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Melting COVID-frozen goals: How goal disengagement supports well-being during the COVID-19 pandemic

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Abstract

The current research addresses dynamics of the COVID-19 pandemic's disruption to goal pursuit. Specifically, we examined the effects of disengaging from frozen goals (goals for which progress had been disrupted due to COVID-19). In May 2021, we asked participants ($N = 226$) what percentage of their goals were COVID-frozen goals and asked them to report their engagement in one such goal (vs. an active goal): the degree to which they think about the goal, ruminate about the goal, and are committed to the goal. Participants also reported on two facets of their recent well-being: psychological distress (stress, depressive symptoms, anxiety) and life satisfaction. As expected, percentage of COVID-frozen goals was positively associated with psychological distress (stress, depressive symptoms, and anxiety). Moreover, frozen goal rumination (but not thought frequency or commitment) was negatively associated with life satisfaction and positively associated with psychological distress (stress, depressive symptoms, and anxiety; even when controlling for active goal rumination). Furthermore, individual differences in the capacity to disengage and reengage in alternatives were negatively associated with frozen goal rumination, positively associated with life satisfaction, and negatively associated with psychological distress (stress, depressive symptoms, and anxiety). These results highlight the adaptive function of disengagement in goal pursuit. We discuss implications for the goal disengagement literature and for coping with COVID-19.

Keywords Goal disengagement · Self-regulation · COVID-19 · Frozen goals · Well-being

Introduction

"Never give up" is an embedded cultural message; people are encouraged to persist in their goals no matter what, with popular quotes like "winners never quit and quitters never win." (Vince Lombardi; O'Keefe, 2019). Indeed, persistence is often adaptive. Goal pursuit is frequently challenging, and if people gave up at the first sign of difficulty, they would miss out on many achievements. Accordingly, self-regulation research has historically focused on the importance of goal engagement—staying committed to goals (e.g., Duckworth et al., 2007; Emmons & Diener, 1985; Tylor & Brown, 1988). But while engagement is clearly beneficial in many situations, there are also situations in which *disengagement* is beneficial (Wrosch et al., 2003a). Specifically, motivation researchers have begun to recognize that when a goal is no

longer feasible or valuable, disengaging from the goal is better than holding on (Brandstätter et al., 2013; Brandstätter & Herrmann, 2015; Wrosch et al., 2003a). Quitting such problematic goals allows people to avoid rising self-doubts, heightened negative emotions, and wasted resources (Carver & Scheier, 1999; Wrosch et al., 2003a).

The notion of adaptive disengagement is especially relevant during the current COVID-19 pandemic. Due to necessary restrictions, numerous constraints, and the many burdens of coping with a pandemic, we all have some personal or professional goals that have been impossible to pursue fully, if at all. Full disengagement—relinquishing both effort and commitment (Wrosch et al., 2003a)—is considered the most adaptive response in such situations (Boudrenghien et al., 2012; Wrosch et al., 2003b; Miller & Wrosch, 2007; see Brandstätter & Bernecker, 2022 and Wrosch & Scheier, 2020 for reviews). Yet we suspected that the circumstances surrounding the pandemic might be especially likely to result in "frozen" goals, a term coined by Davydenko et al. (2019) to refer to goals that people remain committed to despite effort reduction. While prior research has shown that frozen

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goals exist and can be differentiated from normally progressing goals (i.e., active goals), no prior work has examined the correlates of this partial disengagement for well-being. To the extent that one stays engaged in a goal while progress is stagnant, feelings of failure and frustration could be amplified, creating distress. This idea has been theorized by Wrosch et al. (2003a), but not yet empirically investigated. We tested the idea in the current study by examining the well-being correlates of having frozen goals in the context of COVID-19 (COVID-frozen goals). Indeed, if frozen goals are distressing, their presence could be contributing to the rise in mental-health issues resulting from the pandemic (Liu et al., 2021; Panchal et al., 2021). We also examined different types of engagement in frozen goals (and active goals) to more fully understand under what conditions frozen goals are linked to increased psychological distress and reduced life satisfaction. Specifically, we compared three forms of engagement in frozen goals (goal commitment, thought frequency, and rumination), to test whether simply maintaining commitment or thinking frequently about a blocked goal is problematic, or if harm only comes from rumination.

The role of goal disengagement in effective self-regulation

Prior research has demonstrated the role of goal disengagement in effective self-regulation; specifically, disengagement is beneficial for well-being when goals are unattainable. Much of this research has examined the relationship between the dispositional capacity to disengage from goals (*disengagement capacity*; Wrosch et al., 2003b; see Wrosch & Scheier, 2020 for a review) and well-being in specific circumstances. This research has demonstrated, for instance, that disengagement promotes subjective well-being when university students' goals are perceived as unattainable (Boudrenghien et al., 2012) and when biological factors render goals infeasible (e.g., having children late in life; Heckhausen et al., 2001; Wrosch & Heckhausen, 1999). Furthermore, an inability to disengage from unattainable goals has been shown to predict higher physiological indicators of stress over time (Miller & Wrosch, 2007) and depression (Kuhl & Helle, 1986; Nolen-Hoeksema et al., 1994).

Although goal disengagement has a clear adaptive function, there are still many instances where people fail to disengage when they should. Even when a goal is perceived as unattainable, it can be considered irrevocable (Miceli & Castelfranchi, 2017). Relatedly, sometimes individuals only partially disengage from goals, reducing their effort but not their commitment (i.e., the goal is "frozen;" Davydenko et al., 2019). The role of partial disengagement in self-regulation remains underexplored. Frozen goals represent an interesting possibility for exploring the relationship between goal disengagement and well-being. On the one hand, frozen goals might be distressing, as Wrosch et al. (2003a) argue. At the same time, perhaps people hold onto frozen goals in different ways, and it is the nature of the tether (e.g., commitment vs. rumination) that is linked to negative well-being.

Frozen goals and partial disengagement during COVID-19

Davydenko et al. (2019) defined frozen goals as goals "that one maintains high commitment to achieving and are achievable but are not actively pursued" (p. 2). Accordingly, frozen goals tend to be high in commitment, but low in effort. Indeed, when asked to report on a frozen goal—a goal that is not actively being pursued and for which there is no specific plan for pursuing—people tended to report low effort, but commitment and perceived importance that were significantly above the scale midpoint (Davydenko et al., 2019). Most people reported having at least one frozen goal (92%), and reasons for the freezing were posited to be at least partly internal.

However, given the nature of the COVID-19 pandemic, many goals have the potential to freeze for reasons external to the self. Countries around the world have implemented lockdowns to limit the spread of COVID-19 (Hale et al., 2021). Many establishments have closed and for many people, social activities have been significantly curtailed. There is no doubt that these restrictions have impaired the ability for people to pursue important goals. People have been unable to go to work or the gym, gather with friends and family, or travel to far destinations. In addition to constraints on existing goals, the demands of the pandemic (e.g., working from home, taking care of loved ones, juggling childcare and work) have created new responsibilities and stress, leaving many unable to effectively juggle their multiple goals (Ritchie et al., 2021). However, instead of totally letting go, the temporary nature of the pandemic could have led many people to *freeze* these blocked goals, maintaining commitment rather than disengaging altogether. Because COVID-blocked goals could be possible to pursue in the future (e.g., when the pandemic is declared endemic), maintaining commitment could be adaptive if it facilitates reengagement once it is possible. Nevertheless, while the goal is still blocked, maintaining commitment could come with costs to well-being (Wrosch et al., 2003a).

Prior theoretical and empirical work is mixed on how the nature of engagement with frozen goals might be related to well-being. Total disengagement should be what is most adaptive when progress on a goal is not possible, according to theories on goal disengagement (Wrosch et al., 2003a). Yet frozen goals represent a case in which individuals are partially disengaged: despite a lack of effort, they remain engaged through commitment. However, beyond

commitment (e.g., I continue to believe this goal is important), engagement in frozen goals might also take the form of mental engagement, whether it is frequently thinking about the goal in a neutral, non-compulsive way, or rumination (e.g., I can't stop thinking about this goal, despite my efforts; Nolen-Hoeksema, 1987). It has been theorized that commitment creates distress when effort is withdrawn (Wrosch et al., 2003a). However, perhaps maintaining commitment carries little emotional cost, but compulsive mental engagement—ruminating about the goal—is what is problematic. Rumination could aggravate worries and frustrations (see Watkins & Roberts, 2020 for a review of rumination's exacerbating effects), while also taking away mental resources from other goals. These features of rumination contrast with simple thought frequency (simply spending time thinking about the goal), which is relatively neutral and non-compulsive. Rumination, on the other hand, is a distinctively negative experience that could distract from other goals. Thus, we argue that rumination is the type of engagement with frozen goals that is most likely to have negative consequences for well-being.

The present study

The present study investigated frozen goals in the context of COVID-19. The study was conducted in May 2021 and used a sample of MTurk workers living in the United States. At the time of the study, there were over 32 million cumulative cases of COVID-19 in the U.S. (Statista, 2021). Although in many states restrictions were being lifted due to increased vaccination rates, most people were still experiencing disruptions to daily life relative to pre-pandemic times. In the study, participants were asked to list a COVID-frozen goal (a personal goal that was currently frozen due to the pandemic) as well as an active goal (a normally progressing goal). We asked participants about an active goal, in addition to a frozen goal, to provide a comparison to frozen goals. This comparison was useful for a few reasons. First, it allowed us to confirm that the frozen goals participants listed were in fact frozen according to the definition provided by Davydenko et al. (2019), by comparing the two goal types on effort and commitment. In other words, we could ensure participants understood and followed the instructions when listing a frozen goal. Second, it allowed us to thoroughly assess the effects of frozen goals on well-being. By also examining the effects of active goal engagement on well-being as a benchmark, we could draw clearer conclusions about effects that were parallel versus unique across goal types. Additionally, we controlled for active goal engagement when examining frozen goal engagement in multiple regression analyses. This approach allowed us to isolate whether rumination about frozen goals had effects above and beyond rumination about active goals.

For each goal, participants were asked questions assessing various aspects of goal engagement (goal effort, commitment, thought frequency, and rumination). Participants also indicated the total percentage of their goals that were currently frozen due to the COVID-19 pandemic and reported on two facets of their recent well-being: psychological distress (depressive symptoms, anxiety, and stress) and life satisfaction. We had two primary hypotheses. First, we expected a negative relationship between percentage of COVID-frozen goals and life satisfaction, and a positive relationship with psychological distress. Second, we expected that distinct types of engagement in frozen goals would be differentially related to well-being, such that rumination (rather than thought frequency or commitment), would be especially likely to be linked to increased psychological distress and reduced life satisfaction. The inclusion of a goal rumination measure is novel in relation to past goal disengagement work, and we included a thought frequency measure to the assess effects of rumination more clearly.

A secondary goal of the study was to investigate how goal adjustment capacities influence dynamics of frozen goal engagement and well-being. Goal adjustment capacities refer to individual differences in the general ability to (1) disengage from goals (disengagement capacity) and (2) reengage in alternatives (reengagement capacity). As mentioned earlier, prior research has predominately examined the benefits of goal disengagement by measuring goal adjustment capacities (with the Goal Adjustment Scale; Wrosch et al., 2003b). The goal adjustment scale includes items about general tendencies to reduce effort and commitment in its disengagement capacity subscale. We expected a negative relationship between disengagement capacity and frozen goal rumination. We also examined how disengagement capacity relates to engagement (rumination, thought frequency, commitment) for frozen goals versus active goals. Research has not yet investigated whether disengagement capacity is selective such that it is associated with greater disengagement from some types of goals more than others. These analyses allowed us to test this question. Finally, in accordance with past work, we predicted that both disengagement and reengagement capacity would be associated with better well-being, with stronger associations for reengagement capacity. Support for this idea comes from a recent meta-analysis which found that both disengagement and reengagement capacity were related to well-being, but reengagement capacity had the strongest link (Barlow et al., 2020). In cases where goal adjustment capacities were related to well-being variables, we also tested whether these relationships were mediated by low goal rumination.

Study materials, data, and syntax are available and can be found here: https://osf.io/qjf5c/?view_only=b39973eada 4f420ab67d0de3a55f8151.

An initial exploratory study was conducted in March 2021 (Study S1, which is fully reported in the supplemental online materials [SOM]). An analysis plan for Study S1 was pre-registered and can be found here: https://osf.io/3xsvz/?view_only=305d97f809c049f3b6b18f07ff778892. The materials, data, and syntax for Study S1 can be found with the same link provided above for the present study. Study S1 piloted the COVID-frozen goal paradigm used in the present study and included the goal rumination and thought frequency measures, as well as the same well-being questionnaires. Goal adjustment capacities (Wrosch et al., 2003b) were also measured in Study S1. Study S1 did not, however, include questions regarding effort and commitment, percentage of frozen goals, or include questions about a current active goal. Thus, Study S1 allowed us to explore a restricted set of hypotheses involving rumination, goal adjustment capacities, and well-being. Results from this initial study are presented in the SOM and are generally consistent with the main study here; we indicate any cases where they diverge from the present study in the main results section.

Method

Participants and design

Two hundred and twenty-six participants from the United States were recruited online through MTurk ($M_{age} = 38.59$; see Table 1 for full demographics). To help ensure high quality data, participants were required to have $100 + $ HITs approved and a HIT approval rate of 95% or higher. Participants received $4.00 USD as remuneration. An a priori power analysis conducted in G*power (Faul et al., 2014) estimated a required sample size of 186 for 95% power to detect an effect size of Pearson's $r = 0.26$ (the average effect size for the relationship between goal rumination and well-being in our preliminary study [Study S1]). Two hundred and fifty was set as the target sample size, due to uncertainty regarding the number of potential data exclusions. Nineteen participants were excluded from analyses for reporting they did not have any COVID-frozen goals (reporting 0% on the percentage of COVID-frozen goals question). Six additional participants were excluded because they did not follow the instructions for one or both of the goal paradigms.[1] With

Table 1 Study demographics

Age (*Mdn*, *SD*)	36.00 (10.96)
Gender	
Man/Transman	116 (51.3%)
Woman/Transwoman	104 (46.0%)
Genderqueer/Gender non-conforming/Gender non-binary/Gender Fluid	3 (1.3%)
Two-spirited	1 (0.4%)
Prefer to self-define	1 (0.4%)
Prefer not to answer	1 (0.4%)
Ethnicity	
Asian	16 (7.1%)
Black	24 (10.6%)
East Indian	1 (0.4%)
Hispanic	7 (3.1%)
Mixed Race	3 (1.3%)
White	174 (77.0%)
Other/not listed	1 (0.4%)
Education (highest level)	
Graduated from high school	25 (11.1%)
1 year of college	17 (7.5%)
2 years of college	33 (14.6%)
3 years of college	8 (3.5%)
Graduated from college	103 (45.6%)
Some graduate school	11 (4.9%)
Completed a Master's degree	26 (11.5%)
Completed a Doctoral degree	3 (1.3%)
Income	
$0—$24,999	23 (10.2%)
$25,000—$49,999	54 (23.9%)
$50,000—$74,999	64 (28.3%)
$75,000—$99,000	40 (17.7%)
$100,000—$124,999	21 (9.3%)
$125,000—$149,999	11 (4.9%)
$150,000—$174,999	4 (1.8%)
$175,000—$199,999	2 (0.9%)
$200,000 and up	7 (3.1%)

The table only includes ethnicities and levels of education that at least one participant reported

our final sample size of 226, we had 98% power to detect an effect size of Pearson's $r = 0.26$. An analysis plan for the study was pre-registered and can be found here: https://osf.io/3xsvz/?view_only=305d97f809c049f3b6b18f07ff778892.

Procedure and materials

The study was presented as one investigating goal-pursuit and COVID-19. After providing informed consent, participants completed an attention check, then the first two sections of the study: the well-being questionnaires and the

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[1] Instead of listing a frozen goal, two participants wrote "NA," one participant wrote "I currently have no goals frozen by COVID," one participant wrote "frozen" instead of an active goal, and one participant wrote "that is frozen because of the covid 19 pandemic" instead of a frozen goal and "I have almost active person" instead of an active goal. Finally, one participant wrote long paragraphs instead of listing goals, which did not follow instructions but broadly discussed COVID-19 and goals.

goal paradigms. These first two sections were presented in counterbalanced order. By counterbalancing the order of the well-being questionnaires and the goal items, we could be confident that associations were not simply a function of the order in which participants were asked to complete the measures (i.e., participants' answers on the well-being questionnaires being changed by thinking about their frozen goals first). The order that participants saw the well-being and goal paradigms did not influence any of the well-being variables (p's > .618).

Attention check

To help ensure data quality, participants were given an attention check question immediately after the information-consent letter (Oppenheimer et al., 2009). For this question, participants were given a large block of text to read that described irrelevant information about decision-making but included instructions for an open-ended question that followed. Specifically, participants read the following passage: *"Recent research on decision making shows that choices are affected by context. Differences in how people feel, their previous knowledge and experience, and their environment can affect choices. To help us understand how people make decisions, we are interested in information about you. Specifically, we are interested in whether you actually take the time to read the instructions; if not, some results may not tell us very much about decision making in the real world. To show that you have read the instructions, please ignore the question below about how you are feeling and instead type in "I read the instructions." You must answer this question correctly in order to participate in this study,"* which was followed by the open-ended question *"Please briefly describe how you are feeling right now."* Participants needed to notice the alternate instructions found in the passage—to answer this question with "I read the instructions"—to be able to continue with the rest of the study. By getting participants to carefully read the passage and notice the alternate instructions, the question helps to ensure participants read the instructions carefully throughout the rest of the study.

Well-being questionnaires

To assess well-being, participants completed a questionnaire that measured recent life satisfaction and recent psychological distress (all in random order). Composite variables were created for each well-being indicator, by averaging scores on all scale items.

Life satisfaction

Life satisfaction was measured using the Diener et al. (1985) 5-item life satisfaction scale (1–7 Likert-type scale;

1 = *strongly disagree*, 7 = *strongly agree*). Sample items include "In most ways my life is close to my ideal" and "The conditions of my life are excellent." Cronbach's α = 0.95. The life satisfaction scale does not ordinarily specify a time period, but instead is a global assessment of satisfaction with life. Because we were interested in people's *recent* well-being, we specified a time period in the scale instructions; specifically, we asked participants to answer based on how they had been feeling over the past month.

Psychological distress

Stress

Stress was measured using the 14-item Perceived Stress Scale (PSS; Cohen et al., 1983), which asks participants how often they have felt or thought a certain way during the last month (e.g., "How often have you been upset about something that happened unexpectedly?," "How often have you felt nervous and "stressed"?") on a Likert-type scale from 0 (*never*) *to* 4 (*extremely often*). Cronbach's α = 0.85.

Depressive symptoms

Depressive symptoms were measured with the 10-item Center for Epidemiologic Studies Depression Scale (CES-D; Andreson et al., 1994). This scale asks participants how often they felt certain ways over the past week (e.g., "I was bothered by things that don't usually bother me," "I felt depressed") on a 0–4 Likert-type scale (0 = *rarely or none of the time* [less than 1 day], 4 = *most or all of the time* [5–7 days]). Cronbach's α = 0.91.

Anxiety

Anxiety was measured with the State-Trait Anxiety Inventory (STAI; Spielberger, 1989), which asks "How often have you felt the following ways over the past few weeks?" (1–4 Likert-type scale; 1 = *not at all*, 4 = *very much so*). The STAI has 20 items, including "I felt calm" (reverse-scored) and "I was tense." Cronbach's α = 0.96.

Frozen goal paradigm

Our frozen goal paradigm adapted the procedure from Davydenko et al. (2019) to fit the COVID-19 context. Participants were given a definition of a frozen goal and were asked whether they had a goal that has become frozen due to COVID-19. Specifically, the instructions read:

> "People sometimes have goals that they set for themselves, but they are not taking any concrete steps to complete. For this study, we are interested in whether

you have a goal that you are not taking any concrete steps to complete because of the ongoing COVID-19 pandemic. Many of us have at least one goal that we are not able to make progress on and have no specific plan on how to pursue it because of the pandemic. Such goals can be considered "frozen" in time because no steps are actively being taken towards attaining the goal, but you have not given up on the goal. Do you have a goal that is currently "frozen" due to the current pandemic? The goal can be related to any aspect of your daily life; work, home, fitness, social life, leisure, community, among others."

Percentage of COVID-frozen goals

After reading this description, participants were asked to *"Please think about all of your current personal goals and indicate what percentage of them you consider "frozen" due to the COVID-19 pandemic"* and answered with a sliding scale from 0–100. Participants who answered greater than 0 on the sliding scale were asked to describe one COVID-frozen goal.

Active goal paradigm

For the active goal paradigm, participants were simply asked: *"Take a moment to think about the personal goals that you are currently pursuing"* and *"briefly describe one of your current "active" personal goals."* In each paradigm, participants were asked follow-up questions about their goal, which measured different forms of goal engagement: rumination, thought frequency, commitment, and effort.[2]

Goal rumination

To measure goal rumination, we used the goal rumination scale (Schultheiss et al., 2008), which assesses the degree to which one is preoccupied with a given goal. The scale consists of 7 items that are answered on a 1–5 Likert-type scale (1 = *strongly disagree*, 5 = *strongly agree*): "I find myself thinking about this goal even if I don't want to," "I go round and round in my mind about this goal," "I obsess about this goal," "I find it hard to shut off thoughts about this goal," "I don't ruminate or dwell on this goal for very long" (reverse-scored), "I can easily put this goal off

my mind" (reverse-scored), and "I rarely think about this goal" (reverse-scored). Scores on these 7 items (Cronbach's α = 0.91 for frozen goals, 0.78 for active goals) were averaged to create composite goal rumination variables.

Goal thought frequency

We also included a 1-item measure that was used by Davydenko et al. (2019) and simply assessed thought frequency (how often one thinks about the goal): "How often do you think about the goal to [their frozen goal]?" (1–5 Likert-type scale; 1 = *never*, 5 = *very often*). While the goal rumination scale assessed participants' preoccupation with their frozen goal, the thought frequency item assessed thought frequency in a neutral way that is non-compulsive.

Goal commitment

To measure commitment, we used the Klein et al. (2014) goal commitment scale. The scale includes 4 items: *"How committed are you to this goal?," "To what extent do you care about this goal?," "How dedicated are you to this goal?,"* and *"To what extent have you chosen to be committed to this goal?."* These items were answered on a 7-point Likert-type scale (1 = *not at all*, 7 = *completely*). Scores on these 4 items (Cronbach's α = 0.94 for frozen goals, 0.92 for active goals) were averaged to create composite goal commitment variables.

Goal effort

We also included a measure of goal effort, which was compared between frozen and active goals. This comparison follows Davydenko et al. (2019) and served as a manipulation check (by ensuring that the effort participants reported was lower for frozen vs. active goals). To measure effort, we used 3 items adapted from Seo et al. (2018): *"I am putting a lot of effort into meeting the goal," "I am trying very hard on the goal,"* and *"I am not putting in much energy to meet the goal"* (reverse-scored). These items were answered on a 7-point Likert-type scale (1 = *strongly disagree*, 7 = *strongly agree*). Scores on these 3 items (Cronbach's α = 0.88 for frozen goals, 0.74 for active goals) were averaged to create composite goal effort variables.

Goal adjustment capacities

After the frozen goal paradigm, participants completed the goal adjustment capacity scale (GAS; Wrosch et al., 2003b), which measures one's (1) capacity for goal disengagement (disengagement capacity) and (2) capacity to engage in alternative goals (reengagement capacity). The scale includes 10 items, answered based on the preface "If I have to stop

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[2] Participants also completed various items assessing basic goal characteristics, including goal progress, importance, total length, prior investment, and unattainability. There were also some questions specific to frozen goals: frozen length, setback severity, setback locus of control, and engagement in alternatives, which were included for exploratory purposes. Details and results with these variables can be found in the SOM.

pursuing an important goal in my life…," on a 1–5 Likert-type scale (1 = *almost never true*, 5 = *almost always true*). Four items assess disengagement capacity (e.g., "It's easy for me to reduce my effort toward the goal;" α = 0.76) and six items assess reengagement capacity (e.g., "I think about other new goals to pursue;" α = 0.91).[3] We included this measure at the end of the study in order to prevent thoughts of general disengagement tendencies from influencing participants' answers within the frozen goal paradigm. After completing this final section of the study, participants completed demographic questions (age, gender, occupation, income, and education) and answered some basic questions about their experience with the survey, then were fully debriefed and compensated.

Results

Descriptive analyses

We first present some manipulation checks and descriptive analyses regarding the goals that participants reported.

Frozen vs. active goal engagement: replication and manipulation checks

We compared frozen and active goals on effort and commitment. These analyses replicate Davydenko et al., 2019 and serve as a manipulation check.[4] Overall, participants reported being more engaged in active goals than frozen goals: goal effort and commitment were significantly higher for active versus frozen goals (see Fig. 1). Davydenko et al. (2019) conceptualize frozen goals as those characterized by commitment with low effort. In accordance with this definition, participants in the current study reported levels of frozen goal effort ($M = 3.73$, $SD = 1.72$) that were significantly lower than active goal effort ($M = 5.77$, $SD = 1.11$), $t(225) = 15.43$, $p < .001$.[5] Participants also reported levels of frozen goal commitment ($M = 5.39$, $SD = 1.38$) that were significantly lower than active goal commitment ($M = 6.21$,
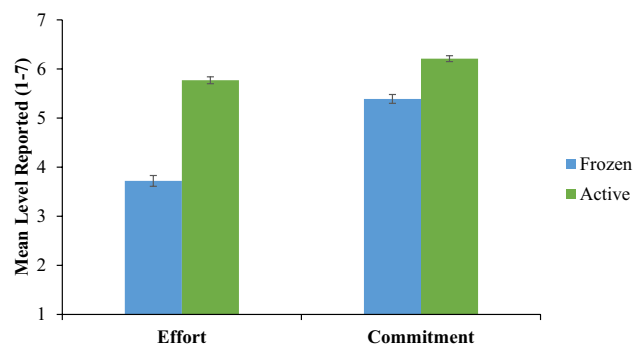
Fig. 1 Levels of reported effort and commitment for frozen and active goals. Error bars represent ± 1 standard error

$SD = 0.92$), $t(225) = 8.51$, $p < .001$. We also conducted the same midpoint comparison as Davydenko et al. (2019), comparing levels of frozen goal commitment to the midpoint of the scale. Levels of frozen goal commitment ($M = 5.39$, $SD = 1.38$) were significantly higher than the scale midpoint (4), $t(225) = 15.09$, $p < .001$, replicating Davydenko et al. (2019) and showing that although commitment was higher for active goals, frozen goal commitment was still relatively high. We also compared levels of frozen goal effort to the midpoint of the scale. Levels of frozen goal effort ($M = 3.73$, $SD = 1.72$) were significantly lower than the scale midpoint (4), $t(225) = 2.38$, $p = .018$. Taken together, these results confirm that participants were able to identify frozen goals within our COVID-frozen goal paradigm (goals with relatively high commitment but reduced effort).

Goal category

Two independent coders coded participants' frozen and active goals based on what area of life they fell into (i.e., goal category) using a coding scheme based on the Davydenko et al. (2019) coding of frozen and active goals (see Table 2). The intraclass correlation coefficient was 0.92 for frozen goals and 0.94 for active goals. The frequencies for each goal type are presented in Table 2. The three most frequent categories of frozen goals were hobby/leisure goals (32.3%), career/academic goals (19.9%), and relationship/social goals (14.2%). The three most frequent categories of active goals were physical health/fitness goals (44.2%), financial goals (23.0%), and career/academic goals (13.7%).

Primary analyses

Frozen goals and well-being

Next, we present analyses that test our primary hypotheses. First, we tested our hypothesis that there is a negative association between percentage of frozen goals and well-being.

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[3] We included two other individual difference measures in the study: one that assesses sunk-cost resistance (Bruin de Bruine, 2007) and one that assesses beliefs about goal disengagement that we are developing internally. These two measures are only peripherally related to the current research and are not discussed further.

[4] We also compared frozen vs. active goals on other goal characteristics (progress, length, attainability, and investment). These comparisons can be found in the SOM.

[5] This pattern was also observed with a single-item effort variable: *"How much effort are you putting into achieving the goal?"* (1 = *none* to 5 = *a great deal*). Again, participants reported levels of frozen goal effort ($M = 2.70$, $SD = 1.19$) that were significantly lower than active goal effort ($M = 4.22$, $SD = 0.81$), $t(222) = 15.80$, $p < .001$.

Table 2 Percentage of reported goals by category

Goal category	Goal examples	Frozen (%)	Active (%)
Physical health/fitness	Lose weight, going to a gym, eat healthy	12.4	44.2
Financial	Buy a house, save more money, retirement planning	7.5	23.0
Career/academic	Finding a new job, finish my PhD, get promoted	19.9	13.7
Learn something new	Take wilderness survival classes, learn dancing,	1.8	1.8
Home/car	Strip paint and repaint the deck, redecorating and remodeling my home	2.2	4.0
Hobby/leisure	Travelling to Mexico, reading more, plant crops	32.3	5.8
Life change	Relocate, have kids, get married	5.3	3.5
Relationship/social	Make new friends, find a girlfriend, become more social and talkative	14.2	3.1
Stop bad habit	Quit smoking	0.4	0.0
Other	Volunteer more in my community, improving my social anxiety and depression	4.0	0.9

Correlations between all variables, along with descriptive statistics, are presented in Table 3. Supporting our hypothesis, the greater the percentage of COVID-frozen goals participants reported holding ($M = 27.62$, $SD = 22.43$), the more they reported psychological distress (stress, depressive symptoms, and anxiety). Percentage of COVID-frozen goals was not, however, related to life satisfaction (see Table 3).

Goal engagement and well-being

We then examined the relationship between various forms of engagement in frozen goals and well-being to test our second primary hypothesis, that rumination, but not thought frequency or commitment, is related to well-being. We report the correlations for active goals as a benchmark. All correlations between goal engagement variables and well-being can be found in Table 3. As expected, frozen goal rumination was positively associated with psychological distress (stress, depressive symptoms, and anxiety), and negatively associated with life satisfaction.[6] These same associations were observed for active goal rumination. Importantly, commitment and thought frequency towards frozen goals were unrelated to well-being, supporting our hypothesis that only rumination is problematic for well-being. In contrast, commitment to active goals was related to well-being: active goal commitment was negatively correlated with psychological distress (stress, depressive symptoms, and anxiety). We return to these findings in the Discussion.

We then conducted multiple regression analyses, regressing well-being on goal commitment, rumination, and thought frequency (see Table 4). We controlled for active goal engagement when looking at the effects of frozen goal engagement to control for baseline tendencies to ruminate about goals and to account for the relationship between rumination for other goals and well-being. In support of our hypothesis, rumination towards frozen goals was associated with psychological distress (greater stress, depressive symptoms, and anxiety), controlling for thought frequency and rumination towards active goals.[7] These results also hold when controlling for age and gender (details are presented in the SOM).

Exploring commitment × unattainability effects on well-being

Although our findings suggested that rumination, not commitment, was a problematic tether for frozen goals, we wondered whether the specific context of the study could have influenced these results. The current study focused on COVID-frozen goals, which are frozen at least in large part due to external constraints. Under these conditions, people might be anticipating being able to unfreeze their goals when pandemic circumstances change—i.e., these goals are often still attainable—and thus remaining committed may not be maladaptive. However, following previous theorizing (e.g., Wrosch et al., 2003a) and empirical evidence (e.g., Kuhl & Helle, 1986; Miller & Wrosch, 2007; Nolen-Hoeksema et al., 1994), if a goal is in fact *unattainable* (even when external constraints are lifted), effects of remaining engaged in frozen goals might be amplified and commitment itself might be maladaptive. These analyses

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[6] The positive correlations between rumination and stress, depression, and anxiety were also observed in Study S1; however, rumination was not significantly correlated with life satisfaction.

[7] These regression analyses were conducted based on feedback from reviewers and were not included in our pre-registered analysis plan. These analyses were conducted in two alternate ways, which *were* included in our pre-registered plan: (1) including effort, and (2) splitting up rumination/thought frequency and effort/commitment into separate models. Results from these alternate analyses are presented in the SOM but mirror those presented here: supporting our hypothesis, frozen goal rumination was consistently related to well-being (specifically, psychological distress) and frozen goal commitment and thought frequency were not.

Table 3 Bivariate correlations between all primary variables and age and gender

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1.Age	–																
2.Gender	.18*	–															
3.FGs Percentage	−.11	−.06	–														
4.FG Rumination	.03	.05	.16*	–													
5.FG TF	.17**	.14*	.05	.67***	–												
6.FG Effort	.00	−.10	.15*	.33***	.26***	–											
7.FG Commit	.15*	.11	.09	.41***	.46***	.48***	–										
8.AG Rumination	.02	−.01	.01	.23**	.07	−.10	.00	–									
9.AG TF	.07	.06	−.15*	.12	.22**	−.05	.14*	.55***	–								
10.AG Effort	−.03	.07	−.13*	.03	.02	.06	.19**	.18**	.28***	–							
11.AG Commit	.10	.08	−.13	−.05	−.03	.06	.25***	.29***	.43***	.56***	–						
12.Life satisfaction	.09	.00	−.12	−.19**	−.12	.06	.03	−.22**	−.06	.10	.06	–					
13.Stress	−.20**	.06	.21**	.26***	.10	−.10	−.10	.28***	.07	−.11	−.18**	−.69***	–				
14.Dep symptoms	−.15*	.12	.20**	.29***	.14*	−.07	−.01	.17**	−.03	−.05	−.13	−.61***	.76***	–			
15.Anxiety	−.20**	.11	.20**	.24***	.08	−.08	−.07	.24***	.00	−.12	−.17**	−.68***	.85***	.87***	–		
16.Dis capacity	−.06	−.07	−.10	−.40***	−.35***	−.15*	−.26***	−.25***	.08	−.09	−.06	.18**	−.24***	−.24***	−.22**	–	
17.Re capacity	.06	.06	−.05	−.16*	−.10	−.15*	−.03	.06	.16	.16	.24***	.21**	−.18**	−.18**	−.21**	.12	–
M	38.59	–	27.62	3.07	3.63	3.73	5.39	3.48	4.11	5.77	6.21	4.46	1.61	0.89	1.96	3.34	3.58
SD	10.96	–	22.43	1.00	0.76	1.72	1.38	0.92	0.69	1.11	0.92	1.67	0.62	0.64	0.72	0.87	0.95
α	–	–	–	.91	.91	.88	.94	.78	–	.74	.92	.95	.85	.91	.96	.76	.91

Gender is a dummy-coded gender variable coded as 1 = woman, 0 = man

FG frozen goal, *AG* active goal, *TF* thought frequency, *commit* commitment, *dep* depressive, *dis capacity* disengagement capacity, *re capacity* reengagement capacity

***$p < .001$

**$p < .01$

*$p < .05$

Table 4 Summary of (frozen and active) goal engagement effects on well-being

Outcome	Predictor	b(SE)	β	t	p	95% CI
Life Satisfaction	Frozen goal commitment	.11(.10)	.09	1.14	.254	[− .079, .297]
	Active goal commitment	.12(.14)	.07	0.89	.377	[− .152, .399]
	Frozen goal rumination	− .21(.16)	− .13	1.34	.183	[− .519, .099]
	Active goal rumination	− .46(.15)	− .25	3.02	.003	[− .755, -.159]
	Frozen goal thought frequency	− .17(.21)	− .08	0.80	.423	[− .590, .249]
	Active goal thought frequency	.18(.21)	.07	0.84	.402	[− .238, .591]
Stress	Frozen goal commitment	− .06(.03)	− .13	1.73	.086	[− .124, .008]
	Active goal commitment	− .14(.05)	− .21	2.93	.004	[− .240, − .047]
	Frozen goal rumination	.16(.06)	.25	2.85	.005	[.048, .265]
	Active goal rumination	.20(.05)	.30	3.82	< .001	[.098, .307]
	Frozen goal thought frequency	− .02(.08)	− .03	0.29	.770	[− .169, .125]
	Active goal thought frequency	− .01(.07)	− .02	0.19	.851	[− .159, .132]
Depressive Symptoms	Frozen goal commitment	− .04(.04)	− .19	1.14	.256	[− .110, .030]
	Active goal commitment	− .07(.05)	− .10	1.39	.165	[− .175, .030]
	Frozen goal rumination	.19(.06)	.30	3.27	.001	[.076, .306]
	Active goal rumination	.14(.06)	.20	2.51	.013	[.030, .252]
	Frozen goal thought frequency	− .01(.08)	− .01	0.15	.882	[− .168, 1.44]
	Active goal thought frequency	− .11(.08)	− .12	1.36	.174	[− .261, .048]
Anxiety	Frozen goal commitment	− .05(.04)	− .09	1.25	.214	[− .126, .028]
	Active goal commitment	− .14(.06)	− .18	2.38	.018	[− .250, − .023]
	Frozen goal rumination	.17(.07)	.25	2.70	.007	[.047, .302]
	Active goal rumination	.23(.06)	.29	3.64	< .001	[.104, .349]
	Frozen goal thought frequency	− .04(.09)	− .04	0.40	.692	[− .207, .138]
	Active goal thought frequency	− .10(.09)	− .10	1.16	.246	[− .271, .070]

df = 224 for each model

were not included in our pre-registered analysis plan and were therefore exploratory.

We measured perceived goal unattainability in our study as an exploratory variable (see Footnote #2), so we were able to examine whether goal unattainability moderated the effect of commitment on well-being. Participants rated the items *"Successfully pursuing this goal seems difficult to me"* (Herrmann & Brandstätter, 2015) and *"How likely is it that you will attain this goal?"* (reverse-scored) on a 7-point Likert-type scale. These two items were significantly correlated, $r(225) = 0.43$, $p < .001$, and they were combined to create a composite unattainability variable. Frozen goal commitment and unattainability interacted to predict depressive symptoms, $b = .04$, $SE = .02$, $t(222) = 2.26$, $p = .025$, 95% CI [.006, .082], and anxiety, $b = .04$, $SE = .02$, $t(222) = 1.98$, $p = .049$, 95% CI [.000, .084]. Commitment predicted depressive symptoms at high goal unattainability (+ 1 SD), $b = .08$, $SE = .04$, $t(222) = 2.14$, $p = .033$, 95% CI [.006, .153], but not at low goal unattainability (-1 SD), $b = − .04$, $SE = .05$, $t(222) = 0.86$, $p = .388$, 95% CI [-.130, .051] (see Fig. 2; Panel A). Similarly, goal unattainability predicted anxiety, but this effect was stronger if goal commitment was

high (+ 1 SD), $b = .23$, $SE = .04$, $t(222) = 5.19$, $p < .001$, 95% CI [.140, .312] versus low (-1 SD), $b = .11$, $SE = .05$, $t(222) = 2.21$, $p = .016$, 95% CI [.012, .202] (see Fig. 2; Panel B). The commitment × unattainability interaction was not significant for life satisfaction, $b = − .06$, $SE = .05$, $t(222) = 1.17$, $p = .245$, 95% CI [− .157, .040] or stress, $b = .03$, $SE = .02$, $t(222) = 1.88$, $p = .061$, 95% CI [− .002, .071]. Overall, these suggest that although commitment to a frozen goal is not directly related to well-being, it *is* associated with depressive symptoms if the goal is highly unattainable, and it exacerbates the anxiety associated with goal unattainability.

Secondary analyses

We then tested our secondary hypotheses, which examine the role of goal adjustment capacities.

Fig. 2 Depressive symptoms (Panel A) and anxiety (Panel B) as a function of frozen goal commitment and unattainability. Error bars represent ± 1 SE
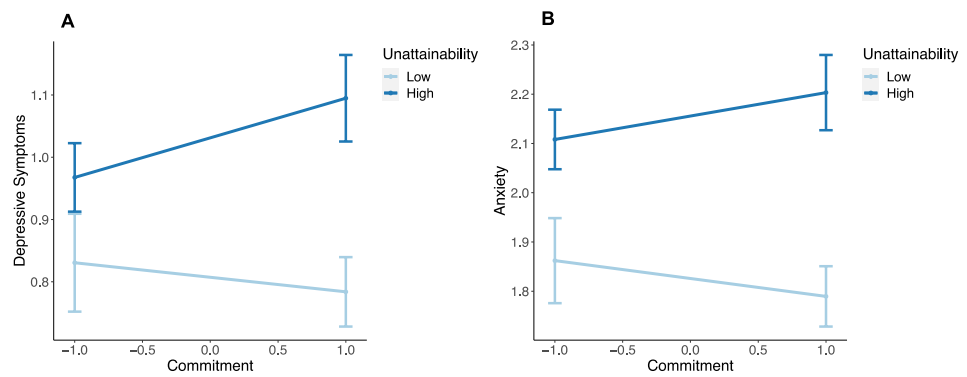
Fig. 3 Goal commitment (Panel A) and goal rumination (Panel B) as a function of disengagement capacity and goal type. Error bars represent ± 1 SE
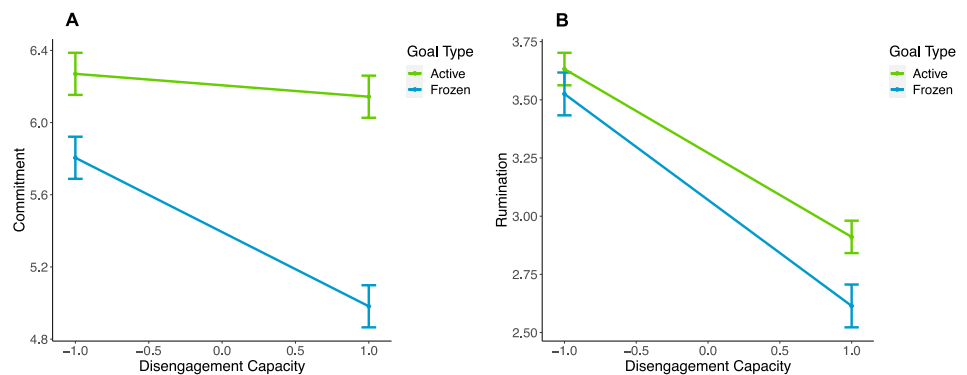
Disengagement capacity and goal engagement

First, we tested our hypothesis that disengagement capacity would be related to reduced frozen goal rumination. Correlations between disengagement capacity and all goal engagement variables can be found in Table 3. As expected, disengagement capacity was related to less frozen goal rumination.[8] It was also related to less active goal rumination. The relations between disengagement capacity and effort and commitment, on the other hand, differed as a function of goal type: disengagement capacity was related to less goal effort and commitment for frozen goals but was unrelated to effort and commitment for active goals. These results suggest that disengagement capacity involves selective disengagement rather than a tendency to disengage from goals overall. Given these correlational results, we further explored the idea that disengagement capacity is selective in the following regression analyses.

Using 2-level multilevel modeling (conducted with the R package 'lme4;' Bates et al., 2014), goal rumination, effort, and commitment were regressed on goal type (effects coded; -1 = active goal, 1 = frozen goal), goal disengagement capacity, and their interaction, while modeling the random intercept of participant as a random effect (because goal type was nested within individuals).[9] We found supportive evidence for a goal type × disengagement capacity interaction for commitment, $b = -.17$, $SE = .05$, $t(223) = 3.20$, $p = .001$ (see Fig. 3; Panel A). The effect of disengagement capacity on commitment was significant for frozen goals, $b = -.41$, $SE = .09$, $t(223) = 4.67$, $p < .001$, but not for active goals, $b = -.06$, $SE = .09$, $t(223) = 0.72$, $p = .470$. Moreover, the effect of goal type was stronger at high (+ 1 SD) goal disengagement capacity, $b = -.56$, $SE = .07$, $t(223) = 8.33$, $p < .001$, than at low (− 1 SD), $b = -.26$, $SE = .07$, $t(223)$, 3.81, $p < .001$. There was also a significant goal type × disengagement capacity interaction for rumination, $b = -.19$, $SE = .09$, $t(223) = 2.10$, $p = .037$ (see Fig. 3; Panel B). The effect of disengagement capacity on rumination was stronger for frozen goals, $b = -.46$, $SE = .07$, $t(223) = 6.56$, $p < .001$ than active goals, $b = -.27$, $SE = .07$, $t(223) = 3.83$, $p < .001$. Moreover, the effect of goal type was stronger at high (+ 1 SD) goal disengagement capacity, $b = -.28$, $SE = .06$, $t(223) = 5.11$, $p < .001$, than at low (− 1 SD), $b = -.12$, $SE = .06$, $t(223)$, 2.14, $p < .001$. The interaction for effort was

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[8] Disengagement capacity was also negatively correlated with frozen goal rumination in Study S1.

[9] These were random-intercept only models (i.e., the models did not include random slopes). The hierarchical model equations were as follows: Level 1: Goal rumination/effort/commitment$_{ij} = b_{0ij} + b_{1ij}$ Goal Type$_{ij} + b_{2ij}$ Disengagement Capacity$_{ij} + b_{3ij}$ Goal Type × Disengagement Capacity$_{ij} + e_{ij}$; Level 2: $b_{0ij} = \gamma_{00} + v_{0ij}$.

Table 6 Summary of goal adjustment capacity effects on well-being

Outcome	Predictor	b(SE)	β	t	p	95% CI
Life satisfaction	Disengagement	.30(.12)	.16	2.40	.017	[.054, .544]
	Reengagement	.34(.11)	.20	2.98	.003	[.116, .566]
Stress	Disengagement	−.15(.05)	−.22	3.37	.001	[−.244, −.064]
	Reengagement	−.10(.04)	−.16	2.42	.016	[−.185, −.019]
Depressive symptoms	Disengagement	−.16(.05)	−.22	3.36	.001	[−.251, −.065]
	Reengagement	−.10(.04)	−.16	2.40	.017	[−.189, −.019]
Anxiety	Disengagement	−.16(.05)	−.20	3.06	.003	[−.265, −.057]
	Reengagement	−.14(.05)	−.18	2.80	.006	[−.231, −.040]

Disengagement = disengagement capacity, reengagement = reengagement capacity

df = 224 for each model

not significant, $b = -.08$, $SE = .07$, $t(223) = 1.04$, $p = .301$. Overall, these results suggest that disengagement capacity involves *selective* reduction in both commitment and rumination: a tendency to reduce commitment from frozen goals but not from active goals, and a tendency towards less rumination that is stronger for frozen goals than for active goals.

Goal adjustment capacities and well-being

Next, we examined the relationship between goal adjustment capacities and well-being. As expected, both goal adjustment capacities—disengagement and reengagement—were related to greater life satisfaction, as well as less psychological distress (stress, depressive symptoms, and anxiety; see Tables 3 and 6), replicating prior work (Barlow et al., 2020; Boudrenghien et al., 2012; Heckhausen et al., 2001; Kuhl & Helle, 1986; Miller & Wrosch, 2007; Wrosch, 2010; Wrosch & Heckhausen, 1999; Wrosch et al., 2003b).[10] However, disengagement capacity was more strongly related to psychological distress (negative indicators of well-being) than reengagement capacity while the opposite was true for life satisfaction (a positive indicator of well-being). Thus, our hypothesis that reengagement capacity would be more strongly related to all well-being indicators was not supported. Reengagement capacity was only more strongly related to life satisfaction, and it was *less* strongly related to psychological distress (stress, depressive symptoms, and anxiety).

Finally, we examined whether the relationships between goal adjustment capacities and well-being observed in our correlational results could be driven, at least in part, by reduced goal rumination. In other words, do individual differences in these capacities partly benefit well-being due to the tendency to keep rumination low? We conducted these analyses using Hayes PROCESS (2018) model 4, first entering disengagement capacity as the independent variable (X), frozen goal rumination as the mediator (M), and life satisfaction, stress, depressive symptoms, and anxiety as the dependent variables (Y) in four separate analyses. Disengagement capacity was negatively related to stress indirectly through low goal rumination, $b = -.06$, $SE = .03$, 95% CI $[-.116, -.013]$. This same indirect effect was observed for depressive symptoms, $b = -.07$, $SE = .02$, 95% CI $[-.126, -.030]$, and anxiety, $b = -.07$, $SE = .03$, 95% CI $[-.124, -.018]$. The indirect effect was not significant for life satisfaction, $b = .12$, $SE = .07$, 95% CI $[-.003, .254]$.[11] These analyses were also run with active goal rumination as the mediator instead of frozen goal rumination, given that disengagement capacity was also negatively related to active goal rumination. Active goal rumination mediated the relationship between disengagement capacity and life satisfaction and some indicators of psychological distress (stress and anxiety; details are presented in the SOM).

The analyses were then run with reengagement capacity as the independent variable instead of disengagement capacity, given its relationships with well-being. Reengagement capacity was positively related to life satisfaction indirectly through low frozen goal rumination, $b = .05$, $SE = .03$, 95% CI $[.000, .118]$. It was also negatively related to stress indirectly through low goal rumination, $b = -.02$, $SE = .01$, 95% CI $[-.055, -.003]$ and this same indirect effect was observed for depressive symptoms, $b = -.03$, $SE = .02$, 95% CI $[-.064, -.003]$, and anxiety, $b = -.03$, $SE = .02$, 95% CI $[-.059, -.003]$.

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[10] Reengagement capacity was also related to greater life satisfaction, and less stress, depression, and anxiety, in Study S1. However, disengagement capacity was only related to less stress in Study S1.

[11] We also conducted these analyses in Study S1, but there was no evidence of mediation in that study.

Discussion

In the present study, we found evidence that frozen goals (goals characterized by commitment with low effort) were negatively related to well-being in the context of COVID-19. The more COVID-frozen goals participants had, the more psychological distress (depressive symptoms, anxiety, and stress) they reported feeling recently. This finding suggests that, perhaps unsurprisingly, blocked goals are associated with distress. However, it also provides the first evidence that partial disengagement (Wrosch et al., 2003a) can be problematic for well-being. Importantly, however, we found that variability in goal rumination—rather than goal commitment or thought frequency—was the only form of engagement in frozen goals that was directly associated with such distress. Specifically, frozen goal rumination was negatively associated with life satisfaction, and positively associated with psychological distress.

We also found that individual differences in the general capacity to disengage from goals (disengagement capacity), and the capacity to reengage in alternative goals (reengagement capacity), was positively associated with well-being. Participants higher in these capacities reported greater levels of recent life satisfaction, and lower levels of psychological distress. These findings replicate past work on goal adjustment capacities (e.g., Barlow et al., 2020) in the context of COVID-19. We also found evidence that these relationships were indirectly influenced by the tendency to keep goal rumination low, though these indirect effects were not observed in Study S1.

Overall, the study demonstrates how goal disengagement can support well-being in the context of the COVID-19 pandemic: capacities to disengage and reengage in alternatives were associated with better well-being, and staying engaged in COVID-frozen goals through rumination was associated with worse well-being. The study was the first to examine the well-being correlates of partial goal disengagement (frozen goals) and it was the first to explore different types of partial disengagement—staying committed to blocked goals versus being compulsively and negatively mentally engaged in them (i.e., ruminating about them). Indeed, we found there is a difference between these different types of engagement: frozen goal rumination correlated with well-being, but frozen goal commitment and thought frequency did not. However, exploratory analyses showed that frozen goal commitment does contribute to psychological distress (depressive symptoms and anxiety) in the context of *unattainable* frozen goals.

Implications for theories of goal disengagement

The current work has important implications for theories of goal disengagement. Specifically, our study contributes to an understanding of when and how it is adaptive to disengage from goals. Disengagement is not always an all-or-nothing process; sometimes we partially disengage—relinquishing one type of engagement but not others. Frozen goals (Davydenko et al., 2019) are an example of partial disengagement, as one relinquishes effort but remains committed. The well-being consequences of frozen goals were largely unknown based on prior work. Prior theorizing suggested that this goal state—commitment without effort—is distressing (Wrosch et al., 2003a). This consequence of commitment to frozen goals contrasts with active goals, where commitment is typically associated with positive outcomes (e.g., Brunstein, 1993). Indeed, in our data commitment to active goals had positive relationships with well-being. Importantly, the pattern of relationships regarding frozen goals suggests that the specific ways in which people remain tethered to the goals matter; not all forms of partial disengagement were problematic. Neither commitment to frozen goals nor thinking frequently about frozen goals was directly related to well-being. Rather, it was rumination about these goals that was linked to reduced well-being (not surprisingly, rumination towards active goals also had negative relationships with well-being, replicating prior work; Schultheiss, 2008; Watkins & Roberts, 2020). Further, the percentage of frozen goals (the percentage of one's goals that were currently frozen) had negative relationships with well-being. In the aggregate, the mere presence of frozen goals might be problematic, or perhaps people are more likely to ruminate about frozen goals if they have more of them. In support of this latter idea, frozen goal rumination was positively correlated with percentage of frozen goals (see Table 3).

While the current data suggest that commitment to frozen goals might not itself be linked to reduced well-being, our exploratory analyses reveal that this might partly reflect the ultimate attainability of COVID-frozen goals. Commitment to frozen goals *was* related to depressive symptoms if the goal was high in unattainability, and commitment exacerbated effects of unattainability on anxiety. These findings suggest that commitment could be problematic when goals are never going to be attainable, as has been previously theorized (Wrosch et al., 2003a). Future work should probe this relationship further and systematically compare attainable versus unattainable frozen goals, and in contexts outside of COVID-19. As mentioned in the Introduction, the temporary[12] nature of the pandemic means COVID-frozen goals are likely only temporarily blocked, and therefore ultimately attainable. If a frozen goal is attainable, staying committed might not be distressing. Staying committed might also be adaptive in this context because it could facilitate

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[12] Though to the authors and many others, seemingly endless and relentless!

reengagement. In contexts where a goal will become attainable again in the future, keeping the goal frozen, rather than disengaging completely could be adaptive. This possibility will also be important to explore in future work.

Implications for goal pursuit during COVID-19 and other adverse contexts

Amid the COVID-19 pandemic, many individuals have experienced increased mental health challenges (e.g., Pierce et al., 2020; Vindegaard & Benros, 2020; Wu et al., 2021). This rise could be due, in part, to how we have been pursuing our goals throughout the pandemic. Societal norms encourage people to stay highly motivated towards their goals, even in times of adversity. Numerous motivational theories focus on the benefits of persistence—maintaining engagement in the face of obstacles (e.g., Brehm & Self, 1989; Duckworth et al., 2007; Dweck, 2007; Locke & Latham, 1990; Ryan & Deci, 2019; see Brandstätter & Bernecker, 2022 for a review), and persistence has even been encouraged in the face of COVID-19 (e.g., Kokkoris & Stravrova, 2021). There is no doubt that persistence is beneficial, much of the time. However, the current study adds to a growing literature demonstrating that effective goal pursuit not only involves pushing through obstacles, but also knowing when to walk away.

When facing adversity like living through a prolonged global pandemic, messages to persist could be quite harmful, as they promote goal engagement under any circumstance. Such internalized messages could be contributing to COVID-induced mental health issues. Even if effort is reduced and blocked goals become frozen, people might stay "too engaged" by ruminating about the COVID-frozen goals. Of course, rumination about any goal—frozen or active—is linked to negative well-being. Yet the nature of the rumination, and the types of interventions that could address it, may differ in important ways for these different goal types. Individuals may ruminate about active goals because they are not sure that they are using the best means, doubt whether they have what it takes to attain their aims, or worry that they are not progressing fast enough. For frozen goals, rumination may be partly rooted in societally ingrained beliefs about persistence: individuals may be afraid to appear to themselves or others as quitters. These possibilities will be interesting to explore in future work.

Limitations and other future directions

Our study provides several important insights, but it also has limitations. Although the COVID-19 context offers a good window into frozen goals, the context is limiting since it likely captures goals that are frozen for reasons external to the self—effort *needed* to be reduced. The COVID-frozen goals reported in our study were comparable to those reported in Davydenko et al. (2019) in levels of engagement, which captured goals in a context before the pandemic and that were more likely internally driven. However, a much greater percentage of the frozen goals in our study were those that are presumably frozen for primarily external reasons (e.g., hobby/leisure goals like travelling and relationship/social goals that require socializing).

It is possible that when goals are frozen for external reasons, effects on well-being are reduced. In this case, personal responsibility is reduced, hence reducing the potential for self-doubt and feelings of failure (Wrosch et al., 2003a). Therefore, the COVID context might have led to attenuated effect sizes in the current study. We did measure the locus of control participants attributed to their frozen goals as an exploratory variable (see Footnote #2) and locus of control was highly external on average ($M = 5.50$ on 7-point scale from internal to external), but scores on this variable did not correlate with well-being (see Table I in the SOM). However, future work should probe these relationships further and explicitly compare goals frozen for internal versus external reasons. People might still ruminate about externally driven frozen goals, and this rumination could still produce distress (as is suggested by the current study), but effects could be larger for internally driven frozen goals.

The study was correlational and only included one time point. This design prevents our ability to conclude directionality. Frozen goals, or ruminating about frozen goals, could lead to psychological distress, but psychological distress could also lead to a tendency to freeze goals or ruminate about frozen goals. It will be important to conduct experimental work that can directly test the interpretations of the correlations observed in these data, and longitudinal work that can examine their reliability over time. It is also worth noting that across analyses (and studies; see Study S1 in the SOM), effects were most consistently observed for anxiety, depressive symptoms, and stress (psychological distress vs. life satisfaction); this may suggest that the consequences of holding frozen goals are stronger for these more affective, proximal variables. At the same time, future research should aim to replicate our results using a more precise and diversified measure of well-being (e.g., the Mental-Health Continuum-Short Form [MHC-SF] scale; Lamers et al., 2011).[13] Future research assessing goal thought frequency could also use an improved measure (e.g., with a greater number of items) that could be better distinguished from rumination. Additionally, this study employed MTurk samples and only participants from the United States. Future work could conduct replications with samples that have different demographic profiles than the ones presented here to

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13 We thank an anonymous reviewer for providing this idea.

examine the extent to which these patterns generalize across demographic and cultural differences.

While our study demonstrates well-being correlates of frozen goals, there is still much to learn about the cognitive experience of these goals. Insights into this question could come from the theory of an action crisis (Brandstätter et al., 2013). An action crisis is a mindset that individuals experience when deciding between disengagement and further pursuit. The concept of frozen goals aligns with the perspective of action crisis research that goal disengagement is a process, not a binary event (Brandstätter et al., 2013; Klinger, 1975), and the action crisis mindset could precede or accompany goal freezing. An action crisis is a mindset that precedes disengagement, so in this way an action crisis could precede reductions in effort. But to the extent that one stays in an action crisis, the goal could remain frozen (commitment keeps the goal intact, while the individual considers full disengagement). In other words, an action crisis could be a cognitive feature of frozen goals. Action crises are associated with psychological distress (Brandstätter et al., 2013). It is possible, therefore, that the mindset partly explains the negative relationship between frozen goals and well-being. Future work can also consider the Rubicon model of goal pursuit when examining these questions (Gollwitzer, 1990). Action crises are associated with a deliberative mindset (Gollwitzer, 1990): Brandstätter and Schuler (2013) found associations with cost–benefit thinking. This finding suggests that even in a post-decisional (implemental) phase of goal pursuit (when the individual is committed to the goal and pursuing it), there can be a mindset *shift*, where the individual shifts back to a deliberative mindset (when disengagement comes into question). We believe that this mindset shift could also occur when an individual decides to freeze a goal and it could linger while the individual contemplates full disengagement (withdrawing commitment) or reengagement (reengaging effort).

Conclusion

The COVID-19 pandemic has disrupted the lives of millions of people around the world, creating constraints that block goal pursuit. In our study, participants indicated that 28% of their goals—almost one-third—were frozen by the pandemic! In these difficult times, we can ruminate about the things we cannot do, or we can loosen our grip and disengage more fully. The current research demonstrates the benefits of disengaging more fully: relinquishing rumination towards COVID-frozen goals can support well-being.

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