescence and then equivalent declines in old age. The cumulative amount of personality-trait change across adulthood for several trait domains exceeded one full standard deviation.

Several important conclusions about personality development can be drawn from these studies. First, most mean-level personality-trait change occurs between the ages of 20 and 40. This contradicts the widely held perspective that the most interesting years for studying personality development are either early or late in life. Rather, young adulthood appears to be the most important period. We believe that this finding opens a new area of focus in developmental science, as the causes and mechanisms responsible for personality-trait change in young adulthood have received little empirical or theoretical attention.

Second, personality traits continue to change, even in old age. One of the precepts of a life-span orientation is that humans are open systems (e.g., Baltes & Nesselrode, 1973). That is, people retain the capacity to change at all ages. The changes in personality traits in middle and old age are by no means dramatic, but nonetheless they show that the life-span orientation applies to personality traits and that personality is not set like plaster at any point in the life course.

Third, time has a positive effect on personality-trait change. Studies that follow people for a longer period of time show larger mean-level changes. The positive association between time and mean-level change is important for theoretical models of human nature. A common assumption is that personality traits act like metabolic set points. People may stray briefly from their biological propensity, but they will then tend to drift back to their genetically driven set point. Under these types of models, one would expect to find a negative or null association between time and mean-level change, because any change will represent short-term fluctuations that disappear as people return to their biologically driven set point. However, time is positively associated with personality-trait change, which indicates that a strong set-point model does not apply to personality-trait development. That is, when people change, then tend to retain the changes in personality traits for the remainder of their lives.

Fourth, the direction of change is clearly in the positive direction. With age, people become more confident, warm, responsible, and calm—or what some have described as socially mature (Roberts & Wood, 2006). Social maturity is equated with the capacity to become a productive and involved contributor to society. Moreover, those who develop the cardinal traits of psychological maturity earliest are more effective in their relationships and work and lead healthier and longer lives (Roberts, Kuncel, Shiner, Caspi, & Goldberg, 2007).

The recent findings motivate a new generation of questions concerning why personality traits change more in young adulthood than in other periods of the life course and what the implications of the mostly positive trend in personality-trait change might be. Of course, one of the realities of any sweeping generalization is that it does not apply to all people. Much of this research needs to be replicated in non-Western cultures before firm conclusions are drawn. Moreover, some people fail to conform to the general trends by not changing at all, being more accelerated in their change patterns with time, or changing in ways that contradict normative trends. These deviations are captured with the concept of individual differences in personality-trait change.

INDIVIDUAL DIFFERENCES IN PERSONALITY-TRAIT CHANGE IN ADULTHOOD

Imagine tracking changes in extraversion for 10 years for three individuals. Lydia shows no change over the 10 years. Olivia decreases a full standard deviation over the same period. And Will increases a half of a standard deviation. These three individuals illustrate the concept of individual differences in change: Some people go up, some go down, and some remain the same. Moreover, among those who do show change, there is variability in how much change occurs. Olivia and Will both changed, but also varied in amount of change (one vs. one half of a standard deviation).

This concept of individual differences in change—a cornerstone of lifespan-developmental theory (Baltes & Nesselrode, 1973)—refers to the gains or losses (or lack thereof) in absolute levels of a personality trait that an individual experiences over time. These are changes that deviate from the population mean-level pattern of change. Over the past 10 years, a growing number of researchers have placed the concept of individual differences front and center in the study of personality development (Mroczek & Spiro, 2003; Roberts, 1997). This new perspective holds that personality change (and stability) is an individual-differences variable and that a complete understanding of personality development is only possible if individual differences in personality-trait change are examined alongside more traditional indices of development.

The key empirical hurdle that needs to be addressed is to determine whether individual differences in change are real or whether they simply represent error in measurement (Watson, 2004). The need to answer this has drawn many personality-development researchers to use techniques for gauging the amount and pattern of change over time. One index drawn from clinical psychology is the Reliable Change Index (RCI; Roberts, Caspi, & Moffitt, 2001). The RCI gauges the amount of change that occurs against the amount of change that could be expected given the fact that measures are not perfectly reliable. Using the RCI index, researchers have established the existence of reliable individual differences in change in childhood, adoles-

cence, young adulthood, and middle age (Roberts, Wood, & Caspi, in press). Alternatively, a better procedure for establishing the existence of reliable individual differences in change is growth modeling, which relies on multiple waves of data to make more precise estimates of change (Singer & Willett, 2003). Growth models of personality traits using multiple measurement occasions have grown in number over the past 10 years (e.g., Helson, Jones, & Kwan, 2002; Mroczek & Spiro, 2003; Small, Hertzog, Hultsch, & Dixon, 2003). Together, these studies have established that the Big Five traits show unmistakable variability across individuals in direction and rate of change.

Once the existence of reliable individual differences in personality-trait change has been established, the compelling question becomes why these changes occur. A number of studies have shown that life and work experiences are associated with changes in personality traits (for review, see Roberts, Wood, & Caspi, in press). For example, people who experience more successful and satisfying careers in young adulthood increase disproportionately on measures of emotional stability and conscientiousness (Roberts, Caspi, & Moffitt, 2003). Men who get remarried in middle age show decreases in neuroticism (Mroczek & Spiro, 2003; women were not studied). Not all experiences are for the better. People who conduct problematic, counterproductive activities at work, such as theft, aggression, and malingering, are prone to decrease on measures of conscientiousness and emotional stability (Roberts, Walton, Bogg, & Caspi, 2006).

One of the advantages of the individual-differences approach is that it may provide insights as to why people show the general, mean-level trends in personality trait change described above. If most, but not all, people move through specific life experiences at particular times in the life course, then these experiences may be largely responsible for the general trend of people becoming more mature, especially in young adulthood. Specifically, it has been proposed that the quasi-universal trend to invest in the social roles tied to one's career, family, and community in young adulthood—a process described as social investment—serves as a catalyst for personality-trait change (Roberts & Wood, 2006). Consistent with the fact that such role transitions may help to explain mean-level changes in personality traits, several longitudinal studies have shown that participating in a stable marriage and committed career track are associated with increases in social dominance, conscientiousness, and emotional stability (Roberts & Wood, 2006).

One of the unique aspects of the study of individual differences in change is that personality traits are considered outcomes, not predictors (as they are typically viewed). For example, in studies like Roberts (1997), personality traits are seen as the consequence of work experiences. One reason to consider personality traits as dependent variables is that personality-trait change may be quite consequential for people. Mroczek and Spiro (2007) demonstrated that long-term increases in neuroticism were predictive of mortality in an

18-year survival analysis (the study used men; women were not available in this study). Those who started high on neuroticism (above the sample median) and increased over 10 years had higher mortality, controlling for age, depression, and physical health.

CONCLUSION

Exciting conclusions and questions are being drawn from the recent findings on personality-trait development. Personality traits are developmental constructs, even in adulthood. That personality traits change in adulthood and do so in a positive direction should not be taken as the final statement on personality development in adulthood. Future research will need to incorporate more methodological diversity, as too many longitudinal studies rely solely on self-reports of personality traits (Watson, 2004). There is a paucity of true cross-cultural longitudinal research, since most longitudinal studies arise from the United States or Europe. Longitudinal studies of people from the Asian and African continents, for example, would be invaluable to determining just how well these patterns generalize and whether they are truly universal. Also, our current understanding and assessment of life experiences and key developmental environments is impoverished, relying too heavily on simple demographic variables. The field of personality development desperately needs a greater understanding of the developmental experiences that are consequential for personality traits across the life course. Finally, these findings open the door for research identifying the causal mechanisms responsible for why personality-trait change occurs. Life experiences, genes, and other constructs such as cognitive ability and life goals may all be important mechanisms. We look forward to seeing these issues addressed in the next generation of longitudinal research.

Recommended Reading

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- Mroczek, D.K., & Spiro, A., III. (2007). (See References). The first study to show that individual differences in change in neuroticism predicts mortality.
- Nesselroade, J.R. (1991). Interindividual differences in intraindividual change. In L.M. Collins & J.L. Horn (Eds.), *Best methods for the analysis of change* (pp. 92–105). Washington, DC: American Psychological Association. A classic paper defining individual differences in change, their importance, and the multiple ways of conceptualizing and measuring them.
- Roberts, B.W., Walton, K., & Viechtbauer, W. (2006). (See References). A comprehensive overview of mean-level change in personality traits.
- Helson, R., Mitchell, V., & Moane, G. (1984). Personality and patterns of adherence and nonadherence to the social clock. *Journal of Personality and Social Psychology*, *46*, 1079–1096. A historical

classic—one of the first papers to raise attention about the relation between life experiences and personality-trait development in adulthood.

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