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Replication Study

Social investment in work reliably predicts change in conscientiousness and agreeableness: A direct replication and extension of Hudson, Roberts, and Lodi-Smith (2012)

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ABSTRACT

The present study was a close replication of Hudson, Roberts, and Lodi-Smith (2012). Participants' personality traits and social investment in work were measured twice over three years. Latent change models were used to examine the associations among the intercepts (levels) and slopes (changes) for these variables. Results revealed that levels of all of the big five traits except openness were generally related to levels of social investment at work. Longitudinally, changes in social investment in work were generally associated with simultaneously co-occurring changes in only conscientiousness and agreeableness. Age did not moderate these correlated changes. Overall, the results directly replicated those of Hudson et al. (2012) and suggest that personality traits develop in concert with job experiences.

1. Introduction

Many adults commit more than one third of one of their most precious and limited resources—their waking time—to their careers. Moreover, personality psychologists have recently emphasized the notion that individuals' personality traits can be enduringly shaped by the social roles to which they commit (e.g., Lehnart, Neyer, & Eccles, 2010; Lodi-Smith & Roberts, 2007; Roberts & Wood, 2006). This raises an extremely important question: How are people affected by the vast sums of psychological energy that they invest in their jobs?

Previous research suggests that there are individual differences in the extent to which people psychologically commit to their careers (e.g., Kanungo, 1982). Moreover, Hudson, Roberts, and Lodi-Smith (2012) found that growth in social investment (i.e., psychological commitment) in one's work predicted simultaneous gains in conscientiousness over a period of three years. Stated differently, individuals who increased in their commitment to their jobs tended to experience greater co-occurring growth in conscientiousness than did their peers who did not become more psychologically invested in their work. Hudson and colleagues interpreted these findings to mean that people tend to be sculpted by their careers: investing deeply in a job can lead to lasting gains in conscientiousness.

Given the importance of understanding how people are affected by the vast amounts of time and psychological energy that they invest in their careers, the primary goal of the present research was to closely replicate Hudson et al.'s (2012) findings that changes in social investment in work predict simultaneously co-occurring changes in conscientiousness. Moreover, the present research also improved upon their original study in at least two ways. First, in the present study, we used an employed sample that was nearly three times larger than Hudson and colleagues' previous sample. Second, psychological researchers are divided over whether social investment should more strongly sculpt personality traits among younger or older individuals (e.g., Cornelis, Van Hiel, Roets, & Kossowska, 2009), or whether changes in social investment might continue to predict trait change across the entire lifespan (e.g., Baltes, 1987). Hudson et al. (2012) examined this issue by dividing their sample in half based on age and using multiple groups structural equation models to examine whether the associations between social investment in work and personality trait development differed between the two groups. They found no statistically significant differences across the two age groups. In the present manuscript, we improved upon their analyses by examining whether age, treated as a continuous variable (see Cohen, 1983), moderates the associations between social investment and trait development—including whether it does so in a curvilinear fashion.

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1.1. Social investment and personality trait development

A large body of research suggests that people's personality traits change over time. For example, people tend to become more agreeable, conscientious, and emotionally stable with age (e.g., Lucas & Donnellan, 2011; Roberts, Walton, & Viechtbauer, 2006; Soto, John, Gosling, & Potter, 2011). There are at least two prominent explanations in the empirical literature for why this phenomenon occurs. First, these normative patterns of personality development may reflection biologically predetermined maturation, analogous to the genetically hard-coded physical maturation that humans experience with age (Costa & McCrae, 2006; Roberts & Wood, 2006). Indeed, recent research has found that the ways in which people's personality traits *change* over time are partially heritable (e.g., Bleidorn, 2009; Bleidorn et al., 2010).

A second, non-mutually exclusive explanation for the observed normative patterns of personality trait development is that people's traits are affected by their experiences and social roles (Lodi-Smith & Roberts, 2007; Roberts & Wood, 2006). For example, individuals who smoke marijuana tend to experience less positive growth in conscientiousness, as compared with their non-smoking peers (Roberts & Bogg, 2004). People who enter into enduring romantic relationships tend to experience increases in emotional stability, relative to their single peers (Lehnart et al., 2010). Even factors as seemingly trivial as completing weekly crossword and Sudoku puzzles have been linked to gains in personality traits, such as openness to experience (Jackson, Hill, Payne, Roberts, & Stine-Morrow, 2012).

To the extent that most individuals within a society share common experiences (e.g., commitment to romantic partners and/or careers), they may be shaped in similar ways, producing normative trends (Lodi-Smith & Roberts, 2007; Roberts & Wood, 2006). For example, extrapolating from previous research, the normative increases in emotional stability that occur with age (e.g., Roberts & Mroczek, 2008) may be partly driven by the fact that most people invest in romantic partners during young adulthood, and investing in a romantic partnership is associated with gains in emotional stability (Lehnart et al., 2010). Similarly, the normative age-graded gains in conscientiousness (e.g., Lucas & Donnellan, 2011) might be partially engendered by normative pressures to commit to a career, as committing to a career has been linked to growth in conscientiousness (Hudson et al., 2012).

Theoretically, interpersonal experiences and social roles sculpt people's personality traits by serving as strong, consistent presses to think, feel, and behave in certain ways (Lodi-Smith & Roberts, 2007; Roberts & Wood, 2006). For example, most workplaces presumably reinforce conscientious behaviors (e.g., diligence, organization, and punctuality) and punish non-conscientious ones (e.g., irresponsibility, shoddy workmanship). The end result is that people's personality *states* (i.e., immediate and temporary thoughts, feelings, and behaviors) are molded by their workplaces to be more conscientious. According to the sociogenomic model of personality development (Roberts & Jackson, 2008), changes to personality states that are maintained for a long enough period of time can eventually coalesce into enduring *trait* change—perhaps partially through changes to the epigenome (also see Burke, 2006; Magidson, Roberts, Collado-Rodriguez, & Lejuez, 2012).

Several recent empirical studies have supported this line of reasoning. For example, in one intensive longitudinal experiment, participants who were trained to create small, weekly goals focused on changing their state-level thoughts, feelings, and behaviors experienced much greater growth in their personality traits over the course of four months, as compared with their peers who did not generate weekly goals (Hudson & Fraley, 2015). A different large-scale study found that trait-level changes in self-esteem were mediated by state-level changes (Hutteman, Nestler, Wagner, Egloff, & Back, 2015). In sum, interpersonal experiences that consistently evoke certain state-level patterns of thoughts, feelings, and behaviors may eventually educe corresponding trait changes.

Expanding upon these ideas, several theorists have argued that, among all the different types of interpersonal experiences that individuals can accrue, *social roles* should be particularly powerful in shaping people's personality traits (Lodi-Smith & Roberts, 2007; Roberts & Wood, 2006). Specifically, the neo-socioanalytic model suggests that individuals' social reputations and self-identities influence their patterns of thoughts, feelings, and behaviors—and eventually traits—over time. Thus, if individuals deeply commit to their workplace, for example, shifts to their identity (e.g., "I am a deeply invested employee") may complement situational presses to behave conscientiously, producing more prolific changes to their personality traits over time. Aligning with this prediction, Hudson et al. (2012) found that the individuals who most invested in their careers over a period of three years were the ones who experienced the greatest positive growth in conscientiousness over that same period of time. The primary goal of the present research was to directly replicate this finding, which would bolster the claim that deeply investing in one's workplace can facilitate changes to one's level of conscientiousness over time.

1.2. Is the social investment process moderated by age?

One question that has not been thoroughly resolved in the personality development literature is whether personality traits lose plasticity with age, or whether they remain malleable and responsive to the environment throughout the life course. On the one hand, several studies have found that younger individuals are more changed by their environments than are older persons (e.g., Cornelis et al., 2009). For example, Elder (1979) found that younger children were more likely to suffer negative consequences from the Great Depression, as compared with their older siblings. In contrast, several studies have shown that environmental factors continue to predict personality trait changes into middle-age (e.g., Branje, van Lieshout, & Gerris, 2007; van Aken, Denissen, Branje, Dubas, & Goossens, 2006) or even old-age (e.g., Jackson et al., 2012). Of course, it is possible that both perspectives may be correct—albeit in different circumstances. For example, normative changes in certain traits, such as extraversion or emotional stability, tend to level off with age, whereas other traits, such as conscientiousness, appear to continue to normatively increase across the lifespan (Roberts & Mroczek, 2008). Therefore, it may be the case that certain traits (e.g., emotional stability) are most malleable during young adulthood, whereas other traits (e.g., conscientiousness) retain their plasticity into old age.

Specifically examining the associations between conscientiousness and social investment in work, Hudson et al. (2012) split their sample into half based on age—above and below 40 years old—and found that the associations between changes in social investment in work and changes in conscientiousness did not differ across age groups. In the present manuscript, we sought to improve upon these analyses by examining whether age—when treated as a continuous variable (see Cohen, 1983)—might moderate the associations between social investment in work and changes in conscientiousness. Moreover, given that age frequently has curvilinear associations with trait development (e.g., Roberts & Mroczek, 2008), we examined whether age might moderate the links between social investment in work and trait-change in a nonlinear fashion.