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Undergraduate Researcher Article

The stability of personality over time as a function of personality trait dominance

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This essay examines alternative theories explaining the extent of personality change over time. Personality is initially conceptualized in terms of temperament and traits, which indicate overarching personality stability across the lifespan. Despite high rank-order correlations of trait scores, measurements of individual differences and group mean trait scores reveal change over time. Beyond the scope of temperament and traits, aspects such as evolutionary mechanisms, characteristic adaptations, life narratives, and culture also contribute to personality change or stability. Although small changes in personality emerge across situations, a substantial amount of research supports the notion of enduring personality stability over the life span.

Many personality theorists would argue that radical transformations in personality, from extravert to introvert, for example, are not possible. However, there are competing claims as to the extent of personality change over time. This essay first explores the claim of stability in personality, which has been established in research on temperament and traits including the five factor theory of traits (Caspi et al., 2003; McCrae & Costa, 1999). Empirical findings from trait research are examined, including trait score correlations in rank-ordering, group means, and individual differences (Costa & McCrae, 1994). These findings are then contextualised in a brief discussion of the overarching issues surrounding personality assessment, and integrated with explanations offered by additional literature. The case for personality stability is then weighted against considerations of what a more holistic definition of personality may offer in terms of assessing the extent of personality change over time. Specifically, the influence of evolutionary mechanisms, characteristic adaptations, life narratives, and culture are explored. Based on a critical evaluation of these competing claims, this paper argues that the changes that occur in personality over the life course are limited to the small and predictable variations of maturation and characteristic adaptations, not in the major components of personality structure of temperament and traits, which remain stable.

Stability of Personality

Temperament may be defined as biologically inherent behavioural consistencies which are observable and quantifiable within the first few months of infancy (Caspi, Roberts, & Shiner, 2005; Shiner, 1998). As such, temperament is a unique contributor to personality and forms the basis of the argument supporting personality stability (McCrae et al., 2000). Caspi et al. (2003) examined the predictive validity of temperament over 23 years and established predictive links between childhood temperament type and adult personality. For example, reserved and confident children differed significantly from each other in relation to positive emotionality scores later in life (Caspi et al. 2003). The finding that temperaments observed at birth can be identified later in life, suggests that the extent of change over the lifespan is limited, and conceptually sets a foundation for personality traits to develop (Shiner, 1998).

Trait theorists propose that personality may be defined by just five broad dimensions, derived from a factor analysis of a wide range of traits (Costa & McCrae, 1994; Srivastava, John, Gosling, & Potter, 2003). This model is commonly called the five factor theory (McCrae & Costa, 1999) and includes openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism (Costa, McCrae, & Arenberg, 1980; McCrae & Costa). The five factor theory claims that changes in trait measurements are modest, limited to early adulthood, and are due to intrinsic maturation, rather than environmental influences (McCrae, Costa, Terracciano, Parker, & Mills, 2002; Terracciano, Costa, & McCrae, 2006). However, these claims are contested by conflicting conclusions drawn from different types of trait measurements (Caspi & Roberts, 1999). They also raise the question of whether traits adequately define personality, or whether environmental influences, and other elements of personality, are too great to ignore (Helson, Kwan, John, & Jones, 2002). This definitional problem is examined after a review of findings of different trait measurements, including rank-order, individual differences, and group means.

A strong base of empirical support for personality stability can be found in correlations of the rank-order of trait scores over time (Tickle, Heatherton, & Wittenberg, 2001). Rank-ordering demonstrates personality stability by measuring the homogeneity of a group of scores on a particular trait over time (Roberts & DelVecchio, 2000). That is, if a single trait score is above the group average at time one, and again is above average at time two, this indicates personality stability. Research has revealed mixed results for

adolescence, with rank-order correlations ranging from .30 to .60 (McCrae et al., 2002; Roberts, Caspi, & Moffitt, 2001). Roberts et al. considered these correlations to be quite high, given that adolescence is a period conventionally characterised by intense life change. Modest changes have been demonstrated during early adulthood, although the likelihood of further change drops dramatically beyond 30 years of age (Costa, Herbst, McCrae, & Siegler, 2000; Costa & McCrae, 1989; Terracciano et al., 2006). After the age of 30, many studies have revealed high rank-order correlations ranging from .60 to .80 over periods of up to 20 years (Costa & McCrae, 1988; McCrae et al., 2002; Roberts & DelVecchio). Despite high correlations of rank-ordering, measurements of individual differences in trait scores have challenged these findings by revealing change across the lifespan.

While rank-ordering measures trait changes within a group of individuals, individual differences represent intraindividual trait change (Mroczek & Spiro, 2003). Scollon and Diener (2006), for example, found significant within-person changes in extraversion and neuroticism over the course of 8 years and beyond the age of 30. Other research has established change in individual differences for traits such as assertiveness, outgoingness, and warmth (Jones & Meredith, 1996; Mroczek & Spiro). Of these studies, the largest change reported was in outgoingness, with mean principal component scores by age increasing from 0.21 to 2.42 for men and from 1.64 to 2.35 for women (Jones & Meredith). Despite these significant findings, Costa and McCrae (1994) argued that alternative explanations, such as whether the extent of the change could be explained by maturation, should always be considered. Significant or otherwise, it remains that rank-order measurements only report on one type of change that occurs over time. Yet another type of change that has been measured is the group mean level of trait scores over time.

Mean level trait changes are thought to reflect a generalisable pattern of developmental personality change that occurs in most people over the life course (Roberts, Walton, & Viechtbauer, 2006). Findings of mean level trait change are based mainly on cross-sectional research, which measures different aged cohorts at the same time, and correlates the group mean trait score with the age of the group (McCrae et al., 2002). Neuroticism, extraversion, and openness to experience have all been reported to negatively correlate with age, with college-aged participants scoring half a standard deviation lower than adult participants (Costa & McCrae, 1994). Additionally, Roberts et al. (2006) examined standardised mean-level change over time and found significant increases up until the age of 60 for

agreeableness, conscientiousness, and emotional stability. Helson et al. (2002) also reported correlations with age for trait scores of conscientiousness and agreeableness. Thus, group means provide yet another aspect of traits that imply change over the lifespan. However, it is suggested that these changes are not due to unlimited environmental influences, but rather intrinsic predictable maturational development, and do not signify radical shifts in personality (Costa, McCrae, & Arenberg, 1980; McCrae et al., 2002; Terracciano et al., 2006).

Conclusions concerning personality stability or change based on the measurement of personality traits have several limitations. The extensive use of self-report questionnaire data confounds the measurement and conceptualisation of personality with subjectivity (Lewis, 2001; Robins, Nettle, Trzesniewski, & Roberts, 2005). For example, measures such as parent, teacher, and peer ratings, as well as different questionnaires and time intervals between measurement, show inconsistent levels of stability or change (Twenge, 1997). The development and inclusion of objective measures of personality may contribute to resolving these inconsistencies (Caspi et al., 2005). However, additional issues within the literature include the heavy reliance on correlational studies and variations in sampling methodologies (John & Srivastava, 1999; Lewis, 2001; Pervin, 2002). For example, Helson points out that correlations with age only represent the linear component of personality change, and miss nonlinear variations in the rate of change as a function of age. Meanwhile, the range of sampling methodologies across age, ethnic stratification, and various periods of history, may work to accentuate inconsistent findings within personality research (Caspi et al. 2005).

Despite measurement issues in personality assessment, there is additional literature that supports the notion of personality stability. For example, in a meta-analysis of test-retest correlation coefficients, Roberts and Del Vecchio (2000) found that the stability of individual differences increased from .31 in childhood to .74 between 50 and 70 years of age. The modest correlations below the age of 50 appear to strengthen over time, which indicates that drastic changes in personality are increasingly unlikely. Interestingly, this could be linked with research by Zuckerman (1995), who associated extraversion and neuroticism with brain systems that regulate positive and negative affect. Zuckerman contended that if neural connections are formed in the brain that manifest in either extraversion or neuroticism, a large amount of conscious effort would be required to redirect or change that pattern of neural firing and, therefore, the expression of that trait. In light of

these findings, the very processes of personality appear to be placed on a trajectory of increasing stability over the lifespan.

Although trait theory research supports personality stability over time, research on other aspects of personality indicate various degrees of personality change across the lifespan. While the contribution of traits to personality is important, they function as only one element within the framework of personality. McAdams and Pals (2006) proposed that personality is influenced by four additional factors, including evolution, characteristic adaptations, self-defining life narratives, and cultural and social contexts. Costa and McCrae (1994) acknowledged the contribution of these elements, yet suggested that traits remain unaffected by them (Costa et al., 2000). The extent to which each of the four additional factors contributes to personality stability or change, beyond the contribution of traits, will be further discussed.

The Contribution of Evolution, Characteristic Adaptation, Self-Defining Life Narratives, and Social and Cultural Contexts

The literature on the role of evolutionary mechanisms seems to support the stability of personality by emphasising the evolutionary significance of stable personality traits (Caspi & Roberts, 1999; McAdams & Pals, 2006; Tickle et al., 2001). It was suggested that the core set of dispositional traits within the five factor theory has evolved as the most salient aspect of personality (John & Srivastava, 1999). In support of this, studies have revealed that half the variance in trait scores can be accounted for by genetic differences between people (Bouchard, Lykyen, McGue, Segal, & Tellegen, 1990), and that the same set of prominent traits are found in various cultures across the world (Church, 2000). It seems that personality stability has served humans by providing a certain level of predictability, in personal interactions and the intentions of others, for survival (Goldberg, 1993). On the one hand, the role of evolutionary mechanisms supports the stability of personality. However, survival has also required humans to be able to change and adapt to new challenges, threats, and opportunities over the lifespan (McCrae, 2000). As inflexible aspects of personality, individual trait scores seem unaffected by such changing circumstances. Therefore other factors of personality must account for this change.

Adaptive change may be explained by examining an individual's behaviours, attitudes, skills, interests, roles, and relationships (Jones & Meredith, 1996; McAdams & Pals, 2006). These features are commonly

referred to as characteristic adaptations and contribute significantly to explaining personality change (Terracciano et al., 2006). Characteristic adaptations allow an individual to adapt their response or behaviour to the requirements of particular situations or contexts (Ardelt, 2000; Costa & McCrae, 1994). Therefore, they act as the malleable aspect of personality, more closely linked to human individuality, which traits can only account for in a limited way (McAdams & Pals). They also account for the personality changes that occur due to environmental and cultural influences (Tickle et al., 2001). However, while characteristic adaptations facilitate the expression of traits, they do not seem to influence traits (Pervin, 2002; Scollon & Diener, 2006). It is in this way, that traits appear to maintain the structure of personality (Terracciano et al., 2006). Therefore, as Costa and McCrae argued, the change due to characteristic adaptations does not equate to personality change, like a trait change would.

Beyond the interaction of traits and characteristic adaptations, personality variation has been linked with an individual's unique life narrative. Life narratives are the means through which individuals create a sense of identity through idiosyncratic and cultural meaning over the life course (McAdams & Pals, 2006). The research on life narratives suggests a coherent life story is formed by orientating and understanding significant life events in terms of an individual's existing personality (Caspi & Roberts, 1999). Thus, personality stability seems to be further enhanced by this motive to seek personal consistency. To counter the mounting support for personality stability, the final principle of personality presents a much stronger case for personality change.

If traits account for stability in personality, culture and environment are postulated to account for the changes in personality over time (Helson et al., 2002; McCrae et al., 2000). Yet, environment and culture seem to influence only certain aspects of personality. For example, culture impacts the timing and content of characteristic adaptations, as well as life narrative themes and images, but not necessarily traits (Church, 2000; McAdams & Pals, 2006; McCrae, 2000; McCrae et al.; Twenge, 1997). The influence of environment and culture is described by McAdams and Pals as modest and may be moderated by the tendency of individuals to shape their environments to accommodate existing traits (Caspi, Roberts, & Shiner, 2005). Most research suggests that personality arises from an interaction between personality traits and the environment (Ardelt, 2000; Caspi et al., 2005; Lewis, 2001; McAdams & Pals; Roberts et al., 2001). Therefore, it appears that understanding genuine change in personality over time requires considering the influence of

both the stability of personality traits together with the influences of the environment.

Conclusion

In conclusion, it has been shown that the assessment of personality change over time greatly depends on how personality is defined and measured (Costa & McCrae, 1994; McAdams & Pals, 2006; Pervin, 2002; Tickle et al., 2001). Research on temperament supports personality stability over the life course, while correlational studies on traits reveal mixed conclusions (Lewis, 2001). Rank-order correlations provide evidence for personality stability, while individual differences and group means reveal change over time. The shared limitation of these findings is that they only assess personality in terms of traits. While the five principles presented by McAdams and Pals (2006) provide a solid framework for understanding personality, the five factor theory conceptualises personality in a way that can be operationally defined and measured. This paper has argued that there remains a convincing base of literature that provides conceptual and empirical evidence for personality stability over time, indicating that the extent of personality change is minimal. Changes that are expected to occur are thought to be small and predictable.

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