Well-Being as a Resource for Goal Reengagement: Evidence From Two Longitudinal Studies

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After goal failure, some individuals are able to engage in new, meaningful goals, while others have trouble doing so. Little is known about what predicts individual differences in the capacity to reengage in new goals. Building on affective and motivational science frameworks, the present 2 studies examined the hypothesis that well-being predicts positive changes in goal reengagement capacities. Study 1 was a 2-wave longitudinal study of Canadian young adults attending university. Study 2 was a 3-wave longitudinal study of German young adults transitioning from university into work. Across studies, we examined well-being (i.e., positive affect, satisfaction with life, purpose in life, negative affect [Study 1], depressive symptoms [Study 2]); goal adjustment (i.e., goal reengagement, goal disengagement); and goal-self-concordance (Study 2). Study 1 showed that positive affect, satisfaction with life, and purpose in life predicted increases in goal reengagement capacities. Study 2 replicated these findings and further showed that increases in goal self-concordance mediated these associations. Across studies, well-being (but not negative affect or depressive symptoms) predicted increases in goal reengagement (but not goal disengagement) capacities. Findings remained stable when controlling for sociodemographic characteristics. Together, these studies point to well-being as a resource for adaptive motivational development.

Keywords: well-being, goal adjustment, goal self-concordance

Most people encounter some dead ends throughout their lives. Relationships end, projects fail, regretful experiences cannot be undone. In uncontrollable situations like this, it is important to disengage from unattainable goals and reengage with new goals (Wrosch, Scheier, Miller, Schulz, & Carver, 2003). Cross-sectional, longitudinal, and intervention studies show that these goal adjustment capacities predict subjective well-being, mental health, and physical health across the life span (e.g., Brassen,

Gamer, Peters, Gluth, & Büchel, 2012; Miller & Wrosch, 2007; Wrosch, 2011; Wrosch, Miller, Scheier, & de Pontet, 2007; Wrosch, Scheier, Miller, et al., 2003), and a recent meta-analysis confirmed small to-medium-sized effects of goal adjustment capacities on quality-of-life-outcomes across more than 30 samples (Barlow, Wrosch, & McGrath, 2019). Despite a wealth of research documenting the positive consequences of goal adjustment capacities, there has been almost no work to examine psychological *sources* of these capacities. This was the starting point for the present two longitudinal studies in which we examined the hypothesis that well-being predicts goal reengagement capacities.

Goal Adjustment

Many motivational and self-regulatory frameworks emphasize the importance of persistence, grit, and tenaciousness during goal pursuit. However, the capacity to adjust goals when they are unattainable constitutes an equally important aspect of motivation and self-regulation (e.g., Carver & Scheier, 1998; Heckhausen & Schulz, 1995; Klinger, 1975; Wrosch, Scheier, Carver, & Schulz, 2003). Goal adjustment can be thought of as comprising two related but distinct aspects—the capacity to disengage from current goals when they have become unattainable and the capacity to engage with other or new goals in such circumstances (Wrosch,

Scheier, Miller, et al., 2003). Disengaging from unattainable goals is adaptive because it helps individuals avoid wasting time and effort in hopeless endeavors; engaging with new goals in the presence of unattainable goals is adaptive because new goals motivate behavior and give life meaning (e.g., Brandtstädter & Rothermund, 2002; Heckhausen, Wrosch, & Schulz, 2010; Heckhausen, Wrosch, & Schulz, 2019; Wrosch, Scheier, Carver, et al., 2003). Both aspects of goal adjustment constitute domain-general motivational tendencies and predict adaptive development across the life span including effective biological functioning, subjective well-being, mental health, and physical health (e.g., Brassen et al., 2012; Wrosch et al., 2007; Wrosch, Scheier, Miller, et al., 2003).

There are important individual differences in goal disengagement and goal reengagement capacities, which appear to show moderate stability over time (Dunne, Wrosch, & Miller, 2011; Wrosch & Miller, 2009; Wrosch & Scheier, 2020), converging with other research showing that even quite stable personality traits, such as the "Big Five" do, in fact, change over time (Bleidorn et al., 2013; Helson, Kwan, John, & Jones, 2002; Roberts, 1997; Wrzus & Roberts, 2016). Yet, we know little about what predicts changes in goal adjustment capacities. A few studies have elucidated predictors of goal disengagement capacities (Barlow et al., 2019; Wrosch & Miller, 2009) and even less is known about predictors of goal reengagement capacities (for a more comprehensive discussion, see Wrosch & Scheier, 2020).

Well-Being as a Resource for Goal Reengagement Capacities

Well-being is an important resource for adaptive development with a sizable body of work documenting positive effects on subjective and objective health outcomes (DeSteno, Gross, & Kubzansky, 2013; Fredrickson, 2001; Fredrickson, 2013; Pressman, Jenkins, & Moskowitz, 2019; Ryff, 2013, 2014). Much of this work has focused on the beneficial effects of positive affect in particular (Carver, 2003; Fredrickson, 2001, 2003; Watson, 1988), but there is evidence that beneficial effects extend to cognitive aspects of well-being as well (Hernandez et al., 2018), including satisfaction with life, which refers to global evaluations of one's life (Diener, Emmons, Larsen, & Griffin, 1985), and purpose in life, which refers to the belief that one's life has meaning and purpose (Ryff & Keyes, 1995; Ryff & Singer, 2008). While much of this work has examined how well-being predicts distal health outcomes, researchers have also increasingly focused on how well-being predicts proximal outcomes, including motivational processes—with affective and motivational science frameworks suggesting that well-being might, in fact, be a resource for goal reengagement capacities.

Among the affective science frameworks, the broaden-and-build theory of positive emotions (Fredrickson, 2001, 2013) and theoretical spin-offs, such as the mindfulness-to-meaning theory (Garland & Fredrickson, 2019) are some of the most well-known theoretical frameworks to help understand why well-being may serve as a resource for goal reengagement. These frameworks postulate that positive emotions (and related aspects of well-being) can build enduring psychological, physical, and social resources by broadening thought-and-action repertoires. Over the last 20 years, they have received broad empirical support and have shed light on the broadening visual, cognitive, social, and physical effects of positive emotions in particular (Fredrickson, 2013). – although we should note diverging perspectives as well, suggesting, for example, that attention-broadening effects may be due to low arousal rather than positive valence (Harmon-Jones, Gable, & Price, 2013). Motivational effects of positive emotions have been investigated less often in this line of work, but there is some empirical evidence providing indirect evidence. Specifically, in a 2-wave study, Fredrickson and Joiner (2002) demonstrated that positive affect predicted increases in broad-minded coping (e.g., "try to step back from the situation and be more objective"), which may give rise to reengagement processes.

Among the motivational science frameworks, the motivational theory of life span development (Heckhausen et al., 2019) and its theoretical precursors (Schulz & Heckhausen, 1998) have long proposed that one of the core functions of positive affect and other aspects of well-being is to serve as a resource for goal engagement and goal reengagement. This proposition builds on an evolutionary framework (Darwin, 1872). It relates to one of the fundamental tenets of this framework by arguing that well-being is not the ultimate goal and criterion of adaptive development (Heckhausen & Schulz, 1999) but is crucial because it constitutes an important motivational resource. Supporting this view, experimental, longitudinal, and experience-sampling studies have shown that positive affect predicts higher levels of goal engagement for current goals such as career goals during the transition from school to work (Haase, Poulin, & Heckhausen, 2012), proactive venture efforts among entrepreneurs (Foo, Uy, & Baron, 2009), and other aspects of career goal engagement (Walsh, Boehm, & Lyubomirsky, 2018). Whether these effects only extend to the engagement with current goals or also the engagement with new, meaningful goals (i.e., goal reengagement) is less clear (Wrosch & Scheier, 2020). Nonetheless, another motivational science framework makes exactly this proposition. Specifically, the control process model (Carver & Scheier, 1990) has long postulated that positive affect can act as a signal to „attend to something else" and thus may motivate new goal pursuits (Carver, 2003).

Finally, while much theoretical and empirical work has focused on the effects of positive affect in particular, these effects may well extend to cognitive aspects of well-being. Several theoretical frameworks have zoomed in on how cognitive aspects of well-being (notably life satisfaction) shape psychological processes, including motivation (e.g., Kahneman, Diener, & Schwarz, 1999; Luhmann & Hennecke, 2017). One of the core, overarching ideas is that well-being serves as a signal that "things are going well" and that resources can be readily invested. This would seem to suggest that well-being may allow individuals to both continue investing effort in current goals and broaden their engagement toward engaging in new, meaningful goals as well.

Mediating Pathways

The previous discussion suggests that several affective and motivational science frameworks converge on the idea that well-being may serve as a resource for goal reengagement. There are multiple possible pathways to explain this effect, including motivational, cognitive, and social mechanisms. Here we focus on goal self-concordance. Goal self-concordance refers to the congruence of a person's goals with his or her core interests and motives and is often defined as the relative strength of autonomous reasons

(e.g., "because I really identify with it") over controlled reasons (e.g., "because the situation seems to compel it") for engaging in a goal (e.g., Hortop, Wrosch, & Gagné, 2013; Sheldon & Elliot, 1999; Sheldon & Houser-Marko, 2001). Motivational science frameworks, notably personality systems interactions theory (Koole, Schlinkert, Maldei, & Baumann, 2019; Kuhl, 2001, 2018), propose that positive affect is critical in facilitating intuitive behavior; and studies show that positive affect indeed enhances intrinsic motivation (Isen & Reeve, 2005), thus providing some empirical support for the first part of the mediational chain: Well-being may render individuals more likely to engage in goals that are more congruent with their self.

There is less empirical support for the second part of the meditational chain, self-concordance enhancing goal reengagement. Yet, theoretical arguments would be consistent with the idea that goal self-concordance could improve goal reengagement capacities because newly adopted goals often share the same higher-order qualities of goals that have to be abandoned (Wrosch, Scheier, Carver, et al., 2003). Thus, individuals with higher goal self-concordance—whose goal structure overlaps closely with their core interests and motives—may find it easier to identify and engage with new goals (i.e., reengage) after failure, with some experimental work supporting this idea (Ntoumanis et al., 2014).

Specificity

Many frameworks recognize positive and negative aspects of well-being (Ryff et al., 2006; Seligman & Csikszentmihalyi, 2000; Watson, Wiese, Vaidya, & Tellegen, 1999) as separate dimensions that differ in antecedents and consequences. Affective science frameworks have long posited that positive and negative emotions differ in their consequences (Levenson, 1999) and motivational frameworks (e.g., Heckhausen et al., 2019; Schulz & Heckhausen, 1998) propose that positive and negative aspects of well-being have different motivational consequences in particular. As discussed above, these frameworks converge on the idea that well-being promotes goal (re-) engagement. In contrast, evolutionary-functionalist perspectives on emotion (Darwin, 1872; Nesse, 2000) and motivational frameworks (Schulz & Heckhausen, 1998) propose that sadness and depressive symptoms promote goal disengagement (see also Haase, Seider, Shiota, & Levenson, 2012; Kunzmann, Kappes, & Wrosch, 2014). As Darwin (1872) put it, when "we fall into a state of low spirits" we "no longer wish for action" (p. 178). There exists, in fact, empirical support for this proposition. In a 4-wave longitudinal study of adolescents at high risk for depression, Wrosch and Miller (2009) showed that depressive symptoms predicted increases in goal disengagement (but not goal reengagement) capacities. Conversely, a recent meta-analysis (Barlow et al., 2019) showed that goal reengagement (but not goal disengagement) capacities were associated with positive aspects of well-being (e.g., positive affect, life satisfaction). Taken together, this suggests some specificity in the link between well-being and goal adjustment such that well-being (but not negative affect) should predict goal reengagement (but not goal disengagement) capacities.

The Present Studies

The present studies examined the idea that well-being predicts increases in goal reengagement capacities over time using data from two longitudinal studies of young adults from Canada (Study 1) and Germany (Study 2). Moreover, in Study 2, we investigated change in goal self-concordance as a mediator of the link between well-being and changes in goal reengagement. The present studies had several noteworthy methodological features. First, we studied multiple aspects of well-being, including affective well-being in the form of positive affect (Fredrickson, 2013) as well as cognitive well-being in the form of satisfaction with life (Diener et al., 1985) and purpose in life (Ryff & Keyes, 1995). Moreover, to determine specificity, we also examined negative affect in Study 1 and depressive symptoms in Study 2 (cf. Wrosch & Miller, 2009) as predictors of goal reengagement. Second, we examined goal reengagement, and, to determine specificity, goal disengagement, as two central aspects of goal adjustment using well-validated domain-general questionnaire measures (Barlow et al., 2019; Wrosch & Scheier, 2003). Third, we used multiwave longitudinal designs with adequately powered samples and controlling for baseline levels of goal adjustment capacities in order to examine changes in goal adjustment capacities over time. Finally, we examined robustness of our results when controlling for gender, age, income and (in Study 2) GPA.

Study 1

Method

Participants and procedure. The sample consisted of students at Concordia University in Montreal, Canada who were recruited through advertisements on campus. The study was approved by Concordia University's Human Research Ethics Committee. Participation in the study was voluntary. Participants provided informed consent. All study participants entered a raffle for a $300 prize at follow-up. Participants were assessed at baseline (T1; $N = 164$), at another wave of data collection scheduled in between T1 and T2, and 13 months later (T2; $N = 124$). Based on research suggesting a time interval of about 1 year as adequate to detect meaningful changes in goal adjustment (Wrosch & Scheier, 2020), the present analyses focused on T1 and T2 and we included all participants for whom data were available at T1 and T2 in the analyses ($N = 124$). None of the variables analyzed here predicted drop-out over time, all $ps > .05$. At baseline, participants were on average 22.85 years old ($SD = 3.47$, range: 18–36) and 77 were female (62.1%). Most participants ($n = 117$, 95.7%) were in the midst of obtaining a bachelor's university degree; six participants were pursuing a higher educational degree.

Measures.

Well-being (T1). *Positive affect* was assessed by the positive affect scale from the Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988), which measures the extent to which participants experienced 10 positive affective states over the last year (e.g., excited, proud, inspired; $0 =$ very slightly or not at all; $4 =$ extremely; $\alpha = .88$). *Satisfaction with life* was measured by the Satisfaction with Life Scale (Diener et al., 1985), which assesses global evaluations of one's life (e.g., "I am satisfied with my life"; $1 =$ *strongly disagree,* $7 =$ *strongly agree;*

5 items; $\alpha = .89$). *Purpose in life* was measured by the Life Engagement Test (Scheier et al., 2006), which measures the extent to which participants currently experience purpose in life (e.g., "I have lots of reasons for living"; 1 = *strongly disagree*, 5 = *strongly agree*; 6 items; $\alpha = .79$). *Negative affect* was assessed by the negative affect PANAS scale, which measures the extent to which participants experienced 10 negative affective states over the last year (e.g., upset, guilty, ashamed; $\alpha = .86$).

Goal adjustment (T1 and T2). *Goal disengagement and goal reengagement capacities* were assessed using the Goal Adjustment Scale, which has shown validity and reliability in previous research (Wrosch, Scheier, Miller, et al., 2003). Participants were asked to indicate how they typically react if they had to stop pursuing an important goal. *Goal disengagement* was assessed by four items (e.g., "It's easy for me to stop thinking about the goal and let it go"; 0 = strongly disagree, 4 = strongly agree; T1: $\alpha = .87$; T2: $\alpha = .87$). *Goal reengagement* was measured by six items (e.g., "I start working on other new goals"; 0 = strongly disagree, 4 = strongly agree; T1: $\alpha = .84$; T2: $\alpha = .90$). Goal disengagement, $r = .35$, $p < .001$, and goal reengagement, $r = .48$, $p < .001$, showed moderate rank-order stabilities from T1 to T2. Mean-levels of goal disengagement did not change from T1, $M = 2.01$, $SD = .90$, to T2, $M = 2.13$, $SD = .92$, $t(123) = 1.29$, $p = .199$. Mean-levels of goal reengagement increased from T1, $M = 2.58$, $SD = .61$, to T2, $M = 2.74$, $SD = .69$, $t(123) = 2.76$, $p = .007$.

Covariates. Gender (1 = male, 2 = female), age (in years), and income (i.e., current yearly family income in CAD; 0 = less than 10,000; 1 = 10,001–30,000, 2 = 30,001–50,000, 3 = 50,001–80,000, 4 = 80,001–100,000, 5 = More than 100,000) were included as covariates.

Statistical analyses. Power analyses using Gpower (Faul, Erdfelder, Lang, & Buchner, 2007) showed that the present sample size ($N = 124$) allowed for detecting small to medium effect sizes ($r > .25$) at an alpha level of .05 and statistical power of .80.

Data were analyzed using hierarchical multiple regression analyses. To test our main hypothesis, we examined well-being as a predictor of changes in goal reengagement in a series of separate regression analyses. In Step 1, we entered each aspect of well-being at T1 as a predictor of goal reengagement at T2 controlling for baseline levels of goal reengagement at T1. In Step 2, we added the other aspect of goal adjustment (here: goal disengagement) at T1, gender, age, and income as predictors in each analysis. To determine specificity, we examined in regression analyses (a) each aspect of well-being as a predictor of changes in goal disengage-ment and (b) negative affect as a predictor of changes in goal reengagement and goal disengagement (using a similar hierarchi-cal approach).

Results

Preliminary analyses. Table 1 shows the zero-order correla-tions of all variables at T1.

Well-being as a predictor of changes in goal reengagement. To test our main hypothesis, we examined whether well-being predicted changes in goal reengagement. Results are shown in Table 2. Higher positive affect, higher satisfaction with life, and higher purpose in life at T1 all predicted increases in goal reen-gagement capacities from T1 to T2. These results remained stable when controlling for covariates.

Specificity. To determine specificity, we first examined whether well-being also predicted changes in goal disengagement. Results showed that positive affect, $\beta = -.14$; $B = -.17$; 95% CI $[-.39, .04]$; $p = .108$, satisfaction with life, $\beta = -.13$; $B = -.08$; 95% CI $[-.19, .03]$; $p = .133$, and purpose in life, $\beta = -.03$; $B = -.04$; 95% CI $[-.28, .19]$; $p = .730$, at T1 did not signifi-cantly predict changes in goal disengagement capacities from T1 to T2. These results remained stable when controlling for covari-ates. Second, we examined whether negative affect predicted changes in goal reengagement or goal disengagement. Negative affect at T1 did not predict changes in goal reengagement, $\beta = -.07$; $B = -.07$; 95% CI $[-.22, .08]$; $p = .380$, or goal disengagement, $\beta = -.14$; $B = -.17$; 95% CI $[-.38, .04]$; $p = .111$, capacities from T1 to T2. These results remained stable when controlling for covariates.

Discussion

Study 1 supported our hypotheses by showing that well-being predicted positive changes in goal reengagement capacities in a sample of young adults from Canada. Specifically, higher positive affect, higher satisfaction with life, and higher purpose in life at baseline predicted increases in goal reengagement capacities over time. These findings were specific in two ways. First, negative affect did not predict changes in goal reengagement capacities. Second, none of the well-being aspects predicted changes in goal disengagement capacities. While Study 1 supported our theoretical model, it was limited in a few ways. First, we studied a sample of young adults from Canada, limiting the generalizability of the

Table 1
Zero-Order Correlations of Study Variables at T1 (Study 1)

Variables	1	2	3	4	5	6	7	8	9
1. Positive affect	—								
2. Satisfaction with life	.57***	—							
3. Purpose in life	.60***	.54***	—						
4. Negative affect	−.08	−.24**	−.28**	—					
5. Goal disengagement	−.10	.12	.00	−.07	—				
6. Goal reengagement	.31***	.52***	.40***	−.16	.31***	—			
7. Gender	.01	.08	.18*	.19*	.05	.22*	—		
8. Age	−.04	−.06	.08	−.03	−.04	.04	−.04	—	
9. Income	.12	.22*	.00	−.21*	.02	−.01	−.07	−.18*	—

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

Table 2

Well-Being Aspects as Predictors of Changes in Goal Reengagement (Study 1)

	DV: Goal reengagement T2					
	IV: Positive affect T1		IV: Satisfaction with life T1		IV: Purpose in life T1	
Predictors	Step 1	Step 2	Step 1	Step 2	Step 1	Step 2
IV	.19* [18; .03−.33]	.19* [18; .02−.34]	.21* [11; .02−.19]	.22* [11; .01−.20]	.23** [24; .07−.42]	.21* [23; .04−.41]
Goal reengagement T1	.42*** [.48; .30−.66]	.40*** [46; .25−.66]	.37*** [42; .22−.63]	.36*** [41; .19−.63]	.39*** [44; .25−.63]	.39*** [44; .24−.65]
Model R^2	.27	.28	.27	.28	.28	.29

Note. Results from three separate regression analyses. Standardized regression coefficients (βs) [parentheses: Unstandardized regression coefficients (Bs); 95% confidence intervals]. Step 1: Well-being aspect (positive affect, satisfaction with life, or purpose in life) at T1 and goal reengagement at T1 included as predictors. Step 2: Goal disengagement at T1, gender, age, and income added as predictors. IV = Independent variable; DV = Dependent variable.
* $p < .05$. ** $p < .01$. *** $p < .001$.

findings. Second, we did not examine the proposed mediating mechanism associated with goal self-concordance. These limitations are addressed in Study 2.

Study 2

Method

Participants and procedure. The sample was drawn from a larger 4-wave longitudinal study of German young adults during their transition from university to work (detailed information on this sample have been reported previously; Haase, Heckhausen, & Silbereisen, 2012). The study was conducted in accordance with ethical principles of the German Psychological Society. The study followed graduates from four select majors (architecture; humanities; medicine, psychology) that were chosen to maximize heterogeneity of postgraduation employment opportunities. Participation in the study was voluntary. Participants provided informed consent. Every six months all study participants entered a raffle for electronic gift certificates (total worth across raffles: approximately $2,200).

For the present study, we included participants who had completed the goal adjustment scale, which was assessed in a subsample at two waves of data collection (i.e., T1: 4 months after graduation; T3: 12 months after graduation) resulting in N = 257. The study included two additional waves (when goal adjustment was not assessed), an additional wave at graduation (not analyzed here) and another wave scheduled eight months after graduation (T2, analyzed here to examine mediation). The sample included in the present analyses thus was a subsample of the larger study sample. Inclusion in the study sample was not selective for the key variables analyzed here, ps < .05, with the exception of depressive symptoms, which were slightly lower in the study sample, p = .019. At graduation, participants were on average 27.12 (SD = 2.75) years old (range: 22–44) and 174 (67.7%) were female.

Measures.

Well-being (T1). Positive affect and depressive symptoms were measured using the 10-item version of the Center for Epidemiological Studies Short Depression Scale (CESD-10, Andresen, Malmgren, Carter, & Patrick, 1994). The CES-D 10 assesses affective states experienced during the last week (1 = *rarely, less than one day;* 4 = *all of the time, 5−7 days*). Traditionally, the scale has been used as a measure of depressive symptoms (e.g., "I felt depressed"). However, two items measure positive affect (e.g.,

"I was happy"), load on a different factor (Sheehan, Fifield, Reisine, & Tennen, 1995), and were used as indicators of positive affect as in previous studies (e.g., Haase, Poulin, et al., 2012; Moskowitz, Epel, & Acree, 2008). The resulting scale showed satisfactory internal consistency (α = .74). Satisfaction with life was measured by the Satisfaction with Life Scale (Diener et al., 1985), which assesses global evaluations of one's life (e.g., "I am satisfied with my life"; 1 = *strongly disagree,* 7 = *strongly agree;* 5 items; α = .87). Purpose in life was measured using the respective subscale from the Psychological Well-Being scales (Ryff & Keyes, 1995) (e.g., "Some people wander aimlessly through life, but I am not one of them."; 9 items; 1 = strongly disagree; 6 = *strongly agree;* α = .68). Depressive symptoms were assessed by the remaining eight CES-D items (α = .82).

Goal self-concordance (T1 and T2). Goal self-concordance was measured building on procedures developed by Sheldon and Elliot (1999) who let participants rate the self-concordance of self-nominated goals and averaged across these ratings to obtain an overall index of goal self-concordance. We modified this procedure slightly, asking participants to rate goal self-concordance of self-nominated goals in the work and partnership domain because (a) both domains assume central importance during young adulthood (Salmela-Aro, Aunola, & Nurmi, 2007) and (b) we sought to enhance goal domain comparability across participants. Thus, first, participants freely nominated their most important current (a) work and (b) partnership goal and then indicated reasons why they pursued each goal (1 = strongly disagree; 5 = strongly agree) following Sheldon and Elliot (1999). The *autonomous reasons* were "because I really identify with it" and "because of the enjoyment or stimulation that this goal would provide me." One item was added to measure autonomous motivation drawing from Little (1983): "To what extent is this goal consistent with the values which guide your life?" (1 = *not consistent at all;* 10 = *completely consistent*). The *controlled reasons* were "because somebody else wants me to or because the situation seems to compel it" and "because I would feel ashamed, guilty, or anxious if I did not have this goal." Items were z-standardized. Following Sheldon and Houser-Marko (2001) the goal self-concordance measure was then computed by subtracting the sum of the two controlled reasons for each goal from the sum of the three autonomous reasons for each goal. The resulting 10-item measure showed satisfactory internal consistency (T1: α = .66; T2: α = .74). Goal

self-concordance showed substantial rank-order stability from T1 to T2, $r = .54$, $p < .001$.

Goal adjustment (T1 and T3). Goal disengagement and goal reengagement capacities were measured using the German translation of the goal adjustment scale (Haase & Wrosch, 2020). The translated scale was pretested in an independent sample of German students and showed good measurement properties. Similar to Study 1, *goal disengagement* was assessed by four items (T1: α = .83; T3: α = .85) and *goal reengagement* was measured by six items (T1: α = .87; T3: α = .86). Goal disengagement, $r = .60$, $p < .001$, and goal reengagement, $r = .41$, $p < .001$, showed moderate rank-order stabilities from T1 to T3. Mean-levels of goal disengagement did not change from T1, $M = 2.72$, $SD = .77$, to T3, $M = 2.79$, $SD = .76$, $t(256) = 1.58$, $p = .116$. Likewise, mean-levels of goal reengagement did not change from T1, $M = 3.91$, $SD = .56$, to T3, $M = 3.89$, $SD = .55$, $t(256) = .30$, $p = .762$.

Covariates. As in Study 1, gender (1 = *male;* 2 = *female*), age (based on date of birth), and income (monthly income in Euro after taxes, averaged across T1, T2, and T3) were included as covariates. Moreover, we controlled for GPA at graduation (1 = *excellent;* 4 = *poor*).

Statistical analyses. Power analyses using Gpower (Faul et al., 2007) showed that the present sample size ($N = 257$) allowed for detecting small to medium effect sizes ($r > .17$) at an alpha level of .05 and statistical power of .80.

To test our main hypothesis and to determine specificity, we used hierarchical multiple regression analyses as in Study 1. Covariates included in Step 2 were goal disengagement at T1, gender, age, GPA, and income. To examine whether the longitudinal associations between well-being and changes in goal reengagement were mediated by changes in goal self-concordance, we used bias-corrected (BC) bootstrapping with 5000 bootstrap samples as recommended by Preacher and Hayes (2008) using AMOS 17.0 (Arbuckle, 2008). Following Preacher and Hayes' (2008) notion that mediation exists "when a predictor affects a dependent variable indirectly through at least one intervening variable, or mediator" (p. 879), we examined the indirect effect of well-being on changes in goal reengagement mediated by changes in goal self-concordance. For these mediation analyses, we first regressed goal reengagement at T3 on goal reengagement at T1 (as well as gender, age, GPA, and income in Step 2) and saved the residuals for further analysis. Similarly, we created a residualized change score to index changes in goal self-concordance from T1 to T2. For the mediation analyses, we used stochastic imputation to impute some missing data (e.g., for goal self-concordance, $n = 24$) because AMOS needs complete data to conduct bootstrapping analyses.

Results

Preliminary analyses. Table 3 shows the intercorrelations of all variables at T1.

Well-being as a predictor of change in goal reengagement. To test our main hypothesis, we examined whether well-being predicted changes in goal reengagement. Results are shown in Table 4. Higher positive affect, higher satisfaction with life, and higher purpose in life at T1 all predicted increases in goal reen-

gagement capacities from T1 to T3[1]. These results remained stable when controlling for covariates.

Specificity. To determine specificity, we first examined whether well-being also predicted changes in goal disengagement. Results showed that positive affect, $\beta = .00$; $B = .00$; 95% CI [−.10, .10]; $p = .977$, satisfaction with life, $\beta = .01$; $B = .01$; 95% CI [−.06, .08]; $p = .816$, and purpose in life, $\beta = −.02$; $B = −.02$; 95% CI [−.14, .11]; $p = .758$, at T1 did not significantly predict changes in goal disengagement capacities from T1 to T3. These results remained stable when controlling for covariates. Second, we examined whether depressive symptoms predicted changes in goal reengagement and goal disengagement. Depressive symptoms at T1 did not predict changes in goal reengagement, $\beta = −.10$; $B = −.11$; 95% CI [−.23, .01]; $p = .080$, or goal disengagement, $\beta = −.05$; $B = −.08$; 95% CI [−.23, .07]; $p = .309$, from T1 to T3. These results remained stable when controlling for covariates.

Change in goal self-concordance as a mediator. We examined whether changes in goal self-concordance mediated the longitudinal associations of well-being and changes in goal reengagement. Figure 1 presents an overview on the results. All aspects of well-being at T1 had positive indirect effects on positive changes in goal reengagement from T1 to T3 via changes in goal self-concordance from T1 to T2, positive affect: $ab_{cs} = .02$; 95% BC CI [.002, .053]; $p = .028$, satisfaction with life: $ab_{cs} = .02$, 95% BC CI [.002, .055]; $p = .022$, purpose in life, $ab_{cs} = .02$; 95% BC CI [.001, .051]; $p = .036$. These results remained stable when controlling for covariates (when predicting positive affect: $ab_{cs} = .02$, 95% BC CI [.001, .051]; $p = .033$; when predicting satisfaction with life: $ab_{cs} = .02$; 95% BC CI [.002, .054]; $p = .027$; when predicting purpose in life: $ab_{cs} = .02$, 95% BC CI [.00, .048]; $p = .049$). As can be seen in Figure 1, in addition to these significant indirect effects, direct effects of well-being aspects on changes in goal reengagement were also significant, indicating that mediation by changes in goal self-concordance was partial.

In a follow-up analysis, we explored an alternative mediation model with goal self-concordance at T1 predicting changes in goal reengagement from T1 to T3 mediated by changes in aspects of well-being from T1 to T2. Support for this alternative mediation model was weaker. Neither changes in positive affect, $ab_{cs} = .01$; 95% BC CI [−.01, .03]; $p = .260$, nor changes in satisfaction with life, $ab_{cs} = .01$, 95% BC CI [−.004, .04]; $p = .184$, mediated associations between goal self-concordance and changes in well-

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[1] When we entered all well-being aspects as predictors of changes in goal reengagement simultaneously, none of them emerged as a significant predictor, suggesting that their *shared well-being variance* rather than the unique contributions of each aspect accounted for the prediction (Study 1: positive affect: $\beta = .06$; $B = .06$; 95% CI [−.14, .25]; $p = .551$; satisfaction with life: $\beta = .11$; $B = .05$; 95% CI [−.05, .16]; $p = .304$; purpose in life: $\beta = .15$; $B = .16$; 95% CI [−.05, .37]; $p = .139$; Study 2: positive affect: $\beta = .11$; $B = .08$, 95% CI [−.02, .18]; $p = .114$; satisfaction with life: $\beta = .11$; $B = .05$; 95% CI [−.02, .12]; $p = .140$; purpose in life: $\beta = .06$; $B = .06$; 95% CI [−.06, .17]; $p = .329$). This is reminiscent of findings reported by others. For example, Carstensen and colleagues (2011) found that experienced emotion and happiness (both significant predictors of the outcome under study when entered alone and both significantly correlated), when "entered in a regression simultaneously, neither was significant, suggesting that their shared variance accounts for the prediction" (p. 28).

Table 3
Zero-Order Correlations of Study Variables at T1 (Study 2)

Variables	1	2	3	4	5	6	7	8	9	10	11
1. Positive affect	—										
3. Satisfaction with life	.55***	—									
4. Purpose in life	.40***	.40***	—								
5. Depressive symptoms	−.59***	−.52***	−.40***	—							
5. Goal self-concordance	.18**	.26***	.39***	−.23***	—						
6. Goal disengagement	.13*	.10	−.04	−.11	.09	—					
7. Goal reengagement	.19**	.18**	.27***	−.13*	.27***	.38***	—				
8. Gender	−.10	−.08	.08	.09	.05	−.15*	.06	—			
9. Age	.01	−.02	−.13*	−.04	−.09	.08	−.05	−.22***	—		
10. GPA	.14*	.10	.12	−.13*	−.13*	.05	.04	−.06	.08	—	
11. Income	.30***	.36***	.28***	−.22**	.10	−.06	.02	−.21**	.17*	.18**	—

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

being. Only the mediation via changes in purpose in life was significant, $ab_{cs} = .02$; 95% BC CI [.001, .06]; $p = .043$.

Discussion

Study 2 replicated key findings of Study 1 by demonstrating that higher baseline levels of all aspects of well-being (i.e., positive affect, satisfaction with life, and purpose in life) predicted increases in goal reengagement capacities over time. Again, the findings were specific in two ways. First, well-being (but not depressive symptoms) predicted increases in goal reengagement capacities. Second, none of the well-being aspects predicted goal disengagement capacities. In addition, similar to Study 1, depressive symptoms did not predict changes in goal disengagement capacities. Finally, Study 2 extended the results of Study 1 in important ways: Study 2 used a sample of young adults from Germany, demonstrating the generalizability of the findings in a different country. Moreover, Study 2 elucidated change in goal self-concordance as a partial longitudinal mediator. Thus, individuals with higher levels of well-being at baseline increased in goal reengagement capacities over time partly because they increased in their goal self-concordance.

General Discussion

The present two longitudinal studies of young adults from Canada and Germany showed that well-being (i.e., positive affect, life satisfaction, purpose in life) predicted positive changes in the

capacity to reengage with new goals after failure. Moreover, Study 2 showed that increases in goal self-concordance partially mediated the longitudinal associations. These findings were specific in that well-being (but not negative affect or depressive symptoms) predicted increases in goal reengagement (but not goal disengagement) capacities.

How Well-Being Predicts Positive Changes in Goal Reengagement

The present studies are the first to demonstrate that well-being predicts increases in goal reengagement capacities. A sizable body of work has shown that well-being can serve as a resource for health and success across the life span (DeSteno et al., 2013; Fredrickson, 2001; Fredrickson, 2013; Pressman et al., 2019; Ryff, 2013; Ryff, 2014; Walsh et al., 2018). Building on affective and motivation science frameworks, the present studies show that well-being can also serve as a motivational resource.

Past motivational research has often examined how motivational processes affect well-being (e.g., Baumann, Kaschel, & Kuhl, 2005; Heckhausen et al., 2010; Ryan & Deci, 2000). Fewer studies have explored the reverse link although theoretical models postulate such associations (Carver, 2003; Schulz & Heckhausen, 1998). The present studies contribute to emerging research on the sources of goal adjustment capacities (Wrosch & Miller, 2009). They show that well-being does not only promote engagement with goals that are currently important

Table 4
Well-Being Aspects as Predictors of Changes in Goal Reengagement (Study 2)

	DV: Goal reengagement T3					
	IV: Positive affect T1		IV: Satisfaction with life T1		IV: Purpose in life T1	
Predictors	Step 1	Step 2	Step 1	Step 2	Step 1	Step 2
IV	.19** [14; .05−.22]	.18** [13; .04−.22]	.19** [09; .04−.15]	.17** [09; .02−.15]	.15* [13; .02−.23]	.14* [12; .01−.23]
Goal reengagement T1	.37*** [37; .25−.48]	.33*** [32; .20−.45]	.38*** [37; .26−.49]	.33*** [33; .20−.45]	.37*** [37; .25−.49]	.32*** [31; .18−.44]
Model R^2	.20	.24	.20	.23	.19	.22

Note.   Results from three separate regression analyses. Standardized regression coefficients (βs) [parentheses: Unstandardized regression coefficients (*B*s); 95% confidence intervals]. Step 1: Well-being aspect (positive affect, satisfaction with life, or purpose in life) at T1 and goal reengagement at T1 included as predictors. Step 2: Goal disengagement at T1, gender, age, GPA, and income added as predictors. IV = Independent variable; DV = Dependent variable.
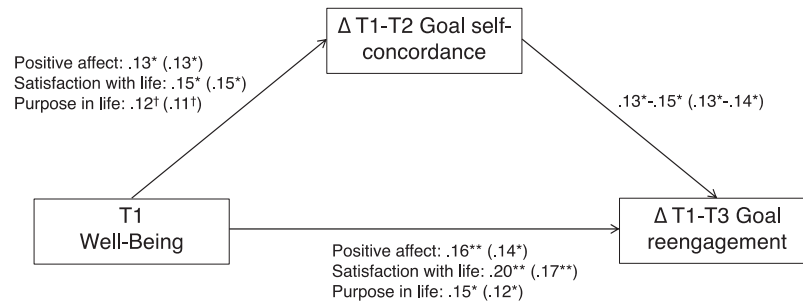* $p < .05$.   ** $p < .01$.   *** $p < .001$.

Figure 1. Change in goal self-concordance partially mediates the association between well-being and change in goal reengagement (Study 2). Standardized regression coefficients (βs) from three path analyses for each aspect of well-being (i.e., positive affect, satisfaction with life, or purpose in life) at T1 predicting change in goal reengagement from T1 to T3 partially mediated by change in goal self-concordance from T1 to T2. Standardized regression coefficients (βs) in parentheses controlled for gender, age, GPA, and income. All indirect effects were significant. † $p < .10$. * $p < .05$. ** $p < .01$.

(Haase, Poulin, et al., 2012); they show that well-being also helps individuals engage with new goals after failure and loss.

Our findings suggest increases in goal self-concordance (Sheldon & Elliot, 1999) as a mediating mechanism. Beneficial effects of well-being on intrinsic motivation have been documented in the literature (Isen & Reeve, 2005). Our findings are consistent with this work and, moreover, show that goal self-concordance may put individuals on a path toward adaptive motivational development (Sheldon & Elliot, 1999; Sheldon & Houser-Marko, 2001). Individuals with higher goal self-concordance may have goals that overlap with their core interests and motives and thus have better access to replacement goals when confronted with insurmountable constraints (thus indicating a motivational system that functions like a democracy rather than a dictatorship, to borrow from Kuhl, 2018).

Moreover, research has demonstrated specificity in the goal adjustment-well-being link—demonstrating links between goal disengagement and depressive symptoms on the one hand and links between goal reengagement and well-being on the other (Wrosch, Scheier, & Miller, 2013). Our findings demonstrate specificity for the reverse effect. Well-being (but not negative affect or depressive symptoms) predicted increases in goal reengagement (but not goal disengagement) capacities. To put our effects in context, longitudinal effect sizes (βs) for well-being predicting goal reengagement ranged from .14 to .23 – similar to the lagged meta-analytic effect size (Barlow et al., 2019) for goal reengagement predicting quality of life ($r = .16$). Thus, goal reengagement may not only increase well-being, well-being may also further increase reengagement, reminiscent of other upward spirals (Burns et al., 2008; Fredrickson & Joiner, 2002; Garland, Geschwind, Peeters, & Wichers, 2015; Ramsey & Gentzler, 2015).

Finally, different from prior research with adolescents at risk for developing depression (Wrosch & Miller, 2009), the present studies with young adults did not support a link between depressive symptoms and increases in goal disengagement capacities. It is possible that depressive symptoms may foster goal disengagement capacities more so in adolescence than adulthood or that depressive symptoms may need to be sufficiently strong (but not chronified) to prompt goal disengagement (Nesse, 2000). Clearly, more research is needed to probe these ideas.

Limitations

The present studies have strengths, including (a) replication of key findings across two longitudinal studies with sizable young adult samples from two different countries during important life transitions, thus, maximizing ecological validity; (b) assessment of multiple aspects of well-being and goal adjustment capacities using established questionnaires; and (c) robustness checks. The present studies also have limitations. First, (a) we used well-being measures widely used in the literature (e.g., satisfaction with life scale, PANAS) that came with some idiosyncrasies (e.g., differences in time frames). Most measures were comparable across studies, but some (i.e., affect, income) differed somewhat or were only available in one data set (i.e., GPA). Second, we (b) focused on global goal adjustment capacities, in line with many studies (Barlow et al., 2019). Future studies could assess goal adjustment after specific life events (e.g., divorce, accident, job loss etc.) and use behavioral and implicit motivational measures (Baumann et al., 2005; Brassen, Gamer, Peters, Gluth, & Büchel, 2012). Finally, the present studies are (c) correlational. Experimental studies are needed to demonstrate causality.

Implications for Future Research and Applications

The present findings have implications for future research and applications. First, more research on the sources of individual differences in goal adjustment is needed. Future studies could examine different positive (e.g., calm, excitement) and negative (e.g., anger, sadness) emotions, which may well differ in their effects (Haase, Seider, et al., 2012; Kunzmann et al., 2014). Future research could also probe predictors of goal adjustment capacities beyond well-being, including biological (e.g., genetic), social (e.g., parents, partners, peers), and macrolevel (e.g., cultural) factors. Second, other mediating pathways besides goal self-concordance await investigation. For example, happier individuals may have larger and more supportive social networks (cf. Lyubomirsky, King, & Diener, 2005), which may provide role models as well as instrumental resources facilitating access to alternative goals. Third, motivational science could further elucidate the role of motivation in adaptive development across the life span. The present studies raise the possibility that goal reengagement capac-

ities may serve as one pathway through which well-being ultimately fosters health (DeSteno et al., 2013; Fredrickson, 2001; Fredrickson, 2013; Pressman et al., 2019; Ryff, 2013; Ryff, 2014) and success (Boehm & Lyubomirsky, 2008; Walsh et al., 2018). Fourth, our findings add to the literature on personality change (e.g., Bleidorn et al., 2013; Mroczek, Spiro, & Griffin, 2006; Roberts & Mroczek, 2008; Wrzus & Roberts, 2016). Given close links between well-being and personality (Lucas, 2018), well-being could also be a source of adaptive personality change. Finally, the present findings suggest that well-being interventions could foster goal reengagement capacities. Theoretical frameworks (e.g., Kuhl, 2018; Schulz & Heckhausen, 1998) and empirical studies (see also Friederichs, Kees, & Baumann, 2020; Oettingen, Pak, & Schnetter, 2001; Wrosch & Miller, 2009) remind us that not only positive but also negative emotions have their place in adaptive motivational development. Thus, a promising approach may be to encourage awareness and acceptance of emotions in the moment, which may benefit well-being (Troy, Shallcross, Brunner, Friedman, & Jones, 2018) and have positive motivational downstream consequences.

Conclusion

The present two longitudinal studies with young adults from Canada and Germany show that well-being is a key predictor of positive changes in goal reengagement capacities over time, with positive changes in goal self-concordance as a mediating pathway. These findings contribute to the emerging literature on sources of goal adjustment capacities, show that well-being can be a resource for adaptive motivational development, and point to opportunities for intervention.

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