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Will Interventions Targeting Conscientiousness Improve Aging Outcomes?

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Abstract

The articles appearing in this special section discuss the role that conscientiousness may play in healthy aging. Growing evidence suggests that conscientious individuals live longer and healthier lives. However, the question remains whether we can leverage this personality trait to improve long-term health outcomes. We argue that even though it may be possible to design therapeutic interventions that increase conscientiousness, there may be more effective and efficient ways to improve population health. We ask for evidence that a focus on conscientiousness improves behavior change efforts that target specific health-related behaviors or large-scale environmental modification.

Keywords

conscientiousness; personality change; health; aging; longevity

As the articles in this special issue show clearly, consensus is growing that a cardinal feature of personality - namely, conscientiousness - predicts length of life. The finding adds to long-established observations about the predictive power of traits, most notably neuroticism and extraversion, to predict long-range outcomes in physical and mental health as well as social networks and relationships. Although, to date, conscientiousness has played a relatively minor role among these intriguing associations, findings discussed in this issue suggest that conscientiousness is associated with long life. It is especially interesting because conscientiousness is less affectively-laden than neuroticism and extraversion, which scholars typically see as markers of persistent emotional states, and instead concerns the ability to maintain order in life and adhere to social conventions. On the one hand, it may not be terribly surprising that conscientious people tend not to drink too much or smoke. On the other hand, it is fascinating that the set of characteristics subsumed under conscientiousness tend to travel together and show considerable stability across life. It is quite striking that conscientiousness in children predicts their physical health forty years later (Hampson et al., 2013).

Do such observations hold importance for the health of the nation? The utility of conscientiousness as an indicator of risk is clear. At the population level, conscientiousness can identify subgroups of individuals who are at risk for long-term negative outcomes. The recent convergence of findings across multiple studies raises the potential to combine data across longitudinal studies and model pathways from psychological tendencies to chronic and acute diseases (see Friedman, 2012). Kern et al (2012) provide an example of a way in which this type of data pooling may help to further the understanding of links between personality and health. By harmonizing measures across the Terman Life Cycle Study, which followed a cohort from childhood until their death, and the Hawaii Personality and Health Longitudinal Study, which includes a wider array of health-related measures, they revealed that childhood conscientiousness, in part due to differences in educational attainment, predicts better physiological regulation in adulthood and lower mortality risk. South and Krueger (in press) consider the ways in which conscientiousness may help to elaborate the phenotypic expression of genes. In short, to the extent that conscientiousness serves as a marker for a set of characteristics and behaviors that heighten health risks, a focus on conscientiousness may allow for better modeling of positive and negative health trajectories across life.

The tacit broader suggestion raised by the collection of articles in this volume, however, is that conscientiousness might be leveraged through interventions to promote healthy aging. Although there is surely value in using personality measures to *predict* health outcomes, the potential utility of targeting personality traits in health-related interventions is less obvious. Below we briefly recount the trait debate and raise two reservations about large-scale interventions aimed at modifying conscientiousness. The first concerns the questionable added value in targeting the construct over and above interventions that aim to improve health behaviors. The second concerns targeting individual level changes as opposed to changing environments. We conclude that although there is reason to believe that conscientiousness can be modified, there may be more efficient and cost-effective approaches to improving long-term health of the population.

Recounting the Trait Debate

As several of the authors alluded to in the set of articles, traits have come in and out of favor in the history of psychology. Although there is essentially no disagreement that people differ from one another in fundamental ways, debate has centered on the scientific utility of trait distinctions. The trait approach surely has appeal. Traits are easy to measure, relatively stable over time and, as noted above, predict long-term outcomes. Common and enduring criticisms, however, have been that traits tend to be static and atheoretical (Bandura, 1999; Mischel, 1973). To say that some people are easily upset because they are neurotic does little in the way of explanation. To say that some people live slovenly lives because they are not conscientious has a similarly empty ring. Advocates of cognitive behavior therapy argued for the need to consider the functionality of behaviors and thoughts (Bandura, 1977; Beck & Beck, 2011) and Jack Block (2010) objected to the “cloudiness” of traits, viz., the lack of precision conveyed by traits about situation and person interactions.

Over time, the heat in these debates quieted. Although the field is still somewhat divided over the utility of traits, new theories have emerged that offer reconciliations of different perspectives. A crucial step in restoring harmony has been the refinement of the definition of traits, explicitly acknowledging that traits include non-behavioral elements and show a reasonable amount of within-person variability. Mischel and Shoda (2008) maintained that personality is characterized by stable, distinctive “*if...then...*” patterns that reflect individual differences in underlying cognitive-affective processing of situations. Some personality theorists see this functional approach as entirely compatible with a trait approach. Roberts (2009) suggested, for example, that, “The differences between trait and social cognitive approaches to personality are mostly a reflection of working at different levels of analysis, not working on diametrically opposed theoretical models (p. 140).”

Intervening in Conscientiousness

Stipulating that traits are reasonable summary terms for meaningful ways that individuals differ from one another, are they good targets for intervention? The very stability of traits suggests that changing traits may be an uphill battle. Chapman and colleagues (in press) rightly make the case, however, that the documented stability of traits reflects their persistence *without* change efforts and remind us that personality change has been a key focus of clinical psychology for decades. Psychotherapy under optimal conditions has had qualified success in bringing about personality change (Leichsenring & Leibing, 2003). Relative to behavioral treatments for specific problems, such as phobias, treatment success for neuroticism or personality disorders, however, has been comparatively disappointing. In cases where individuals are motivated to change, the most effective approaches tend to be ones that break down concerns into the specific problematic thoughts, emotions and behaviors that cause distress and modify them systematically. The articles by Chapman et al. (in press) and Magidson et al. (2012) take a theory-driven, bottom-up approach that focuses on changing health-related behaviors with the goal of these behavioral patterns becoming automatic. It is not obvious, however, what conscientiousness contributes above and beyond targeted behavior change programs, such as those associated with alcohol and smoking cessation programs. Moreover, individual (or even group) treatment is expensive, time consuming and is critically dependent on individuals’ desire to change.

One key question raised by a number of the authors in this special issue is whether the predictive power of conscientiousness can be explained by its link to self-regulation. If so, focusing interventions on self-regulation may be relatively more beneficial. Eisenberg et al. (2012) argue that skillful self-regulation is a childhood precursor that promotes the later development of conscientiousness (directly, as well as through academic motivation and internalized compliance with norms). Complementing this paper, Drake et al. (in press) focus on the role of early social experiences (i.e., attachment) in fostering both self-regulation and conscientious behavior later in life. They provide some evidence that social regulation promotes conscientious behavior among children in school settings. The findings from these articles suggest that regulation clearly is a key element of conscientiousness and its link to health, but more work is needed to better understand which specific aspects of regulation are most important for promoting positive health outcomes.

Some recent intriguing findings suggest that an emphasis on individual differences in self-control may mask powerful environmental influences on behavior. Richard Aslin and his colleagues (Kidd, Palmeri & Aslin, 2013) ran young children in Mischel's classic test of delayed gratification, which measures children's ability to wait before consuming a tempting marshmallow. Performance on this test has been shown to predict academic achievement and career success decades into the future (Shoda, Mischel, & Peake, 1990). In Aslin's modification, prior to the marshmallow task, participants completed two experimental trials on art projects. During these preliminary trials, the children were randomly assigned to conditions where the experimenter was reliable or unreliable. In one trial, for example, children were told that they could use available stickers or wait for better stickers that the experimenter would bring them. In the unreliable condition, the experimenter leaves and after a brief delay returns to say that the promised stickers aren't available after all so the child should use the ones that they already have. Findings were impressive. When the marshmallow task was preceded by the conditions in which experimenters were unreliable, only one in 14 children waited the full 15 minutes before consuming the marshmallow. Of those tested following interactions with reliable experimenters, nine of 14 children waited the full 15 minutes. The authors concluded that when children learn that waiting holds greater rewards, they wait. Children who live in unpredictable worlds are more likely to grab what they can when they can. Such findings raise important questions about where to place change efforts. If children who display low self-control are simply adapting to unpredictable environments, resources may be better spent modifying environments rather than targeting individual children.

Health behaviors in adults are also strongly influenced by environments. In a series of experiments with adults, Vohs, Redden and Rahinel (2013) recently showed that orderly environments are associated with healthy choices and behaviors. Participants were asked to complete a series of filler tasks in one of two experimental rooms. One room was neat and clean. The other was cluttered and disorderly. Otherwise, the experimental conditions were identical. At one point, participants were offered an apple or a chocolate bar. Participants in the orderly room were significantly more likely to make the healthy choice. They were also more likely to make charitable donations. Thus, through simple environmental manipulations, healthy behaviors increased. Surely, there are interactions between dispositional characteristics and environments. Just as important, however, is evidence that environments often swamp individual differences. One must ask: should we attempt to change individuals or the environments in which they live?

If You Want to Herd Cats, Move the Food

Policies, social norms, and incentives have been highly effective in encouraging adaptive behavior (Thaler & Sunstein, 2008). Social psychology and behavioral economics offer many examples in which situational changes result in more enduring and effective changes than attempts to change individuals (Ross & Nisbett, 1991). There are also stunning examples of behavioral changes related to policy changes. Participation in employer-sponsored retirement plans increases dramatically when employees are required to opt-out of participation as opposed to opt-in (Choi, Laibson, & Madrian, 2004). Interestingly, participation rates remain nearly identical when opt-out programs double the required

contribution (6% as opposed to 3%) (Beshears, Choi, Laibson, & Madrian, 2008). Opt-out programs targeting organ donations have had similar success. Countries that use opt-out systems have participation rates that are roughly four times greater than countries that require active enrollment (Ariely, 2009; see also Johnson & Goldstein, 2003).

One might argue that such efforts change personality. Perhaps people who save for retirement come to see themselves as savers and subsequently engage in other types of adaptive behaviors. Or rather is this a tautology? Indeed, if health behaviors are improved, for population health, does it matter one way or another whether personality changes as well?

If the ultimate aim is to instantiate healthy, adaptive behaviors, what purchase do personality changes afford over and above targeting the health related behaviors? It is possible, of course, that consideration of personality traits does improve outcomes. Shanahan et al. (2012) speculate that different mechanisms may underlie the link between conscientiousness and health in different phases of life, and the conscientiousness-health link may be weaker in certain contexts. They lay out a detailed model of how personality may influence health outcomes across the life span, taking into account social factors (e.g., conscientiousness of significant others) and emotional factors (e.g., regulation of stress). This more nuanced type of work is critical for advancing our understanding about the key questions of when and why conscientious predicts health outcomes.

Conclusion

Conscientiousness is a construct that represents a set of cognitions, emotions and behaviors that sometimes cluster, and when they do, predict long-term health outcomes and even mortality. The robust connections between conscientiousness and health are impressive and can play an important role in identifying subgroups of individuals who may be at risk for poor health outcomes and early mortality. As noted by many of the contributors to this volume, it will be crucial to go beyond simply documenting the correlation between conscientiousness and health and to examine whether a focus on conscientiousness in interventions contributes to (or detracts from) the success of interventions that specifically target high risk behaviors, particularly ones that can bring about large scale change in populations. Although it may be possible to change individuals' levels of conscientiousness, there may be more effective and efficient ways to improve long-term health.

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