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On the efficacy of volitional personality change in young adulthood: Convergent evidence using a longitudinal personal goal paradigm

Amanda Marie Moore[1] · Anne Catherine Holding[1] · Lauren Buchardt[1] · Richard Koestner[1]

Abstract

The frequency, effectiveness, and impact of personality change goal (PCG) pursuit was explored using a longitudinal goal-setting paradigm within two multi-wave prospective longitudinal studies employing both a university student (study 1; n = 1468) and community adult (study 2; n = 248) sample. Self-determination theory (SDT) was incorporated to explore the extent to which PCGs reflect autonomous processes. Five major findings were revealed in study 1: (1) 20% of participants generated a PCG as one of their three yearly goals; (2) participants reported more progress on their PCGs than on other goals; (3) PCGs were more autonomous relative to other personal goals; (4) Autonomous motivation for goal pursuit was more strongly associated with PCG progress, relative to other goals; and (5) PCG progress resulted in improved psychological well-being over time. Study 2 replicated the motivational findings of study 1 within a community adult sample, and found evidence supporting the validity of the proposed longitidunal goal-setting paradigm. The present studies contribute to current PCG literature by using an alternate goal-assessment method that distinguishes desires to change from meaningful goal intentions and integrated SDT to enhance our understanding of volitional personality change.

Keywords Big 5 personality traits · Relative autonomy continuum · Self-determination theory · Personality change goals

Introduction

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Many individuals muse about improving their personalities by becoming more hard-working, socially confident, or less prone to worry. Some individuals even set specific goals to change their personality in these directions. But how common is it to desire to change one's own personality traits and how often do such desires develop into formal goal intentions? Moreover, are attempts to change one's personality successful, and do they influence how people feel about themselves and their lives? These are questions we sought to answer in the present investigation by exploring individual's volitional personality change goal pursuit.

The evolution of the field of personality psychology makes this an opportune time to explore questions about people's attempts to change their own personality. The Big 5 trait taxonomy has been widely accepted as a valid and reliable system for assessing individual differences in social and emotional behavior. There is evidence that the Big 5 traits can predict important life outcomes to the same degree as socio-demographic and cognitive factors (Roberts et al. 2007). Importantly, recent research has shown that an individual's standing on the Big 5 traits can change across adulthood despite also showing high levels of temporal stability (McAdams 2015). Thus, there is now considerable evidence for both normative, age-graded change on these traits, as well as more person-specific, event-related change (Roberts and Mroczek 2008). For example, across young adulthood, individuals generally become more emotionally stable, agreeable, and conscientious. Furthermore, specific

✉ Amanda Marie Moore
  amanda.moore@mail.mcgill.ca

  Anne Catherine Holding
  anne.holding@mail.mcgill.ca

  Lauren Buchardt
  Lauren.buchardt@mail.mcgill.ca

  Richard Koestner
  richard.koestner@mcgill.ca

[1] Department of Psychology, McGill University, 2001 Avenue McGill College, Montreal, QC H3A 1G1, Canada

events have been linked with personality change: academic sojourns have been associated with increased openness to experience (Greischel et al. 2016), finding a romantic partner has been associated with reduced neuroticism (Lehnart et al. 2010; Neyer and Asendorpf 2001; Neyer and Lehnart 2007), and starting a career has been associated with increased conscientiousness (Hudson and Roberts 2016). Finally, a quantitative review showed that interventions, such as psychotherapy or assertiveness training, can reliably change personality traits in a positive direction (Roberts et al. 2017).

Given the accumulating evidence that personality traits can change because of developmental factors, life events, and psychological interventions, it is natural to explore whether people can also change their personality traits by setting personal goals to do so. Volitional personality change is defined as people's desires and attempts to change their own personality traits (Hudson and Fraley 2017; Hudson et al. 2020). A methodology for studying volitional personality change was introduced by adapting the Big 5 Inventory (BFI; John and Srivastava 1999), a widely used scale for assessing the Big 5 traits, to ask young adults the extent to which they wanted to increase, stay the same, or decrease on each of the 44 BFI trait term items (Hudson and Roberts 2014). Results across four studies showed that a clear majority of young adults endorsed responses indicating that they desired to become more conscientious, agreeable, emotionally stable, extraverted, and open to experience (Hudson et al. 2020). Indeed, more than 80% of participants wanted to change on each dimension! Similar findings were obtained with young adults in diverse nations using a more general description of the Big 5 traits (Hudson and Fraley 2016a, b). The desire to change on personality dimensions has also been observed for older adults, but at more moderate rates (Hudson and Fraley 2015). Moreover, it was generally those individuals at the less socially desirable end of each bipolar Big 5 trait dimension who had a goal to change on that trait (Hudson and Fraley 2016b; Hudson et al. 2020). For example, it was the more introverted individuals who were more likely to indicate a desire to become more extraverted.

Does the desire to change one's traits predict actual changes in behavior? Experience-sampling studies designed to examine whether the desire to change was associated with trait-related behavior over 14 days yielded mixed results (Hudson and Roberts 2014). Evidence for the efficacy of volitional personality change, however, has emerged from longitudinal studies. People who desire to change their personality traits appeared to do so over the span of 4 months on traits such as conscientiousness and emotional stability (Hudson and Fraley 2015). An experimental intervention that trained participants to link implementation plans with their trait change goals was shown to accelerate change (Hudson and Fraley 2015). Another study found that change goals resulted in durable personality change only if individuals followed through on behavioral challenges, such as going to parties if one wanted to become more extraverted (Hudson et al. 2019). Despite evidence that individuals *can* change their personality in their desired direction, it is unclear whether these changes can be maintained long-term. Indeed, one study that used a full year time frame failed to find effects for volitional personality change goals (Robinson et al. 2015).

Individuals who seek to change their personality anticipate that success will make their lives better (Hudson and Fraley 2016a). Whether this expectation is realized seems to require distinguishing the desire for change from actual progress made in change. Thus, university students' *desire to change* on the traits of conscientiousness and openness to experience at the beginning of a semester was associated with <u>decreases</u> in adjustment over the course of the semester (Hudson and Fraley 2016a). However, students who *succeeded at increasing* on any of the Big 5 traits over the course of the semester experienced simultaneous gains in well-being, relative to peers who did not wish to change on these traits (Hudson and Fraley 2016a). That making progress at personality change goals is associated with better well-being is not surprising given other forms of goal progress are a reliable pathway to well-being gains (Diener et al. 1999; Koestner et al. 2002).

Volitional personality change has clearly emerged as an important new research area. Nonetheless, in order to enhance our understanding of the divergent pattern of well-being outcomes associated with the desire to change versus progress at change, it is important to consider how the concept was defined. Volitional personality change refers broadly to both *desires* and *attempts* to change personality traits. Theories of goal pursuit across the life span have drawn a firm line between goal-related desires and goal intentions, arguing that they represent different phases in a dynamic goal action sequence, phases that are associated with distinct cognitive, affective, and motivational experiences (Gollwitzer 2012; Heckhausen et al. 2010; 2019). Indeed, the metaphor of crossing the Rubicon has been used to capture the significance of shifting from a deliberative pre-actional goal phase to an implemental goal pursuit phase (Heckhausen et al. 2010). Similarly, the influential "stages of change theory" developed by Prochaska et al. (1993) argued that successful change involves a progression through a series of six stages for which there are distinct motivational processes. Desiring to change one's personality trait would be indicative of stage 2, labeled contemplation, which reflects on one's motivation. It is only during stage 4, labelled preparation, that one would make a formal intention to change the behavior in order to be aligned with their desired personality. Self-liberation is the key process during this stage. It involves making a choice and committing oneself to action.

It is unclear whether the personality change paradigm developed by Hudson and Fraley (2017) is capturing true goal *intentions* to change one's personality. By prompting participants with the 44 BFI trait-term items and asking if participants desire

to change on each of these traits, there would seem to be a risk that participants are reporting momentary (perhaps reactive) desires, rather than true goal intentions, or even simply responding in socially desirable ways (John and Srivastava 1999). For example, because being extraverted and emotionally stable is typically socially desirable, individuals might respond that they want to be more "*sociable and outgoing*" and less "*depressed, blue*", even if they are not currently pursuing fully formed goals to make these changes. Indeed, participants in these studies may have been only in the early stages of the self-change sequence or in the deliberative phase of goal pursuit, which may account for some of the previous mixed findings about whether lasting volitional personality change can be achieved. The fact that two studies (Hudson et al. 2019; Hudson and Fraley 2015) have shown that volitional personality change was most likely to succeed when individuals linked their goal with specific behaviors, or with an implementation plan, is consistent with the idea that the phase of the goal action cycle or stage of change may be highly relevant. The present investigation explored volitional personality change using methodology designed to capture meaningful goal intentions that are tied to a temporally defined goal action sequence.

Building upon volitional previous personality change research, two recent studies proposed alternate methodologies to assess personality change goals. The first assessed participants personality change goals by presenting participants with BFI trait terms and asking if they were or were not trying to modify this aspect of their personality (Baranski et al. 2017). If participants indicated that they were trying to change, they were then prompted to give an open-ended description of the specific personality aspect they desired to change, as well as the strategies (if any) they were using to move toward their goal. The results showed that about half of participants were pursuing personality change goals and it was typically participants with a less socially desirable personality profile who desired to change. While we view the open-ended nature of participant responses within this study as an improvement on the previously used methodology in terms of moving closer towards capturing true goal intentions, seeing as participants are still being prompted with trait terms, there seems to be the same risk that it captures participants in the earlier stages on goal pursuit with passive goal desires.

A second study used a longitudinal design with a personality change goal assessment paradigm in which participants generated 10 personal goals that were later coded for whether they were related to Big 5 trait change (Miller et al. 2019). Seeing as these are personality change goals that were spontaneously generated when participants were asked what goals they were pursuing, we believe these are more likely to be active goals that the participant was working towards (i.e. true goal intentions). Miller et al. (2019) sought to explore "*the frequency and prevalence of personality change goals in the context of an individual's entire set of personal goals*". The present investigation

aimed to take this a step further and longitudinally explore the progress made on such personality change goals.

In addition to distinguishing between goal desires and actual goal intentions, another question is whether previous volitional personality change research has truly captured volitional processes. In the previous literature, volitional is defined as "self-initiated" personality change. However, we seek to expand on this research by suggesting that self-initiated personality change may not necessarily be self-endorsed (i.e. autonomous), and that self-endorsement is critical for predicting progress on personality change goals. We draw on Self-determination theory (SDT), a macro-theory of motivation and personality to make this assertion. SDT highlights the importance of exploring the autonomous dynamics of behavior (Ryan and Deci 2017). According to SDT the motivation underlying a goal can be located on a continuum ranging from autonomous to controlled motivation (Ryan and Deci 2017; Sheldon and Prentice 2019). Having more autonomous motivation means the individual whole-heatedly pursues the goal and finds it important and meaningful (i.e. pursuing a goal because you 'want to'). In contrast, having more controlled motivation for goal pursuit means the individual is pursuing the goal due to external or internal pressures, such as wanting to please others or because they would feel guilty or anxious if they did not (i.e. pursuing a goal because you 'have to'). Importantly, both autonomous and controlled goals can be "self-initiated" or "self-selected", but only the autonomous goal would be "self-endorsed". Overall, the relative autonomy continuum captures whether a goal is "autonomous", where autonomy is defined as selecting and pursuing something whole-heartedly (rather than half-heartedly), with a sense of personal endorsement rather than a sense of alienation.

According to SDT (Ryan and Deci 2017), the motivation with which one pursues a goal reveals much about the way the person is likely to function, as well as the outcomes he or she can achieve. Indeed, several past studies have found that having more autonomous motivation for goal pursuit is predictive of making more goal progress (e.g., Koestner et al. 2008; Koestner et al. 2008; Milyavskaya et al. 2015; Holding et al. 2017; Moore et al. 2020). Previous volitional personality change research has explored whether individuals have a desire to change their personality. However, by integrating SDT's concept of the relative autonomy continuum, the present study sought to explore whether volitional personal change is autonomous and how the relative autonomy of personality change goals relates to later goal progress.

The Present Studies

The present investigations explored volitional personality change within a university student (study 1) and community adult (study 2) sample using methodology designed to capture meaningful goal intentions. In study 1, as an alternative to
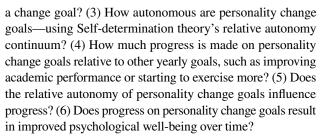
directly asking people how much they want to change specific trait behaviors, we introduced Robert Emmons (2004) personal strivings methodology to examine the personal goals that university students spontaneously formed at the beginning of an academic year. Participants then subsequently reported on their progress and psychological well-being multiple times across an academic year. The content of student's personal goals generally involve academic, health, relationships, and leisure activities (Koestner et al. 2006). However, research on volitional personality change would suggest that a certain percentage of participants would report a personal goal that relates to changing one of their personality traits (Miller et al. 2019). In study 2, we then used a similar methodology to replicate and extend the findings of study 1 within a community adult sample. We propose that such a longitudinal goal paradigm is more likely to capture activated goals rather than a pre-decisional wish to change one's trait behavior in a virtuous and socially desirable direction. In addition, the present investigation sought to use SDT's concept of the relative autonomy continuum to more carefully explore the extent to which desires and attempts to change personality reflect autonomous processes.

In addition to tracking spontaneously generated personality change goals, the current research included two novel features that go beyond previous work on volitional personality change: (1) the time frame of goal pursuit has been extended, and (2) psychological well-being outcomes were assessed more broadly. As previously mentioned, most studies on volitional personality change have used a 4-month time frame and one study that used a full year time frame failed to find effects for volitional personality change goals (Robinson et al. 2015). Within study 1, we used the full academic year (i.e. 9 months) and, within study 2, we followed participants over a 6 month period. Previous studies have assessed well-being primarily in terms of life satisfaction. Within the present investigations, we include positive and negative affect along with life satisfaction so that we capture the standard components of subjective well-being (Diener et al. 1999). We also added assessments of highly positive psychological functioning—a measure of vitality (Ryan and Fredericks 1997)—and an indicator of psychological distress—a measure of depressive symptoms (Radloff 1997). It would be interesting to determine whether the effects of personality change extend beyond subjective well-being to impact more extreme levels of positive and negative functioning.

Study 1

Within Study 1, we aimed to examine frequency, effectiveness, and the psychological impact of personality change goal (PCG) pursuit. More specifically, we were interested in the following questions: (1) how frequently do young adults spontaneously generate a personality change goal? (2) Is a participant's baseline standing on the Big 5 traits associated with having a change goal? (3) How autonomous are personality change goals—using Self-determination theory's relative autonomy continuum? (4) How much progress is made on personality change goals relative to other yearly goals, such as improving academic performance or starting to exercise more? (5) Does the relative autonomy of personality change goals influence progress? (6) Does progress on personality change goals result in improved psychological well-being over time?

We expected that spontaneously generated personality change goals would be rarer than previous research would suggest. Hudson and Roberts (2014) reported that 87% of university students reported personality change goals when explicitly prompted. Moreover, in line with previous research, we hypothesized that a less socially desirable standing on each of the Big Five traits would be correlated with having spontaneously generated a personality change goals. We expected that the extent to which young adults made progress on their personality change goals would depend on their level of autonomous motivation. Finally, we expected that making progress on personality change goals would be associated with improved well-being over time. Both of the two previous predictions have been confirmed in previous research using the personal goal paradigm for personal goals in general, but have not been explored within the context of personality change goals specifically (Koestner et al. 2002, 2006, 2008, 2015).

Methods

Participants

Participants were 1468 university students (78% female), aged 18 to 54 years, who were recruited to participate in four separate, large 6-wave prospective studies on personal goals and well-being that were conducted over four consecutive years. Based on previous volitional personality change studies that found small to moderate effect sizes, we aimed to have a sample of over 300 participants so we could be confident that we would have sufficient power to observe meaningful effects of (1) pursuing a personality change goal vs a control goal, (2) having autonomous motivation for pursuing a personality change goal versus having controlled motivation. Seeing as only 6% of the goals set by participants were related to personality change, in order to ensure sufficient power for analyses, the data for this study were drawn from four, separate prospective year-long studies conducted in 2013–2014, 2014–2015, 2015–2016, and 2016–2017, and had identical procedures and timelines for the follow-ups. 346 participants (74% female) were recruited during the 2013–2014 academic year, 198 (76% female) during 2014–2015, 425 during 2015–2016 (77% female), and 507 (84% female) during the 2016–2017 year. Overall, 51% of participants reported they were *White*, 32% reported *Asian*, 6% *Middle eastern, Arabic*, 4% *Latino-Hispanic*, 2% *Black/African*, and 1% *First Nations*.

Procedure

The present investigation made use of a series of large multi-wave longitudinal studies and, for the purpose of this investigation, only measures assessed at baseline (T1), mid-second semester (T2) and end of the academic year (T3) were relevant for consideration due to these being the time points at which the variables of interest were assessed. Additional details regarding the larger study from which the measures used in the present investigation were taken can be found in footnote.[1] Over the course of each study, participants completed online questionnaires via Qualtrics experimental software (Qualtrics, Inc. Salt Lake City, UT). Participants completed the first survey (T1) at the start of the academic year and were asked to identify three personal goals that they were currently pursuing. In addition, they completed baseline measures of personalities, goal specific motivation and well-being outcomes. In T2 and T3, participants completed measures that assessed their personal goal progress and well-being. Participants were reminded at each follow-up what their personal goals had been. The completion rate of the surveys was 92% at both later time points. 170 participants (12%) failed to complete at least one of the follow-ups. Statistical tests were performed to compare the 1296 participants who completed every follow-up survey with the 170 participants who failed to complete one or more follow-ups. There was no significant difference between these two groups on any of the Big 5 traits. Out of the 1236 participants who completed goal study follow-ups, 310 reported a personality change goal, representing 6% of the total number of goals in our sample, and 20% of the total participants. Four participants had more than one personality change goal. In these cases, we included the first personality change goal they reported in the analyses.

Because three personal goals were elicited from each participant, we were able to yoke each personality change goal with another personal goal set by the same participant. That is, for each participant who indicated a personality change goal, we used one of their other yearly goals that was not about personality change as a control. This allowed us to examine whether personality change goals differed from other goals in terms of antecedent motivation or subsequent progress.

Data from these individual studies have been used in previous articles (citations blinded for review). However, no previous study has explored the current set of hypotheses. Indeed, personality change goals have never been examined using this goal-pursuit paradigm.

The present study was conducted in compliance with the McGill University Research and Ethics boards. Moreover, participants were financially compensated for their time. Participants were compensated up to CAN $50 for their participation, in either cash or Amazon gift cards, depending on how many surveys they completed.

Measures

Personal goals Following the instructions outlined in Koestner et al. (2002), at T1, participants were prompted to report three personal goals that they would be pursuing over the course of an academic year.

Coding personality change goals Personality change goals were differentiated from non-personality change goals based on the following two criteria. First, personality change goals are goals to change one's thoughts/feelings/behaviours, in a domain-general way. That is, the goal must constitute a desire to change one's general way of thinking/ feeling/ behaving in the world. If a goal was only specific to one or two situations, it was not a personality change goal. For example, *I want to make more friends* is not a personality change goal as the subject could be perfectly happy with their current level of extraversion, but simply has not found a satisfying social circle. *I want to be more outgoing* is a personality change goal because it reflects the desire to be more extraverted, in a domain-general way. Similarly, *I want to procrastinate less on assignments*, is not a personality change goal because it does not necessarily reflect their desire to change their general behavior style in the world. *I want to stop procrastinating, manage my time better* are personality change goal because they reflect the wish to be more conscientious in general. Secondly, personality change, in and of itself, must be the goal target, and this must be explicit. For instance, the goal, *go travel and experience new things* is not a personality change goal. In pursuing this goal, the person may increase in openness to experience, but changing their personality is not the goal of the travel. While it is likely that people may change as a result of introducing a new habit, or having a new experience, we only coded goals that explicitly expressed the desire to change one's personality.

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[1] The measures used in study 1 were taken from four large, 9-month-long, six-wave, prospective longitudinal studies on personal goals and well-being that were conducted with four separate samples of university students over 4 consecutive academic years. For the present study, the data was aggregated from 4 studies due to the low frequency of personality change goals (i.e. only 6% of goals set by participants were personality change goals, leaving only 20% of participants to be included in analyses). At baseline, participants completed a longer 45-min survey where they generated three personal goals and completed various goal-specific measures. In addition, participants also completed several baseline measures individual difference constructs (e.g. Big 5 traits, perfectionism, life aspirations, basic psychological need satisfaction). Thereafter, participants completed five 15-min follow-up surveys that tracked their personal goal progress and changes in their well-being. The study was conducted over the course of a 9-month academic year (i.e. two semesters). Three survey were sent out each semester – at the start, middle, and at the end of the semester.

Two coders rated all goals in the 2016–2017 data set. The reliability of coding as a personality change goal was alpha = 0.94. Of the goals set by participants that were coded as personality change goals, the most common types of personality change were for extraversion (32%; e.g., *I want to become more social*), conscientiousness (27.2%; e.g., *I want to procrastinate less.*), and, emotional stability (22.7%; e.g., *I want to worry less*). 15.5% of the personality change goal set by participants were related to changing on openness to experience (e.g., *I want to get out of my comfort zone and experience new things) and g*oals to become more agreeable were relatively rare (2.6%; e.g., *I want to become more giving, altruistic and others-oriented*).

Coding control-goals To compare progress made on personality change goals with progress made on other goals we included a second goal as a control for each participant who had a personality change goal. If the personality change goal was the first spontaneously nominated goal, then we used the second spontaneously nominated goal as a control. If the personality change goal was the second goal, then we used the third goal as a control; and if the personality change goal was the third goal, we used the first goal as the control. We thus included both a personality change goal and a control goal for each participant in the main analyses.

Big 5 personality traits The participants' standing on the Big 5 Traits (conscientiousness, extraversion, neuroticism, agreeableness and openness to experiences) was assessed at baseline using the 44-item Big Five Inventory (BFI; John and Srivastava 1999). Participants rated each item based on how much they agreed that the items reflected their own personality on a scale from 1 (meaning *strongly disagree*) to 5 (meaning *strongly agree*). An example of an item used to assess conscientiousness is *does things efficiently* and an example of an item to assess extraversion is *outgoing, sociable*.

Goal-specific motivation At T1, participants were asked to rate their motivation for each of their personal goals using the 5-item scale outlined in Sheldon and Kasser (1998) that assess participants reason for goal pursuits. Autonomous motivation was assessed using the following three items: (1) because *of the fun and enjoyment which the goal provided you—the primary reason is simply your interest in the experience itself*, (2) *because it represents who you are and reflects what you value most in life*, (3) *because you really believe that it is an important goal to have—you endorse it freely and value it wholeheartedly. Controlled motivation was assessed using the following two items:* (1) *Because you would feel ashamed, guilty, or anxious if you didn't—you feel that you ought to work on this* (2) *because somebody else wants you to* and *because you'll get something from somebody if you do* (Sheldon and Kasser 1998). All responses were made on a 7-point scale ranging from 1 (meaning *not at all for this reason*) to 7 (meaning *completely for this reason*).

As in previous research, autonomous motivation was calculated as the mean of intrinsic, integrated and, identified ratings, whereas controlled motivation was calculated as the mean of external and introjected regulation (Koestner et al. 2008). Following Sheldon (2014), an index of relative autonomy was created by subtracting the mean of the controlled items from that of the autonomous items (Ryan and Deci 2017).

Goal progress Goal progress was assessed following the procedure outlined in Koestner et al. (2012) and was calculated as the mean of progress made at T2 and T3. On a 7-point scale ranging from 1 (meaning *strongly disagree*) and 7 (meaning *strongly agree*), participants rated how much they agree with the following statements: *I have made a lot of progress toward this goal*, *I feel like I am on track with my goal plan* and *I feel like I am achieving this goal*. The reliability of goal progress ratings was alphas > 0.90.

Psychological well-being Five adjustments outcome measures were included in this study. The scales have been used widely and shown to be highly reliable. Participants were asked to respond based on their last two weeks of experience.

Affect A 9-item scale was used to assess affect, which included four positive (e.g., *joyful*) and five negative (e.g., *frustrated*) affective items (Emmons 1992). Participants rated each item on a scale from 1 (meaning *not at all*) to 7 (meaning *extremely*). The reliabilities for positive and negative affect were alphas 0.89 and 0.92, respectively.

Life satisfaction The Satisfaction with Life Scale (SWLS; Diener et al. 1985) is a five-item scale that assesses participants life satisfaction over the previous two weeks (Diener et al. 1985). On a 7-point scale ranging from 1 (meaning *strongly disagree*) to 7 (meaning *strongly agree*), participants rated items such as *in most ways my life is close to ideal* and *the conditions of my life are excellent*. The reliability for life satisfaction was alpha = 0.87.

Subjective Vitality Subjective vitality, a sense of feeling a live and vital, was assessed using a 7-item scale developed by Ryan and Frederick (1997). On a 7-point scale ranging from 1 (meaning *not at all true*) to 7 (meaning *very true*), participants were to rate how true statements such as *I feel alive and vital* and *I nearly always feel alert and awake* were of them over the past two weeks. The reliability of the vitality scale was alpha = 0.86. Vitality was assessed in three out of the four studies included in this study (i.e., included in the 2013–2014, 2014–2015, 2015–2016 data sets).

Depressive Symptoms The Centre for Epidemiologic Studies Depression Scale Revised (CESD-R 10; Radloff 1977) was used to assess symptoms of depression. The CESD-R 10 is a validated self-report measure of depression symptoms, which focuses on the affectivity component of depressed mood (Björgvinsson et al. 2013). On a 4-point scale ranging from 1 (meaning *rarely or none of the time [less than 1 day]*) to 4 (meaning *All of the time [5–7 days]*), participants rated 10 statement, such as *I could not 'get going* and *I was bothered by things that usually don't bother me*. Depressive symptoms were assessed in three out of the four studies included in this study (i.e., included in the 2013–2014, 2015–2016, 2016–2017 data sets). The reliability for this scale was alpha = 0.78.

Results

Preliminary Analyses

To examine whether the year of the study moderated the effects we obtained for progress on personality change goals versus other kinds of goals we conducted a repeated measures analysis of variance in which type of outcome (personality change goal/control goal) was a within-subject factor and year of the start of study (2013/2014/2015/2016) was a between-subject factor. The ANOVA revealed a highly significant effect for type of outcome, $F_{(3,288)} = 9.07$, $p < 0.01$. The interaction effect between year of study and type of outcome did not approach significance, $F_{(3, 288)} = 1.65$, *ns*. The lack of a significant interaction effect suggests that the greater goal success obtained for personality change goals compared to the control goals did not vary significantly across the four years of the study.

To examine whether the year of the study moderated the effects we obtained for relative autonomous motivation on personality change goals versus other kinds of goals we conducted a repeated measures analysis of variance in which type of outcome (personality change goal/control goal) was a within-subject factor and year of the start of study (2013/2014/2015/2016) was a between-subject factor. The ANOVA revealed a highly significant effect for type of outcome, $F_{(3,306)} = 10.21$, $p < 0.01$. The interaction effect between year of study and type of outcome did not approach significance, $F_{(3, 306)} = 0.24$, *ns*. The lack of a significant interaction effect suggests that the greater autonomous motivation obtained for personality change goals compared to the control goals did not vary significantly across the four years of the study.

Main Results

Table 1 presents the means, standard deviations and correlations among many of the key variables included in this

Table 1 Descriptives of and correlations among key variables

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
1. PCG progress	4.52	1.16													
2. Non-PCG Progress	4.11	1.35	.28***												
3. Rel. aut. for PCG	2.30	2.09	.25***	.06											
4. Rel. aut. for non-PCG	1.81	2.33	.09	.13*	.29***										
5. T1 positive affect	4.93	1.09	.23***	.12*	.15**	.15**									
6. T3 positive affect	4.71	1.26	.33***	.18**	.11	.17**	.36***								
7. T1 negative affect	3.47	1.14	− .23***	− .11	− .24***	− .15*	− .24***	− .13***							
8. T3 negative affect	3.87	1.28	− .23***	− .08	− .14*	− .17**	− .15*	− .41***	.45***						
9. T1 life satisfaction	4.68	1.28	.25***	.25***	.13*	.07	.49***	.33***	− .34***	− .24***					
10. T3 life satisfaction	4.80	1.42	.35***	.36***	.10	.09	.34***	.55***	− .26***	− .34***	.70***				
11. T1 vitality	4.29	1.12	.30***	.17*	.19**	.14*	.62***	.33***	− .45***	− .24***	.49***	.37***			
12. T3 vitality	4.01	1.31	.46***	.16*	.15*	.15*	.41***	.74***	− .33***	− .59***	.39***	.58***	.50***		
13. T1 dep. symp	10.40	5.15	− .27***	− .16*	− .20**	− .15*	− .46***	− .25***	.65***	.39***	− .46***	− .36***	− .54***	− .41***	
14. T3 dep. symp	11.76	5.94	− .30***	− .14*	− .15*	− .19**	− .26***	− .60***	.40***	.74***	− .32***	− .47***	− .35***	− .69***	.48***

Dep. Symp. depressive symptoms; *PCG* personality change goal; *Rel. aut.* relative autonomy; *SD* Standard Deviation; *T1* baseline assessment; *T3* end-of-year assessment

* $p < .05$; ** $p < .01$; *** $p < .001$

Table 2 Hierarchical regression analyses predicting end-of-year goal progress from participant's relative autonomy for personality change and non-personality change goals

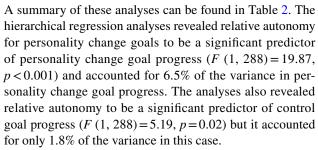|	Personality change goal progress					Non-personality change goal progress				
	β	t	CI	R^2	F	β	t	CI	R^2	F
Step 1				.00	0.05				.00	.65
Age	− .02	− .28	[− .06, .04]			.01	.22	[− .05, .06]		
Gender	.01	.13	[− .33, .38]			− .07	− 1.10	[-.65, .18]		
Step 2				.07	6.66***				.02	2.17
Relative Autonomy	.25***	4.458	[.08, .21]			.13*	2.28	[.01, .14]		

*$p < .05$**; *** $p < .001$

study. Bivariate correlational analyses were conducted in order to test whether participant's baseline standing on the Big 5 traits was associated with having indicated a personality change goals. Extraversion ($r = -0.06$, $p = 0.03$) and Conscientiousness ($r = -0.06$, $p = 0.03$) were both significantly negatively correlated with having a personality change goal, whereas neuroticism ($r = 0.12$, $p < 0.001$) was positively correlated. Agreeableness and openness to experience were uncorrelated with having a personality change goal.

Paired-sample t-tests compared participants' motivation and progress on personality change goals versus control goals. Results showed that personality change goals were rated as significantly higher in autonomy than control goals, $t(310) = 3.28$, $p = 0.001$. Personality change goals were also associated with greater progress than control goals, $t(292) = 3.31$, $p = 0.001$.

Goal Motivation and Goal Progress

In order to test the effect of goal motivation on goal progress for personality change and control goals, two separate hierarchical multiple regression analyses were conducted in which goal progress was regressed on (1) age and gender (entered together) and (2) goal-specific relative autonomy[2].

_____

[2] For the results of study 1, we also separated the motivation ratings into autonomous (intrinsic, identified and integrated) and controlled (external regulation and introjection) to determine whether the effects of relative autonomy could be differentiated further. Paired t-tests conducted separately for autonomy and controlled motivation for personality change revealed that participants who had a personality change goal were distinct in having less controlled reasons for wanting to change. Regarding the prediction of change on the personality goal, more fine-grained analyses showed that autonomous motivation for change and controlled motivation for change had roughly equal effects on actual change, but in opposite directions. That is, when personality change was regressed on autonomous and controlled motivation, the results showed that autonomous motivation was highly positively related to change (beta = .18, $t(289) = 3.18$, $p < .01$) and controlled motivation was significantly negatively related to change goal progress (beta = -.15, $t(289) = -2.56$, $p < .01$). Finally, readers may be interested in knowing that autonomous motivation for personality change was correlated with scoring higher on the BFI measure of extraversion ($r = .19$) and openness to experience ($r = .17$) whereas controlled motivation was correlated with scoring lower on extraversion ($r = -.11$), conscientiousness ($r = -.19$) and emotional stability ($r = -.11$). We focus on the relative autonomy index in the main text of the article to simplify the presentation of results.

A summary of these analyses can be found in Table 2. The hierarchical regression analyses revealed relative autonomy for personality change goals to be a significant predictor of personality change goal progress ($F(1, 288) = 19.87$, $p < 0.001$) and accounted for 6.5% of the variance in personality change goal progress. The analyses also revealed relative autonomy to be a significant predictor of control goal progress ($F(1, 288) = 5.19$, $p = 0.02$) but it accounted for only 1.8% of the variance in this case.

A test of the difference between dependent correlations, showed that the effect of relative autonomy on goal progress was significantly stronger for personality change goals than for control goals, $Z = 2.29$, $p = 0.01$ (Rosenthal 1985).

Goal progress and well-being outcomes

Five separate hierarchical multiple regression analyses were conducted in which each outcome was regressed on (1) the baseline measure of outcome variable, (2) gender and age (entered together), and (3) progress made over the year for both the personality change goal and the control goal. Baseline indicators were always significantly related to end of the year levels of the outcome—with betas ranging from 0.37 for positive affect to 0.69 for life satisfaction. Gender was unrelated to all outcomes, whereas age was only significantly negatively related to negative affect. Table 3 shows the standardized regression coefficients (betas), t-tests, 95% confidence intervals, and R^2 for goal progress for life satisfaction and positive and negative affect. Table 4 shows the results for subjective vitality and depressive symptoms. Personality change goal progress was significantly related to all five indicators of adjustment, whereas progress on control goals was only positively associated with life satisfaction. The strongest relations for personality change goals emerged for vitality and depression.

Test of the difference between dependent correlations showed that the effect of personality change goal progress on well-being outcomes was significantly stronger than for other goals, except with regard to life satisfaction: for positive affect, $Z = 2.14$, $p = 0.02$; for negative affect, $Z = -2.25$, $p < 0.01$; for vitality, $Z = 4.78$, $p < 0.001$; and for depression, $Z = -3.47$, $p < 0.001$ (Meng et al. 1992). Progress on

personality change goals was thus more strongly associated with well-being than other progress on other types of personal goals.

Brief Discussion

Taken altogether, the results of study 1 suggest that university students are indeed capable of making progress on their personality change goals, even more so than when pursuing non-personality change goals, and that this progress is associated with enhanced well-being over time. In addition, the results of study 1 highlighted the benefits of autonomous engagement with personality change goals on subsequent goal progress.

University students are an opportune sample in which to study personality change as past research has found that young adulthood is the period in which individuals are expected to experience the most personality change (Roberts and Davis 2016). That being said, it is likely the case that non-student individuals from all walks of life may desire to change their personality or are pursuing personal goals for which personality change may be beneficial. Therefore, an important research endeavor would be to explore the generalizability of these research findings using similar methodology in a community sample.

Study 2

Study 2 sought to replicate and extend the results of study 1 within a non-student, community sample. More specifically, the aim of the study was answer three research questions. First, which of the Big 5 traits are community adults actively trying to change and does this differ from those in the university sample in study 1? Young adult university students and community adults likely differ in their interests and values because of their different life stages. Second, does the relative autonomy of community adults' personality change goals relate to subsequent goal progress? In line with evidence that autonomy is similarly important across the life span (Ryan and Deci 2017), it was hypothesized that greater autonomous motivation for community adults' personality change goals would be predictive of making greater goal progress. Third, does progress on personality change goals result in improved psychological wellbeing over time?

Finally, and most importantly, we asked whether making progress on one's personality change goals would be associated with change as assessed by the Big Five Inventory (BFI; John and Srivastava 1999)? By assessing traits at baseline and six months later we would be able to confirm whether self-reported success at the goal of changing on a specific personality trait was confirmed by examining

Table 3 Hierarchical regression analyses investigating the relation between measures of various well-being and making progress on personality change and non-personality change goals

	Positive affect					Negative affect					Life Satisfaction				
	β	t	CI	R^2	F	β	t	CI	R^2	F	β	t	CI	R^2	F
Step 1				.14	43.36***				.17	54.90***				.48	245.01***
Baseline WB	.37***	6.59	[.33, .62]			.41***	7.41	[.34, .58]			.69***	15.65	[.70, .90]		
Step 2				.14	14.59***				.19	20.19***				.48	81.56***
Age	−.04	−.60	[−.07, .04]			−.12*	−2.23	[−.11, −.01]			.03	.72	[−.03, .06]		
Gender	.03	.48	[−.31, .50]			−.02	−.36	[−.46, .31]			.03	.57	[−.24, .43]		
Step 3				.21	13.74***				.21	13.68***				.53	59.75***
PCG Prog	.23***	3.91	[.13, .39]			−.15*	−2.55	[−.29, −.04]			.15**	3.25	[.07, .29]		
Non-PCG Prog	.08	1.46	[−.03, .20]			.01	.19	[−.10, .12]			.16**	3.48	[.07, .27]		

PCG personality change goal, *Prog.* progress, *WB* well-being

*$p < .05$**; **$p < .01$; *** $p < .001$

Table 4 Hierarchical regression analyses investigating the relation between vitality and depressive symptoms and making progress on personality change and non-personality change goals

	Vitality					Depressive Symptoms				
	β	t	CI	R^2	F	β	t	CI	R^2	F
Step 1				.22	52.48[*]				.19	50.33[***]
Baseline WB	.47[*]	7.24	[.44, .77]			.43[*]	7.10	[.35, .62]		
Step 2				.22	17.40[*]				.19	17.33[***]
Age	.03	.40	[− .06, .09]			− .07	− 1.10	[− .42. .12]		
Gender	− .01	− .20	[− .49, .40]			− .04	− .67	[− 2.63, 1.30]		
Step 3				.33	18.13[*]				.27	16.34[***]
PCG Prog	.35[*]	5.41	[.26, .57]			− .28[*]	− 4.54	[− 2.03, − .80]		
Non− PCG Prog	.02	.32	[− .11, 15]			− .04	− .62	[− .71, .37]		

PCG personality change goal; *Prog.* Progress, *WB* well-being; Vitality was assessed in three out of the four studies included in this study (i.e., included in the 2013–2014, 2014–2015, 2015–2016 data sets; Depressive symptoms were assessed in three out of the four studies included in this study (i.e., included in the 2013–2014, 2015–2016, 2016–2017 data); * $p < .05$

change observed on the specific trait as measured by the Big 5 Inventory (John and Srivastava 1999). Furthermore, if progress made on personality change goals correlated with observed change on the Big 5 traits measured with the BFI, it would lend support for the validity of the goal paradigm we have used in this investigation.
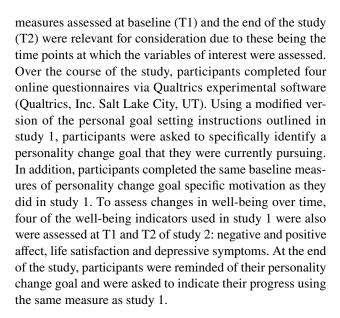
Methods

Participants

The sample consisted of 248 non-student community adults (51.6% female), aged 21–71(M = 38.83, SD = 10.81), who were recruited using TurkPrime, an online crowdsourcing platform, to participate in an online, four-wave, longitudinal study on personal goals and wellbeing over a 6-month period. Additional details regarding the larger study from which the measures used in study 2 were taken from can be found in footnote.[3] The sample was limited in diversity: 83.5% Caucasian, 7.3% East Asian, 3.4% African American, and 2.7% identified as Latino/Hispanic.

Procedure

The present study was part of a large multi-wave longitudinal study and, for the purpose of this investigation, only

measures assessed at baseline (T1) and the end of the study (T2) were relevant for consideration due to these being the time points at which the variables of interest were assessed. Over the course of the study, participants completed four online questionnaires via Qualtrics experimental software (Qualtrics, Inc. Salt Lake City, UT). Using a modified version of the personal goal setting instructions outlined in study 1, participants were asked to specifically identify a personality change goal that they were currently pursuing. In addition, participants completed the same baseline measures of personality change goal specific motivation as they did in study 1. To assess changes in well-being over time, four of the well-being indicators used in study 1 were also were assessed at T1 and T2 of study 2: negative and positive affect, life satisfaction and depressive symptoms. At the end of the study, participants were reminded of their personality change goal and were asked to indicate their progress using the same measure as study 1.

Measures

Personality change goals Using modified instructions from those outlined in Koestner et al. (2002), participants were asked to respond to the following prompt and generate a personality change goal: *Please take a moment to think of a personal goal that you are currently pursuing that is related to improving or changing something about your personality or character.*

Coding Personality Change Goals A coding scheme for participant's personality change goals was developed to code for which of the Big 5 traits participants had goals to change on. Based on the work of McCrae and Costa (1987), raters were provided with a list of 6 adjectives representing the facets underlying each of the Big 5 traits and assessed

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[3] The measures used in study 2 were taken from a four-wave longitudinal study conducted over a 6-month period. Non-student community adult participants were recruited through TurkPrime and compensated in line with the recommended rate. Participants completed a longer baseline survey (25-min) where the generated personal goals and completed baseline measures of individual difference constructs. Participants were then followed up at approximately 8-week intervals and completed 15-min surveys to track their goal progress and changes in well-being.

Table 5 Descriptives of and correlations among key variables

	Mean	SD	1	2	3	4	5	6	7	8	9	10
1. PCG progress	4.32	1.66										
2. Rel. aut. for PCG	1.86	1.97	.17*									
3. T1 positive affect	4.31	1.52	.22**	.18**								
4. T2 positive affect	4.14	1.36	.30***	.14*	.70***							
5. T1 negative affect	2.67	1.40	− .22**	− .21**	− .62***	− .52***						
6. T2 negative affect	2.74	1.36	− .23**	− .17*	− .45***	− .59***	.70***					
7. T1 life satisfaction	3.90	1.63	.28**	.26***	.70***	.63***	− .55***	− .50***				
8. T2 life satisfaction	3.93	1.66	.31***	.25***	.64***	.71***	− .54***	− .57***	.91***			
9. T1 dep. symp	7.83	6.25	− .15*	− .23***	− .72**	− .61***	.83***	.68***	− .62***	− .62***		
10. T2 dep. symp	8.22	6.12	− .25***	− .15*	− .53***	− .71***	.65***	.85***	− .54***	− .62***	.73***	

Dep. Symp. Depressive symptoms, *PCG* personality change goal, *Rel. aut.* Relative autonomy, *SD* standard deviation, *T1* baseline assessment, *T3* end-of-year assessment; *$p < .05$**; **$p < .01$; *** $p < .001$

which of the traits the participant's personality change goals is related to. For example, raters were to code goals that were related to wanting to become more *competent*, *orderly*, *dutiful*, *achievement oriented*, *self-disciplined*, and *deliberate* as a conscientiousness change goals. Participant's personality change goals were mostly related to emotional stability (34.6%) and agreeableness (22.6%), followed by extraversion (16.5%) and conscientiousness (15.7%). Very few personality change goals were related to openness to experience (3.2%). Seventeen participants (6.9%) set goals that were deemed to not be personality change goals (e.g., *Eat more healthy foods and cut back on unhealthy habits*; *Spend less time on the computer*) and these were left out of analyses.

Assessing 'Actual' Big 5 Traits Change In order to assess whether actual Big 5 Trait change occurred as a result of personality change goal pursuit, utilizing the abovementioned coding scheme, a trait change variable was computed where participant's change on the specific trait that they wanted to change on was calculated. For example, if a participant's personality change goal was related to changing on agreeableness, their scores on trait agreeableness at baseline and the final assessment were used to assess trait change, whereas for someone who wanted to change on emotional stability (reversed-neuroticism) their scores on that trait were used to measure trait change, and the same for if they had wanted to change on any other trait. All trait scores were standardized before calculating this measure at baseline and at 6 months. That is, each participant had a score of their level on their change goal at both baseline and at the end of the study.

Results

Table 5 presents the means, standard deviations and correlations among the key variables included in study 2 to examine the relation between one's relative autonomous motivation for their personality change goals and the progress they subsequently made, a hierarchical multiple regression analysis was conducted in which goal progress was regressed on (1) age and gender (enter together) and (2) goal-specific relative autonomy. The model was significant ($F(1, 191) = 7.33$, $p = 0.01$), revealing relative autonomy for personality change goals to be significantly associated with personality change goal progress ($b = 0.19$, t $= 2.71$, $p = 0.01$, 95% CI [0.05, 0.29]) and accounted for 3.5% of the variance in personality change goal progress.

To examine whether change on the Big Five Inventory is associated with personality change goal pursuit, paired-sample t-tests compared participants' standing on the Big 5 trait that participants desired to change at baseline and at the end of the study. Results revealed that participants did significantly change on the desired trait between the start and end of the study, $t(193) = -2.21$, $p = 0.03$. Moreover, personality change goal progress at the end of the study was significantly correlated with BFI change on the trait that participants had indicated they had a goal to change on ($r = 0.34$, $p < 0.001$), which suggests that progress on personality change goals corresponded with actual Big 5 trait change.

Four separate hierarchical multiple regression analyses were conducted in which each adjustment indicator was regressed on (1) the baseline measure of adjustment, (2) gender and age (entered together), and (3) personality change goal progress made over the course of the study. All baseline well-being indicators were significantly related to end of the year levels of the outcome—with betas ranging from 0.69 for positive affect to 0.91 for life satisfaction. Table 6 shows the standardized regression coefficients (betas), t-tests, 95%

Table 6 Study 2 hierarchical regression analyses investigating the relation between positive and negative affect and making progress on personality change goals in a community sample

	Positive affect					Negative affect				
	β	t	CI	R^2	F	β	t	CI	R^2	F
Step 1				.47	171.74*				.51	202.68*
Baseline WB	.69*	13.12	[.52, .71]			.72*	14.24	[.61, .81]		
Step 2				.02	3.50*				.02	4.72*
Age	.01	.25	[− .01, .01]			− .14*	− 2.78	[− .03, − .01]		
Gender	− .14*	− 2.64	[− .65, − .09]			.09	1.69	[− .04, .50]		
Step 3				.04	14.02*				.01	5.48*
PCG Progress	.20*	3.75	[.07, .24]			− .12*	− 2.34	[− .18, − .02]		

WB well-being indicator, *PCG* personality change goal; *p < .05

Table 7 Study 2 hierarchical regression analyses investigating the relation between life satisfaction and depressive symptoms and making progress on personality change goals in a community sample

	Life satisfaction					Depressive symptoms				
	β	t	CI	R^2	F	β	t	CI	R^2	F
Step 1				.83	953.46*				.54	226.56*
Baseline WB	.91*	30.87	[.89, 1.01]			.74*	15.05	[.68, .89]		
Step 2				.004	2.23				.02	4.79*
Age	.01	.36	[− .01, .01]			− .10*	− 2.06	[− .12, − .003]		
Gender	− .06*	− 2.11	[− .41, − .01]			.13*	2.59	[.39, 2.92]		
Step 3				.01	7.72*				.03	12.93*
PCG Progress	.09*	2.78	[.02, .14]			− .17*	− 3.60	[− 1.06, − .31]		

confidence intervals, and R2 for goal progress for positive and negative affect. Table 7 shows the results for life satisfaction and depressive symptoms. Overall, personality change goal progress was significantly positively related to positive affect and life satisfaction and was significantly negatively related to negative affect and depressive symptoms. Consistent with the findings of study 2, making progress on one's personality change goal was associated with enhanced well-being.

General Discussion

The overarching purpose our investigation was to use a longitudinal goal-setting paradigm to test the frequency, effectiveness, and impact of personality change goals within two multi-wave prospective studies with university student and community adult samples. Moreover, the investigation sought to shed light on the autonomous/self-endorsed nature of personality change goals and the impact this has on subsequent goal progress. By utilizing an alternate personality change goal setting paradigm that tracks goals spontaneously generated by participants, we were more confident that we captured activated goal intentions, rather than diffuse

wishes prompted by an experimental questionnaire. Importantly, findings from study 2 supported the validity of this proposed methodology in that the progress that participants reported making on their personality change goals correlated with actual Big 5 trait change, as assessed by changes in participant's BFI scores on the traits they reported having a goal to change on.

One of the first aims of study 1 was to explore how frequently young adults spontaneously generate personality change goals. The results of study 1 revealed that 20% of university students spontaneously set a personality change goal as one of their three main strivings for the 9-month academic year. This figure seems like a more realistic estimate of the frequency of personality change goals than how Hudson and Fraley (2016a, b) found that over 80% of young adults indicated they want to change on each of their Big 5 traits when prompted with trait descriptions and asked if they want to change. In past studies, participants were also highly likely to indicate a desire to change on more than one of the Big 5 traits. In study 1, there was specificity among the personality change goals that participants set, with only 4 out of approximately 1500 participants indicating a personality change goal for more than one Big 5 trait dimension at the same time.

Secondly, in study 1 we had hypothesized that, in line with previous research (e.g., Hudson and Fraley 2016b and Miller et al. 2019), a less socially desirable standing on each of the Big Five traits would be correlated with generating a personality change goal. In other words, we hypothesized that individuals who are potentially less satisfied with their personality are more likely to pursue personality change goals. The results of study 1 revealed higher neuroticism and lower extraversion and conscientiousness to be significantly associated with having set a personality change goals at baseline. Interestingly, the strong majority (~ 82%) of the personality change goals set by participants in study 1 were related to these three traits; this suggests that it is possible that individuals who have a less socially desirable standing on the Big 5 traits are those that are more likely to have personality change goals related to that trait. Had we had a larger sample of participants in study 1 pursuing goals related to openness to experience and agreeableness, it is possible that a significant correlation between pursuing change goals and these traits would have emerged as well.

Another important aim of the present investigation was to integrate SDT's concept of the relative autonomy continuum to examine how autonomous/self-endorsed personality change goals are. We accomplished this by directly assessing the level of autonomous versus controlled motivation that was associated with setting the goal and what impact this had on subsequent goal progress. These innovations allowed us to determine in study 1 that personality change goals are significantly more autonomous than other goals, reflecting that people pursue them because they are personally interesting and meaningful, rather than because they feel they are pressured by others. In order words, the results of study 1 revealed that young adults endorse personality change goals and to pursue them whole-heartedly. In addition, in study 1, we were interested in how much progress individuals make on their personality change goals, relative to other yearly goals. Tracking goal progress over 9 months revealed that participants made significantly greater progress on their personality change goals, as compared to other goals. Thus, young adults were more likely to succeed at *becoming more social* and *procrastinating less* than at goals such as *improve my grades* or *exercise twice a week*.

Another important aim of the present studies was to investigate whether the relative autonomy of one's personality change goals influences goal progress. Recall that autonomy refers to actions based on personal interest and meaning, rather than on external and internal pressures. The results of study 1 revealed that university students' personality change goals that were based on autonomous motivation were particularly likely to be achieved, and study 2 found that these results replicated within a community adult sample. Interestingly, in study 1 we found evidence that autonomous motivation was even more important/relevant to the

pursuit of personality change goals than other types of goals. The present study adds to a large body of research pointing to the adaptive benefits of autonomous goal motivation in the previously unresearched domain of volitional personality change. Studies have consistently found that autonomous goals were significantly associated with greater goal progress over time than non-autonomous goals (e.g., Koestner et al. 2008; Koestner et al. 2015). The same pattern of results has been obtained for university students, high school students, community adults, and patients in treatment (Gorin et al. 2014; Koestner et al. 2008). There appears to be at least four specific mechanisms that mediate the relation of autonomous motivation to greater goal success. Thus, autonomy appears to optimize goal pursuit because it is associated with (1) subjective ease of effort (Werner et al. 2016), (2) more effective use of implementation plans (Koestner et al. 2002); (3) automatic shielding of goals from temptations and distractions (Milyavskaya et al 2015), and (4) fewer and less severe action crises (Holding et al. 2017). It will be important for future research on volitional personality change goals to explore some of these mechanisms.

Lastly, in both study 1 and 2, we were also interested in how progress on personality change goals relates to well-being. Tracking diverse psychological well-being indicators over the course of both studies allowed us to show that progress on personality change goals was uniquely associated with better adjustment, as compared to progress on other goals. Interestingly, in study 1, the benefits of making progress on personality change goals was particularly noticeable for indicators of psychological distress (i.e., depressive symptoms) or psychological thriving (i.e., subjective vitality).

Taken together, our results provide encouraging evidence that individuals are capable of effectively pursuing goals to change their personality across the developmental life span. In addition, findings supported the hypothesis that autonomous engagement with a personality change goal fosters more meaningful progress on such goals. One interesting difference between personality change goal pursuit of university students and community adults concerned the traits selected to change. Undergraduate students (mean age = 21) primarily wanted to become more extraverted and conscientious whereas community adults (mean age = 42) wanted to become more emotionally stable and agreeable. These findings no doubt reflect the different values, interests, and tasks of young adults in university with older adults living in the community.

There are limitations to the present investigations. First and foremost, the present study relied exclusively on self-reports measures of personality, goal progress, and well-being. Future research should consider alternate and perhaps more objective methods of personality and goal progress assessment, such as informant reports. Previous studies that have included such

objective indicators of goal progress generally find good correspondence with self-reported progress (Koestner et al. 2012; Gorin et al. 2014). Second, even though the duration of study 1 was a full academic year, which is a longer time frame than the majority of past research on volitional personality change, future research should consider extending the time frame even longer to track whether the acquired personality change is maintained long-term.

The present study used a prospective longitudinal design and novel methodology to track the progress made on personality change goals. The results obtained in this study provide support for the idea that people can transform their personalities to become more in line with how they want to be. However, setting an explicit goal to change one's personality is only one pathway towards effective personality change. Personality change may also come by pursuing non-personality change goals that still require altering one's personality. For example, a goal to make more friends may require someone to become more extraverted and agreeable. Likewise, a goal to get a promotion at work may require someone to become more conscientious. According to Brian Little's (2008) free trait theory, in the context of certain important goals, an individual can stretch their natural personality to pursue goals that are not in line with their natural underlying personality. It would be interesting for future research to explore whether personality change is most likely to be achieved by setting an explicit goal to do so, as was explored in the present study, or out of necessity in order to accomplish an important and meaningful personal goal. We hope that the present findings stimulate more personality change research in this area.

In conclusion, the present study used alternate methods to those previously employed in personality change research but arrived at many of the same conclusions as Hudson, Fraley and colleagues regarding volitional personality change. Namely, that many individuals do desire to change their personality and can make progress at this goal. Importantly, our methods allowed us to distinguish between goal desires and intentions, which may have accounted for some of the mixed findings in past research. To our knowledge, the present study was the first to integrate self-determination theory's focus on the autonomy underlying one's reasons for action with recent personality change goal research, and found that both young adults and older adults who pursue volitional personality change are likely to achieve progress, and such progress is associated with higher levels of well-being.

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