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## Pathways Linking Childhood Personality to Later Life Outcomes

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### Abstract

Dispositional characteristics are associated with important life outcomes across the lifespan, often predicting outcomes decades in advance. Evidence has accrued to demonstrate that personality characteristics measured during childhood and adolescence show unique effects on later life outcomes above and beyond adult personality. Currently it is unclear why personality produces unique effects at different life stages, given the modest consistency of personality across the lifespan. The current article sets forth potential explanations for why these unique predictive effects may occur, charting multiple pathways that link childhood personality to later outcomes that differ from how adult personality influences the same products. We conclude by providing directions for future longitudinal investigations into when, why, and how assessments of childhood personality can help advance our understanding of lifespan development.

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In order to predict later life outcomes, it may be important to not only “know” an individual’s adult disposition but also that individual’s personality trait profile earlier in the life course, such as a child or adolescent. Childhood personality holds lasting influence on important life outcomes (Friedman et al., 1993; Hampson, Goldberg, Vogt, & Dubanoski, 2007; Moffitt et al., 2011), even when taking into account later assessments of personality more proximal to those outcomes (Martin, Friedman, & Schwartz, 2007). Evidence for significant distal and proximal personality predictors of success can be viewed as support for a central claim of lifespan theories, that researchers need to understand who the individual is throughout life in order to understand development.

In the current paper, we put forward multiple hypotheses intended to integrate childhood personality assessments into investigations of outcomes later in the lifespan, building from life course models of personality (e.g., Shanahan, Hill, Roberts, Eccles, & Friedman, 2014). First, we outline the *opportunities and snares* hypothesis, which considers how childhood personality relates to later outcomes by virtue of predicting opportunities to enter pathways that impact the child’s future. Second, we consider the *differential maturation* hypothesis, wherein the trajectories and rates of personality change and development one experiences prior to adulthood may impact later life outcomes. Third, we present the *differential pathways* hypothesis that underscores that the pathways explaining why personality impacts later success may differ across the life course. Given the focus on traits in the extant prediction literature, our discussion focuses on traits as the personality dimension of interest. However, we later discuss how this framework could be enriched through connection with other components of personality as well, such as life narratives.

As a starting point, consider that rank-order stability for personality traits from childhood to adulthood is typically neither zero nor perfect. In other words, while stability estimates may decline for traits as one expands the time between assessments, it does not appear that the asymptote for rank-order stability reliably reaches zero (Roberts & DelVecchio, 2000; Fraley & Roberts, 2005). For instance, teacher-ratings of student personality in elementary school show significant positive associations, for most traits, with those students' self-ratings of personality 40 years later in middle adulthood (Edmonds, Goldberg, Hampson, & Barckley, 2013; Hampson & Goldberg, 2006). That said, these associations tend to be at best modest in magnitude ( $r$ 's less than .30). It is important to consider that stability estimates spanning childhood and adulthood are likely reduced by the tendency for children's personality to be assessed by observer-reports (teachers or parents) while adult personality typically is assessed by self-reports. Shifts in rater perspective can have systematic effects on stability estimates due to both trait observability, and rater motivations (Edmonds et al. 2013; Vazire, 2010). In addition to these considerations, researchers must be mindful of measurement invariance over time. Any feature of measurement that affects the accuracy of measurement can also affect estimates of stability, and can have implications for testing the pathways outlined in this review.

That said, given the non-zero stability over time, one mechanism by which childhood personality influences later outcomes is through *personality stability*. For instance, conscientious children are more likely to be conscientious adults, and thus reap the benefits of this trait (for a review of outcomes, see Hill & Jackson, 2016). Accordingly, herein we employ the terminology common to personality psychologists by referring to these individual differences as "traits" or "dispositions" throughout, and in so doing, we adhere to more contemporary definitions, which underscore both the continuity in personal characteristics across time and context and yet the potential dynamic nature of traits across the lifespan (Hampson & Edmonds, 2018; Roberts, 2009). As such, it is pertinent to consider alternative routes by which childhood personality influences lifespan development, beyond simply an artifact of trait stability over time.

## Childhood Personality as Precursor to Later Opportunities and Snares

An alternative possibility builds from a classic tenet of lifespan theories of development and developmental psychopathology, namely that the paths we take early in life contour the options available to us later. Similar to the tree metaphor presented by Sroufe (1997), early events can place an individual into a "branch" that in part determines the opportunities available. Childhood personality can play an important role in this developmental branching, insofar that traits predispose youth to take certain paths. For instance, responsible students in the classroom are more likely to obtain higher levels of educational attainment (Spengler et al., 2015), which positively predicts later life successes in multiple domains. Alternatively, less conscientious youth are at a greater propensity for substance use disorder (e.g., Anderson, Tapert, Moadab, Crowley, & Brown, 2007), which could start one down the path for later substance use in adulthood.

Accordingly, one mechanism by which childhood personality impacts later development is that early dispositional traits impact the likelihood of avoiding or participating in risky or

positive behaviors. Participation in these behaviors then have lasting effects, impacting the availability of important opportunities regardless of individuals' later dispositions (see e.g., Shanahan et al., 2014 for a discussion of child self-control on snares). Theories of personality development have labeled these phenomena as "selection effects" insofar that dispositional characteristics lead one to select environments that "fit" with those characteristics (Roberts, Wood, & Caspi, 2008). Childhood is especially sensitive to these selection effects because of the time limited nature of the age-graded roles during this period. For example, putting less effort into schooling during one year makes it more difficult to catch up on the material the next given that the material builds upon itself. In contrast, adulthood has more flexibility in terms of the timing of sequences of age graded roles (e.g., career, marriage, education). As a result of the opportunities and snares specific to childhood, childhood personality is likely to provide unique prediction of adult life outcomes compared to adulthood assessments of personality due to compounding nature of these developmental pathways.

When considering how traits intersect with opportunities and snares, we must also recognize that these associations are not necessarily independent from those operating through trait stability. Selection into different environments may hold *socialization* effects insofar that these contexts press individuals to maintain the characteristics that led to the environment in first place, in line with the corresponsive principle of personality development (Roberts et al., 2008). Note that the "environmental press" can come from relationships or cultural influences, both of which provide expectations for how an individual should act in a given context; for instance, cultures can influence the manner and extent to which traits are expressed by individuals (McAdams & Pals, 2006). Moreover, cultures differ in their expected timelines for adult role adoption, which has been shown to influence personality maturation from adolescence into adulthood (Bleidorn et al., 2013).

### Differential Maturation as an Explanation

Meta-analytic work and large-scale cross-sectional studies have elucidated a normative pattern of personality maturation, in which individuals tend to become more conscientious and emotionally stable from adolescence into adulthood (Roberts, Walton, & Viechtbauer, 2006; Soto, John, Gosling, & Potter, 2011). However, longitudinal studies of personality change during adolescence have consistently provided support for another tenet of lifespan theories of development, namely that individuals differ in their rates of change over time (e.g., Hill, Allemand, Grob, Peng, & Käppler, 2013; Klimstra, Hale, Raaijmakers, Branje, & Meeus, 2009). Studies investigating personality over different time frames in varying samples have accumulated evidence for variability in individual patterns of change. Understanding whether these differential trajectories of change impact outcomes is essential for further explaining the role of childhood personality on adult development.

For instance, consider two children who begin childhood with similar levels of conscientiousness, and years later score similarly on the same trait as young adults, both showing a normative increase on the trait. Child A may have shown a marked increase early in the process and retained a stable, higher level until adulthood. Child B instead showed limited stability and fluctuated quite a bit until a point in late adolescence when the child

matured rapidly and “ended” with similar levels of conscientiousness to the first child. Over time, these different trajectories could be thought of as exposing each child to different patterns of risk.

Central to the current paper is the possibility that rates of maturation may matter for later outcomes, even when youth report similar levels of a trait prior to adulthood. Each different path taken might have a distinct cumulative effect. In the example above, Child A may be more likely to reap the benefits of being conscientious, by virtue of the quicker progression to higher levels on the trait; in other words, individual differences in the *trajectory* of change may matter. Another aspect to consider though is how individuals differ in their personal stability on a trait of interest; here, Child B had a “bumpier” path to conscientiousness, which may be reflected by less personality consistency across days, weeks, months, or years. Despite calls for researchers to consider within-person variability, even across moments and contexts (e.g., Beck & Jackson, in press, Fleeson, 2001; 2004), most studies of child and adolescent personality have failed to move beyond, at best, yearly assessments of personality. These within-person data can provide valuable insights into whether individuals’ thoughts, feelings, and behaviors are reflective of their general trait-levels. Longitudinal studies with limited assessment occasions cannot identify these shorter-term fluctuations in personality, and thus both children would be expected to show similar consequences of their personality profiles. However, there is increasing recognition that longitudinal studies of personality development likely obscure meaningful change “in-between” measurement occasions, and that our understanding of stability and change requires more frequent assessments (Roberts et al., 2017).

The identity development literature has provided a groundwork for studying similar constructs using daily assessments among youth, as well as valuable insight into the need to consider the cultural context for this work to predicting well-being outcomes. For instance, research has demonstrated that youth differ in the salience of their cultural identity across days, which in turn influences their well-being (Yip & Fuligni, 2002). Moreover, the daily enactment of familial roles that fulfill cultural expectations appears positively linked to daily sense of purpose and meaning (Kiang, 2012). Accordingly, the next step is for researchers to incorporate information on both trajectories of change and within-person variability into models predicting later adult outcomes, with the recognition again that these trajectories, both in the short- and long-run, may be contoured by societal and cultural expectations.

## Age-Differential Pathways Linking Personality to Outcomes

In addition to considering the role of experiences and inter-individual differences in change, one explanation for why childhood personality plays a unique role is that exposure to the *mechanisms* linking personality to outcomes differ across the lifespan. It is well-known that the primary mortality risks individuals face differ across the lifespan; for instance, adults are more likely to die from consequences related to heart disease or cancer, which are less likely sources of mortality for children and adolescents (National Vital Statistics Report, 2018). Accordingly, different pathways may explain links between personality traits and health risks across the lifespan. One example comes from work that found conscientious adults were more likely to adhere to their medication regimens which in turn was associated with

better self-reported health; however, the strength of this mediational pathway differed across age groups (Hill & Roberts, 2011). While higher conscientiousness was associated with better health across all age groups, medication adherence proved a better explanation of this association for older in contrast to younger adults. These results highlight both the important role that medication adherence plays in the health of older adults, and additionally that alternate pathways likely link conscientiousness to health in younger samples. Similarly, meta-analytic work has shown that the associations between conscientiousness and specific health behaviors differ for individuals over and under 30 years of age (Bogg & Roberts, 2004), underscoring the potential for personality to influence health through different paths at different stages of the lifespan.

Another example comes from the known association between adult personality traits and economic outcomes, such as income and net worth, among adult samples (Judge, Livingston, & Hurst, 2012). We might expect these effects to be primarily driven by adult personality trait levels and their influences on proximal mechanisms, such as the extent to which workers carry out their duties and seek promotion, versus engage in counterproductive behaviors (Mount, Ilies, & Johnson, 2006; Salgado, 2002). However, conscientiousness during childhood and adolescence may be positively associated with later income through (a) promoting educational attainment, (b) success in obtaining (and a willingness to seek out) important career opportunities during and after college, and (c) developing a future orientation that encourages saving and investment behaviors early in life. As such, researchers need to better consider the potential for phase-specific effects of personality on later outcomes (Shanahan et al., 2014), and the possibility that the mediators linking personality to outcomes may shift across the lifespan.

## Bringing it All Together

Though the pathways presented correspond to different causal hypotheses, it is clear that they are not mutually exclusive or competing explanations. Childhood experiences and behaviors may help further contour or deepen the same personality traits that initially predicted the likelihood of those experiences and behaviors. Childhood personality can shape later development by changing the opportunities available to the individual (i.e., whether that person was ensnared by early issues that led to later less adaptive environments), as well as their habitual patterns. Moreover, it is important to consider how “habitual” these patterns are, by conducting investigations into whether within-person variability predicts later outcomes of interest (Beck & Jackson, in press). Finally, linkages between childhood personality and adult outcomes are potentially mediated by different mechanisms at different points in the lifespan. Mechanisms that are especially important at one developmental age may be less relevant or simply not present at other ages.

Research along these fronts also needs to confront two important measurement questions. First, do changes in structure of personality across the lifespan impact the ways that personality might affect later outcomes? Research has suggested that, for instance, the five-factor taxonomy for personality traits may not crystallize until after childhood (Soto, John, Gosling, & Potter, 2008). Accordingly, it becomes important to address questions of measurement equivalence over time, and efforts to equate childhood measures to adult

measures. Lifespan developmental psychologists have frequently wrestled with how best to connect early life measures to later assessments, and it is not a new challenge for the field by any means. However, multiple pathways in the model are contingent upon the precise estimation of personality stability from childhood to adulthood. Attempts to accurately estimate and interpret unique effects for child personality, or for personality assessed at single time point, also depend on similar measurement properties operating across time. For instance, one study evidenced zero stability between teacher-reports of children's neuroticism traits and that child's later levels of self-reported neuroticism as an adult (Edmonds et al., 2013). This would suggest that any effect of childhood neuroticism on outcomes in adulthood would not depend on trait stability, in contrast to a scenario where the two indices were highly correlated over time. Thus, it becomes important that researchers are capturing the same construct over time. However, it is unclear whether the observed lack of stability could be due in part to the change in (a) the reporter of the target's personality, (b) how specific descriptors operate when used at different developmental ages or points in time, and/or (c) potential changes in the structure of personality over developmental time.

It is worth noting that similar measurement concerns present with respect to the age-differential pathways hypothesis; namely, what appears to be different mechanistic pathways may in fact be better described as the same general mechanism, though reflected through different behaviors across the lifespan. As an example, though medication adherence per se may fail to hold similar value in explaining the link between conscientiousness and health across the lifespan (Hill & Roberts, 2014), one could find evidence that adherence behavior itself holds similar explanatory value across the lifespan after finding developmentally-appropriate corollaries. Research that allows for heterotypic continuity in mediators (different manifestations of the same behavior across developmental periods) may provide fuller insight into whether this pathway truly differs in explanatory value across the lifespan, or if it remains consistently valuable once one accounts for the different forms of the mediator over the lifespan.

Second, research needs to move beyond only considering traits as the unit of measurement. For instance, individuals craft life narratives that provide insights into their subjective perception of how they have changed as individuals over the lifespan, which is another integral component of one's personality (e.g., McAdams & Pals, 2006). These life narratives can provide fuller flavor and information to the pathways described above, as it is valuable to understand not only to consider personality stability from an "empirical" perspective, but also gain insight into whether the individual perceives significant personal change over time. Moreover, the life narrative literature speaks to the value of considering which experiences that participants nominate as "turning points" in life, as well as whether these episodes "contaminate" or "redeem" the individual (e.g., McAdams & Bowman, 2001), which would provide valuable context for considering the snares and opportunities hypothesis stated above. As such, we see great opportunity for connecting the current framework with constructs outside of traits and dispositions, and encourage authors to consider these possibilities in future research.

In sum, the current paper seeks to illuminate some of the reasons why it proves important to consider personality across the lifespan when predicting later outcomes. In particular, we

hope this will guide and inform research wherein distal predictors (childhood personality) remain predictive even when accounting for more proximal measures of the same construct. Each of the proposed pathways merit further attention by the field, and researchers should strive toward developing studies that allow tests of the pathways described here across different adult outcomes. In this respect, we can hope to better understand how everyone's inner child plays a role on development even when accounting for their outer adult.

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