

Dynamics and processes in personality change interventions

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Abstract

Personality traits predict a wide array of critically important life outcomes. Moreover, a large body of research suggests that personality traits can and do change in response to psychological maturation and life experiences. However, psychologists have only recently taken interest in whether personality traits might also be able to be changed via intervention—and whether intervention-driven trait changes can

translate into improvements in relevant life outcomes. Although this is a fledgling area of research, initial empirical evidence provides a promising prognosis for active attempts to change personality traits. This chapter overviews modern theories and empirical data on (1) how and why personality is thought to naturalistically change across time, and (2) whether interventions might be able to successfully change people's traits. Future research directions are discussed.

Keywords

Adult personality development, Volitional personality change, Change goals, Personality change interventions, Sociogenomic theory, Social investment hypothesis

Dynamics and processes in personality change interventions

Personality traits predict a broad array of critically important life outcomes, including health, well-being, the quality of one's relationships, success in one's career, and even mortality (for an overview, see [Ozer & Benet-Martínez, 2006](#); [Roberts, Kuncel, Shiner, Caspi, & Goldberg, 2007](#)). Given their importance in potentially contributing to such a wide variety of positive life outcomes, researchers have naturally taken interest in whether and how personality traits change (e.g., [Lucas & Donnellan, 2011](#); [Soto, John, Gosling, & Potter, 2011](#)). To that end, although many studies over the course of several decades have found that personality traits *naturalistically* change as a function of circumstances or age (e.g., [Hudson & Roberts, 2016](#); [Hudson, Roberts, & Lodi-Smith, 2012](#); [Lehnart, Neyer, & Eccles, 2010](#); [Lucas & Donnellan, 2011](#); [Soto et al., 2011](#)), researchers have only recently begun to study the extent to which active attempts to directly change personality traits via intervention might be plausible (e.g., [Hennecke, Bleidorn, Denissen, & Wood, 2014](#); [Hudson & Fraley, 2015](#); [Magidson, Roberts, Collado-Rodriguez, & Lejuez, 2012](#)). The purpose of this chapter is to overview theory and empirical findings from the emerging literature on interventions explicitly designed to change personality traits.

What are personality traits?

On the broadest level, *personality* refers to the myriad of ways that individuals can differ from one another—including in terms of their typical

patterns of thoughts, feelings, and behaviors; abilities, preferences, motives, and goals; and even personal style, such as distinctive mannerisms (e.g., “grandma always has a plate of fresh-baked cookies waiting when we visit”) or typical ways of narrating their own life stories (e.g., [McAdams & Pals, 2006](#); [Roberts & Wood, 2006](#)). *Personality traits*, in contrast, are one of the many narrower subcomponents of personality and refer specifically to people's abstractly construed, relatively enduring patterns of thoughts, feelings, and behaviors that are expressed in functionally consistent ways across different situations ([Roberts, 2009](#)). For example, the Big Five personality dimension of agreeableness represents the abstract propensity to behave in a kind, tenderhearted, modest fashion ([Goldberg, 1993](#)). This basic tendency toward warmth and relationship promotion, however, may manifest in dramatically different ways across different situations. For example, [Allport \(1961\)](#) mused that an agreeable American traveling across Europe would likely quickly learn that belching after meals is a polite expression of satisfaction in some cultures and an offensive gesture in others—and the agreeable traveler would most certainly adapt his/her behavior in different countries accordingly. Thus, traits such as agreeableness do not represent patterns of concrete thoughts, feelings, and behaviors (e.g., the concrete behavior of belching after meals)—but they rather represent the abstract functions that dynamically guide thoughts, feelings, and behaviors, such as expressing politeness, consideration, and kindness in whatever manner is appropriate in particular situations.

From a research perspective, traits are a particularly compelling component of personality. For one, traits appear to be the naturalistic way that even laypersons intuitively understand and talk about personality ([Goldberg, 1993](#)). Moreover, traits represent an extremely useful moderate level of abstraction—they are not too specific and situationally constrained so as to

represent minute “trivia” regarding a person’s thoughts, feelings, and behavior; but they are also not so general as to lack predictive ability (Funder, 1991). Indeed, personality traits have been shown to predict important life outcomes—such as occupational attainment, divorce, and mortality—equally as well as socio-economic status or even cognitive ability (Roberts et al., 2007).

Can personality traits change?

Given that personality traits predict a wide array of critical life outcomes, psychologists have strived to understand the extent to which traits change across time—perhaps motivated by the presumption that trait change may precipitate changes in relevant life outcomes. To that end, a large body of research has found that personality traits can and do change. For example, meta-analyses reveal that as people get older, they tend to become more agreeable, conscientious, and emotionally stable (Roberts & Mroczek, 2008; Roberts, Walton, & Viechtbauer, 2006). These normative patterns of personality trait development are thought to occur for at least two reasons. First, personality traits are believed to mature in biologically predetermined ways, analogous to physical maturation (McCrae et al., 1999; Roberts, Wood, & Caspi, 2008). Supporting this notion, twin studies have found that the ways in which people’s personality traits change across time are partially heritable (Bleidorn, Kandler, Riemann, Angleitner, & Spinath, 2009; Briley & Tucker-Drob, 2014). In other words, monozygotic (i.e., identical) twins, who share 100% of their genes, tend to experience more similar changes in their personality traits across time than do dizygotic (i.e., fraternal) twins, who share an average of 50% of their genetic variation. This suggests that genetics partially shape the ways that personality develops across time.

The social investment hypothesis

Beyond biological maturation, the normative developmental patterns observed in personality traits (e.g., most people become more emotionally stable with age) may also be attributable to commonly shared life experiences (Roberts et al., 2008). Specifically, according to the *social investment hypothesis*, most societies prescribe that young adults should invest in a specific series of culturally predefined social roles as they progress through life (Helson, Kwan, John, & Jones, 2002; Hutteman, Hennecke, Orth, Reitz, & Specht, 2014; Lodi-Smith & Roberts, 2007). For example, as they age, most young adults in Western cultures commit to careers, romantic relationships, and eventually generative roles, such as parenthood or caring for aging parents. Acquisition of these roles is normative, and those who do not commit to them frequently face immense pressure from family, peers, and society to do so (e.g., Barber & Axinn, 1998). For instance, single adults often field probing questions and commentary from family and friends regarding their plans and efforts (or lack thereof) to marry. Similarly, childless couples may experience pressure from their parents to produce grandchildren.

Importantly, these culturally prescribed social roles entail specific behavioral norms—and successfully committing to social roles requires individuals to accept and internalize those norms (Wood & Roberts, 2006). For instance, successfully committing to a career requires one to behave in conscientious manners—being punctual, producing high-quality work, and responsibly managing one’s duties (e.g., Judge, Higgins, Thoresen, & Barrick, 1999). The social investment hypothesis states that, over time, the norms and demands associated with one’s social roles become internalized and coalesce into enduring personality trait change.

This internalization is thought to occur for multiple reasons. For one, individuals incorporate important social roles into their identities

(e.g., [Lodi-Smith & Roberts, 2007](#)). This shift in identity may influence individuals' internal behavioral standards and lead them to strive to pull their thoughts, feelings, and behavior in alignment with the ideals and norms associated with their new roles (e.g., [Burke, 2006](#)). For example, someone who views his/her profession as central to his/her identity may strive to be the "best employee possible"—which would entail engaging in more numerous conscientious thoughts, feelings, and behaviors (e.g., being punctual, being thorough and diligent to excel in one's work). Similarly, a man whose identity is deeply embedded in his family may focus his efforts on being a "good husband" and "good father," which would naturally require him to engage in agreeable (e.g., loving, sensitive, kind) and conscientious (e.g., responsible, dutiful) thoughts, feelings, and behaviors. In sum, accepting, internalizing, and striving to excel in one's social roles may create strong intrapsychic presses to change thoughts, feelings, and behaviors.

As a nonmutually exclusive alternative, from a more behavioristic perspective, social roles can serve as strong, consistent external presses for certain thoughts, feelings, and behaviors—and changes to thoughts, feelings, and behaviors may be driven by basic reinforcement and punishment processes. For instance, workplaces tend to reinforce conscientious behaviors (e.g., responsibility, producing high quality work) with praise and promotions; and workplaces tend to punish nonconscientious behaviors (e.g., shoddy workmanship, tardiness) with stagnant salaries, reprimands, and perhaps even termination. Similarly, in the domain of family roles, romantic partners or children may reinforce kind, considerate, loving, and responsible behaviors (e.g., with expressions of gratitude and reciprocity) and punish selfish, inconsiderate, irresponsible ones (e.g., with conflict and discord). Thus, in addition to intrapsychic forces, social roles may provide strong external pressures that also shape thoughts, feelings, and behaviors.

In sum, social roles tend to shape people's thoughts, feelings, and behaviors over time—which can eventually coalesce into personality trait change. Consequently, the fact that most people become more conscientious with age, for example, may be partially driven by the fact that most people invest in careers during young adulthood and investing in a career is associated with increases in conscientiousness. Empirically supporting these ideas, as can be seen in [Fig. 1](#), studies have found that committing to one's career is, in fact, associated with growth in agreeableness and conscientiousness over the course of several years ([Hudson et al., 2012](#); [Hudson & Roberts, 2016](#)). Conversely, deinvesting in (i.e., withdrawing from) one's career is associated with losses in conscientiousness across time ([Hudson & Roberts, 2016](#); [Roberts, Walton, Bogg, & Caspi, 2006](#)). Similarly, committing to romantic partnerships, one's community, and generative roles such as caring for children or aging parents may also foster growth in traits such as agreeableness, conscientiousness, and emotional stability (e.g., [Lehnart et al., 2010](#); [Lodi-Smith & Roberts, 2007](#)).

Importantly, as these studies illustrate, the social investment hypothesis not only explains *normative* trends in personality (e.g., most people become more conscientious with age)—it also provides an explanation for why individual differences in personality development occur. It is the people who invest most strongly in their careers, for example, that experience the greatest growth in conscientiousness across time ([Hudson et al., 2012](#); [Hudson & Roberts, 2016](#)). College students who smoke marijuana regularly—and thus are presumably more likely to engage in stereotypical nonconscientious behaviors associated with marijuana culture—tend to experience relative declines in conscientiousness across time ([Roberts & Bogg, 2004](#)). Similarly, individuals who invest in romantic relationships experience greater growth in emotional stability, as compared with their peers who remain single—perhaps due to receiving

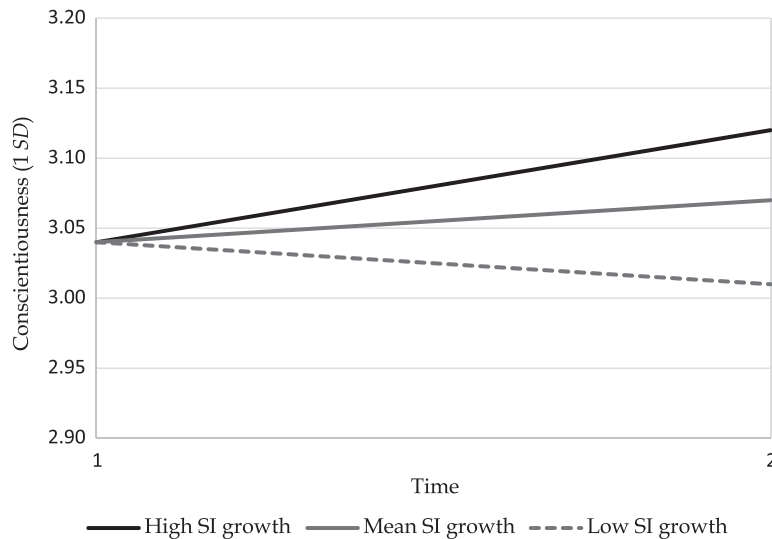


FIG. 1 Growth in conscientiousness over 3 years as a function of social investment in work. Participants who invested in their workplaces (“High SI Growth”) tended to increase in conscientiousness over time. In contrast, participants who deinvested in their careers tended (“Low SI Growth”) to decrease in conscientiousness over time. *Adapted from Hudson, N. W., & Roberts, B. W. (2016). Social investment in work reliably predicts change in conscientiousness and agreeableness: A direct replication and extension of Hudson, Roberts, and Lodi-Smith (2012). Journal of Research in Personality, 60, 12–23.*

social support from one’s partner, but also potentially due to pressures to provide support and temper negative emotions while interacting with one’s partner (Lehnart et al., 2010).

Sociogenomic theory

On the most basic level, the social investment hypothesis stipulates that prolonged changes to thoughts, feelings, and behaviors associated with committing to new social roles can produce corresponding trait changes. For example, an individual who is pressed by his/her social roles to behave in a more agreeable and emotionally stable manner over an extended period of time (e.g., to effectively provide emotional support to a spouse or children) will eventually experience enduring growth in his or her trait levels of agreeableness and emotional stability.

But why do extended changes to state-level thoughts, feelings, and behaviors eventually coalesce into personality trait changes? Several

scholars have argued that chronic cognitive, affective, and behavioral changes may simply become learned, automatized, and habitual (e.g., Burke, 2006; Hennecke et al., 2014; Hudson & Fraley, 2015). Thus, in the same way that children can be trained to habitually engage in conscientious or agreeable behaviors, such as brushing their teeth each night or saying “please” and “thank you” when making requests, adults may also be able to add a variety of new habits to their relatively automated behavioral repertoire.

In addition to these types of basic learning processes, *sociogenomic theory* (Roberts, 2018; Roberts & Jackson, 2008) postulates that both environmental factors and changes to state-level thoughts, feelings, and behaviors can also influence the expression of the genome via epigenetic changes. These changes to the epigenome, in turn, can produce enduring personality trait change. In other words, people may be able to modify the expression of their genes by

changing their environments and behaviors. These epigenetic changes may produce enduring trait change.

Weaver et al. (2004) provided a compelling example of this process. Rats' reactivity to stressors (i.e., neuroticism) is partially determined by genes that control sensitivity to stress hormones, such as cortisol. Weaver and colleagues bred two groups of rat pups: one bred to be highly reactive to cortisol and stress, and the other bred to be less sensitive to cortisol and stress. The pups were then crossfostered. Some pups were raised by relaxed, attentive, affectionate mothers who were responsive to their needs—and others were raised by anxious, inattentive mothers.

Supporting the idea that life experiences can change personality, Weaver et al. (2004) found that maternal care appeared to override the effects of genetic programming. For example, irrespective of their genetic predispositions, pups raised by relaxed, attentive, affectionate mothers grew up to be relatively emotionally stable adults with low reactivity to stressors. Similarly, pups raised by anxious, inattentive mothers grew to become neurotic, stress-prone adults. But critically, Weaver et al. (2004) found that these personality changes were mediated by epigenetic changes. The genes controlling sensitivity to stress hormones, and thus reactivity to stress, were activated or deactivated via epigenetic changes, depending on the pups' experiences with their adoptive mothers. In other words, the rat pups' social and behavioral experiences (e.g., interacting with an attentive mother) altered the expression of their genetic material—producing personality changes later in life. The sociogenomic model proposes that similar processes can occur in humans (Roberts, 2018; Roberts & Jackson, 2008). And indeed, empirical evidence supports the idea that people's experiences can and do moderate the expression of their genetic code (e.g., Caspi, Sugden, Moffitt, & Taylor, 2003).

Importantly, it likely does not require external presses—such as an attentive mother or commitment to a career—to shape biology. Indeed, studies suggest that internal states are also powerful enough to alter biology. For example, research has found that chronic stress and anxiety predict changes in the physiological structure of the brain—which can codify increased neuroticism into one's biology (McEwen, Eiland, Hunter, & Miller, 2012). In a similar vein, it is possible that prolonged changes to other personality states—such as extraversion, conscientiousness, or agreeableness—may also alter the epigenome or nervous system, etching enduring growth in these traits into individuals' biology.

In sum, one implication of the processes described by the sociogenomic model is that prolonged changes to thoughts, feelings, and behaviors may eventually become encoded into individuals' physiologies, leading to enduring trait change. Thus, the social investment hypothesis represents a special case of sociogenomic theory: Social roles can serve as consistent presses that change people's thoughts, feelings, and behaviors over long periods. It is, however, the extended state-level changes to thoughts, feelings, and behaviors that lead to trait change—not the social roles per se. In other words, from a sociogenomic perspective, social roles only precipitate trait change because they reinforce chronic state-level changes to thoughts, feelings, and behaviors. This is an important nuance because, if true, it indicates that *any* factor that facilitates prolonged changes to state-level thoughts, feelings, and behaviors—potentially including psychological interventions—has the potential to produce enduring trait change.

Interventions to change personality traits

Although a large body of research suggests that personality traits appear to passively change in response to psychological maturation,

biological forces, and environmental influences such as social roles (e.g., [Helson et al., 2002](#); [Hudson & Roberts, 2016](#); [Jackson, Hill, Payne, Roberts, & Stine-Morrow, 2012](#); [Lehnart et al., 2010](#); [Lucas & Donnellan, 2011](#); [Roberts & Bogg, 2004](#); [Soto et al., 2011](#); [Weaver et al., 2004](#)), researchers have only recently taken widespread interest in whether it is possible to actively, intentionally, and directly alter personality traits via intervention. As a result, very few studies to date have attempted to directly modify participants' personality traits (cf. [Hudson, Briley, Chopik, & Derringer, 2019](#); [Hudson & Fraley, 2015](#)). Part of the historical reluctance to examine such interventions may have been driven partially by theoretical expectations that personality may be difficult to change; consequently, powerful, systemic interventions—such as deep psychological commitment to new social roles—might be necessary to sufficiently alter thoughts, feelings, and

behaviors and create enduring trait change (e.g., [Lodi-Smith & Roberts, 2007](#)).

Within the past two decades, however, several theorists have questioned the presumption that personality change requires strong external presses—and have instead highlighted the possibility that other factors, including intrapsychic forces (e.g., the self's volition), might be sufficient to catalyze enduring trait change (e.g., [Baumeister, 1994](#); [Hennecke et al., 2014](#); [Hudson & Fraley, 2015, 2017](#); [Kiecolt, 1994](#)). Consequently, these scholars have outlined models of how personality traits might be changed through intervention ([Allemand & Flückiger, 2017](#); [Hennecke et al., 2014](#); [Hudson & Fraley, 2015](#); [Magidson et al., 2012](#)). Although these models all have slightly different names and foci—volitional change ([Hudson & Fraley, 2015, 2017](#)), self-regulated change ([Hennecke et al., 2014](#)), expectancy value/behavioral activation ([Magidson et al.,](#)

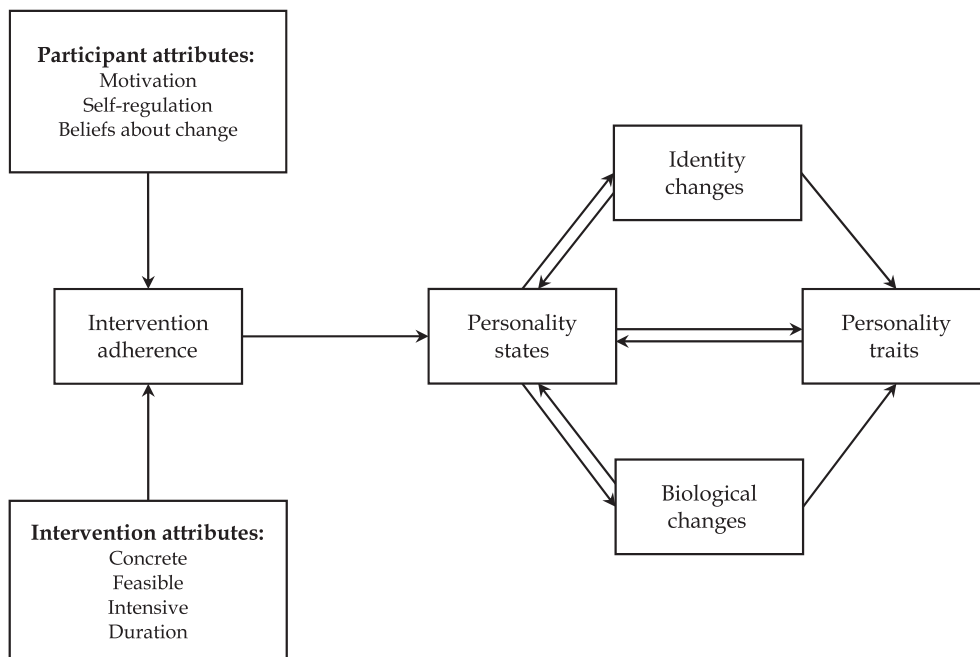


FIG. 2 Model of interventions to change personality traits.

2012)—as depicted in Fig. 2, on the simplest level, they all share the basic premise that lasting personality trait change can be produced by modifying participants' state-level thoughts, feelings, and behaviors over extended periods of time. For example, increasing an individual's trait level of extraversion merely requires successfully encouraging him or her to engage in highly extraverted state-level thoughts, feelings, and behaviors until those thoughts, feelings, and behaviors become learned, automatized, and habitual; adopted into his or her identity; and perhaps even encoded into his or her biology (Burke, 2006; Hennecke et al., 2014; Hudson & Fraley, 2015; Roberts & Jackson, 2008). Put in idiomatic terms, these theories suggest that participants in interventions to change personality traits must simply "fake it until they make it."

Naturally, however, simply modifying one's behavior *a fiat* over extended periods of time is not quite so simple in practice as it is in theory. Situational constraints, existing personality traits, and ingrained habits may make it difficult for people to consistently adopt new patterns of thoughts, feelings, and behaviors. Indeed, if people could easily and effortlessly modify their personality traits through pure volition alone, it should seem that everyone would be the idealized version of themselves and precisely who they want to be. This is clearly not the case, as the vast majority of people wish to change aspects of their personalities—which denotes that those desired changes have not yet been realized (Baranski, Morse, & Dunlop, 2017; Hudson & Fraley, 2015, 2016b; Hudson & Roberts, 2014). Thus, the critical question is: How can interventions help participants *successfully* implement new thoughts, feelings, and behaviors over extended periods of time—leading to trait change? To this end, theorists have argued that several factors may influence the efficacy of interventions to change traits. As depicted in Fig. 2, these factors can be broadly divided into (1) attributes of *participants* and (2) attributes of the *intervention*.

With respect to participants, most models suggest that an intervention may be more or less successful for different individuals based on their pre-existing attributes. Namely, in order to change their personality traits, participants must adhere to intervention instructions and maintain chronic changes to state-level thoughts, feelings, and behaviors (e.g., Hudson & Fraley, 2015). Any characteristics of the participants that influence their ability to do so would be expected to affect the intervention's efficacy. To this end, several scholars have theorized that individuals must be *motivated* to change their personality traits in ways that align with the intervention's goals (Baumeister, 1994; Hennecke et al., 2014; Hudson & Fraley, 2015, 2017; Kiecolt, 1994). In other words, it may be substantially challenging to convince participants to make enduring undesired changes to their thoughts, feelings, and behaviors—especially if those changes are difficult or require effort to implement. For example, participants who do not wish to become more conscientious may react against interventions designed to increase their conscientiousness and simply refuse to engage in highly conscientious behaviors prescribed by an interventionist. Even if participants do wish to comply with the intervention—perhaps because they feel apathetic toward its goals but nevertheless wish to cooperate with the researcher—they may lack sufficient motivation to adopt conscientious behaviors that require effort. For these reasons, some scholars have argued that interventions to change personality traits will be most effective if participants *already desire* those changes (Hudson et al., 2019; Hudson & Fraley, 2015, 2017)—or, if not, that the interventionist must work to align participants' goals with those of the intervention (Hudson & Fraley, 2015, 2017; Roberts, Hill, & Davis, 2017). And indeed, existing empirical evidence does, in fact, suggest that interventions to change personality traits can be effective if participants already desire those changes (Hudson et al., 2019; Hudson &

Fraley, 2015, 2016a). It remains an open question, however, whether it is possible to convince participants to change personality traits that they do not already desire to change.

Beyond motivation, participants must also possess adequate self-regulatory abilities to adhere to intervention instructions. Most theoretical models suggest that *merely wanting to change* is not sufficient to induce trait change (see Hudson et al., 2019). Rather, participants must *actually change* their state-level thoughts, feelings, and behaviors over extended periods of time in order to effect trait-level changes (Hennecke et al., 2014; Hudson et al., 2019; Hudson & Fraley, 2015; Roberts & Jackson, 2008). Thus, participants who are unable to sufficiently regulate their thoughts, feelings, and behaviors may not be able to adhere to intervention instructions and may consequently experience less success in changing their traits across time. Of course, it may be possible to design interventions that provide scaffolding for participants with lower self-regulatory abilities. It remains an open question, however, to what extent qualities of the intervention can overcome deficits in motivation or self-regulation among participants.

Finally, some scholars have proposed that participants' beliefs regarding the malleability of personality traits may influence their ability to change (e.g., Allemand & Flückiger, 2017; Dweck, 2008; Hennecke et al., 2014; Hudson & Fraley, 2015). Namely, participants who believe personality traits can change may engage in behaviors that promote trait change in a self-fulfilling fashion (e.g., Jussim, 1986). For example, a person who believes that it is possible to become more extraverted may put effort into engaging in gregarious behavior; whereas a person who believes that extraversion cannot change may refrain from engaging in sociable behavior because s/he believes it will be a fruitless and draining effort. Thus, personality change interventions may be most effective for individuals who already believe that personality

is plastic. Alternatively, the efficacy of interventions may be improved by working to instill within participants the belief that personality is malleable. These possibilities, however, are ultimately speculative and need to be tested in future research.

Beyond participant attributes, theorists have also argued that several aspects of the intervention may influence its ability to facilitate trait change. Namely, as depicted in Fig. 2, the intervention must present participants with specific, concrete, attainable steps to pursue on a regular basis (Hudson et al., 2019; Hudson & Fraley, 2015). For example, one type of intervention that has been tested in several studies involves asking participants to regularly generate concrete goals and implementation intentions to change their state-level thoughts, feelings, and behaviors (Hudson & Fraley, 2015). The idea behind this type of intervention is that, per sociogenic theory, small behavioral changes can eventually coalesce into trait change (Hudson & Fraley, 2015, 2017; Magidson et al., 2012; Roberts, 2018; Roberts, Hill, & Davis, 2017; Roberts & Jackson, 2008). Thus, for example, encouraging participants to take small steps to behave in an extraverted manner may eventually cause them to increase in trait-level extraversion (Hudson & Fraley, 2015).

However, research using this type of intervention has found that if the intervention is too vague or unstructured, it may have the potential to backfire. For example, in one study, Hudson and Fraley (2015) asked participants to generate concrete steps that they could take each week that could help them change their personality traits in desired ways. However, participants were provided with little coaching and relatively vague instructions. Consequently, many participants generated diffuse, abstract goals that entailed little concrete action and for which it was impossible to objectively quantify attainment (e.g., "be more talkative," "feel happier"). This intervention did not produce changes in participants' personalities—and in

some cases may have backfired and produced changes opposite of the desired outcome. [Hudson and Fraley \(2015\)](#) speculated that this occurred because (1) participants were not taking action that would actually promote trait growth, and (2) merely committing to goals that superficially might seem to move them toward their desired traits may have undermined their motivation to take other actions that otherwise would have actually promoted trait growth ([Fishbach, Dhar, & Zhang, 2006](#); [Gollwitzer, Sheeran, Michalski, & Seifert, 2009](#)). In other words, a vague goal such as “be more talkative” does not prescribe concrete action. Thus, it is likely that participants who authored such goals were not changing their behaviors—a necessary requisite for trait change ([Hudson et al., 2019](#); [Hudson & Fraley, 2015](#)). Supporting this possibility, subsequent interventions that more thoroughly coached participants to generate small, specific, reasonable, attainable goals each week (e.g., “ask two friends to lunch on Tuesday”)—or that provided participants with prewritten concrete, feasible goals to accept and complete—did facilitate trait change ([Hudson et al., 2019](#); [Hudson & Fraley, 2015](#)). Thus, it appears that interventions must provide participants with adequate scaffolding and concrete actions to take—and these actions must be ones that participants can feasibly and realistically perform on an intensive and ongoing basis.

Finally, the duration of the intervention likely matters. Theoretically, changes to thoughts, feelings, and behaviors must be maintained over an extended period of time to facilitate trait change ([Hennecke et al., 2014](#); [Hudson & Fraley, 2015, 2017](#); [Roberts, 2018](#); [Roberts & Jackson, 2008](#)). There is, however, currently insufficient empirical evidence to conclude precisely how long interventions must last to produce enduring trait change. Preliminary evidence suggests that meaningful personality trait change can be observed in periods as short as 4 months ([Hudson et al., 2019](#); [Hudson & Fraley, 2015, 2016a](#)). Moreover, one recent quantitative

review of more than 200 studies suggested that enduring personality change may have the potential to occur in as little as 6 weeks ([Roberts et al., 2017](#)). Thus, it remains unclear how quickly interventions may be able to change traits—and whether short-term interventions (e.g., 6 weeks) are sufficient to producing *enduring* changes in personality traits, as opposed to temporary changes that revert with time after the cessation of the intervention.

Empirical evidence for personality change via intervention

Although several theorists have articulated models for actively changing personality traits via interventions, to date very few studies have attempted to intervene directly upon participants’ personality traits (cf. [Hudson et al., 2019](#); [Hudson & Fraley, 2015](#)). That said, a large body of studies in the clinical psychology literature suggests that personality traits may change in response to interventions targeting *other constructs*. For example, clinical interventions (e.g., therapies) designed to treat conditions such as anxiety or depression frequently produce lasting increases in participants’ emotional stability and extraversion (for an overview, see [Roberts, Luo, et al., 2017](#); but cf. [Chow, Wagner, Lüdtke, Trautwein, & Roberts, 2017](#)). One recent quantitative review of more than 200 studies found that clinical interventions (e.g., psychotherapy) have the potential to change personality traits quickly—within six to eight weeks—and that many people appear to retain those changes to their personality traits over the course of several years ([Roberts, Luo, et al., 2017](#)). Similarly, outside the clinical literature, studies have also found that personality traits appear to change in response to interventions targeting other constructs, such as mindfulness ([Krasner et al., 2009](#)), social skills ([Oei & Jackson, 1980](#); [Piedmont, 2001](#)), and cognitive training ([Jackson et al., 2012](#)).

Although these clinical studies provide promising evidence that personality traits may be able to change in response to interventions, they are not without interpretational ambiguities. Of course, it may be the case that clinical interventions (e.g., psychotherapy) do, in fact, have collateral effects on personality via socio-genomic processes. For example, encouraging clients to build meaningful relationships, seek social support, and engage in enjoyable activities may essentially be encouraging them to engage in highly extraverted state-level behaviors—which should be expected to eventually coalesce into trait-level gains in extraversion (e.g., Hudson et al., 2019; Hudson & Fraley, 2015, 2017; Roberts, 2018; Roberts & Jackson, 2008).

However, it is also possible that psychotherapy does not necessarily directly change personality traits. Namely, it is possible that measures used to assess personality traits do not possess perfect construct validity (see Cronbach & Meehl, 1955). In other words, a questionnaire designed to measure extraversion, for example, may tap multiple constructs. In addition to measuring a participant's true latent level of extraversion, such questionnaires may also partially tap other irrelevant constructs, such as depression. If this possibility is true, a therapeutic intervention that reduced participants' latent depression would also influence their manifest extraversion scores, even if the participants' "true," latent levels of extraversion were unaffected. The change in manifest extraversion in this case, however, would be an artifact of the measure's less-than-perfect construct validity, rather than reflecting true changes in latent personality. Stated more succinctly, psychotherapy may have the potential to influence *measures* of personality traits such as emotional stability and extraversion without truly affecting the *latent constructs*.

Unfortunately, statistical techniques such as controlling measures of depression while examining personality changes cannot fully rule out

this possibility (e.g., Westfall & Yarkoni, 2016). Rather, ruling out this possibility would require extensive data on participants' levels of each personality trait *prior* to the onset of their depression or anxiety (Roberts, Luo, et al., 2017). Only this type of methodological design could allow confident inferences regarding whether psychotherapy truly changes participants' latent personality traits or merely reverts them to their predepressive manifest personalities.

In sum, a large number of both clinical and nonclinical studies suggest that personality traits may change in response to psychotherapy or other interventions targeting nonpersonality constructs (e.g., cognitive ability). Although these studies provide promising tentative evidence for the idea that personality can be changed through intervention, methodological limitations and interpretational ambiguities make it difficult to draw strong inferences that these interventions truly changed *latent personality traits*.

Volitional personality change interventions

In contrast to the research described, which has examined how personality changes in response to interventions targeting *other attributes* (e.g., mood disorders), an emerging body of studies on *volitional personality change* has begun testing interventions explicitly intended to directly change people's personality traits. These interventions are designed to be participant-directed and to work with people's pre-existing desires to change their personality traits. Thus, rather than exploring whether people's personalities can be changed to meet an *interventionist's goals* (e.g., to make the population more conscientious), studies on volitional change examine whether interventions can help people meet *their own, self-directed goals*. The following sections provide an overview of the

volitional change literature and interventions contained therein.

Do people want to change their personality traits?

Scholars have argued for several decades that at least some individuals who are highly dissatisfied with their lives—or aspects thereof—may formulate desires to change their personality traits (Baumeister, 1994; Kiecolt, 1994). However, personality psychologists have only recently begun systematically studying the prevalence and correlates of these desires (Hudson & Roberts, 2014). This emerging body of research has revealed that the vast majority of people wish to specifically increase in each of the Big Five personality traits—extraversion, agreeableness, conscientiousness, emotional stability, and openness to experience. For example, in one online sample of nearly 8000 participants, a minimum of 85% of people indicated that they wanted to increase with respect to each Big Five trait—with as many as 94% of participants expressing desires to increase in conscientiousness and emotional stability (Hudson & Fraley, 2016b).

Most studies examining *change goals*—people’s desires to change their personality traits—have used structured questionnaires in which participants rate the extent to which they wish to change each item in a standard personality inventory (e.g., Hudson & Fraley, 2016b; Hudson & Roberts, 2014; Robinson, Noftle, Guo, Asadi, & Zhang, 2015). For instance, one item that measures extraversion in the widely used Big Five Inventory (BFI) is, “I see myself as someone who is talkative.” This item is rated on a response scale ranging from “strongly agree” to “strongly disagree” (John & Srivastava, 1999). This item can be adapted to measure change goals, as in the Change Goals BFI (C-BFI), by rewording it to read “I want to be someone who is talkative,” rated on a

response scale ranging from “much more than I currently am” to “I do not wish to change with respect to this attribute,” to “much less than I currently am” (The major benefit to structured change goals questionnaires, such as the C-BFI, is that they allow researchers to systematically assess participants’ goals to change each of the Big Five personality traits and to quantify individual differences in the extent to which participants desire to change those traits (e.g., some individuals may desire greater changes in extraversion than do others). However, one limitation of structured change goals measures is that the questions themselves may *impose* goals upon individuals. For example, when directly asked, there may be considerable social pressure on participants to indicate that they would like to become more “considerate and kind.” Thus, structured change goals questionnaires may have poor ability to discriminate between true, pre-existing desires (e.g., someone with genuine, pre-existing, well-formulated desires to become a kinder person) versus ephemeral desires that are evoked by the questions themselves (e.g., someone with no pre-existing desire or intent to become a kinder person, but who will intellectually cede, when asked, that being a kinder person is desirable).

In contrast, it is possible to measure people’s change goals in a more open-ended fashion (e.g., Baranski et al., 2017; Higgins, 1987). For example, in one study, participants were first asked if there was any part of their personality that they wished to change—and if so, to write a brief essay describing the desired changes (Baranski et al., 2017). Even using this type of open-ended questionnaire, approximately 70% of participants freely indicated that they wished to change traits relevant to at least one of the Big Five personality domains. Although one significant strength of these type of open-ended measures is that they avoid suggesting or imposing specific goals upon participants, such measures may be limited in their ability to systematically explore both the prevalence and correlates of

goals to change specific traits (Hudson & Roberts, 2014). Especially if asked to list a specific number of traits they wish to change (e.g., “please list two aspects of yourself you wish to change”), participants may list only a subset of their desired changes. For example, someone may truly want to become more extraverted, conscientious, and emotionally stable. When asked to list only one or two traits that s/he desires to change, this individual must necessarily omit information regarding at least one trait s/he wishes to change. Moreover, open-ended measures are not particularly well suited to measuring variance in the strength of participants’ change goals. For example, if two participants both indicate desires to become more extraverted, it may be difficult to ascertain whether one of the participants desires more extensive changes than does the other.

To summarize, change goals can be measured in a variety of ways. Each measure has unique strengths and limitations. Nevertheless, irrespective of how change goals are measured, the majority of people indicate that they wish to change aspects of their personality traits (Baranski et al., 2017; Hudson & Roberts, 2014; Robinson et al., 2015). Thus, it is not merely a selective group of highly dissatisfied people who wish to change their personality traits (Baumeister, 1994; Kiecolt, 1994); rather, change goals are normative (Hudson & Fraley, 2016b).

Why do people want to change their personality traits? Most theorists have suggested that change goals are primarily *extrinsically motivated* (Baumeister, 1994; Hudson & Roberts, 2014; Kiecolt, 1994). In other words, most people likely want to change aspects of their personality traits in order to solve specific problems in their lives or to assuage sources of dissatisfaction. For example, people who are dissatisfied with their interpersonal relationships may desire to increase in extraversion—perhaps driven by the belief that they would have more satisfying friendships if they were more extraverted. Supporting this notion, research has found

that change goals are correlated in theoretically sensible ways with satisfaction with specific life domains (Hudson & Roberts, 2014). For example, people who are dissatisfied with their friendships empirically do tend to want to increase in extraversion. Similarly, students that are dissatisfied with their collegiate experience tend to express desires to increase in agreeableness and conscientiousness—perhaps because they believe that greater agreeableness would improve their social lives and higher conscientiousness might improve their academic outcomes.

Beyond extrinsic motivation, some people may also be intrinsically motivated to change their personality traits (for an overview of intrinsic motivation, see Deci & Ryan, 1985). Namely, each of the Big Five dimensions possesses a socially desirable pole (e.g., Dunlop, Telford, & Morrison, 2012; Hudson & Roberts, 2014). Individuals who are low with respect to the socially desirable pole of each trait may desire to increase in that trait for the value of possessing the trait in and of itself. Supporting this idea, trait levels of each of the Big Five personality domains are negatively correlated with goals to change that trait (Hudson & Roberts, 2014). For example, introverted individuals are more likely to want to increase in extraversion.

Can people volitionally change?

Empirically, the vast majority of people want to change their personality traits. Moreover, it appears that at least some individuals naturalistically engage in attempts to do so. For example, one study found that college students who feared becoming boring persons in the future were more likely to engage in binge-drinking behavior—ostensibly in attempt to incorporate the “fun and interesting” stereotype associated with college-aged binge drinkers into their personalities (Quinlan, Jaccard, & Blanton, 2006). Similarly, another study found that some students report strategically selecting

extracurricular activities that they believed would instill desired traits (e.g., leadership) within them (Stevenson & Clegg, 2011).

Thus, most people want to change their personality traits—and at least some people appear to engage in strategies designed to do so. But are these desires and efforts futile? Or can people actually potentially attain desired changes to their personality traits? Initial research into this topic has provided promising evidence that the answer is likely that people *can* change their Big Five personality traits. Namely, several longitudinal studies have measured college students' change goals at the beginning of semester and subsequently tracked their personality traits over the course of the 15–16-week semester (Hudson & Fraley, 2015, 2016a). These studies have consistently found that change goals predict corresponding subsequent trait growth. In other words, people tend to change in ways that align with their desires. For example, as can be seen in Fig. 3, which depicts data from one of Hudson and Fraley's (2015) studies, students

who indicated at the beginning of the semester that they wished to become more extraverted tended to actually experience increases in extraversion over the following months—amassing to an approximately one quarter standard deviation cumulative increase in extraversion. In contrast, students who did not wish to change their levels of extraversion did not experience statistically significant growth in extraversion across the semester. Subsequent studies have repeatedly replicated this pattern of findings—at least for extraversion, conscientiousness, and emotional stability (with findings being more mixed for agreeableness and openness to experience; Hudson et al., 2019; Hudson & Fraley, 2015, 2016a).

That said, there is not necessarily universal support for the idea that people tend to change in ways that align with their desires. Specifically, Robinson et al. (2015) measured graduating college seniors' change goals and personality traits, and then measured their personality traits again 1 year later. In their study,

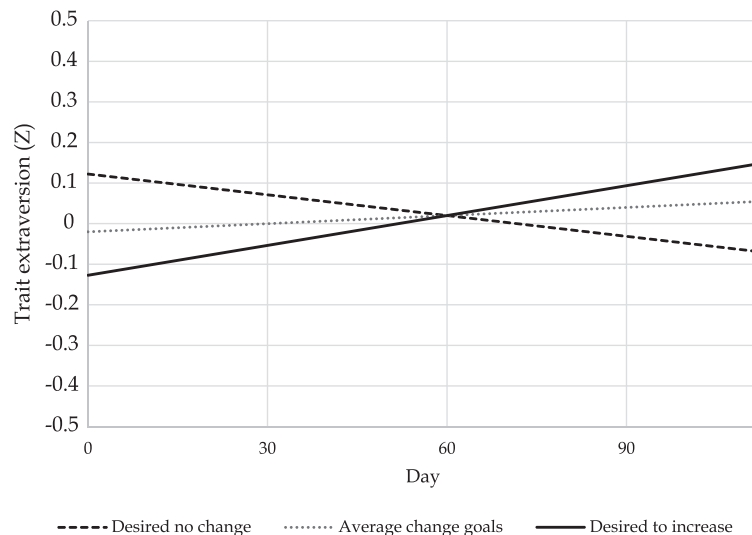


FIG. 3 Model-predicted growth in trait-extraversion for Hudson and Fraley's (2015) participants who, at the beginning of the study, expressed goals to increase or stay the same with respect to extraversion. *Reproduced from Hudson, N. W., & Fraley, R. C. (2015). Volitional personality trait change: Can people choose to change their personality traits? Journal of Personality and Social Psychology, 109, 490–507.*

change goals did not predict trait change across the two time points. This discrepant finding is somewhat difficult to interpret. Namely, Robinson et al. (2015) used a much longer time-frame than any of Hudson and colleagues' (2015, 2016a, 2018) studies—but they also used fewer measurement occasions (2 vs. 16) and a single-item measure of goals to change each trait (vs. Hudson and colleagues' C-BFI, which has 8–10 items per trait). Thus, it is unclear (1) whether change goals fail to predict trait change over longer periods of time (e.g., 1 year) and/or in life transitions (e.g., graduating), or (2) whether methodological limitations such as fewer measurement occasions or less sensitivity in the change goals measure limited Robinson et al.' (2015) ability to detect effects. It is also possible that features of the samples (e.g., age, culture) might have influenced the findings. Thus, it is critically important for future research to disambiguate these possibilities and more thoroughly explore whether change goals predict trait changes over multiple years and life transitions—as well as in more diverse samples.

Nevertheless, as a whole, the existing literature largely suggests that people tend to change in ways that align with their desires. Given that personality traits are linked to a wide array of consequential life outcomes—such as occupational attainment, relationship satisfaction and divorce, and health and mortality (Ozer & Benet-Martínez, 2006)—this raises the possibility that people may be able to improve their lives through volitional personality change. Supporting this possibility, research suggests that attaining desired trait changes may have the potential to improve people's well-being. For example, in one study, college students' change goals were measured at the beginning of the semester—

and their personality traits and life satisfaction were tracked weekly across the following 4 months (Hudson & Fraley, 2016a). Participants who attained desired changes to their personality traits tended to report concurrent gains in life satisfaction. For example, students who reported desires to become more extraverted and then *actually* increased in extraversion across the course of the semester tended to simultaneously increase in life satisfaction.^a Thus, successfully pursuing and attaining volitional personality change may have the potential to improve people's lives—both by assuaging specific sources of dissatisfaction (e.g., becoming more extraverted may improve people's social relationships; Hudson & Fraley, 2016a; Hudson & Roberts, 2014) and by leading to gains in important life outcomes (e.g., becoming more conscientious may improve health outcomes; Ozer & Benet-Martínez, 2006).

Volitional change interventions

Collectively, the emerging volitional change literature suggests that people want to and may be able to change their personality traits in desired ways—and that doing so may improve their well-being. This naturally raises questions regarding whether it is possible to develop interventions that catalyze the volitional change process. To date, three such interventions have been tested—two of which have appeared to produce favorable results. First, Hudson and Fraley (2015) tested two separate goal-setting interventions. In their first study, participants were randomly assigned to treatment and control groups. The treatment group was given relatively vague and open-ended instructions to “list 3 ways that you can try to

^a In this study, change goals moderated the within-person association between trait change and life satisfaction. People who increased in any big five trait experienced concurrent gains in life satisfaction. However, the associations were *larger* for people who desired to increase in with respect to the traits. Thus, for example, people who wanted to become more extraverted and actually increased in extraversion experienced greater gains in life satisfaction than did their peers who experienced *equivalent albeit undesired* changes in extraversion.

attain the changes you desire over the next week. Think of both general and specific steps you can take to try to change yourself." This intervention relied on the assumption that laypersons would be able to brainstorm reasonable strategies to change their own personality traits (e.g., as in [Quinlan et al., 2006](#); [Stevenson & Clegg, 2011](#)) and would thus generate actionable goals for behavioral change—leading to trait change (e.g., [Magidson et al., 2012](#); [Roberts, 2018](#); [Roberts & Jackson, 2008](#)). However, this assumption may have been somewhat less than accurate.

Specifically, Hudson and Fraley's initial intervention was ultimately inert—and it may have even backfired for some traits, producing *negative* changes in desired traits. After observing these results, Hudson and Fraley speculated that the intervention was too unstructured to be efficacious. Namely, many participants did not generate concrete, actionable goals. Instead, many wrote vague goals that often boiled down *a fiat* commands to simply possess desired traits (e.g., "be happier," "be more talkative"). In other words, this intervention may have failed to effectively help participants organize their plans for change, and thus may have failed to promote any sort of cognitive, affective, or behavioral changes that might have produced trait growth. Indeed, as depicted in [Fig. 2](#), actually changing one's state-level thoughts, feelings, and behaviors may be a requisite for attaining true trait change ([Hudson et al., 2019](#)).

In a second study, [Hudson and Fraley \(2015\)](#) attempted to improve their intervention by making the instructions more specific. Participants were still instructed to generate three "small steps" they could take during the week to change themselves in desired ways. However, in the improved intervention, participants were coached to create small, specific, actionable goals, and were given examples similar to, "One goal for increasing extraversion might be, 'Invite Aaron and Megan to go to lunch on Tuesday.'" Further, participants were taught

how to form implementation intentions—concrete behavior plans that take the form of "In situation X, I will perform behavior Y" ([Gollwitzer & Brandstätter, 1997](#)). Students were given sample implementation intentions similar to, "One implementation intention for increasing extraversion might be, 'If I have an opinion about what is being discussed in class, then I will raise my hand and give my opinion.'" This improved intervention was designed to encourage participants to make actionable plans, rather than vague aspirations. And indeed, it appeared to be concrete and structured enough to be effective: Participants in the treatment group experienced much larger changes to their personality traits than did participants in the control group. For example, participants who wanted to become more extraverted and participated in the treatment were predicted to increase nearly one half standard deviation in extraversion across the course of the semester—whereas their peers with equivalent desires in the control group were predicted to increase only one quarter standard deviation across the study's duration.

Although [Hudson and Fraley's \(2015\)](#) second, improved intervention provides promising evidence that interventions may be able to help change personality traits, it nevertheless suffers several limitations. First, it is necessary to note that [Hudson and Fraley \(2015\)](#) tested two very similar interventions—only one of which was efficacious. The fact that one "worked" and the other did not may simply represent sampling error, such that the intervention's true effect was zero—appearing to backfire once and appearing to function as expected once. Second, assuming that the effects of the improved intervention were real, [Hudson and Fraley \(2015\)](#) did not include unambiguous measures of the extent to which participants were actually achieving their weekly behavioral goals. Thus, their studies do not provide clear evidence regarding whether *successfully* changing one's behavior is necessary to produce trait change—or whether

merely committing to changing one's traits is sufficient. For example, it may be the case that psychologically committing to change and formulating plans operates in a self-fulfilling fashion (see [Jussim, 1986](#))—even sans intentional behavior change. In other words, someone who wants to become more extraverted and commits to change may quasiunconsciously modify their behaviors in subtle ways that produce trait change—even without more explicitly conscious attempts to implement extraverted thoughts, feelings, and behaviors.

To help overcome the limitations of prior studies and more fully elucidate the “active ingredient” in volitional change interventions, [Hudson et al. \(2019\)](#) developed a new type of intervention that provided participants with even greater amounts of structure and direction. In their study, at the beginning of the semester, college students were asked to nominate which of the Big Five personality traits they wanted to specifically work on changing across the course of the semester. Each subsequent week, participants were presented with “challenges” for the traits they had nominated. The challenges were behavioral goals, written by the researchers, that were designed to pull participants' thoughts, feelings, and behaviors in line with high levels of desired traits. For example, prototypical challenges for extraversion included, “Introduce yourself to someone new,” and “Invite friends or acquaintances to participate in a hobby you enjoy.” Prototypical challenges for conscientiousness were, “Pick one specific class assignment, and do your absolute best on it—not just enough to get by,” and “Show up 5 minutes early for every class, appointment, or activity on your daily schedule.” Each week, participants were free to accept up to four challenges. The subsequent week, participants were presented with each challenge they had accepted and were asked to indicate whether they had completed the challenge—and if so, how many times they had performed the prescribed behavior.

One major innovation of this intervention is that it was able to separate the respective effects of mere exposure to an intervention/placebo effects (as all participants were exposed to the intervention), intention/commitment to change one's behavior (accepting challenges), and actually changing one's behavior (completing challenges) on trait growth. Moreover, it ensured that all participants were exposed to concrete, actionable goals—instead of relying on participants to generate their own actionable goals (vs. abstract, vague ones).

[Hudson et al.' \(2019\)](#) findings indicated that, for most of the Big Five personality traits, successfully completing greater numbers of challenges did, in fact, predict greater trait growth over the course of the semester. For example, participants who completed just two extraversion challenges per week were predicted to increase nearly a quarter standard deviation in extraversion across the course of the semester. In contrast, participants who completed zero extraversion challenges were not expected to increase in extraversion. Importantly, however, merely accepting challenges did not predict trait growth. In other words, merely participating in the intervention and formulating plans did not facilitate people's abilities to attain desired changes to their personality traits. Rather, it was only the participants that followed through and implemented behavioral changes who experienced trait growth across time. These findings support the basic premise of sociogenic theory: chronic state-level changes to thoughts, feelings, and behaviors can eventually coalesce into trait change. This conclusion, however, should be tempered by the fact that all variables in these studies were measured via self-report. Different types of measures (e.g., self-report, observer-report) have differing strengths and weaknesses (e.g., [Paulhus & Vazire, 2007](#)). Future studies should collect multiple measures of the focal variables to triangulate the findings and help compensate for the limitations of any one type of measure.

Nonetheless, these studies collectively suggest that it may be possible to help people change their personality traits with well-designed interventions. Specifically, though, as depicted in Fig. 2, it appears that participants must be motivated to change—and the intervention must provide participants with concrete, actionable goals to pursue each week. Moreover, preliminary data suggests that participants must actually adhere to the intervention and successfully implement cognitive, affective, and behavioral changes in order to experience trait change. Indeed, this aligns with theory regarding *why* traits change, such as the sociogenomic model (Magidson et al., 2012; Roberts & Jackson, 2008). The “active ingredient” in promoting trait growth truly appears to be chronically changing state-level patterns of thoughts, feelings, and behaviors.

Future directions

Ultimately, utilizing interventions to directly change personality traits is a fledgling area of research. Although several studies have provided a promising prognosis for attempts to change traits, a myriad of fundamental questions remain entirely unexplored. The sections that follow describe what I believe to be the most urgent questions for future research to examine.

What is the nature of intervention-driven personality change?

Two of the biggest questions that remain for future studies to answer are: (1) How much change can individuals attain in their personality traits, and (2) how long do intervention-driven changes last? With respect to the former, it seems unlikely that individuals can change their personality traits ad infinitum (Hudson & Fraley, 2015). As with many pursuits in life, participants may reach a point of diminishing returns, after which they experience

geometrically smaller gains in desired personality traits across time. Speaking to this issue, one quantitative review examining the effects of psychotherapy on personality found that most personality change occurred within 6 weeks of the onset of the psychotherapy—and trait growth severely leveled off thereafter (Roberts, Luo, et al., 2017). Of course, psychotherapy is not primarily designed to target personality traits. Thus, it may be possible that psychotherapy has a minimal “collateral” effect on personality traits that is maximized within 6 weeks. It is possible that stronger interventions designed to directly target personality traits—or interventions designed to be “adaptive” and scale in difficulty and intensity as participants’ traits grow—may be able to sustain trait growth for prolonged periods of time. Indeed, across four 16-week longitudinal studies, Hudson and colleagues’ (2015, 2016a, 2018) found that growth in participants’ personality traits was relatively linear—there was no evidence of curvilinear effects, such as growth leveling off after 6 weeks. Nevertheless, the basic idea is likely true—that biological and/or social constraints likely exist such that participants will eventually experience diminishing gains in desired personality traits, even given exposure to very strong interventions. Thus, future research is needed to more thoroughly examine the extent to which people can change their personality traits.

Relatedly, it remains unclear whether interventions to change personality can produce *enduring* gains in traits. Namely, Hudson and colleagues’ (2015, 2016a, 2018) have found that, with continued intervention, participants experience and retain changes to their personality traits across a period of roughly 4 months. However, little is known about what happens *after* interventions are discontinued. It is possible that participants retain changes to their personality traits. For example, in their review, Roberts and colleagues (2017) argued that psychotherapy changes people’s personalities—and those changes appear to endure for years, even after

cessation of treatment. However, as described earlier, this finding is fundamentally ambiguous in nature. For example, to the extent that a mood disorder influences *measures* of extraversion and emotional stability, successfully treating the mood disorder will produce apparently enduring growth in the personality *measures*—even if the underlying personality constructs have not been changed by therapy. In other words, it is possible that depression may *reduce* people's extraversion and emotional stability temporarily. Once the depression is successfully treated, individuals may merely revert to their baseline levels of extraversion and emotional stability. Studies that only follow *already depressed* individuals throughout treatment would not be able to disambiguate this possibility from true, enduring changes to participants' personality traits. The use of multitrait multimethod analyses may also be able to further address this limitation.

Thus, it remains possible that intervention-driven changes to personality traits may revert given enough time after the intervention (e.g., [Robinson et al., 2015](#)). For this reason, future research is needed into the time course of intervention-driven trait change and the extent to which such changes can be maintained. It may be possible, for example, that intervention-driven trait change does wane with time; however, periodic “booster” intervention sessions may be able to maintain changes over extended periods of time. These and other possibilities should be tested in future studies.

What factors promote successful interventions?

It is critical to ensure that interventions are effective in helping people change their personality traits before recommending their widespread use. Namely, research suggests that fruitlessly pursuing personality change may have deleterious effects on well-being ([Hudson & Fraley, 2016a](#)). In other words, unfilled change goals and failed attempts to

change oneself may reduce life satisfaction. Therefore, it is paramount that psychologists understand what makes interventions successful so as to avoid encouraging adoption of ones that backfire and undermine participants' well-being.

Thus far, at least three interventions designed to directly change participants' personality traits have been tested ([Hudson et al., 2019](#); [Hudson & Fraley, 2015](#)). As discussed, the findings from these studies have tentatively identified factors that may be important in promoting successful trait growth. For example, the interventions likely need to provide participants with sufficient structure and concrete, feasible behaviors to pursue each week ([Hudson et al., 2019](#); [Hudson & Fraley, 2015](#)). In contrast, interventions that provide too little structure may give participants a false sense of progress and *undermine* change (see [Fishbach et al., 2006](#); [Gollwitzer et al., 2009](#)). Ultimately, however, very few interventions have been tested—and the factors believed to make them successful are largely based on post hoc speculation. Thus, future studies should directly test aspects of various interventions to determine specifically what causes interventions to facilitate trait change—and what causes them to backfire.

Along these lines, all of the volitional change interventions to date have been based upon sociogenomic theory—and thus have simply asked participants to change their state-level thoughts, feelings, and behaviors in hopes of evoking subsequent trait changes. Although these interventions have had varying degrees of success—with some exhibiting quite large effects (e.g., [Hudson & Fraley's, 2015](#) second intervention increased participants' extraversion by a half standard deviation)—there may be other more efficacious methods of intervening on participants' personality traits. For example, interventions based upon the social investment hypothesis—such as asking participants to commit to social roles that may instill desired traits—may be equally or even more

successful than existing sociogenomic interventions. Moreover, there may be individual variation in the extent to which any one intervention is successful. For example, interventions that ask participants to merely modify their behaviors may fail to work for individuals with relatively lower levels of self-regulation. These individuals may benefit from interventions that provide even greater structure—such as asking them to interface with social roles that create strong external presses for desired traits, for example. Thus, future research should explore other potential interventions that might also change personality traits and test the extent to which these interventions work on various individuals with different qualities.

Can nonvolitional interventions work?

One final important future research direction is exploring the extent to which nonvolitional change interventions might be efficacious in changing people's personality traits. Namely, all of the interventions described in this chapter that directly targeted personality traits were designed to help participants *change themselves in desired ways*. Many interventionists, however, may be interested in systematically changing people's personality traits irrespective of the participants' will (e.g., Roberts, Hill, & Davis, 2017). For example, policymakers might be interested in implementing interventions to increase consciousness in the general population. It remains an open question whether these type of researcher-directed interventions can produce trait change.

On the one hand, it is certainly possible that researcher-directed interventions may be efficacious. Namely, the vast majority of people already want to increase with respect to each Big Five personality trait (Hudson & Fraley, 2016b). Thus, it may be trivially easy to align participants' will with the goals of the intervention. For example, if an interventionist wants to increase participants' agreeableness, it may

suffice to simply appeal to these widespread desires (e.g., "Research suggests that the vast majority of people want to become more agreeable. We'd like to help you attain this goal"). In contrast, interventionists attempting to dictate how participants should change their personality traits may encounter reactance. Similarly, even if participants are amenable to the interventionists' goals, they may lack the motivation to engage in behaviors that would produce trait change. Thus, future research should explore whether participants can be assigned traits to change—or whether the self's volition is critical in predicting the success of trait change efforts.

To the extent that future studies find that researcher-directed personality change is plausible, this would open a plethora of new questions to explore. For example, do researcher-directed personality change and volitional personality change differ with respect to how much change can be attained—or how long those changes can be maintained after cessation of the intervention? Do different types of interventions work better for attaining volitional change versus researcher-directed change? Do different participants benefit from researcher-directed interventions versus volitional ones? And so on.

Conclusion

Personality traits predict a wide array of critically important life outcomes (Ozer & Benet-Martínez, 2006; Roberts et al., 2007). An emerging body of research suggests that personality traits may be able to be changed via interventions (Hudson et al., 2019; Hudson & Fraley, 2015)—which may have important downstream consequences for participants' well-being and life outcomes (Hudson & Fraley, 2016a). However, many critical questions in this promising new area of research remain unexplored. Future research should continue to elucidate the precise mechanisms that facilitate personality trait change, the extent to which these changes can

be maintained over extended timeframes, and whether intervention-driven personality change can translate into improvements in important life outcomes.

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