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SHORT NOTE

Is personal growth initiative associated with later life satisfaction in Chinese college students? A 15-week prospective analysis

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Personal growth initiative (PGI) is presumed to foster positive change leading to positive psychological adjustment. Accordingly, in this study we examined PGI as a predictor of life satisfaction 15 weeks later in a sample of 152 Chinese college students. Time 1 PGI was found to explain a significant amount of unique variance in Time 2 life satisfaction, even after controlling for Time 1 life satisfaction and Time 2 PGI. Specifically, (lower) intentional behavior and planfulness at baseline emerged as significant predictors of later life satisfaction. No evidence was found indicating that life satisfaction at Time 1 accounted for any significant amount of unique variance in PGI processes at Time 2, after controlling for baseline PGI processes and concurrent life satisfaction. Overall, the present findings are the first to demonstrate the importance of PGI as a prospective predictor of positive psychological adjustment in adults.

Keywords: Chinese, college students, life satisfaction, personal growth initiative, prospective design.

With the growth of positive psychology over the past two decades (e.g., Chang, Downey, Hirsch, & Lin, 2016; Seligman & Csikszentmihalyi, 2000), it is not surprising that researchers have focused on trying to identify positive psychological processes that might be linked to psychological adjustment. Indeed, consistent with the idea that personal growth plays a key role in promoting mental health, research has shown that personal growth initiative (PGI) in adults is correlated with adjustment (e.g., positive affect, psychological well-being; Robitschek & Keyes, 2009; Shorey, Little, Snyder, Kluck, & Robitschek, 2007; Stevic & Ward, 2008).

According to Robitschek (1998), *personal growth initiative* is viewed as an active and purposeful skill-based process that helps individuals achieve positive change and development, and is measured by the Personal Growth Initiative Scale (PGIS). Recently, however, the Personal Growth Initiative Scale-II (PGIS-II) was developed by Robitschek et al. (2012) to better account for the distinct facets of PGI. Based on their updated model, PGI is believed to be made up of four dimensions: *readiness for change*, *planfulness*, *using resources*, and *intentional behavior*. Readiness for change involves one's preparedness for making specific changes in oneself. Planfulness involves one's ability to make effective plans to facilitate growth. Using resources involves one's ability to capitalize on available resources to facilitate positive personal growth. Finally, intentional behavior involves the conscious and constant pursuit of personal growth. According to Robitschek et al. (2012), readiness and planfulness are believed to tap into cognitive aspects of PGI whereas using resources and intentional behavior are believed to tap into behavioral aspects of PGI.

Given PGI theory, recent studies using the PGIS-II in adults from different cultural backgrounds (e.g., USA, China) have shown that it is indeed tapping into a multifaceted construct (e.g., Chang & Yang, 2016; Robitschek et al., 2012). For example, Yang and Chang (2014) were able to replicate the four-dimensional structure of the PGIS-II in a sample of Chinese students. Moreover, findings from studies also have identified a reliable positive association between PGI and markers of positive psychological adjustment, such as life satisfaction (Diener, 1984). For example, Yang and Chang (2014) also found that PGI was associated with greater life satisfaction in adults from both the USA and China. Yet, a major limitation across current studies indicating the presence of a positive association between PGI and positive adjustment has been a

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reliance on using a cross-sectional design. That is, it is unclear whether PGI might be prospectively associated with changes in life satisfaction, whether life satisfaction might be prospectively associated with changes in PGI, or both. Accordingly, the present study was conducted to clarify the association between PGI and life satisfaction across time. In turn, understanding how these variables relate to each other across time help determine the potential usefulness of helping adults engage in greater PGI processes, experience greater life satisfaction, or both.

Purpose of the present study

Major objectives of the present study were to examine (a) whether PGI in college students predicts changes in life satisfaction across time and (b) whether life satisfaction in college students predicts changes in PGI across time.

Consistent with the notion that PGI represents a positive skill-based psychological construct that facilitates positive self-change and development (Robitschek, 1998; Robitschek et al., 2012), we hypothesized that PGI in students would predict significant variance in subsequent life satisfaction, even after controlling for baseline life satisfaction and subsequent PGI. Given the reliable positive association previously found between planfulness and life satisfaction in diverse student groups (e.g., American students, Chinese students; Yang & Chang, 2014, 2016), we hypothesized that within the PGI set, planfulness would represent a unique prospective predictor of subsequent life satisfaction in students.

In contrast, we hypothesized that life satisfaction would not predict changes in PGI across time. That is, for individuals who are satisfied with their life, there may be no compelling motivation for them to seek purposeful change in their future. Indeed, consistent with this view, Luhmann and Hennecke (2017) found that individuals who were asked to identify things that made their life positive were not more motivated to seek change, as compared to a control group. Interestingly, however, these researchers found that individuals asked to identify things that made their life negative were *more* motivated to seek change, as compared to a control group.

Method

Participants

Participants were Chinese college students attending a public university in China (Southeast). Of an initial sample of 174 participants who completed surveys at Time 1, 152 (92 females, 60 males) completed surveys at Time 2. All participants were enrolled in a psychology course and received extra credit for participation. Ages ranged from 18 to 22 years (M = 18.3, SD = .8).

Measures

PGI. PGI was measured by the PGIS-II (Robitschek et al., 2012), a 16-item measure made up of four subscales: Readiness for Change (RC), Planfulness (P), Using Resources (UR), and Intentional Behavior (IB). Respondents are asked to rate their agreement to items across a 6-point Likert-type scale of 0 (*definitely disagree*) to 5 (*definitely agree*). A Chinese adapted version of the PGIS-II (Yang & Chang, 2014) was used. Reliabilities for the PGIS scales in the present sample ranged from .79 (RC at Time 1) to .86 (P at Time 2). Higher scores on these subscales indicate greater personal initiative.

Life satisfaction. Life satisfaction was measured by the Satisfaction With Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985). The SWLS is a five-item measure of life satisfaction. Respondents are asked their agreement to these items across a 7-point Likert-type scale of 1 (*strongly disagree*) to 7 (*strongly agree*). A Chinese adapted version of the SWLS (J. Chen & Yang, 2003) was used. Reliabilities for the SWLS in the present sample were .92 (Time 1) and .90 (Time 2). Higher scores on this scale indicate greater life satisfaction.

Procedure

Approval for the study was obtained from the Institutional Review Board prior to data collection. All participants were measured for their PGI and life satisfaction at Time 1 and Time 2 (15 weeks apart). Participants for the present study received extra credit upon completion of the survey. All participants provided written informed consent.

Results

Mean scores on the present set of measures at Time 1 and Time 2 are presented in Table 1. As the table shows, there were no significant differences on any of the measures across the two time points. Correlations between each of the present study measures are presented in Table 2. Overall, correlations among the measures were generally significant and in the expected direction.

Examining PGI as a predictor of subsequent life satisfaction

To examine whether PGI at Time 1 predicts changes in life satisfaction at Time 2, we conducted a hierarchical regression analysis in which we initially controlled for demographic variables (viz., age, sex) in Step 1, followed by life satisfaction at Time 1 in Step 2, the PGI set at Time 2 in Step 3, and the PGI set at Time 1 in

Table 1
Mean Differences in Personal Growth Initiative (PGI) and Life Satisfaction in Students Across Time 1 and Time 2 (15 Weeks Later)

	Time 1		Time 2		
Measure	*M*	*SD*	*M*	*SD*	*t*(151)
PGI					
Readiness for change	4.24	.87	4.30	.79	−.89
Planfulness	4.37	.77	4.36	.81	.27
Using resources	4.59	.86	4.53	.86	.72
Intentional behavior	4.73	.69	4.64	.74	1.40
Life satisfaction	4.75	1.07	4.69	1.22	.67

Note. $N = 152$.

Step 4. We calculated effect sizes to determine whether PGI accounted for small, medium, or large amounts of the variance in life satisfaction.

Results of this analysis predicting life satisfaction at Time 2 are presented in Table 3. As shown, the set of demographic variables in Step 1 was not found to account for any significant amount of variance, $F(2, 149) = .42$, n.s. However, when life satisfaction at Time 1 was entered in Step 2, it was found to account for a large, $f^2 = .53$, 35% of unique variance in life satisfaction at Time 2, $F(1, 148) = 79.85$, $p < .001$. Furthermore, the inclusion of PGI at Time 2 was found to account for a small to medium, $f^2 = .10$, 9% of additional unique variance in life satisfaction at Time 2, $F(4, 144) = 6.10$, $p < .001$. Within the predictor set, planfulness, $\beta = .24$, $p < .05$, was found to be the only significant unique predictor. Last, and importantly, the inclusion of PGI at Time 1 was found to account for a small to medium, $f^2 = .09$, 8% of additional unique variance in life satisfaction at Time 2, $F(4, 140) = 5.56$, $p < .001$. Within the predictor set, planfulness, $\beta = .24$, $p < .05$, and (lack of) intentional behavior, $\beta = -.35$, $p < .001$, were found to be the only significant unique predictors. Overall, these results provide some support for the notion that PGI plays an important role in predicting future life satisfaction, but not always in the manner predicted by PGI theory.

Examining life satisfaction as a predictor of PGI processes

To examine whether life satisfaction at Time 1 predicts changes in each of the four PGI processes at Time 2, we conducted a set of hierarchical regression analyses in which we initially controlled for demographic variables (age, sex) in Step 1, followed by the specific PGI dimension at Time 1 in Step 2, life satisfaction at Time 2 in Step 3, and life satisfaction at Time 1 in Step 4. Overall, the results of these analyses consistently failed to provide support for the notion that life satisfaction is important in predicting future PGI (see Table 4).

Discussion

An important goal of the present study was to examine the temporal relations between PGI and life satisfaction in college students. As mentioned earlier, PGI has been conceptualized as a positive psychological construct that is central to promoting mental health (Robitschek & Keyes, 2009). Yet, a key limitation with past findings indicating a reliable cross-sectional association between PGI and life satisfaction is that it did not clarify whether PGI is prospectively associated with life satisfaction.

Table 2
Correlations Between All Study Measures in Students

Measures	1	2	3	4	5	6	7	8	9	10
1. PGIS-II-RC-T1	–									
2. PGIS-II-P-T1	.67***	–								
3. PGIS-II-UR-T1	.39***	.44***	–							
4. PGIS-II-IB-T1	.60***	.69***	.53***	–						
5. SWLS-T1	.40***	.37***	.16*	.41***	–					
6. PGIS-II-RC-T2	.40***	.48***	.17*	.30***	.31***	–				
7. PGIS-II-P-T2	.40***	.59***	.20*	.32***	.32***	.78***	–			
8. PGIS-II-UR-T2	.21*	.26***	.31***	.21*	.18*	.53***	.56***	–		
9. PGIS-II-IB-T2	.37***	.46***	.22**	.45***	.38***	.72***	.74***	.65***	–	
10. SWLS-T2	.20*	.31***	−.01	.13	.59***	.42***	.47***	.26***	.47***	–

Note. $N = 152$. IB = Intentional Behavior; P = Planfulness; PGIS-II = Personal Growth Initiative Scale–II; RC = Readiness for Change; SWLS = Satisfaction With Life Scale; T1 = Time 1; T2 = Time 2 (15 weeks later); UR = Using Resources.
*$p < .05$. **$p < .01$. ***$p < .001$.

Table 3
Hierarchical Regression Analyses Showing Amount of Variance in Life Satisfaction at Time 2 Accounted for by Personal Growth Initiative (PGI) at Time 1, After Controlling for Life Satisfaction at Time 1 and PGI at Time 2

Outcome/Predictor	β	R^2	ΔR^2	F
Time 2 Life satisfaction				
Step 1: Demographics		.01	–	.42
Age	.04			
Sex	.06			
Step 2: Time 1 life satisfaction	.60***	.35	.35	79.85***
Step 3: Time 2 PGI		.45	.09	6.10***
Readiness for change	.01			
Planfulness	.24*			
Using resources	−.06			
Intentional behavior	.15			
Step 4: Time 1 PGI		.52	.08	5.56***
Readiness for change	−.11			
Planfulness	.24*			
Using resources	−.06			
Intentional behavior	−.35***			

Note. $N = 152$.
*$p < .05$. ***$p \leq .001$.

Table 4
Hierarchical Regression Analyses Showing Amount of Variance in Each Personal Growth Initiative (PGI) Dimension at Time 2 Accounted for by Life Satisfaction at Time 1, After Controlling for Baseline PGI Dimension at Time 1 and Life Satisfaction at Time 2

Outcome/Predictor	β	R^2	ΔR^2	F
Time 2 Readiness for change				
Step 1: Demographics		.01	–	.60
Age	.08			
Sex	−.05			
Step 2: Time 1 readiness for change	.42***	.18	.17	30.89***
Step 3: Time 2 life satisfaction	.35***	.30	.12	24.63***
Step 4: Time 1 life satisfaction	−.03	.30	.00	.13
Time 2 Planfulness				
Step 1: Demographics		.01	–	.96
Age	.11			
Sex	.02			
Step 2: Time 1 planfulness	.59***	.35	.34	78.36***
Step 3: Time 2 life satisfaction	.32***	.45	.09	24.85***
Step 4: Time 1 life satisfaction	−.07	.45	.00	.68
Time 2 Using resources				
Step 1: Demographics		.02	–	1.19
Age	.13			
Sex	−.02			
Step 2: Time 1 using resources	.33***	.12	.11	17.78***
Step 3: Time 2 life satisfaction	.26***	.19	.07	12.22***
Step 4: Time 1 life satisfaction	−.03	.19	.00	.13
Time 2 intentional behavior				
Step 1: Demographics		.02	–	1.17
Age	.11			
Sex	.06			
Step 2: Time 1 intentional behavior	.50***	.24	.23	43.95***
Step 3: Time 2 life satisfaction	.41***	.41	.16	40.61***
Step 4: Time 1 life satisfaction	−.07	.41	.00	.58

Note. $N = 152$.
***$p \leq .001$.

Some evidence for PGI as an important antecedent to life satisfaction, but not vice versa

Beyond the finding of a reliable association between PGI and life satisfaction at two different time points, the present findings affirm the notion that PGI is an important prospective predictor of life satisfaction in college students. Specifically, we found that PGI (as a set) accounted for a significant amount of additional unique variance in life satisfaction 15 weeks later, even after controlling for baseline life satisfaction and concurrent PGI. In particular, two PGI dimensions emerged as significant predictors of life satisfaction: intentional behavior and planfulness.

First and foremost, we found that within the PGI set, intentional behavior at Time 1 was uniquely associated with later life satisfaction in students at Time 2. Interestingly, however, the pattern obtained indicated that greater intentional behavior was prospectively associated with *lower* life satisfaction in students. This raises the possibility that although intentional behavior, the conscious and constant pursuit of personal growth, is believed to reflect a positive process (Robitschek et al., 2012), it may lead to more distressing, rather than satisfying, experiences over time. One possible explanation for this is that individuals may pursue too many paths to achieve personal growth. Interestingly, findings from past studies have shown that positively motivated individuals (e.g., optimists), as compared to negatively motivated individuals (e.g., pessimists), are more likely to become distressed when engaged in the challenges of pursuing multiple goals (Cohen et al., 1999; Segerstrom, 2001). This appears to be due to the fact that many of the goals we pursue engender competing pathways to achieve success or personal growth (Emmons & King, 1988).

In addition, one might be able to argue that the emergence of conflicting goals over time is likely to be further intensified by a need to consider personal growth goals in the context of other individuals. For example, individuals might experience challenge, if not threat, when they find themselves having to modify or change their personal growth goals to accommodate the goals of others

important to them to maintain a positive relationship (Tomaka, Blascovich, Kelsey, & Leitten, 1993). Consistent with this notion, S. X. Chen, Cheung, Bond, and Leung (2006) found that greater appreciation of *social complexity*, the notion that one's behavior must often change with the social context, was associated with lower levels of life satisfaction among students. This pattern might be especially true for individuals coming from collectivistic societies (e.g., Oishi, Diener, Lucas, & Suh, 1999), where individuals must harmoniously evaluate their intentional behaviors and goals in the context of the intentions and goals of significant others in their lives (e.g., parents, family; Chang & Yang, 2016; Wu, 2013). Thus, one important practical implication of this finding is that the function of PGI dimensions such as intentional behavior might need to be situated as a complex function of both time and culture. Thus, it would be useful to determine in future studies whether efforts to alleviate strain associated with intentional behavior among Chinese students might help them develop a stronger sense of life satisfaction over time.

Furthermore, given that the association between intentional behavior at Time 1 only emerged as a significant predictor of life satisfaction at Time 2 after controlling for other variables, this pattern raises the possibility that the (negative) role of intentional behavior on future life satisfaction might be suppressed by a combination of concurrent and subsequent personal growth dimensions as well as concurrent life satisfaction. Accordingly, for example, it would be important in future studies to control for overlap among the personal growth dimensions when testing prediction models to determine whether unique, and sometimes unexpected, effects emerge in accounting for psychological adjustment.

Alternatively, consistent with PGI theory, we noted that planfulness at Time 1 was uniquely found to predict greater life satisfaction in students at Time 2. That is, students who engaged in greater efforts to make realistic changes for personal growth were found to be more satisfied with their life 15 weeks later. It may be that the ability to identify realistic pathways to promote growth provides a useful strategy by which students can better match their skills and abilities to a specific growth goal to ensure greater likelihood of success (Azizli, Atkinson, Baughman, & Giammarco, 2015). Interestingly, Yang and Chang (2016) found that even after controlling for hope, planfulness continued to be an important unique correlate of life satisfaction in college students. That said, it would be important to determine in future studies whether planfulness remains an important prospective predictor of life satisfaction after controlling for other important goal-directed constructs like hope.

In contrast to the finding that PGI was an important prospective predictor of later life satisfaction, we failed to find evidence to support the possibility that life satisfaction was an important prospective predictor of later PGI. This pattern is consistent with findings obtained from a recent study which indicated that markers of subjective well-being (viz., positive affect) are likely to be better prospective predictors associated with "broadening" our attention and thought action repertoires (e.g., greater number of things imagined doing when feeling good or being satisfied with life) than they are likely to be prospective predictors associated with "building" personal coping skills and character strengths (cf. Fredrickson, 2001). Noteworthy, similar to the conceptualization of PGI as a skills-based process, Chang (2017) found that skills-based social problem-solving dimensions (e.g., rational problem-solving, avoidance style) were not significantly associated with baseline positive affect measured 2 months earlier. In contrast, in support of broadening effects, Chang found that baseline affect was prospectively associated with greater positive problem orientation and lower negative problem orientation 2 months later. Finally, note the importance of considering our use of a 15-week period. Specifically, it would be important in future studies to determine whether the use of a shorter or a longer time frame might result in different patterns.

Concluding comment

Findings from the present study are the first to provide support for the notion that PGI is an important prospective predictor of positive psychological adjustment in adults. Specifically, intentional behavior has a negative impact on life satisfaction whereas planfulness has a positive one. In contrast, we were able to show that life satisfaction was not an important prospective predictor of PGI in adults. Future research might focus on identifying important antecedents to PGI that might be leveraged to cultivate this important positive psychological process in adults.

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