Personality change goals and plans as predictors of longitudinal trait change in young adults: A replication with an Iranian sample

BRIEF REPORT

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Abstract

Goals and plans for changing one's personality traits have been found to be commonly held, particularly in young adults. Evidence for whether such goals and plans can predict actual trait change is mixed. The current study replicated and extended the methodology of a previous study to investigate whether trait change goals and plans predict change over a year in an Iranian sample of students. It was found that goals and plans before and after the 12-month period predicted longitudinal change in Openness to Experience, but no association was found for other traits. To explore whether this relationship between goals and change in Openness to Experience is replicable, further research with samples of differing ages and cultures is needed.

Keywords

Personality change goals, trait change, plans, longitudinal

Acknowledgement

The research was not pre-registered with an independent, institutional repository. Data are publicly available on Mendeley Data.

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A body of research has substantiated the idea that many individuals have goals and plans to change their personality traits, and that trait change may be, at least in part, a deliberate process driven by actively pursuing such goals and plans (Hudson & Roberts, 2014; Hudson, Briley, Chopik & Derringer, 2018; Robinson, Noftle, Guo, Asadi & Zhang, 2015). A goal to change a personality trait results from perceiving one's current level of it to be suboptimal for general functioning or wellbeing in some regard (Noftle, 2011). Two instruments have been developed to measure such goals; the Big Five Trait-Change Goal Inventory (BF-TGI) (Robinson et al., 2015), and the Change Goals Big Five Inventory (C-BFI) (Hudson & Roberts, 2014).

Research with these two instruments shows that trait change goals are common. For example, The C-BFI, which measures desires to change traits across 44-items, found that over 86% of people desire to change at least some facet of every trait within the Five Factor Model (Hudson & Roberts, 2014). Another example is with the BF-TGI, which measures goals at the whole-trait level (one compound item per FFM trait). Research with it has found that over 50% of young adults (across three cultures; the UK, Iran and China) have trait change goals for Neuroticism, Extraversion, Conscientiousness And Openness to Experience, while only 4.8% of participants reported no trait change goals (Robinson et al., 2015). One large cross-sectional study looked at personality goals in a sample of 6,800 adults aged 18-70 (Hudson & Fraley, 2016). The results showed that trait change goals are more prevalent in younger adults than in older adults, however some level of desire to change a trait was present in at least three quarters of participants of all age groups (Hudson & Fraley, 2016). This study suggests that actively wanting to change one's personality is a normative experience for all age groups, but the conscious desire for trait development is particularly prevalent in young adulthood.

According to self-regulation theory, goals are idealized future states that individuals are motivated to attain (Neal, Ballard & Vancouver, 2017). Achieving a goal requires problem solving, planning and action (Bandura, 1991). This process of moving towards a desired goal often has effects on appraisals of satisfaction or dissatisfaction, and on emotions such as happiness, surprise and frustration (Carver & Sheier, 1998).

Various findings pertaining to trait change goals fit with self-regulation theory. Firstly, Hudson and Roberts (2014) found that a low level of life satisfaction predicts having

trait change goals. Furthermore, Robinson et al. (2015) found that across three cultures (UK, China, Iran) having trait change goals is correlated with larger discrepancies between ideal and actual ratings of a trait, and for several traits (Neuroticism and Conscientiousness), having a trait change goal is related to feelings of inauthenticity and low self-acceptance.

Self-regulation theory gives *plans* a central role in goal-directed behavior. Corresponding to this, Robinson et al. (2015) found that among those with Extraversion and Agreeableness goals, 84% reported having plans to reach their goal, plans were also identified in 79% of participants with Conscientiousness goals, 65% of those with Neuroticism goals and 63% of those with Openness goals. In line with the importance of planning, two intervention studies using the C-BFI have found that targeted interventions involving (a) developing planning skills and setting clear and concrete plans for achieving trait change goals (Hudson & Fraley, 2016), and (b) setting weekly challenges that engage action towards trait change goals (Hudson, Briley, Chopik & Derringer, 2018) effectively facilitated change in self-reported actual trait levels.

The evidence for whether personality trait change goals predict longitudinal change without any external intervention is mixed. Hudson and Fraley (2015) found that over a period of 4 months, with people rating their personality traits each week, participants who reported change goals were more likely to show increases in their self-report level of that trait over the subsequent 16 weeks. However, Robinson et al. (2015) measured whether the goals and plans to change predicted change over a 12-month period. The sample was a group of graduates who had just left university in the UK. Goals and plans did not predict self-reported change in trait levels in the desired direction over the course of a year. Indeed, having a goal to change two traits (Conscientiousness and Neuroticism) was associated with change in the undesired direction. It was speculated that one potential reason for the finding related to the timeframe of the study (the year after leaving university). During this transitional period, external challenges such as finding work and adapting to lifestyle changes may disrupt or over-ride attempts at goal-directed personality change, while individuals who report goals to change the aforementioned two traits have a baseline level of relatively low Conscientiousness and relatively high Neuroticism that may make the considerable external challenges of the transitional graduate year more likely to lead to undesirable trait change.

The current study replicates the methods of Robinson et al. (2015) in investigating trait change over a period of 12 months in a different cultural context (Iran). Data from Iran were used for one of the non-longitudinal studies (Study 2) in Robinson et al. (2015), but not for the longitudinal study. In Study 2, more Iranian participants reported having trait change

goals than UK or Chinese participants did. Given this finding, we decided to explore whether longitudinal personality change would be predicted by trait change goals in Iran. We also chose to study students at university for the current study rather than a sample of recent graduate as used in Robinson et al. (2015), for the reasons outlined above – we now assume that the year after leaving university may be a suboptimal time for goal-directed personality change. We also decided to measure goals at Phase 1 and Phase 2, as goals reported at both time points are potentially indicative of a goal that was present during the year of study. Based on the null findings of Robinson et al. (2015), we predicted that trait change goals and plan specificity measured at Phase 1 and Phase 2 would not predict trait change in the desired direction 12 months later. However, we make this prediction while being cognizant of the fact that the different culture and lifespan timeframe of this replication study may lead to different findings.

Method

Design: The study employed a two-phase longitudinal design, with 12 months separating each phase (Phase 1 and Phase 2). Goals, plan specificity and personality traits were measured at Phase 1 and Phase 2. During each phase, participants were given two months within which to complete the questionnaires.

Participants: The sample at Phase 1 comprised 170 students of Yazd University aged 18-28. At Phase 2 (one year later), 160 of the original sample participated, representing an attrition rate of 7%. Of the completers, 61 were male and 99 were female. The average age was 21.1. The 160 completers are used for the basis of the longitudinal analysis presented here. No systematic differences in personality goals, traits or gender were found between the completers and non-completers. While the aim of a standard replication is often to boost sample size on the assumption that effect sizes will likely not be as large as those found in the original study, the aim with this study was to explore whether an effect would be found in a different culture that was not found in the original study, on the basis of a similar sample size and power (sample size in previous study was N=170). The aim was to gain a comparable sample size, and what was achieved was as close as possible, given logistical constraints on recruitment and the attrition rate.

Measures:

Big Five Trait-Change Goal Inventory (BF-TGI) (Robinson et al., 2015): This assesses the

presence of conscious goals to change one's level of the Big Five traits. Each item describes a trait by way of the six prototype adjectives for the trait developed by McCrae and John (1992). We use a single item containing multiple adjectival descriptors in order to ensure that the goal reported was at the level of general trait. The three response options are: ''I have a goal to become less like this," (coded -1) ''I have no goal to change on this trait," (coded 0) and ''I have a goal to become more like this." (coded +1).

Plan specificity. Participants were asked if they had a plan to change on each trait, and then wrote that plan into an open-ended text box. Responses were coded for plan specificity using a 4-point scalar coding system: 1. No plan; 2. A general plan; 3. A semi-specific plan; 4. A specific plan. See Robinson et al. (2015) for more detail on coding and inter-rater reliability.

Big Five Inventory: Traits at Phase 1 and Phase 2 were measured using the 44-item Big Five Inventory (John, Donahue, & Kentle, 1991). Means and standard deviations for traits at Time 1 were as follows: E: 3.13 (.74), A: 3.75 (.49), C: 3.19 (.56); N: 3.19 (.56); O: 3.43 (.47). Means and standard deviations for traits at Time 2 were as follows: E: 2.74 (.68), A: 3.70 (.43), C: 3.06 (.38); N: 3.11 (.61); O: 3.45 (.46). Cronbach alpha values ranged from high to moderate: E: α=.86, A: α=.62, C: . α76, N: α=80, O: α=68.

All measures were delivered in Farsi using the validated translation arranged for the Robinson et al. (2015, study 2), and were administered online.

Results

The percentage of participants reporting goals to change traits in the normative direction at Phase 1 was as follows: E: 52%, A: 45%, C: 61%; N: 74%; O: 38%. A zero-order correlation matrix between trait scores and change goals for the same trait (measured at Phase 1 and Phase 2) is shown in Table 1.

Correlations between goals at Phase 1 and Phase 2 were also calculated to ascertain the reliability of trait change goals across the year. These were as follows: E: r=.27, A: r=.38, C: r=.33, N: r=.31, O: r=.36. All these correlations were significant at $p<.001$.

It was hypothesized that change in personality traits over the 12-month period of the study would not be predicted by goals and plans at Phase 1 or at Phase 2. As an index of trait change we used standardized residualized change scores, calculated by regressing Phase 2

scores on Phase 1 scores and using the saved residual as an index of change. This change index was used by Robinson et al. 2015. It provides a measure of how much difference there is between Phase 1 and Phase 2, while reducing the dependence of the change scores on the initial baseline score.

To test whether Phase 1 goals and plans predicted subsequent change, a hierarchical linear regression was run for each trait, with 12-month trait change scores as the DV, and goal presence and plan specificity measured at Phase 1entered as IVs in 2 stages, with goal in the first phase and plan entered in the second phase. Table 2 shows the beta values of the predictors, the R^2 value for the regression model, and the significance of the model, where relevant. As can be seen, there was no relationship between goals and plans and change in Extraversion, Agreeableness, Conscientiousness or Neuroticism. However, goals to increase Openness to Experience were predictive of change. Plan specificity for increasing Openness to Experience did not add predictive power to the regression.

To test whether Phase 2 goals and plans were predictors of change, a hierarchical linear regression was run for each trait, with 12-month trait change scores as the DV, and goal presence and plan specificity measured at Phase 2 entered as IVs in 2 stages, with goal in the first phase and plan entered in the second phase. Table 2 shows the beta values of the predictors, the R^2 value for the regression model, and the significance of the model, where relevant. As can be seen, there was no relationship between goals and plans and change in Extraversion, Agreeableness, or Neuroticism. Goals to increase Openness to Experience were associated with longitudinal change, with the association to Openness to Experience showing significance at a *p* value of $p<.001$. Plan specificity for increasing these traits did not add predictive power to the regression.

Discussion

The aim of this study was to investigate whether change in personality traits over the course of a year was predicted by trait change goals and plans. Following the results from the longitudinal study conducted by Robinson et al. (2015), it was hypothesized that we wound find no relationship showing a link between trait change goals and longitudinal trait change in the direction of the goal. In this new study, using a different time period (a year during university), and a culture in which personality change goals are relatively prominent compared with the UK (Iran), we were tentative with applying the null hypothesis.

The hypothesis that goals and plans would not predict trait change over 12 months was mainly supported, with an important exception. There was no predictive relationship between

goals and Extraversion, Conscientiousness, Agreeableness and Neuroticism, however goals to become higher in Openness to Experience (as measured at Phase 1 *and* Phase 2) were predictive of change over the 12-month period.

Robinson et al. (2015) found that two goals (Conscientiousness and Neuroticism) were associated with change in the opposite direction that which is desired. The theorized explanation for that given by the authors was that those with such goals had baseline levels on each trait that made the transitional period of the first study (year after leaving university) challenging to cope with. We therefore did not make any prediction that we would find these inverse patterns of prediction for the current study, which was done with a sample of current students. Correspondingly, out findings did not show that goals predicted any undesirable outcomes.

Our findings imply that Openness to Experience may be more amenable to goal-directed change than other Big Five traits. A salient issue in this regard is how change goals relate to baseline trait scores. Hudson and Roberts (2014) found that Openness to Experience was the only FFM trait where goals to change it were not negatively related to initial trait level. In other words, for all other traits *except* Openness, perceiving oneself as being low in the trait was correlated to wanting to change in it. In the current sample, no goals were negatively related to initial trait levels, but Openness was the only trait where the baseline level was *positively* related to having a goal to change it, i.e. that being already high in the trait predicted a desire to develop it to higher levels. The same was found in Robinson et al. (2015); Openness was the only trait where initial trait level was positively correlated to change goals. This discrepancy between Openness and other traits could help to explain why goals to change it are actually predictive of change. If goals are related to starting low in a trait, this may make increasing it inherently challenging; for example, being low in Conscientiousness may undermine goal-directed attempts to become more so. Given that goals to enhance to Openness to Experience are related to already being high on the trait, those aiming to enhance it over 12 months would not be at a relative disadvantage. This would, in turn, make a link between goals and change more likely.

There are discrepancies between the findings from this study and the longitudinal work of Hudson and Fraley (2015). Hudson and Fraley found a reliable link between change goals and trait change over a 4-month period during which half of the sample underwent an intervention where each week participants would write specific changes they intended to make. Participants provided data on trait level on a weekly basis. Using this methodology, an association was found between trait goals and longitudinal trait change. Various differences

in methodology between the current study and the Hudson and Fraley study could account for this, the most likely ones being the difference in overall timeframe (4 months vs one year), and the embedded intervention used by Hudson and Fraley involving weekly requirements to reflect on efforts to bring about change, as opposed to the naturalistic non-intervention based approach in this study. Further research should explore these potential differentiating factors.

A limitation of the current study is that, as with all research in this area thus far, trait levels are based on self-report. Furthermore, the research was undertaken in Iran with a student sample, and the extent to which the findings would generalize to other cultures and older samples is a question that can only be answered in further research. The sample size was 9% smaller than in the original study, which may have limited the power of the analysis to detect effects. The present study also uses only two waves of data and a single-item measure (per domain) of change goals which may limit power to detect effects.

It is recommended that future research assesses trait change goals *during* the a longitudinal period as well as after. Acquiring goal data during the 12-month period would ascertain whether a goal remains consistently present through the period. With a larger sample size, a group-based analysis could be conducted comparing (a) individuals who had a consistent goal through the period (b) individuals who presented a wavering or inconsistent goal, and (c) individuals who had no goal. Other valuable sources of data for future research studies would be pre-post trait data gathered from close others, or data gathered through experience sampling or behavioral indices, such as step counters or internet search terms. Other existing research has shown that targeted self-regulation interventions can be effective in helping to bring about trait change (e.g. Hudson et al., 2018), and this should also be further explored in longitudinal studies across culture, cohort and timeframe.

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Table 2: Zero order correlations between goals and trait scores at Time 1, and goals and trait scores at Time 2

	Extraversion	Agreeableness	Conscientiousness	Neuroticism	Openness to Experience
	Time 1 trait	Time 1 trait	Time 1 trait	Time 1 trait	Time 1 trait
Goal to change trait at Time 1	.01	.09	-.05	-.01	.31**
	Time 2 trait	Time 2 trait	Time 2 trait	Time 2 trait	Time 2 trait
Goal to change trait at Time 2	.06	-.05	.10	.03	.32**

* $p < .05$, ** $p < .01$ (two tailed)

Table 2: Hierarchical regression results (B coefficients and overall R^2 values) with 12-month residual trait change scores as DVs, and Time 1 (a) Time 2 (b) goal presence and plan specificity entered as IVs in 2 stages

a) Time 1 goals as predictors

		E	**A**	**C**	**N**	**O**
Stage1	Goal to change - B Value	-0.07 (CIs: -.16, .21)	-0.09 (CIs: -.39, .20)	0.13 (CIs: -.14, .41)	-0.02 (CIs: -.33, .30)	0.25 * (CIs: -.04, .54)
Stage2	Goal to change - B Value	-0.08 (CIs: -.33, .17)	-0.28 (CIs: -.65, .09)	0.17 (CIs: -.14, .47)	0.01 (CIs: -.32, .34)	0.37 ** (CIs: .04, .70)
	Plan specificity - B Value	0.03 (CIs: -.14, .19)	0.17 (CIs: -.04, .39)	-.04 (CIs: -.23, .14)	0.05 (CIs: -.11, .21)	-.17 (CIs: -.38, .05)
Stage 2 R^2		.05	.14	.09	.05	.19 *

b) Time 2 goals as predictors

		E	**A**	**C**	**N**	**O**
Stage1	Goal to change - B Value	.09 (CIs: -.15, .33)	-.16 (CIs: -.48, .16)	.25 (CIs: -.00, .50)	.06 (CIs: -.23, .35)	.59*** (CIs: .28, .90)
Stage2	Goal to change - B Value	.07 (CIs: -.21, .35)	-.21 (CIs: -.57, .15)	.25 (CIs: -.08, .57)	-.07 (CIs: -.38, .25)	.73*** (CIs: .33, 1.14)
	Plan specificity - B Value	.03 (CIs: -.12, .17)	.07 (CIs: -.15, .29)	.005 (CIs: -.20, .21)	-.14 (CIs: -.29, .01)	-.10 (CIs: -.28, .09)
Stage 2 R^2		.07	.10	.15	.07	31***

Note:

* p < .05, ** p < .01, *** p <0.001 (two-tailed)

E=Extraversion, A= Agreeableness, C=Conscientiousness, N=Neuroticism, O=Openness to Experience

CIs = 95% confidence intervals