



# Is Character Fate, or Is There Hope to Change My Personality Yet?

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## Abstract

Different perspectives on personality development propose a range of possible degrees to which traits are free to change, from hardly at all to very much. This essay reviews the empirical evidence on just how consistent and changeable personality traits are across the life course. To gain a thorough perspective on personality trait development, we review developmental studies that focus on three different types of change: rank-order consistency, mean level change, and individual level change. Starting in late childhood, personality traits exhibit modest levels of rank-order consistency that increase with age. In addition personality traits show mean level changes, especially in young adulthood, that are consistent with the idea of increasing maturity. Finally, despite these general trends in personality continuity and change, there is evidence that individuals may change in ways that contradict general trends and that these individual differences in change are related to life experiences.

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One of the most compelling issues about personality psychology for both scientists and people in general is how personality develops. Is it a process that ends early in life, such that adults are unable to change their personalities, regardless of their experiences? Or, does personality continue to develop well into adulthood, providing opportunities to overcome our foibles and characterological defects? If it does change, how much does it change? Do people remake themselves entirely, or is change a gradual process?

Many of the luminaries of psychology weighed in on the issue of personality development. Freud (1923) stated that personality was fixed by age 5, at the completion of the Oedipal stage of development. Later, Erikson (1950) proposed that development continued throughout the life course, with the most tumultuous time occurring in adolescence. James proposed that personality develops to a point, and then is effectively 'set like plaster' by age 30 (1890/1918). Each of these theories has been influential, informing the ways that scientists and policy-makers view personality development, psychopathology, public policy, and more fundamentally our worldviews with respect to human nature. Of early

theorists, the perspectives of Freud, Erikson, and James represent the full spectrum on personality change, from very little (Freud) to potentially very much (Erikson).

For many years, these perspectives remained just that, perspectives, because there was a distinct lack of data on how people and their personalities changed with time and age. In the past few decades, a wealth of data on the development of personality traits has come to light – data that we will review in this paper. One of the primary components of personality are personality traits, which are defined as relatively enduring characteristic patterns of thoughts, feelings, and behaviors. Most personality traits can be organized into one of five broad dimensions, referred to as the ‘Big Five’ (John & Srivastava, 1999). These five domains are extraversion (talkative, dominant versus shy, inhibited), agreeableness (warm, nurturant versus cold, mean), conscientiousness (hard working, organized versus irresponsible, impulsive), neuroticism (anxious, worried versus calm, stable), and openness to experience (intellectual, creative versus concrete, closed-minded). Just as the theories that Freud, Erikson, and James proposed span a continuum on personality development, from immutable to plastic, modern theorists have echoed these ideas, conceptualizing personality traits as being changeable in varying degrees. Some have reiterated James’ view and argued that personality traits are fixed by age 30 (McCrae & Costa, 1999). Alternatively, others have gone further than Erikson and have argued that personality traits show little consistency over time because environmental influences are the only meaningful determinant of our thoughts, feelings, and actions (Lewis, 1999).

The perspectives on personality development and the data that support or refute these perspectives are important for many reasons. If, for example, the Freudian perspective is correct, society would be less likely to endorse initiatives aimed at changing or rehabilitating people in any beneficial way. Alternatively, if personality changes throughout the lifespan (Baltes, 1997), society might be more optimistic about attempts to rehabilitate or change a person for the better. A comprehensive view of the developmental nature of traits allows us to ask questions related to how they develop, how much they change, and whether they stop changing at some point in the life course. Ultimately, answering these questions will shape perceptions of human nature and impact how society attempts to shape people’s behavior, or not.

Rather than relying on past theoretical views to characterize personality development, it is necessary to evaluate the available empirical evidence that can speak to the question of how, when, or whether personality traits change across the lifespan. As we will see, there are multiple ways to characterize and measure personality development. We hope to show that by looking at the evidence across many studies and methods it is possible to construct an accurate portrait of personality trait development. We begin by looking at some of the different ways change can be conceptualized and measured.

## What Is Meant by Personality Change?

Whether personality traits change seems like a straightforward question. Unfortunately, appearances can be deceiving. There are multiple ways of defining and understanding what is meant by 'change'. Therefore, it is very important to define what is meant by change; otherwise our answer to the question of whether personality traits do change may be flawed. We will consider three major types of personality change in this article: rank-order consistency, mean-level change, and individual differences in change (Caspi & Roberts, 1999; Roberts, Wood, & Caspi, forthcoming). These three indices encompass unique aspects of change, each with its own strengths and weaknesses, which are only partially overlapping. It is a little like the story of the blind men describing the elephant through touch, with rank-order consistency like the trunk, mean-level change the legs, and individual differences in change the tail of the elephant. They are all part of the elephant, but holding on to each one will give you different information about the elephant. Alternatively, we will liken these three indices of change to boats docked in a harbor. Where the boats are in the harbor and how high they sit in the water can change in a number of different ways that are quite analogous to our three different indices of change.

The first type of change, rank-order consistency, refers to whether individuals in a population tend to retain the same position within a group over time (Roberts & DelVecchio, 2000). In our harbor analogy, rank-order consistency can be thought of as the relative positioning of all the boats docked within the harbor. High rank-order consistency occurs if every boat occupies a designated spot rather than docking wherever a slip is open. This results in the same boats being docked next to each other, retaining their positions over time. Similarly, high rank-order consistency in personality traits indicates that people tend to retain the same position within a group. If you were more extraverted than your friends in high school and continue to be in college, then this would be evidence for high rank-order consistency. Low rank-order consistency, on the other hand, indicates that individuals changed their relative ordering compared to other individuals. In the harbor example, low rank-order consistency would occur if boats were not assigned moorings, and as a result were docked at different locations from day to day. Rank-order consistency is typically indexed with a correlation coefficient.

Mean level personality change, the second type of change we will examine, refers to whether the population as a whole increases or decreases on a particular trait (Roberts, Walton, & Viechtbauer, 2006). In our harbor example, this can be expressed as the influence of the tide on all the boats in the harbor. Depending on the tide, all the boats will be moved in the same manner; up if the tide is coming in; down if the tide is going out. Just as the boats are carried by the tide, average levels of personality traits can increase or decrease over time.

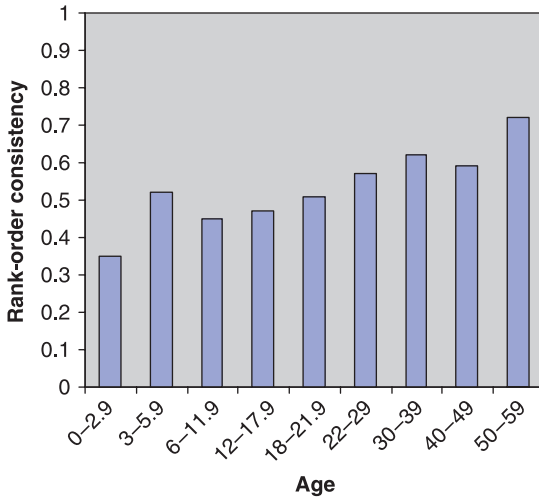
Mean-level change is relatively independent of rank-order consistency. Just as the level of the tide does not determine where individual boat captains might dock their boats, large mean-level changes do not indicate high or low rank-order consistency. Or, as the adage goes ‘the tide floats all boats’. That is to say, when the tide comes in all boats go up regardless of which slip they are in.

Rank-order consistency and mean-level change are population statistics that examine personality change on the level of the group as a whole, whereas individual differences in change examine development at the person level. Using our harbor analogy, one way to think about individual differences in change would correspond to how high each boat sits in the water. Of course, all boats will rise with the incoming tide, but in some cases they may not. A boat may be laden with extra ballast or baggage that actually makes it sink in the water despite the incoming tide. Conversely, other boats may rise higher than others because the captain empties the boat of extra weight. Thus, individual boats may shift idiosyncratically rather than following the normative trend. These individual stories are at the heart of the notion of individual differences in change. Their meaning does not require examining all the boats. Analogously, individual differences in personality trait change reflect the individual stories of each person. If you went from a shy, nervous adolescent to a confident outgoing adult – more so than your friends and peers – this would be evidence for individual differences in change. That is, regardless of what whole populations do, what is the individual’s story?

The purpose of conceptualizing the three major types of personality change as boats in a harbor is to emphasize the notion that these modes of change should be thought of as complementary parts of the same whole; each movement of the boats in the harbor captures unique and important aspects of the overall scene and dynamics of the harbor. In a whole-hearted mixing of metaphors, the different ways in which the boats change in relation to one another is like the blind men describing different parts of the elephant. Each perspective provides unique, but critical information about personality development. With this in mind, we now turn to the empirical findings for our three types of personality change.

### **Rank-order Consistency in Personality Traits**

Two of the most important questions to consider with respect to rank-order consistency are how high it is and the degree to which it changes over time. Roberts & DelVecchio (2000) conducted a meta-analysis examining 152 longitudinal studies that organized test–retest correlations into the Big Five taxonomy of personality traits (extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience) and into 10 different age categories corresponding to significant periods in the life course, such as infancy/toddlerhood (birth to age 2.9), preschool (ages 3–5.9), middle



**Figure 1** Rank-order consistency in personality traits. Population estimates of mean rank-order consistency across age categories (in years), based on Roberts and DelVecchio (2000).

childhood (ages 6–11.9), adolescence (ages 12–17.9), the college years (ages 18–21.9), and the subsequent decades up to age 73. A meta-analysis is a compilation of empirical evidence from numerous studies. Researchers tend to trust estimates from meta-analysis more because they average out the quirks intrinsic to individual studies.

Across these 10 age categories, rank-order consistency across all traits ranged from a quite modest correlation of 0.35 in infancy/toddlerhood to an impressive 0.75 in late middle age (ages 50–59; see Figure 1). These correlations increased in a mostly linear fashion throughout the lifespan, reaching a plateau in the age range of 50–60 years of age (Roberts & DelVecchio, 2000). Interestingly, the rank-order consistency estimates did not differ much across personality traits. This exhaustive review demonstrated that personality traits become more consistent as people grow older. However, rank-order consistency never reached a level of perfect stability, indicating that personality traits may still change, even in old age.

Many methods can be used for assessing personality, from self-report, to peer or spouse report, to projective tests. Do characteristics of the person or different aspects of the study affect estimates of rank-order consistency? The available evidence suggests that different methods result in similar estimates of rank-order consistency (Roberts & DelVecchio, 2000; Watson & Humrichouse, 2006). Additionally, trait consistency estimates are generally not affected by gender (e.g. Roberts, Caspi, & Moffitt, 2001; Roberts & DelVecchio; Watson & Humrichouse, 2006) – men and women appear to be equally consistent. Finally, Pullmann, Raudsepp, and Allik (2006) found that among adolescents ages 12–18, different levels of intelligence and school performance also did not affect

consistency estimates. These results indicate that rank-order correlations remain robust in the face of methodological, gender, and intelligence differences. However, there has been no literature to our knowledge examining rank-order consistency in geographic locales other than North America and Western Europe. It is possible that the rank-order consistency of personality could be affected by culture – something that will have to be tested by conducting longitudinal research in non-Western countries.

Finally, how do increasing amounts of time affect rank-order consistency? Rank-order consistency coefficients tend to decrease as the length of time between assessments increases (Roberts & DelVecchio, 2000). For example, rank-order consistency estimates over short periods of time (e.g., 7 years) were moderately high ( $r = 0.55$ ), while the estimates for longer intervals (e.g., 40 years) were much smaller ( $r = 0.20$ ). This modest level of consistency demonstrates the ability for personality to persist over many decades. What is most interesting about this pattern is that the long-term estimates of consistency approach an asymptote at a value greater than zero rather than decaying to zero as many theoretical perspectives would predict (Fraley & Roberts, 2005). This implies that there are factors such as genes or consistent environments that serve to keep people's personalities in place over very long periods of time. Practically, this means that you will most likely recognize a kernel of stability in the personalities of high school classmates at your 50th reunion.

In this section, we have seen that rank-order consistency tends to increase with age (Roberts & DelVecchio, 2000), is generally unaffected by gender and method of measurement (Pullmann et al., 2006; Roberts & DelVecchio), and decreases with longer test-retest intervals (Fraley & Roberts, 2005). Meta-analytic estimates show that rank-order consistency tends to peak at around ages 50–59, reaching a quite high consistency of  $r = 0.75$  (Roberts & DelVecchio). From the perspective of rank-order consistency, personality traits become increasingly consistent with age, but fail to become perfectly consistent, implying that even in old age there is still room for an old dog to learn a new trick or two.

### **Mean Level Change in Personality Traits**

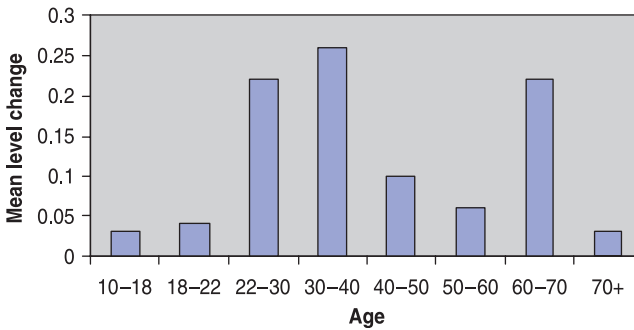
Mean level changes at the population level indicate that as a whole, the population has increased or decreased on a trait over time. This kind of change is often referred to as normative change, which refers to the idea that it is 'normal' for most people to change in a specific direction. One simple example of mean-level change across the lifespan is height. As we mature, we all grow taller. Children are shorter than adults, and they all tend to grow taller consistently until they reach maturity. If we were to measure height cross-sectionally, we would find a strong association between height and age. While we might not expect to find the strong relationship between age and personality that we see in age and height we

may still wonder if there are distinct patterns of normative change in personality that occur across the lifespan. In order to answer that question, we now turn to the available cross-sectional and longitudinal data on changes in mean levels of personality traits.

There are two types of studies used to evaluate mean-level changes: cross-sectional and longitudinal studies. Cross-sectional studies measure different people at different ages at one point in time. If developmental changes are present, then older people will score differently on average than younger people. For example, if impulsivity decreases as people age, we would expect to see that older people are lower on impulsivity than younger people. Longitudinal studies follow the same people over time, measuring them with the same instruments across multiple time points. If personality traits follow developmental trends, these trends should also be discernable in longitudinal samples. Thus, if changes in impulsivity are really due to aging, we should find mean levels to decrease in a sample that we follow over time. We begin by reviewing cross-sectional studies.

Personality traits show reliable patterns of cross-sectional mean level changes with age. Interestingly, these patterns are similar across genders, cultures, and nations. In a study that measured personality from ages 18 to 83 and drew participants from Germany, Italy, Croatia, and Korea, a consistent pattern of changes emerged. Older participants scored higher on conscientiousness and agreeableness and lower on extraversion, neuroticism, and openness to experience (McCrae et al., 1999). The same pattern appeared in a second cross-sectional, cross-cultural study based on samples drawn from Germany, the UK, Spain, the Czech Republic and Turkey (McCrae et al., 2000). More recently, a large online study comprised of participants from the USA and Canada ranging in age from 21 to 60 found similar results. Older adults were higher than younger adults on conscientiousness and agreeableness and lower on neuroticism and openness to experience (Srivastava, John, Gosling, & Potter, 2003). There were no reliable changes on extraversion in this sample across this particular age range. Despite this, the consistencies across studies sampling across nations are compelling.

This prompts us to ask whether longitudinal studies replicate the mean-level changes found in cross-sectional research. Recently, all of the available longitudinal studies of personality traits were compiled in a meta-analysis in order to answer this question (Roberts, Walton, et al., 2006). People increased in social dominance (a facet of extraversion), conscientiousness, and emotional stability. The greatest normative increases generally occurred in young adulthood between the ages of 20 and 40, with conscientiousness showing later increases between ages 60 and 70 as well (see Figure 2). In adolescence, people tended to show increases in social vitality (a facet of extraversion), which then declined in old age between the ages of 60 and 70. Openness showed a similar pattern with increases in adolescence and young adulthood, followed by declines in old



**Figure 2** Mean level increases in conscientiousness. Meta-analytic estimates of mean level increases in conscientiousness at 8 stages of life. Each bar represents noncumulative mean level change occurring at a specific age interval.

age. Increases in agreeableness were found across the lifespan, although the only statistically significant changes were found in old age between ages 50 and 60.

The meta-analytic results with respect to social dominance and social vitality are particularly informative (Roberts, Walton, et al., 2006). In a review of the existing cross-sectional and longitudinal research on mean-level personality trait change, Helson and Kwan (2000) suggested that two facets of extraversion, social dominance and social vitality, have different developmental trajectories, whereby people increase on social dominance over time and decrease on social vitality. Clearly, aggregating these two constructs into the larger dimension of extraversion could obscure these changes. Using their extensive meta-analytic database, Roberts, Walton, and Viechtbauer were able to confirm the pattern described by Helson and Kwan. Indeed, the developmental trajectories of these two trait facets are in opposite directions. As a result, developmental research that aggregates both dimensions into one broad measure of extraversion is likely to hide the truth.

The meta-analytic findings for mean-level change on how and when personality traits develop and mature hold important implications for the broad theoretical perspectives on personality development espoused by Freud, Erikson, and others. First, significant normative changes in trait levels were found at every stage of life, refuting the notion that personality traits stop changing at a specific age. Second, the amount of change in any given decade of life was modest – changes would have been noticeable but not too dramatic. Third, in contrast to theoretical models of development that view adolescence as a time of intense change (Erikson, 1950), most normative change occurred well after adolescence, in young adulthood. Fourth, whereas rank-order consistency tends to increase across all traits over time, different trait domains show normative change at widely



different times in the life course. Finally, with the possible exception of decreases in social vitality, nearly all of the normative changes observed were in a direction consistent with positive functioning. Becoming more socially dominant, conscientious, agreeable and emotionally stable over time are all inherently desirable outcomes (Hogan & Roberts, 2004). As Roberts et al. have noted (2001), these changes are all indicative of increasing psychological maturity.

The results of numerous longitudinal studies converge with results from cross-sectional research, including those studies that used cross-cultural samples, to support the conclusion that personality traits continue to change across the lifespan. The time in which the most change occurs appears to be early adulthood. There are also consistent trends in change, such that we can say with confidence that there is a normative developmental trend, whereby people tend to increase on conscientiousness, agreeableness, emotional stability, and social dominance, while at the same time decreasing on social vitality. That is to say, the tide comes in for most traits in young adulthood and never goes out again.

### **Individual Differences in Personality Traits**

In terms of our harbor analogy, individual differences in change are reflected in whether a boat rises or falls more than the norm because of the particular things that happen to that boat. In other words, individual differences in change reflect the concept that individuals may have unique patterns of development. This stresses that despite the overall normative trends in personality, not everyone develops in exactly the same way.

To date, only a few studies have investigated individual differences in personality trait change. This is partly in response to the difficulty in ascertaining whether or not individual differences in personality trait development exist. Since personality tests are imperfect measures of personality, random fluctuations in scores are expected even if personality traits do not change. Because of this, measures of individual differences in change could either reflect random fluctuations or actual personality trait change (Watson, 2004).

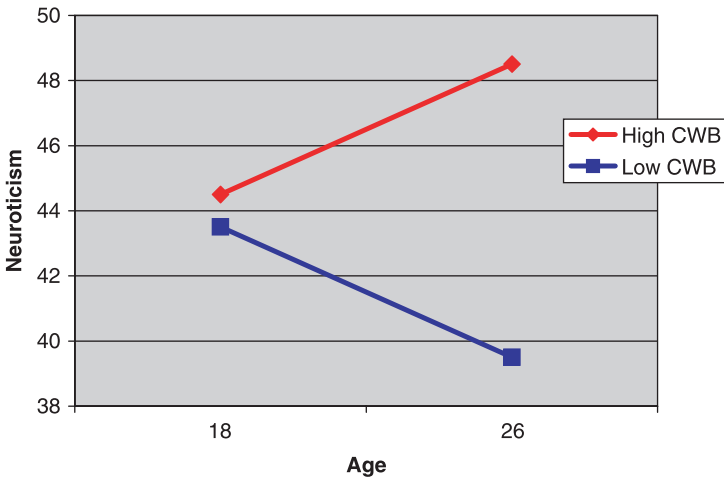
Do the deviations around the mean-level trajectory reflect measurement error, or do they indicate meaningful individual differences in change? Researchers have developed a number of new statistical techniques to test whether the changes found in personality traits over time are reliable, or simply random fluctuations of an imperfectly measured construct. In the last decade, studies using these techniques reported that there were greater than chance levels of change at the individual level (Roberts et al., 2001; Robins, Fraley, Roberts, & Trzesniewski, 2001). These results suggest that individual differences in personality traits exist and are not merely due to measurement error. Individual differences in change have been found in all ages throughout the lifespan, from childhood and adolescence (De

Fruyt et al., 2006; Pullman et al., 2006), to young adulthood and middle age (Helson, Jones, & Kwan, 2002; Vaidya, Gray, Haig, & Watson, 2002; van Aken, Denissen, Branje, Dubas, & Goossens, 2006; Watson & Humrichouse, 2006) and even into old age (Mroczek & Spiro, 2003; Small, Hertzog, Hultsch, & Dixon, 2003; Steunberg, Twisk, Beekman, Deeg, & Kerkhof, 2005; Terracciano, McCrae, Brant, & Costa, 2005). Interestingly, across these studies, a number of people bucked the general trend and significantly changed in the opposite direction predicted by mean level findings (e.g. Roberts et al., 2001). For example, despite the mean level trend to increase in conscientiousness, a significant number of individuals experienced reliable decreases in conscientiousness. Although individual differences in change exist, they tend to do so for a minority of trait domains within each individual (e.g., one or two out of the Big Five in any given decade), such that it is uncommon for people to reconfigure their entire set of personality traits in any given period of the life course and more common for them to change on just a few traits (Roberts et al., 2001).

What factors are responsible for individual differences in personality trait change? One possibility is that individual differences in change occur because people differ in the environments they encounter (Roberts, 1997). Thus, if parenting styles influenced personality development, someone who had strict parents might develop differently than someone who had permissive parents. Differences in life experiences could then be responsible for producing individual differences in personality trait change. Although rarer than studies of rank-order consistency and mean-level change, there are now a handful of longitudinal studies showing an association between specific life experiences and change in personality traits.

Participating in the work force is one the most often replicated environmental factors associated with personality trait change. Studies indicate that experiencing more success and satisfaction in one's work is associated with increases in conscientiousness and extraversion and decreases in neuroticism (Roberts, 1997; Roberts, Caspi, & Moffitt, 2003; Roberts & Chapman, 2000; Scollon & Diener, 2006). In contrast, workers that participated in counterproductive work behaviors (e.g., stealing from your employer and fighting with coworkers) showed the opposite pattern of change (Roberts, Bogg, Walton, & Caspi, 2006). As seen in Figure 3, individuals who participated in counterproductive work behaviors increased in neuroticism from ages 18 to 26 rather than displaying the decreases normally associated with participating in the work force. Furthermore, counterproductive work behaviors were associated with decreases in conscientiousness, contrary to the typical trend to increase on this trait.

Involvement in romantic relationships constitutes another environment that has been associated with individual differences in personality. Young adults in dissatisfying and abusive relationships tend to become more



**Figure 3** Individual differences in change for Neuroticism. Change in neuroticism at different levels of counter productive work behaviors.

neurotic and less agreeable (Robins, Caspi, & Moffitt 2002). Married women that experienced marital tension and low marital satisfaction were more likely to increase in neuroticism and decrease in conscientiousness and well-being (Roberts & Bogg, 2004; Roberts & Chapman, 2000). Additionally, experiencing divorce in young adulthood was associated with slower than normal increases in social dominance later in life (Roberts, Helson, & Klohnen, 2002). In contrast, those individuals who remained in a satisfying and stable relationship became more emotionally stable and conscientious (Neyer & Lehnart, 2007; Roberts & Bogg; Scollon & Diener, 2006).

These findings suggest that life experiences may account for individual differences in change. They lend support to the social investment principle, which states that universal trends to invest in social roles tied to one's career, family, and community in young adulthood serve as catalysts for personality trait change (Lodi-Smith & Roberts, 2007; Roberts & Wood, 2006). The social investment process has been tied to increases in social dominance, conscientiousness, and emotional stability (Roberts, Wood, & Smith, 2005). These social investments appear to be one of the most salient factors contributing to individual differences in personality development – especially the changes in personality traits found in young adulthood.

## Conclusion

After reviewing the empirical evidence, it is clear that personality traits continue to develop throughout the lifespan. Clearly, Freud's notion that

personality traits are completely developed by age 5 is incorrect. Moreover, James' idea that personality is set like plaster upon reaching adulthood is no longer tenable. The picture that emerges from the empirical findings points to a position that has never been espoused by any past theorist (Roberts & Caspi, 2003). At a population level, personality traits show moderate levels of rank-order consistency that increase with age, they show normative trends, in that most people become more mature with age, and they exhibit modest levels of individual differences in change which are related to life experiences.

This empirical picture is both hopeful and sobering. It is hopeful because childhood personality is clearly not the last chapter in personality development – people do change after adolescence and most change for the better in terms of their personality traits. The picture is also sobering because the changes that occur in adulthood, while clearly for the better, are modest in magnitude. And, although individual differences in change exist, they do so for a minority of personality traits; thus, the perspective that people can be changed quickly and easily may need to be discarded in favor of a perspective that views change as a slow and deliberate process. One of the most important questions about personality development that has yet to be addressed is whether people can change their own personality if they want to (Kiecolt, 1994). Dramatic changes in personality may be possible with a concerted effort, but as yet, there is no empirical evidence to support this idea. This means that in the absence of an energetic attempt to change your personality, that in 10 years you will most likely see the same person that you see now, but you will have also changed in some positive and subtle ways that reflect your unique experiences.

### **Short Biographies**

Grant W. Edmonds' research focuses on the psychological predictors of consequential life outcomes such health and mortality. These include personality traits, cognitive measures of inhibition, and cognitive abilities. He is particularly interested in studying these predictors as lifespan developmental constructs. Grant Edmonds earned a BA from St. John's College, Annapolis, and is currently a doctoral candidate in Personality Psychology at the University of Illinois, Urbana-Champaign.

Joshua J. Jackson's research focuses on the interplay between environmental and genetic antecedents of personality development. Additionally, he is interested in behavioral manifestations of personality, specifically the association between conscientiousness and health behaviors. Joshua received his BS in Psychology and Philosophy from the University of Wisconsin-Madison.

Jennifer V. Fayard's research centers primarily on how personality traits (conscientiousness in particular) interact with the self-conscious emotions (guilt, shame, embarrassment, and pride). Her other interests include

personality development over the lifespan and personality and impulse control. Jennifer holds a BA in Psychology from Samford University and is currently pursuing her doctorate in Personality Psychology at the University of Illinois, Urbana-Champaign.

Brent W. Roberts is a Professor of Psychology in the Department of Psychology at the University of Illinois, in the Social-Personality-Organizational Division. Dr. Roberts received his PhD from Berkeley in 1994 in Personality Psychology. Dr. Roberts's primary line of research is dedicated to understanding the patterns of continuity and change in personality across the decades of adulthood and the mechanisms that affect these patterns, with a particular focus on the development of conscientiousness.

## Endnote

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