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Adaptive goal adjustment is an important component of well-being. Maladaptive goal adjustment has been associated with depression, particularly inabilities to disengage in the face of unattainable goals. Research has not fully clarified how inabilities to disengage relate to depression. Research focused on impulses to disengage has demonstrated that appraisals of goal importance and goal attainability play a key role. This study intended to build upon past work by examining the relationship between depression and several aspects of disengagement, including reported disengagement behavior. A goals-based interview was administered that assessed appraisals of goal importance and attainability, conditional goal setting and retrospective reports of COVID-19 to examine trends among impacted goals. A total of 310 participants were recruited for this study. Participants completed measures of depression, goal adjustment capacities, conditional goal setting, as well as a goal interview that focused on both current goals and goals impacted by COVID-19. Results demonstrated that depression is associated with perceptions of low attainability for an important goal, mediated by impulses to disengage. Findings also indicated that disengagement behaviors are predicted by perceptions of importance and attainability, and further that conditional goal setting demonstrates associations with goal importance and disengagement. These results demonstrate key associations between depression and disengagement that have not yet been established in the literature. They also provide support for the theory that depression reflects an adaptive response to help promote disengagement and further that disengagement may be hindered by factors related to goal importance, such as conditional goal setting. Implications for clinical populations and future research on goal disengagement is discussed.

THE BENEFITS OF GIVING UP: CLARIFYING HOW INABILITIES TO  
DISENGAGE RELATE TO DEPRESSION

by

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## CHAPTER I: LITERATURE REVIEW

Goals play a role in nearly every aspect of our lives. From waking up, to starting a career, and even finding happiness, we envision and work toward goals to create the lives we want. As anyone could attest, goal pursuit is hardly a perfect process; it is not uncommon to encounter difficulties and distress in working towards our wants and needs. Finding ways to adapt to these difficulties can help to make the best of a bad situation. As many of us may have experienced, some desires and aims feel so important that it would seem impossible to relinquish them. What happens when an important goal begins to feel unattainable? And what makes a goal so important that it becomes difficult to abandon? This study will explore the ways in which perceptions of goals may be driving problematic goal adjustment and how this can impact well-being, particularly given associations with depression.

### **Adaptive Goal Adjustment**

Although goals can come in a broad array of forms, they are most consistently referred to as any desired end-state (Wrosch, Scheier, Miller, et al., 2003). While concrete goals may typically come to mind, like buying a house, other more abstract concepts, such as self-discovery, can also be considered goals. Ideally, without any obstacles, goals would be reached according to plan and needs would be met. However, the reality is that goal pursuit does not always go as planned, and it can be necessary to modify goal pursuit strategies. This response to goal difficulties is referred to as goal adjustment, which is defined as the ways in which individuals move towards and away from the goals they are pursuing (Wrosch, Scheier, Miller, et al., 2003). Goal adjustment has been conceptualized as a capacity or tendency to modify goal pursuit strategies, influenced by both within-person factors (e.g., motivation) and goal-specific

factors (e.g., attainability; Wrosch, Scheier & Miller, 2013). In this sense there may be individual differences in goal adjustment behavior, depending not only on traits of the person (e.g., capacity for goal adjustment) but on state-based factors such as mood and perceptions of the specific goal. It is important to consider how individuals adjust to specific goal difficulties because this can have direct impacts on well-being, influencing which goals remain to be pursued and which will be abandoned. The capacity for effective goal adjustment can be an important contributor to quality of life (Wrosch and Scheier, 2003).

Goal adjustment has two sub-components: disengagement and reengagement (Wrosch et al., 2003). When effort and commitment toward a goal are reduced, this is referred to as goal disengagement, and when they increase toward a new goal, this is referred to as reengagement. Wrosch and Scheier (2003) define adaptive goal adjustment as the ability to disengage from unattainable or significantly problematic goals, as well as reengage in meaningful goals that fulfill needs. Remaining stuck in a goal that uses up energy and resources without any progress could lead to lack of fulfillment and impair day-to-day functioning, particularly if distressing symptoms persist. Thus, examining patterns of disengagement and reengagement is informative for understanding how goal pursuit impacts well-being.

Disengagement and reengagement have been measured and examined in two distinct ways (Scobbie et al., 2020). They can be measured as specific behaviors with respect to particular goals (e.g., participants report whether or not they are still pursuing a specific goal; observe when a participant gives up on a lab task) or as a more general tendency or capacity (i.e., how one typically responds when facing goal difficulties). The most frequently used measure of general capacities toward disengagement and reengagement is the Goal Adjustment Scale (GAS), which is a self-report of typical behaviors in the face of problems while pursuing

important goals (Wrosch, Scheier, Miller, et al., 2003). Most studies examining goal adjustment and its sub-components rely on the GAS or a similar approach (e.g., Tenacious Goal Pursuit/Flexible Goal Adjustment Scale, other non-standardized self-report inventories) taking into account only self-reports of estimated tendencies, rather than considering specific behaviors around specific personal goals.

Only one study has attempted to make comparisons between general capacities for disengagement and disengagement from specific goals, which authors referred to as dispositional and situational disengagement, respectively (Thompson et al., 2012). Using the GAS, researchers presented participants with the standard GAS (general/dispositional) as well as a modified GAS referring to a specific goal (specific/situational). Within this sample, there was not a significant correlation between these measures, even though they presented very similar items. This speaks to the claim that general measures do not always capture how people respond to specific goal difficulties. Unfortunately, no study to date has examined how GAS scores relate to behaviors, specifically. This study aims to expand the literature in this regard by asking questions about specific goals, assessing both behavioral reports and general measures. As one might speculate, if how one adjusts depends upon the nature of the specific goal, measures of general capacities like the GAS may not necessarily be predictive of what individuals do with a specific problematic goal. Exploring relationships with goal adjustment in the context of specific goals is an important methodological approach to better understand implications for well-being.

Nevertheless, research surrounding goal adjustment has found trends between goal disengagement and factors related to well-being. A meta-analysis of 35 studies of goal adjustment (Barlow et al., 2020), found that disengagement, as measured by the GAS, was positively associated with indicators of quality of life. Further, disengagement was more strongly

associated with negative as opposed to positive indicators of well-being (i.e., depression, anxiety, intrusive thoughts, perceived stress, fatigue, negative affect). This might suggest that capacities for disengagement from problematic goals may reduce negative symptoms. Several findings from the studies included in the meta-analysis demonstrate the trends seen among those who score high on measures of disengagement. First, it has been shown that flexible goal adjustment (an alternative measure of capacity for disengagement) positively predicts satisfaction with life (Bailly et al., 2014). Second, disengagement from unattainable goals is associated with less perceived stress and greater declines in cortisol (Wrosch, Scheier, Miller, et al., 2003). Third, higher tendencies toward disengagement are associated with fewer health problems (Wrosch et al., 2007). These initial lines of evidence seem to demonstrate that being able to disengage is important. However, because they only rely on general measures like the GAS, it is not as clear what specific patterns or pathways meaningfully influence well-being. Is it better to be one who just generally disengages from many goals or is it that one must have the capacity for disengagement when needed? Could it be that disengaging from one specific, problematic goal might influence well-being? Very few studies have looked at specific disengagement behaviors with regard to important personal goals and the implications this has for well-being. For example, it could be the case that, in some instances, an individual prioritizes a single important goal that influences well-being above and beyond other goals being pursued. This study will address this gap by including the GAS alongside measures of goal disengagement behavior for specific goals to better understand pathways that alter well-being.

One of the more prominent theories demonstrating the connection between goal adjustment and well-being argues that difficulties with disengagement are directly linked to depression. A growing body of literature demonstrates that it is beneficial to well-being to know

when to relinquish a goal (Koppe & Rothermund, 2017; Ntoumanis & Sedikides, 2018; van Randenborgh et al., 2010; Wrosch et al., 2007). The ‘inability to disengage’ hypothesis states that a lack of disengagement from unattainable goals can lead to a depressive response (Wrosch et al., 2003). Stemming from this theory, it may be that when a goal becomes problematic and seems low in attainability, as part of the self-regulatory process, impulses to disengage arise. These impulses may coincide with depressive symptoms, which theoretically promote adaptive disengagement from the goal. However, if there is a limited capacity for disengagement, then depression may persist and become a maladaptive response that impacts well-being. These relationships between depression, impulses to disengage and inability to disengage are the primary focus of this study. The literature surrounding these constructs is reviewed next.

## **Depression and Disengagement**

### **Inabilities to Disengage**

This theoretical pathway toward depression stemming from inability to disengage (i.e., low capacity for disengagement) is the primary relationship of interest within this study. The pathway will be broken down into key relationships of interest: how inability to disengage influence depression levels and how perceptions around goals drive both impulses to disengage and disengagement behavior.

Recall that meta-analytic findings have demonstrated that the relationship between depression and disengagement is frequently negative (Barlow et al., 2020). Cross-sectional research has yielded several findings regarding the association between depression and inability to disengage. Among adults pursuing unattainable goals, greater capacities for disengagement (GAS) were associated with lower levels of depression (Wrosch et al., 2007). Similar results occurred in a study of parents who have children with cancer, again measuring disengagement

with the GAS (Wrosch, Scheier, Miller, et al., 2003). This negative association between depression and disengagement has been found with other measures beyond just the GAS. A study focused on people with acquired hearing loss found that higher levels of depression were associated with less disengagement, using the Goal Obstruction Questionnaire (GOQ; Garnefski & Kraaij, 2012), which focuses specifically on the effort and commitment components of disengagement. From these findings it is apparent that depression is not uncommonly associated with impairments in disengagement. However additional information is needed to clarify the nature and direction of this relationship: is it that inabilities to disengage result in depression or possibly that depression hinders actual disengagement?

Results from longitudinal work suggest that the former may be a more accurate depiction of the relationship: depression stems from a lack of disengagement in the face of a problematic personal goal. For instance, among older adults, lower scores on the GAS disengagement subscale predicted greater levels of depression six years later (Jobin & Wrosch, 2016). Another study also confirmed this association across a six-year period, again using the GAS and CES-D, and confirmed that GAS scores predicted depression above and beyond baseline depression (Dunne et al., 2011). This finding has extended into specific populations as well. In a study of individuals with amputations, disengagement capacities (GAS) shared a negative association with depression scores six months from baseline (Coffey et al., 2014). Among university students, it was found that the interaction of GAS scores and socially prescribed perfectionism predicted depressive symptoms (Eddington, 2014). Those who reported lower levels of disengagement alongside higher perfectionism demonstrated higher levels of depression. Thus, not only is disengagement predictive of depression, but it could be conjectured that factors influencing goal attainability, such as high standards for success, play a role as well.

There exists a trend among the studies discussed above: studies finding associations between depression and inability to disengage do so in the context of important goals. First, nearly all the studies relied on the GAS, which specifically asks participants to think about their *important* personal goals. Second, most of the goals examined relate to health, including studies of older adults, aging, people with amputations and people with hearing loss, all of which are arguably important. Thus, one factor influencing one's ability to disengage may be how important the goal seems.

In fact, the result of the meta-analysis described above may reflect this idea as well (Barlow et al., 2020). As it turns out, when directly comparing studies that have found a negative association between depression and disengagement as opposed to those that have found a positive association, trends exist. Those resulting in negative associations could be thought of as demonstrating the 'inability to disengage' hypothesis that is the focus of this study (Table A1). These studies all relied on measures that focus on the context of pursuing important personal goals (i.e., GAS), and even emphasize goals that are arguably more important (e.g., medical conditions, fertility). Those with positive associations, on the other hand, may be reflecting the facilitative effects of depression, referred to as the 'facilitated disengagement' hypothesis (Table A2). Facilitated disengagement refers to the theory that depression promotes disengagement from goals (Wrosch et al., 2003), which seemingly contradicts the 'inability to disengage' theories. Studies in the 'facilitated disengagement' domain, by comparison, are almost exclusively focused on lab tasks with minimal reward incentives, goals that could be considered less meaningful and less important.

By comparing these groups of studies, the patterns seem to bolster the argument that factors related to goal importance may influence the nature of the depression-disengagement

relationship. It seems that when goals are more important, results tend to show that lower levels of disengagement are associated with greater levels of depression, and that problems with disengagement precede depression. Therefore, goal importance is likely relevant to understanding pathways between inability to disengage and depression.

It should be emphasized that many studies reflecting inability to disengage have focused predominantly on general measures of capacities for disengagement and have not considered as frequently how specific disengagement behaviors are associated with depression among important goals. This makes it unclear as to how these patterns might play out across varying approaches to measuring disengagement, such as the ways in which general and specific measures compare. It reiterates the need for greater exploration of these constructs in the context of specific goals, which this study intends to do.

### **Impulses to Disengage**

While evidence supporting the link between inability to disengage and depression has been established, there is less work comparing depression and impulses to disengage. An important distinction to make is that one's capacity to disengage (a trait-dependent variable), and even actual disengagement behaviors, are not necessarily the same as an impulse to disengage (a state-dependent variable). For instance, when experiencing problems in pursuit of an unattainable goal, one may experience strong urges to give up but still not have the capacity and still not engage in disengagement behavior.

Current research on impulses to disengage focuses on a construct referred to as an action crisis, which can be thought of as being in a state of problematic goal pursuit in which there is an impulse to disengage (Brandstätter et al., 2013). Only one study has directly analyzed depressive symptoms in the context of an action crisis (Holding et al., 2017). Findings suggest that there is a



positive correlation between depressive symptoms and impulses to disengage, as measured by the Action Crisis Scale (ACRSS). This was found to be true longitudinally as well, wherein depressive symptoms predicted subsequent impulses to disengage, and these impulses also predicted later depressive symptoms. Additionally, researchers did not find a significant correlation between impulses to disengage and goal disengagement capacity as measured by the GAS, further evidence for the distinction between these constructs. Note that whereas impulses to disengage seem to share a positive relationship with depressive symptoms, capacities for disengagement share a negative association with depression in the context of important goals, as reviewed in the previous section.

Work examining the link between impulses to disengage and disengagement capacities is sparse. One study that examined impulses to disengage as it relates to disengagement capacities measured by the GAS did not find evidence for a significant association (Herrmann et al., 2019). One speculation for this is again that measures of general capacities do not map on to current impulses, due to individual differences in specific goals. However, experiencing impulses to disengage during an action crisis has been directly associated with actual disengagement behaviors when referring to a specific goal (Herrmann & Brandstätter, 2015). Individuals who rated higher impulses to disengage were more likely to indicate having given up on their goal across an 18-month period. Unfortunately, this is the only study to examine specific disengagement behaviors, and so additional work is needed in this regard. Certainly, it is not always the case that impulses to disengage lead to disengagement behavior, thus it is also important to understand what factors determine actual disengagement.

The above findings provide preliminary evidence for the relationship between impulses to disengage and depression and helps to clarify differences from inability to disengage.

However, additional evidence is needed to make more robust conclusions. The clarification of these constructs is necessary because, based on the theories of adaptive goal adjustment, it could be proposed that impulses to disengage arise when a goal feels unattainable and remain as long as there remains an inability to disengage. Whereas impulses to disengage may coincide with depression, the persistence of depression may be determined by whether disengagement behavior follows these impulses. Based on this logic, individuals who are prone to higher impulses to disengage alongside lower capacities for disengagement would be more likely to experience depression. Thus, this study aims to contribute to this understanding by evaluating if state-based impulses to disengage directly explain (i.e., mediate) pathways from unattainable goal pursuit to depressive symptoms as well as if trait-based capacities for disengagement influence whether (i.e., moderates) depressive symptoms persist in the face of impulses to disengage.

### **Building a Model**

Based on the trends discussed within the ‘inability to disengage’ literature, it seems reasonable to conclude that the ways in which goals are perceived, such as how important they seem, may be key to explaining individual abilities to disengage and the subsequent impact on depression. Additionally, given that the theories discussed so far have emphasized pursuit of unattainable goals as maladaptive, goal attainability perceptions are also likely to play a key role.

It is thought that impulses to disengage arise when an important goal is perceived to be low in attainability, resulting in a depressive response that is moderated by one’s ability to disengage. This is in fact the primary model of interest for the current study. Figure A1 depicts these relationships in a comprehensive model, all of which are in the context of pursuing an important goal. Note that the measure used for each construct is included in the figure to help clarify, each of which will be reviewed later. Figure A2 depicts the first primary analysis of

interest: when attainability becomes low, impulses to disengage directly explain (i.e., mediate) depression, as long as they persist. Figure A3 depicts the second primary analysis of interest: one's capacity for disengagement (i.e., general disengagement) influences (i.e., moderates) whether depression persists, depending on if it is high or low.

For the purposes of this study, the word 'general' refers to a trait-like construct, reflecting one's capacities toward disengagement across a range of goals (e.g., one's reported ability to disengage from goals in general). 'Specific', on the other hand, refers to aspects of disengagement relative to a particular goal (e.g., impulses to disengage from a current career goal). To help justify these models, the next section reviews the ways in which goal appraisals, namely perceptions of importance and attainability, are related to impulses toward disengagement, disengagement behaviors, and depression.

### **Goal Appraisals**

Importance and attainability are the primary goal appraisals of interest in this study. This is partly because they are directly implicated in the theories of adaptive goal adjustment as described above, which focus on pursuit of important personal goals and disengagement from unattainable goals. An emphasis on these appraisals also stems from more fundamental theories of effort, specifically Motivational Intensity Theory (MIT; Brehm & Self, 1989). Briefly, an array of research based on this theory has demonstrated that effort put forth on a task is influenced by desire for success as well as task difficulty (Richter et al., 2016; Silvestrini & Gendolla, 2013; Treadway et al., 2009). Effort increases when there is a greater drive for success, but it will decrease when the task is too difficult and no longer worth the effort. It is speculated that the very same pattern would occur for goal pursuit: engagement towards a goal would increase for more important goals (i.e., higher drive for success), but will decrease when

the goal is no longer attainable enough (e.g., too difficult or not worth the effort). Importance and attainability are useful in that they can be considered broader constructs that take into account the influences of multiple goal facets, such as goal desirability and goal difficulty. Further, they are more consistently relied upon constructs in research on goal adjustment, as discussed below.

Research examining possible connections between importance, attainability and goal disengagement is somewhat sparse but is in line with the above predictions. Among university student career goals, disengagement (GAS) was negatively associated with appraisals of importance and attainability (Haratsis et al., 2015). In a study of infertility, disengagement was again associated negatively with attainability factors, measured as perceptions of goal obstacles (Thompson et al., 2011). It may be that disengagement occurs alongside reduced perceptions of attainability and importance; one may be more likely to give up when success does not feel possible or worthwhile. Of course, more clarification is needed to understand how perceptions of importance and attainability relate to disengagement, particularly with respect to specific goals.

Most of the findings related to disengagement and appraisals, however, comes from the literature focusing on impulses to disengage. Recall that action crises refer to a state of experiencing impulses to disengage from a goal, often reflecting a stuck period in the face of obstacles toward an important goal (Brandstätter et al., 2013). How do these impulses to disengage coincide with changes in goal appraisals? In a study of examining appraisals across time, findings revealed that impulses to disengage predicted lower levels of perceived attainability, and further that lower attainability predicted greater impulses toward disengagement, as measured by the Action Crisis Scale (ACRSS; Brandstätter et al., 2013). A similar finding occurred for perceived importance, conceptualized as goal desirability, in which impulses to disengage predicted subsequent lower importance and initial lower importance

predicted greater impulses to disengage. This result was replicated in a later study (Brandstätter & Herrmann, 2016). Similar results were also found in a study of university students, in which desirability was assessed by asking how important the goal seemed and attainability was assessed by asking about perceived difficulty (Ghassemi et al., 2017). This study was particularly informative because it provided additional evidence about the possible direction of the pathway involving appraisals and disengagement. Using cross-lagged analyses, the authors determined that lower attainability directly predicted subsequent impulses to disengage, and impulses to disengage then predicted subsequent declines in importance.

Consider what this might imply about the nature of goal adjustment when pursuing important goals. Impulses to disengage may only be initiated once there is an indication that the goal might not be attainable. Thus, based on these pathways, for depression to occur there must first be perceived limitations to attainability. In fact, cross-sectional research has demonstrated that attainability and depression share a negative association among individuals pursuing important goals (i.e., having children) (Salmela-Aro & Suikkari, 2008). It would make sense for perceptions of attainability to act as a “gatekeeper” for the disengagement process, such that a decline in attainability (perhaps because an obstacle arises) triggers consideration of how to adjust.

However, for disengagement behaviors to follow through, there may need to be a subsequent reduction in importance that allows for a reduction in effort. If the goal is too rigidly important, there may be an inability to disengage. This would lead to a continuation of depressive symptoms. Thus, it may be that perceptions of importance are a key predictor of whether someone demonstrates these disengagement behaviors from a specific goal. Given the implications for well-being, it necessary to consider what might prevent or promote

disengagement behavior. If goal importance influences abilities to disengage, then one final question that arises is what factors cause a goal to feel rigidly high in importance despite impulses to disengage and low attainability?

### **Conditional Goal Setting**

Research has begun to examine a number of constructs that may help to explain problematic goal pursuit related to depression, but one that stands out as most pertinent to the current study is conditional goal setting (CGS). CGS refers to the tendency to assume that the success of one goal is dependent on another (Street, 1999). Individuals often have many goals arranged in a hierarchy such that more important goals are prioritized at the top, in which these goals may have many sub-goals that are required steps in the pursuit of the overarching goal (Carver & Scheier, 1990). Goals can be linked across varying points along the hierarchy. For example, lower-order concrete goals may be linked, such as needing to shower and get dressed before going to work or going to work in order to pay one's bills. However, for the purposes of this study, and by nature of the CGS, links between higher-order, more abstract goals will be considered, as this is speculated to have more relevance for well-being and depression. For instance, many individuals have the overarching abstract goal of being happy, but establish certain concrete requisites for success, such as career attainment. In this example, conditional goal setting would refer to the assumption that career goals must be met to achieve happiness.

CGS is measured using the Conditional Goal Setting Scale (Street, 1999), which is a self-report that measures the degree to which lower order goals are believed to be associated with abstract higher order goals (i.e., happiness, self-worth, fulfillment) that are arguably inherently important to many. Anecdotally, one could see how this could quickly become problematic. For example, consider a student who assumes that their future happiness is determined by their

acceptance to medical school, and further assumes that passing a particular upcoming exam determines their acceptance. That exam now carries significant weight in determining their future happiness. Thus, consideration of CGS may be important to understanding why inability to disengage are associated with depression. It could be that CGS contributes to the rigidly high importance that prevents disengagement.

Unfortunately, there is limited research directly examining the impact of CGS on perceptions of goal importance or on disengagement. Most of the research has focused on the relationship between CGS and depression and has demonstrated that it is indeed a relevant construct in understanding depression. For instance, CGS scores have a positive association with depression scores, among college students and post-graduate students (Dickson et al., 2017; Street, 2001). Among older adults who conditionally linked their goals to happiness, depression was more strongly linked to physical health compared to those that did not (Street et al., 2007). Patients recently diagnosed with cancer showed a similar pattern: those with higher CGS scores for their personal goals tended to have higher depression scores (Street, 2003). Another study demonstrated the interaction of greater CGS with perceptions of lower attainability was associated with greater depression scores (Hadley & MacLeod, 2010). If CGS contributes to perceptions of importance as speculated, then the results from this study may hint at the assertion that importance and attainability interact to predict disengagement behaviors, thereby influencing depression. Longitudinal work has also begun to show the direction of the relationship between CGS and depression. Individuals who conditionally set goals demonstrated greater depression six months later, but the reverse was not true (Street, 1999). It could be argued then that depression does not necessarily lead one to conditionally set goals, but rather that CGS can be a promoting factor for depression. Although the relationship between CGS and depression is becoming better

established, research has not yet explored why this is the case or the role that importance and disengagement may play.

In speculating, interrupting a goal that is conditionally linked to one's happiness could certainly have implications for depression if that goal begins to feel unattainable. Although CGS has not yet been compared to disengagement in research settings, it is thought to be related to depression precisely because it may make disengagement more difficult. After evaluating the relationships between goal appraisals, disengagement and depression, the next aim of this study will be to examine the influence of CGS on these relationship. To test these assumptions, it was beneficial to focus on a context in which a range of goals may be blocked to varying degrees, which is discussed next.

### **Interrupted Goals: The Impact of COVID-19**

One potential target for researchers to better understand how goal adjustment patterns relate to well-being is the impact of the COVID-19 pandemic. COVID-19 represents a unique event that has certainly affected many individuals. Given that this event has likely created obstacles for many people's goals, it is worthwhile for research to examine the impact COVID-19 has had on goals and to understand the influence of individual differences in goal adjustment. With the recency of COVID-19, research on its impact on goal pursuit is limited. One study on goal adjustment in the context of COVID-19 found that some aspects of goal adjustment are associated with well-being (Hamm et al., 2021). More specifically, authors found that those with higher capacities for reengagement demonstrated less stress and fewer depressive symptoms. However, they did not find significance with disengagement. Another study, however, did find results related to goal disengagement (Eddington, Sasiela & White, 2022). Among a sample of college students, researchers found a significant interaction effect between goal disengagement



and goal reengagement (GAS) in predicting negative COVID impact. Individuals who reported high capacities for reengagement and low capacities for disengagement demonstrated less negative impact from COVID-19.

Despite these findings, additional research is required to understand how goal adjustment might play a role in offsetting the negative impact of COVID-19. Work related to disengagement is particularly needed. It is expected that, as a result of the pandemic, there were many goals that became problematic or unattainable. One aim of this study is to focus on the impact of this broadscale event to contribute to understanding of goal adjustment as it relates to well-being.

### **Summary**

Goal adjustment is an essential component of well-being. One of the more prominent theories relating goal adjustment to well-being suggests that an inability to disengage from an unattainable goal is associated with an increase in depressive symptoms (Wrosch et al., 2003). The longitudinal work supporting this theory suggests that people with lower capacities for disengagement are subsequently more prone to experiencing depressive symptoms (Coffey et al., 2014; Dunne et al., 2011; Eddington, 2014; Jobin & Wrosch, 2016). However, the causal evidence linking disengagement and depression is still somewhat limited. Research has demonstrated that, in the context of pursuing important goals, higher levels of depression consistently coincide with lower capacities for goal disengagement (Barlow et al., 2020). Typically, these are assessed using general measures, such as the GAS. Partly as a result, the pathways through which inability to disengage lead to depression are not yet well understood.

It is proposed that perceptions of goal attainability and importance may play a role in explaining these pathways. Importance and attainability have been examined in comparison to impulses toward disengagement (e.g., action crises). Findings from this body of work suggest

that reductions in attainability may drive impulses toward disengagement, and that this may be followed by reductions in importance (Ghassemi et al., 2017). It is hypothesized that reductions in importance may be necessary to facilitate actual disengagement behavior. Further, it is thought that conditional goal setting may be one factor that drives up goal importance and contribute to inabilities to disengage adaptively. CGS has been demonstrated to show significant associations with depression (Street, 2001), but has not yet been studied alongside goal appraisals or disengagement.

### **Gaps in the Literature**

Despite the growing body of work examining depression and disengagement, there remain gaps in the literature that prevent confirmation of the proposals set forth by the background. First, it is essential to clarify the relationships between impulses to disengage, capacities for disengagement, and actual disengagement behavior. These need to be directly compared in research settings to understand how they might influence each other and in turn influence depression. This is especially true of specific disengagement behaviors, which are rarely analyzed.

Second, it is necessary to better understand the direct connection between goal appraisals and constructs like depression and disengagement. Although some work exists, further work is needed to clarify how attainability and importance are associated with symptoms of depression, as well as how they relate to both general and specific measures of disengagement. From there, pathways from disengagement to depression in the context of important goals can be better clarified. The negative association between depression and disengagement has been studied repeatedly but alternative models that consider additional explanatory variables are less common.

For example, although CGS has been associated with greater levels of depression, it has not yet been explored in relation to goal appraisals and disengagement.

Third, it is important to continue to establish more of a balance in examining general and specific disengagement behaviors. While exploring general patterns certainly has advantages, it also provides limited information about the influence specific goals may have. For instance, an individual could be depressed because of an inability to disengage from a single specific goal, but then report high disengagement on the GAS. Additional work examining how individuals behave around specific goals, as well as why, would certainly bolster the current body of research.

### **Study Aims**

This study aims to clarify pathways toward depression when pursuing important goals, as well as factors that inhibit disengagement. This study also aims to contribute to the literature by examining disengagement behaviors as they relate to depression and perceptions around goals. Additionally, this will provide the unique opportunity to compare general measures of disengagement to actual disengagement behaviors.

To provide support for this model (Figure A1), several of the relationships within the model will be examined directly. The first pathway to be examined is that low attainability for an important goal is associated with depression, mediated by disengagement impulses (Figure A2). The second pathway to be examined is that one's general capacity for disengagement moderates whether depression is maintained (Figure A3). Given the extensive use of the GAS, this measure will be used to help learn more about the predictive value of general measures of goal adjustment.

Additionally, factors that predict behavioral disengagement from a specific goal will also be assessed. It is expected that specific disengagement behaviors will be associated with reductions in perceived goal importance. This study aims to better understand how individual differences in goal setting (i.e., conditional goal setting) might influence the reducibility of a goal's perceived importance. Conditional goal setting will be explored as a factor that lends goals to be rigidly high in importance.

Given the limited amount of research examining CGS, particularly regarding disengagement, this study also aims to explore associations between CGS and disengagement. It is speculated that since one's general capacities for disengagement do not always map onto specific instances of disengagement, a factor that explains difficulties in disengagement, such as CGS, might be more accurate when trying to predict specific disengagement behaviors.

Finally, given the significant impact of the COVID-19 pandemic, this study aims to draw upon the unique implications for goal attainability that may have been initiated by changes due to the pandemic (e.g., employment difficulties, academic shutdowns, social isolation). To take advantage of this information, this study had participants think about goals and how they were changed by the pandemic, by retrospectively considering goals just prior to the pandemic's impact (January 2020), during the onset of impact (March 2020), as well as their goal's status when they completed this study. Refer to Table A3 for a description and timeline of recruitment procedures. These included evaluations of goal importance and attainability, to determine how problems during goal pursuit result in changing appraisals, and subsequently how these changes influence disengagement behavior.

## **Hypotheses**

To accomplish these aims, this study will focus on examining the following four primary sets of predictions or questions (note that the first set includes predictions related to depression).

### **First Set of Hypotheses**

The first set of hypotheses involves an analysis of the relationships with depression presented in the model in Figure A1.

#### ***Hypothesis 1A: Mediation Model***

Among important goals, there will be a negative association between perceptions of attainability and levels of depression. This relationship will be mediated by impulses to disengage, such that those who perceive their goal to be less attainable will show higher levels of impulse towards disengagement, and subsequently higher levels depression. The model is depicted in Figure A2.

#### ***Hypothesis 1B: Moderation Model***

Among important goals, there will be a negative association between perceptions of attainability and levels of depression. This relationship will be moderated by general disengagement capacities, such that those who show lower trait-like levels of disengagement in the face of goal difficulties will show a stronger negative relationship between attainability and depression. The model is depicted in Figure A3.

#### ***Hypothesis 1C: Depression, Disengagement Impulses and Behavior***

It is expected that impulses to disengage will be positively associated with disengagement behavior. It is also expected that depression will be negatively associated with specific disengagement behavior. Those who retrospectively report disengaging from their goal are

expected to have demonstrated higher impulses toward disengagement for that goal and lower levels of current depressive symptoms, in line with the model of adaptive disengagement.

### **Hypothesis 2: Disengagement Behavior and Goal Appraisals**

Lower perceptions of goal importance and goal attainability (predictors) will be associated with greater likelihood for disengagement from a specific goal (outcome). That is, those who retrospectively report feeling that their goal is less important and less attainable during the onset of COVID-19 (March 2020) as compared to before COVID-19 (January 2020), will be more likely to show disengagement from their goal during the COVID-19 impact (March 2020). More specifically, it is expected that perceptions at the time the difficulties arise (March 2020) will be predictive of disengagement above and beyond initial perceptions (January 2020).

### **Hypothesis 3: Conditional Goal Setting and Importance**

Perceptions of importance will be positively associated with conditional goal setting, amidst goal difficulties. That is, those who report higher ratings of conditional goal setting will demonstrate higher levels of goal importance at COVID-19 onset (March 2020), even after controlling for initial perceptions of importance (January 2020).

### **Exploratory Question 4: Conditional Goal Setting and Disengagement**

Conditional goal setting will be a stronger predictor of specific disengagement behavior than general capacities for disengagement. That is, the regression coefficient between CGS and disengagement behavior will be stronger than regression coefficient between GAS scores and specific disengagement. This is expected to be true for both specific and general measures of the CGS.

## CHAPTER II: METHODOLOGY

### Participants

A total of 310 participants provided data for this study. Demographic information was available for 300 participants but due to a technical error it was not available for the remaining 10 participants. The gender distribution of the sample was 59% female, 37% male, 4% other. 47% of participants identified as White, 23% Black, 9% Asian, 21% other category. The mean age of the sample was 25 ( $SD = 6.4$ ), ranging from 18 to 42 years old.

Participants were recruited from several locations. First, 79 participants were recruited from a larger longitudinal study at the University of North Carolina at Greensboro (UNCG) from September 2020 to October 2021. Next, 40 participants were recruited through another participant pool composed of students at UNCG, enrolled from September 2021 until December 2021. Finally, 191 participants were recruited using the Prolific ([www.prolific.co](http://www.prolific.co)) participant pool in February 2022. To match the age distribution of participants recruited using the methods described above, participants were eligible to participate if they fell in the age range of 18 to 40 years old. Additionally, recruitment was set up to get an equal distribution of male and female genders, allowing for those who endorse a different gender identity as well. Prolific participants were also only recruited if they lived in the United States and if they had a Prolific approval rating of at least 99 (out of 100). Sample size estimates were determined through a power analysis via G\*Power (Version 3.1; Faul, Erdfelder, Lang, & Buchner, 2007). An effect size of .06 ( $f^2$ ) was used to estimate the current sample size needed, based on a previous study that used the CES-D and GAS to predict depression using a two-way interaction that included goal disengagement ( $R^2 = .06$ ; Wrosch, Scheier, Miller et al., 2003). Results indicated that a sample of

at least 175 participants would be needed in order to achieve a power of .8 at an alpha level of .05.

No participants were fully excluded from all analyses, but participants for whom certain measures were missing were excluded from the respective analyses. Specific sample sizes for each analysis are presented in the Results section. For the purpose of analyses, there are essentially two samples. The first sample is composed of all 310 participants from both UNCG and Prolific and will be used for the first set of hypotheses, which does not involve any retrospective variables. The second sample is composed only of the UNCG students, because they completed the COVID-19 portion of the goals interview, which involves retrospective accounts. This sample totals 117 and was used for analyzing Hypotheses 2 and 3 and Exploratory Question 4. A summary of the samples and the measures they received is presented in Table A3.

## **Procedure**

### **UNCG Students**

Participants from UNCG were recruited from September 2020 through December 2021. They are included in all analyses. All procedures were conducted virtually using the platforms Zoom (<https://zoom.us/>) and Qualtrics ([www.qualtrics.com](http://www.qualtrics.com)). Participants provided informed consent. Approval was obtained from the UNCG IRB for all recruitment and procedures. All measures were completed within one session. At the start of procedures, participants completed the CES-D and GAS. After completing these measures, they took part in a goal-based interview, conducted by a trained research assistant. The interview has participants focus on current goals at the time they participated. They also completed a COVID-19 based interview, which included two retrospective time points: *Retrospective Time 1* (T1) refers to the period before the impact of COVID-19 (January 2020), *Retrospective Time 2* (T2) refers to the onset of the impact of



COVID-19 on students (March 2020). The remainder of the data refers to the time at which the participant completed the study (referred to as their *Current* period when submitting data). As a reminder, only the UNCG Students (Sample 2) completed the COVID-19 Interview. The complete interview consisted of the following components, in order:

1. **Current goals interview (UNCG Students and Prolific):** Participants were asked to generate three *current* important personal goals. Thus, for participants in the current analyses, this would refer to important goals they had at the time they completed the study (labeled *current* goals). Review of the data indicated that participants typically generated goals related to their careers, academics, finances, and social relationships.
  - a. For each goal, they were asked to rate the goal's *current* importance and attainability.
  - b. They then selected their most important goal and completed the conditional goal setting scale (CGS), Action Crisis Scale (ACRSS).
2. **COVID-19 interview (UNCG Students only):** The next section of the interview had participants consider goals that were impacted by the COVID-19 pandemic. Participants were asked to select an important goal that was negatively impacted by COVID-19.
3. For this goal, they were then asked to make retrospective ratings of importance and attainability for the following time periods:
  - a. January 2020 (Retrospective Time 1);
  - b. March 2020 (Retrospective Time 2);
  - c. The time at which they completed the study (*Current*).

4. They were also asked to report their specific goal adjustment behavior during the following time periods:
  - a. March 2020 (Retrospective Time 2);
  - b. Their current goal adjustment behavior with respect to that goal (*Current*).

Upon completion of the interview, participants either received course credit, if eligible, or \$25.00. Only participants from UNCG completed the COVID-19 goal interview, and so the full sample size for these analyses was 117, after two exclusions (who did not complete the measures). Given that data collection occurred across the period of more than a year, the impact of significantly different lengths of time passed before making retrospective reports was considered in data analysis and discussion for Hypotheses 2 and 3. After completing all survey and interview items, participants were compensated for their time. A full transcript of the Goal Interview can be found in Appendix G.

### **Prolific**

Participants from the Prolific participant pool were recruited in February 2022 specifically to achieve adequate sample size for the first set of hypotheses. All procedures were conducted virtually using Qualtrics. Participants were provided informed consent and then completed the CES-D and GAS. After completing these measures, they took part in the goal-based interview, which differed from the interview presented to other participants in that instructions were provided as written text, rather than verbally. This interview was also shorter; it included only the initial listing of three current important goals, followed by appraisals of these goals (i.e., importance, attainability), and the completion of the CGS and ACRSS with respect to their most important goal. They did not complete the remaining questions pertaining to COVID-

19. Participants were then compensated for their time. On average, participants spent 18 minutes completing the measures and were compensated at a rate equivalent to \$18.90 per hour.

To help clarify the nature of recruitment, procedures and analyses, a table is provided that details the timeline of data collection for each sample and the measures they received (Table A3). Additionally, a table is provided that highlights the samples and measures used for each hypothesis (Table A4).

## **Materials**

### **Depression: CES-D**

The Center for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977) was chosen as a baseline measure of overall depressive symptomology. It is a 20-item assessment that asks questions about thoughts and behaviors during the past week. Items are rated on a 4-point likert-type scale, from 0 to 3 points, with responses ranging from “Rarely or none of the time (less than 1 day)” (0 points) to “Most or all of the time (5-7 days)” (3 points). Sample items include: “I felt hopeful about the future,” “I was happy,” and “I enjoyed life.” Its reliability, concurrent validity, and construct validity have been established (Radloff, 1977). Depression scores are calculated by reversing positive items and summing responses to all the items on the CES-D (see Appendix D for full measure). This measure demonstrated acceptable internal consistency within the given sample (McDonald’s  $\omega = 0.94$ ).

### **Disengagement Capacities (General): GAS**

The Goal Adjustment Scale (GAS; Wrosch, Scheier, Miller, Schulz, & Carver, 2003) will be used to assess trait-like levels of general disengagement capacities. This questionnaire contains 10 items assessing the ways in which people react when forced to stop pursuing a goal. Items are rated on a 5-point Likert type scale (1 = “Strongly Disagree”, 5 = “Strongly Agree”).

The GAS is composed of two subscales: Goal Disengagement and Goal Reengagement. Scores are calculated by summing the items pertaining to each scale, and reverse coding when necessary (see Appendix C for full measure). The GAS has demonstrated good reliability and validity (Wrosch et al., 2003). This measure demonstrated acceptable internal consistency within the given sample ( $\omega = 0.75$ ), as did the respective subscales of disengagement ( $\omega = 0.75$ ) and reengagement ( $\omega = 0.76$ ).

### **Behavioral Disengagement (Specific)**

Behavioral disengagement was measured using a one-item self-report question. This item was included in a brief questionnaire about goals during the period of COVID-19 and is referred to as the COVID-19 Interview goal adjustment item. Participants were asked to provide retrospective accounts about their behavior when COVID-19 began to impact students in North Carolina (March 2020; Retrospective Time 2), as well as their current behaviors at the time they complete the study, with regard to a specific goal. Participants responded to the question, “Which of the following best describes how you responded to difficulties for this goal?” They then chose between the following response options: “I am still actively trying to pursue this goal,” “I stopped trying to pursue this goal, but it is still important for me to reach it,” “I stopped trying to pursue this goal, and I feel stuck and uncertain about what to do with this goal,” “I stopped trying to pursue this goal, but have not yet replaced it with an alternative goal,” and “I stopped trying to pursue this goal and have replaced it with an alternative goal.” To ensure this item reflects specific disengagement behavior, it was dichotomized, such that choosing the first option (“I am still actively trying to pursue this goal”) is considered a lack of disengagement (rated “0”) and choosing the alternative options is considered to reflect some level of disengagement (i.e., reduction in effort towards the goal; rated “1”). Thus, a rating of “1” reflects

some level of behavioral disengagement from a specific goal. See Appendix G for a transcript of the interview questions.

### **Disengagement Impulses (Specific): ACRSS**

The Action Crisis Scale (ACRSS) was used to estimate current impulses toward disengagement. This measure focuses on individual's recent consideration of disengagement, feeling stuck in goal pursuit, and impulses to give up on a specific goal. The ACRSS is an 8-item self-report measure, on which participants rate the degree to which they agree with each statement, on a Likert-type scale (1 = "strongly disagree", 7 = "strongly agree"). Sample items include, "I often feel stuck and am unsure of how to continue pursuing this goal" and "I have thought of disengaging from my goal." Participants were asked to complete this measure with respect to their current most important goal. This measure demonstrated acceptable internal consistency within the given sample ( $\omega = 0.81$ ). See Appendix F for full measure.

### **Goal Appraisals**

The primary goal appraisals assessed were goal attainability and goal importance. Modeled after other approaches to measuring goal appraisals (Herrmann & Brandstätter, 2015; Salmela-Aro & Suikkari, 2008; Thompson et al., 2012) each construct was measured using Likert-type items, with responses ranging from one to seven. Goal attainability was measured by asking, "How attainable did the goal seem?" Goal importance was measured by asking, "How important did the goal seem?". As a reminder, participants were first asked to think of three current important goals (at the time they completed the study) and asked to rate attainability and importance for each of these goals. Participants then completed several additional measures (i.e., ACRSS, CGS) with respect to their most important goal, and so for the purpose of analyses, the ratings of attainability and importance for the most important goal are used.

Then, during the COVID-19 portion of the interview, participants were asked to think about goals that were blocked or made more difficult by COVID-19. They answered several questions referring to an important personal goal impacted by COVID-19. This included retrospective reports of their perceptions of attainability and importance, referring to various points during the COVID-19 period: January, 2020 (Retrospective Time 1); March, 2020 (Retrospective Time 2); their current appraisals for this goal at the time of their session. Table A3 summarizes the variables derived from the Goal Interview as well as which samples received the interview. Transcripts of the goal appraisal items can be found within the copy of the Goal Interview presented in Appendix G.

### **Conditional Goal Setting**

Conditional goal setting was measured using the Conditional Goal Setting Scale (Street, 1999). This measure includes a 5-item subscale that asks directly about a specific personal goal, including information on the reasons for pursuit, importance and the degree to which happiness, fulfillment and self-worth depend on this goal, on a Likert scale from “1” (not at all) to “7” (very much). Participants were asked to complete the specific CGS items for their most important goal at the time they completed the study.

This measure also includes a subscale that assesses the degree to which happiness, fulfillment and self-worth are perceived to be generally linked to one’s set of personal goals, again on a scale from “1” to “7”. Estimates of conditional goal setting for both specific and general goals can be obtained by summing responses to Likert items (see Appendix E for full measure). This measure demonstrated acceptable internal consistency within the given sample ( $\alpha = 0.92$ ).

### **Control Variables: Recall and Time**

It is important to emphasize that participants completed data collection across a broad time span (i.e., between September 2020 and December 2021). Given that some participants were asked to make retrospective reports about COVID-19, the influence of time was examined as a possible covariate for these analyses (i.e., Hypotheses 2 and 3). A variable was created that reflected days between COVID-19 onset and time of participation in the study.

Additionally, due to the possibility of limitations in participant recall, an item was included as a self-report measure of estimated recall ability for events that occurred near COVID-19 onset. Participants were asked, “How well do you think you recalled events from the onset of COVID-19 (January to March, 2020) when answering these questions? On a scale from “1” (not at all) to “10” (completely).”

### **Data Analytic Plan**

Preliminary analyses were conducted using SPSS v.27 (IBM Corp, 2020). Means, standard deviations and confidence intervals were calculated for all variables of interest in order to understand the nature of their distributions within our given sample and verify assumptions of normality. Pairwise correlations were generated between all variables. Preliminary analyses also involved comparing the two primary samples using T-tests for differences in group means for each of the shared variables. Additionally, evaluations of possible demographic differences between groups, including a T-test for differences in mean age, were conducted. Recruitment group (i.e., UNCG vs Prolific) was also included as a covariate in the relevant analyses to control for other possible group differences, discussed below. Finally, time was included as a covariate for relevant analyses to control for possible differences attributed to time since COVID-19, such as recall.

Mplus 8 (Muthén & Muthén, 2017) was used to conduct all other primary analyses. Full Information Maximum Likelihood (FIML) was used to manage missing data. Model fit was evaluated utilizing the comparative fit index (CFI; Marsh & Hau, 2007), the Tucker-Lewis index (TLI; Bentler, 1990), the standardized root mean square residual (SRMR), and the root mean square error of approximation (RMSEA; Cole & Maxwell, 2003). The model was considered a good fit when the CFI and the TLI values were close to or greater than .95, the RMSEA value is less than or equal to .08, and the SRMR value is less than or equal to .08. Effect sizes were calculated for all relationships of interest. Models in which CFI and TLI are both equal to 1.00 are considered just-identified models, which means the model has just enough information to estimate parameters.



## CHAPTER III: RESULTS

### **Preliminary Analyses**

Given that two independent samples were collected for the first set of hypotheses, the samples were compared on demographic variables. Although participants were recruited within the same age range, the mean age of the UNCG sample was 21 and the mean of the Prolific sample was 28, which were found to be significantly different ( $t(297) = -10.73, p < .001$ ). The distribution of gender, racial and ethnic identities were also not identical. The UNCG sample was 78% female, 21% white, 40% black and 39% other. The Prolific sample was 46% female, 64% white, 12% black and 24% other. It is important to note that there are no current theoretical reasons for assuming that individuals would differ on goal-based variables based on demographics. Past work that has contributed to theories of goal disengagement has been conducted across a range of age groups (e.g., college students, older adults) as well as specific populations (see Tables 1 and 2).

To assess for possible group differences that might impact analyses for the first set of hypotheses (the only hypotheses that combined samples), mean comparisons were conducted for all variables of interest and found not to be significantly different across groups, with the exception of GAS disengagement scores (Table A5). For analyses involving the GAS (Hypothesis 1B), these were conducted for each respective group separately, as well as with the groups combined. Additionally, a variable representing recruitment group (coded “0” for UNCG participants and “1” for Prolific participants) was included in the analyses for the first set of hypotheses to test for possible influence of group membership.

Given the possible impact of time since COVID-19 onset on making retrospective accounts, the time variable was included for the analyses that included retrospective variables (Hypotheses 2 and 3). Additionally, the recall item was included after these retrospective items as an attempt to estimate participant confidence in memory recall. Because this item was added after data collection was already in progress, only 40 of the 117 participants who completed the COVID-19 interview responded to this item. Responses ranged from “4” ( $n = 4$ ) to “10”, with a mean of 7.3 ( $SD = 1.9$ ) and modal response of “7” ( $n = 9$ ). Due to issues with recruitment, there was insufficient power to include recall in analyses as a covariate. Implications for the possible influence of recall will be discussed in the limitations and time will be used in its place to control for possible differences in recall that would be attributed to time.

Descriptive statistics for primary variables of interest are presented in Tables 6 and 7. Correlations were run to assess pairwise relationships between all variables, divided into Tables 8 and 9. Linearity assumptions were tested to ensure that regression models apply well to the data. A frequency distribution table is provided to summarize the spread of responses for the COVID-19 Interview goal adjustment item (March 2020, Retrospective Time 2) in Table A10.

### **First Set of Hypotheses: Appraisals, Disengagement and Depression**

The first set of hypotheses examines the relationship between appraisals of goal importance, goal attainability, depression and disengagement. Participants from all recruitment methods were included in analyses for this first set of hypotheses, resulting in a total sample size of 310. As a reminder, participants completed these measures with respect to one of their current important goals.

### **Hypothesis 1A: Mediating Effects of Impulses to Disengage**

This hypothesis states that within the context of pursuing important goals, low attainability will predict higher depression (CES-D scores), and this relationship will be mediated by higher impulses to disengage (ACRSS scores). The pairwise relationship between attainability and depression was examined first. In this case, attainability refers to the perceived attainability of participants' current most important goal. Findings demonstrated that CES-D scores shared a significant negative relationship with perceived attainability ( $r(308) = -.289, p < .001$ ). Individuals who reported lower perceived attainability for an important goal demonstrated higher levels of depressive symptoms, on average. ACRSS were also significantly correlated with both CES-D ( $r(308) = .501, p < .001$ ) and perceptions of attainability ( $r(308) = -.452, p < .001$ ). Individuals with lower ratings of attainability reported higher impulses toward disengagement and higher depression scores.

Mediation analyses were conducted next, and results are presented in Table A11. Fit indices indicated that the model fit was just identified (CFI=1, TLI=1, RMSEA < .08, SRMR < .08). To ensure accuracy of mediation analyses, bootstrapping was used with 5000 draws and 95% confidence intervals are reported. Results of mediation analyses indicated that ACRSS scores fully mediated the relationship between attainability perceptions and CES-D scores. CES-D scores were regressed on attainability and ACRSS scores. ACRSS scores significantly predicted CES-D scores ( $\beta = 0.465, p < 0.001, 95\% \text{ CI } [0.36, 0.56]$ ), after controlling for attainability ( $\beta = -0.08, p = .178, 95\% \text{ CI } [-0.20, 0.03]$ ). The total indirect effect from attainability to CES-D was significant ( $\beta = -0.21, p < .001, 95\% \text{ CI } [-0.27, -0.15]$ ). The overall effect size was  $R^2 = .26 (p < .001)$ . Based on the direction of these effects, it appears that individuals who perceive their goals to be less attainable demonstrate greater impulses toward

disengagement, and further that experiencing greater impulses toward disengagement is associated with greater depressive symptoms.

In order to test for the possible impact of group differences between the two recruitment groups, the analysis was also run with recruitment group as a covariate. Results demonstrated that ACRSS scores remained a significant predictor of depression scores, after controlling for attainability and recruitment group ( $\beta = 0.47, p < .001$ ). Additionally, the total indirect effect remained significant as well ( $\beta = -0.21, p < .001$ ).

### **Hypothesis 1B: Moderating Effects of General Capacities for Disengagement**

The next hypothesis states that within the context of pursuing important goals, impulses to disengage (ACRSS scores) will predict higher depression (CES-D scores), and this relationship will be moderated by one's capacity for disengagement (GAS scores). Pairwise correlations were examined with respect to the measure for general disengagement capacities. However, the disengagement subscale of the GAS was not significantly correlated with any variables of interest.

Moderation analyses were conducted to determine if interaction effects were present. A regression model was created in which CES-D scores were regressed on ACRSS, GAS and the interaction of ACRSS and GAS. Results revealed only main effects for ACRSS scores ( $\beta = 0.68, p = .001$ ), and no interaction effect ( $\beta = .001, p = .949$ ).

This test was then rerun including recruitment group as a covariate to test for the possible effect of group differences. However, the same results were observed, in which there were only main effects for ACRSS scores ( $\beta = 0.50, p < .001$ ), even after controlling for recruitment group.

Given that the GAS disengagement scores were found to be significantly different between the two recruitment groups, these analyses were also run with respect to each group

separately. The results demonstrated the same trends for both groups. Among UNCG students, a main effect was found for ACRSS scores ( $\beta = 0.55, p = .028$ ) but not for GAS ( $\beta = -0.04, p = .867$ ) or the interaction ( $\beta = 0.002, p = .941$ ). Among Prolific participants, a main effect was found for ACRSS scores ( $\beta = 0.73, p = .011$ ) but not for GAS ( $\beta = 0.21, p = .775$ ) or the interaction ( $\beta = -0.001, p = .965$ ).

To investigate the possibility of additional moderative effects of disengagement capacities, another model was run to determine if disengagement moderates the attainability-depression relationship. CES-D scores were regressed on attainability scores, GAS scores and their interaction. Again, there was no interaction effect ( $\beta = 0.43, p = .127$ ) or main effect for GAS ( $\beta = -0.35, p = .137$ ), only main effects for attainability ( $\beta = -0.52, p = .001$ ).

This test was then rerun including recruitment group as a covariate to test for the possible effect of group differences. However, the same results were observed, in which there were only main effects for attainability ( $\beta = -0.53, p = .001$ ), after controlling for recruitment group.

Finally, given that the GAS disengagement scores were found to be significantly different between the two recruitment groups, these analyses were also run with respect to each group separately. The results demonstrated the same trends for both groups. Among UNCG students, a main effect was found for attainability ( $\beta = -0.71, p = .005$ ) but not for GAS ( $\beta = -0.49, p = .182$ ) or the interaction ( $\beta = 0.19, p = .206$ ). Among Prolific participants, a main effect was found for attainability ( $\beta = -0.43, p = .048$ ) but not for GAS ( $\beta = -0.23, p = .448$ ) or the interaction ( $\beta = 0.34, p = .359$ ).

### **Hypothesis 1C: Specific Disengagement Behavior**

The final component of this hypothesis aims to build off the previous models by demonstrating that disengagement behaviors are associated with impulses to disengage, and

further that retrospective reports of disengagement behavior are associated with lower current depressive symptoms. This sample was obtained from the UNCG students that completed the COVID-19 Goal Interview and provided retrospective reports of goal disengagement behaviors in March 2020 ( $n = 117$ ). As predicted, impulses to disengage demonstrated a significant positive correlation with disengagement behavior ( $r(115) = .24, p = .009$ ). Those who reported disengaging from their goal in March 2020 tended to score higher on the ACRSS. Unexpectedly, disengagement behavior shared a positive relationship with depression ( $r(115) = .19, p = .038$ ). Those that reported higher levels of depressive symptoms were also more likely to report disengaging from their goal in March 2020, on average.

### **Hypothesis 2: Goal Appraisals and Disengagement**

The second hypothesis proposes that lower perceptions of attainability and importance will be associated with greater odds of disengagement from a specific goal, after controlling for initial perceptions. This hypothesis focuses on participant goals that were impacted by COVID-19. Only participants who completed the COVID-19 goal interview (UNCG students) were included in this analysis, and one participant was excluded for not completing T2 goal appraisals ( $n = 116$ ). As a reminder, attainability and importance refer to retrospective appraisals that participants provided at the time they took the study, referring to January 2020 as Retrospective Time 1 (T1) and March 2020 as Retrospective Time 2 (T2). Disengagement behavior refers to retrospective self-reported goal adjustment behavior in response to difficulties brought about by COVID-19 in March 2020 (T2). This variable was dichotomized (“0” = continued engagement, “1” = disengagement behavior). Pairwise correlations were examined first. Disengagement behavior was not associated with T1 ratings of attainability or importance ( $r(115) = -.04, p =$

.670;  $r(115) = -.15, p = .116$ ). Disengagement behavior was significantly negatively associated with T2 ratings of attainability and importance ( $r(115) = -.46, p < .001$ ;  $r(115) = -.36, p < .001$ ).

In order to test the second hypothesis, a logistic regression model was created using Mplus 8. Disengagement behavior was regressed on attainability T1, attainability T2, importance T1 and importance T2. This method of analysis was used to determine if secondary ratings of attainability and importance are associated with odds of disengagement behavior, after controlling for initial ratings of attainability and importance. Based on this model, the predictors explained a significant portion of the variance in reported disengagement behavior ( $R^2 = .38, p < .001$ ). Results demonstrated that lower T2 retrospective reports of attainability and importance were associated disengagement behavior ( $\beta = -0.47, p < .001$ ;  $\beta = -0.23, p = .004$ ), after controlling for reports of T1 attainability and importance before COVID-19 ( $\beta = 0.08, p = .433$ ;  $\beta = -0.03, p = .817$ ). Individuals who reported lower attainability and lower importance during the pandemic demonstrated greater odds of reporting disengagement behavior. The odds ratio for attainability was 0.518 (SE = 0.08, 95% CI [0.38, 0.71]), which can be interpreted as follows: for every one unit increase in attainability, the odds of reporting disengagement behavior decrease by a factor of 0.52. The odds ratio for importance was 0.684 (SE = 0.10, 95% CI [0.51, 0.91]), which can be interpreted as follows: for every one unit increase in importance, the odds of reporting disengagement behavior decrease by a factor of 0.68. These results are in line with predictions that less favorable goal appraisals are associated with greater likelihood toward disengagement for a specific goal.

To test for the possible influence of time, the model was also run including time between COVID-19 onset and participation in the study as a covariate. Retrospective ratings of attainability T2 ( $\beta = -0.47, p < .001$ ) and importance T2 ( $\beta = -0.30, p = .004$ ) remained the only

significant predictors of specific disengagement behavior, after controlling for attainability T1, importance T1 and time since COVID-19 onset ( $\beta = 0.08, p = .428$ ;  $\beta = -0.03, p = .013$ ;  $\beta = 0.82, p = .899$ ). Results are summarized in Table A12.

### **Hypothesis 3: Conditional Goal Setting and Goal Importance**

The third hypothesis focuses on the relationship between conditional goal setting (CGS) and perceptions of importance. It was hypothesized that individuals with higher CGS scores for a specific goal would demonstrate high reports of perceived importance for that goal at T2, after controlling for importance perceptions at T1. These analyses focused on participant goals that were affected by COVID-19 and considered ratings of importance before and after the onset of COVID-19. The data for this analysis came from the two samples that completed the COVID goal interview, and three participants were excluded for not completing the CGS measure. The final sample size was 114.

To test this hypothesis, a regression model was created in which specific CGS scores were regressed on importance T1 and importance T2. Only initial perceptions of goal importance, before the onset of COVID-19, showed a significant pairwise relationship with CGS scores ( $\beta = 0.31, p = .001$ ), after controlling for ratings of importance after COVID onset ( $\beta = -0.15, p = .128$ ). Thus, individuals who demonstrated greater conditional goal setting also reported greater initial importance for their goal before the impact of the COVID-19 pandemic.

To test for the possible influence of time, the model was also run including time between COVID-19 onset and participation in the study as a covariate. Specific CGS scores were regressed on importance T1, importance T2 and time since COVID-19 onset. Again, only importance T1 ( $\beta = 0.30, p = .001$ ) remained a significant predictor after controlling for



importance T2 ( $\beta = -0.15, p = .123$ ) and time since COVID-19 onset ( $\beta = -0.08, p = .353$ ). Full results are presented in Table A13.

#### **Exploratory Question 4: Conditional Goal Setting and Disengagement**

Finally, the fourth exploratory question considers the proposal that the association between conditional goal setting (general and specific CGS scores) and disengagement behavior (retrospective report) for a specific goal will be stronger than that between general disengagement capacities (GAS scores) and disengagement behavior. As a reminder, specific disengagement behaviors were measured during the COVID goal interview, and so the total sample size for this analysis was 114, after excluding those that did not complete the CGS.

Pairwise correlations between variables of interest were examined first. No significant correlation was found between general disengagement (GAS) and disengagement behavior from a specific goal ( $r(115) = -.10, p = .274$ ). Comparisons between specific disengagement and specific CGS scores, both referring to the same goal impacted by COVID-19, were made next. Unexpectedly, this correlation was not significant ( $r(115) = .07, p = .459$ ). However, it was found that general CGS scores were positively associated with specific disengagement behaviors after the onset of COVID-19, measured dichotomously by retrospective report ( $r(115) = .23, p = .012$ ). Individuals who reported higher tendencies toward conditionally setting their goals demonstrated greater likelihood of disengagement from goals after on the onset of COVID-19. It is important to note that the direction of this effect is not in the expected direction, and implications of this finding will be reviewed in the discussion.

Finally, comparisons were made between the correlation coefficients to detect significant differences in associations with disengagement behavior. First, general CGS scores were compared to GAS scores, as they relate to disengagement behavior. A test for difference in

dependent correlations was conducted. Results indicated that there was a significant difference between these correlations ( $Z = -2.44, p = .015$ ). Second, specific GAS scores were compared to GAS scores, as they relate to disengagement behavior. There was not sufficient evidence to claim that these correlation coefficients are significantly different ( $Z = -1.36, p = .174$ ).

## CHAPTER IV: DISCUSSION

### Summary

Goals play a central role in day-to-day functioning, and the ways in which people adjust to goal difficulties is essential for well-being (Wrosch et al., 2013; Wrosch, Scheier, Miller, et al., 2003). When pursuing a goal that is no longer attainable, it has been proposed that having the capacity to disengage from this goal reflects an adaptive response (Wrosch et al., 2003).

Unfortunately, it is not exactly clear why this might be and what pathways might link depression and inability to disengage. Examining patterns in the literature reveals that depression may be associated with inability to disengage particularly in the context of pursuing important goals (Barlow et al., 2020). Research suggests that impulses to disengage are higher when attainability is lower and importance is lower, and further that impulses to disengage arise from low attainability and may result in declines in importance (Brandstätter et al., 2013; Brandstätter & Herrmann, 2016; Ghassemi et al., 2017). Low importance may be necessary for disengagement to occur, but it is speculated that goals that are conditionally linked to higher order goals are perceived to be more important. Thus, individuals who conditionally link goals may report greater importance, resulting in difficulties with disengagement in the face of low attainability, experiencing impulses to disengage and subsequently depression. This study intended to fill in these gaps in the literature by examining if impulses to disengage explain the relationship between perceptions of attainability and depression, as well as the moderating influence of goal disengagement capacities, the predictive nature of goal appraisals and the impact of conditional goal setting.

## **Interpretation of Findings**

### **First Set of Hypotheses**

The first set of hypotheses were aimed at examining the pathway from perceptions of low attainability to depressive symptoms. The first part of this hypothesis examined whether impulses to disengage (ACRSS) mediate the relationship between perceptions of attainability and depression (CES-D). Results demonstrated that ACRSS scores fully mediated attainability perceptions and CES-D scores. Individuals who had lower perceptions of attainability for a current important goal reported higher impulses to disengage and subsequently reported higher depression scores. This is in line with study predictions, based on theories of adaptive goal adjustment. It is speculated that when a goal becomes significantly problematic and it seems unattainable, an adaptive goal adjustment process begins, in which the individual considers whether continuing goal pursuit is worthwhile. During this period, they experience impulses to disengage as a part of this process. If the goal is very important, however, these impulses to disengage may coincide with depressive symptoms. This finding helps to build off past research not only by reconfirming the connection between attainability and impulses to disengage, but also by demonstrating the connection that depression has with impulses to disengage.

This result provides some support for the theory that depression is inherently connected to periods of considering disengagement and that it plays a role in helping the individual adapt to goal difficulties. The primary theory proposes that a depressive response is part of an adaptive process to help motivate individuals to pull away from a goal that would otherwise waste resources (Wrosch et al., 2003). Aversive symptoms associated with depression (e.g., low mood, rumination, negative bias), may all play a part in this process. For example, rumination may be a method of problem solving to help find a viable path out of difficult situation. Negative bias and

mood may help to change one's perspective on what was otherwise a desirable and important goal. As long as the goal remains important and unattainable, the impulses to disengage persist and promote depressive symptoms until an adjustment is made.

Another consideration from this finding is the impact that one specific goal can have on an individual's well-being. The ACRSS and attainability perceptions were reported with respect to participants' current most important goal and results demonstrated that this factor explained roughly 25% of the variance in depression symptoms. Although individuals may pursue many goals at once, this provides initial evidence that goals that are prioritized as more important may have particular influence on depressive responses. If depression coincides with impulses to disengage from an important unattainable goal, it is beneficial to understand factors that influence whether one remains stuck in this cycle. This is addressed by the subsequent hypotheses.

The second part of this set of hypotheses assessed whether one's capacity for disengagement (GAS) moderated the relationship between impulses to disengage (ACRSS) and depressive symptoms (CES-D). It was expected that individuals with high capacities to disengage would show less of a positive association between impulses to disengage and depression. This is because individuals with higher capacities for disengagement may be more likely to disengage in general, especially when there is an impulse.

There was insufficient evidence to support this component of the hypothesis. While this may partly be attributed to some of the limitations of this study (see below), it may also be related to the nature of the measure used. Recall that the GAS gathers general self-report information on how one typically responds to difficulties when pursuing an important goal (Wrosch, Scheier, Miller et al., 2003). For some individuals, the GAS may not reflect their

current state in pursuing a particular important goal. Someone experiencing high impulses to disengage may find their goal so important that they are unable to disengage, despite typically disengaging more frequently. Recall that no evidence was found for an association between situational and dispositional versions of the GAS (Thompson et al., 2012). Perhaps how individuals complete the GAS does not correlate with actual disengagement behaviors. For instance, they may be idealistic about how they would handle problematic goals until difficulties arise or report how they believe they should behave. The implications of the GAS measure will be discussed further in the limitations.

Taken together these findings suggest that depressive symptoms may be promoted by impulses to disengage from an important unattainable goal but it is not clear if one's ability to disengage helps to offset this problematic cycle. It is thought that capacities for disengagement would moderate the relationship between depression and impulses because one would be more likely to actually disengage from the goal. Disengagement behavior would then determine if the individual steps out of a cycle of impulses to disengage and depression. Of course, if this is the case, it would be important to examine if disengagement behaviors truly determine whether depression persists, as well as if capacities for disengagement are truly predictive of disengagement behavior. Limitations in power prevented further examination of the former, but the latter is discussed below within the exploratory considerations. If disengagement does function to offset the depressive cycle, then it is still important to understand the determinants of disengagement behavior, discussed within the second hypothesis.

Given the overlap between the constructs measured by the ACRSS and GAS, it is important to clarify what these measures assess and how they relate to depression. Whereas the ACRSS reflects impulses to disengage by having respondents consider statements related to

feeling stuck and thinking about disengagement, the GAS specifically focuses on how the individual responds to those difficulties, reflecting their capacity for disengagement behavior. In this sense, the ACRSS is more a measure of state-like distress and cognitions in the face of obstacles, whereas the GAS is a trait-like measure of expected behavior. Hence, impulses to disengage are distinct from capacities for disengagement and may not always be correlated. Periods of impulses toward disengagement become distressful stuck periods that persist until an adjustment is made; either disengagement occurs, or the problem is solved. Capacities for disengagement would then play a part in whether disengagement occurs and the individual leaves this stuck period. This would explain the disparate patterns these constructs share with depression. Impulses to disengage coincide with depression during this period in which disengagement is considered, but without a capacity to disengage, depression remains. Therefore, ACRSS scores are expected to share a positive relationship with depression, whereas GAS scores have often been negatively associated.

The final analysis involved specific disengagement behaviors as they relate to impulses to disengage and depression. Recall that GAS scores were expected to moderate impulses to disengage and depression scores. This is because those who have higher capacities for disengagement in general were thought to be more likely to disengage when facing impulses, and this would lead to a reduction in depression. Thus, actual disengagement behavior is thought to be the key factor at play. However, limitations in recruitment prevented this analysis. Instead, pairwise comparisons were made with the variables of interest. The relationship between impulses to disengage and disengagement behavior was as expected, those that reported higher impulses were also more likely to report disengagement behavior.

However, the relationship between disengagement behavior and depression was not as predicted. Individuals who showed higher levels of current depression were also more likely to report past disengagement behavior. This association itself is not necessarily surprising on its own, as it is in line with theories of the adaptive nature of depression: depression facilitates disengagement from goals. However, it is more surprising when considering the timing of the completed measures. Individuals reported past disengagement behavior but current depressive symptoms. According to the theories surrounding depression and disengagement, inability to disengage would promote depression until depression facilitates disengagement and once disengagement occurs, depression subsides. Thus, in this instance, past disengagement from an unattainable goal is thought to reflect an adaptive response and result in a reduction of depressive symptoms.

There are several possible explanations as to why the observed correlation was not negative in this situation. The finding suggests that those who disengaged in response to COVID-19 impact demonstrated greater depressive symptoms at the time they completed the study. One speculation is that they may simply be reflecting the concept of facilitated disengagement: perhaps these individuals are, on average, more prone to depressive symptoms and thus more likely to disengage from goals.

Another thought is that individuals who disengaged did not have alternative goals in which to reengage. This could explain depressive symptoms if the individual remains in a state of not having a meaningful goal to pursue. They could also have reported disengaging from a lower-level goal and but still feel committed to an overarching goal that feels unattainable, such as giving up on one major without choosing a new major, while still feeling that graduation is unlikely. Past research has previously found evidence that reengagement is an important



component of goal adjustment as well, and sometimes more predictive of depression than disengagement (Boudrenghien et al., 2012; Garnefski et al., 2009; Garnefski & Kraaji, 2010; Wrosch et al., 2003). Certainly, one could also report disengagement behaviors and yet still feel committed to a goal and experience a depressive response from its continued lack of attainability. For instance, grief could be considered an example of this in which there is still a desire to be with someone despite not being unable. In this sense true disengagement may be more complex, involving patterns of thoughts and emotions beyond just effortful behaviors. This would help to explain why other past studies have failed to find a significant association between depression and disengagement (Garnefski et al., 2009; Garnefski & Kraaji, 2010; Wrosch et al., 2003).

Additionally, other factors may have been present that were driving depression for some people, given that this was occurring during the period of COVID-19 (e.g., other important unattainable goals, social isolation). If one's depression is centered on multiple important blocked goals, then simply disengaging from one might not lead to the expected improvements. Of course, much of the understanding regarding disengagement and depression is limited by the complexity of goals and the fact that individuals may be pursuing a network of varying goals. It is not yet clear how perceptions around various goals interact to predict depressive response. This study attempted to manage this concern by focusing on more priority goals, which are speculated to have greater influence over one's current well-being while pursuing the goal.

## **Hypothesis 2: Goal Appraisals and Disengagement**

The second hypothesis aimed to contribute to understanding disengagement behavior by considering appraisals of importance and attainability. It was proposed that disengagement from a specific goal occurs when there is a decline in perceptions of importance and attainability for

that goal. This analysis focused on goals impacted by the onset of the COVID-19 pandemic. Results from logistic regression analysis revealed that individuals who retrospectively reported lower perceptions of attainability and importance during March 2020 (COVID-19 onset) demonstrated greater likelihood of disengagement from their goal in March 2020. This was true after controlling for retrospective ratings of attainability and importance for January 2020 (before COVID-19 onset), as well as time since COVID-19 onset. This result was as predicted, based on prior research demonstrating that impulses to disengage tend to rise and fall inversely with perceptions of attainability (Ghassemi et al., 2017).

In integrating the findings from the hypotheses discussed so far, the proposed pathway is as follows: while pursuing an important goal, low attainability initiates impulses to disengage and when importance becomes low enough as well, disengagement behavior occurs. Although more research is needed, it has been demonstrated that impulses to disengage do indeed predict disengagement behavior (Herrmann & Brandstätter, 2015), further supported by the results of this study. This pathway is also in line with theories of effort, which propose that effort will be reduced when drive for success is too low or difficulty too high (Brehm & Self, 1989). Intuitively this makes sense as well; one is likely to be engaged in goals that feel more important and that are attainable. Over time, however, if these appraisals decline, they will disengage.

As evidenced by this study, many goals were impacted by the COVID-19 pandemic. The restrictions brought on by the pandemic may have created obstacles that made some goals feel less attainable. Results demonstrated that low attainability was associated with higher impulses to disengage. Part of the adaptive nature of goal adjustment may be reducing the importance of a goal to facilitate disengagement behavior. This may be related to depression as well, which is speculated to play a role in facilitating reductions in importance, possibly via symptoms such as

negative bias and anhedonia. Once importance is reduced enough as well, disengagement occurs. This exact pattern was observed in a previous study, in which declines in attainability predicted subsequent impulses to disengage, and these impulses were followed by declines in importance (Ghassemi et al., 2017). If perceptions of importance and attainability are a driving force behind disengagement behaviors, then it is beneficial to understand factors that influence these goal appraisals. This was one of the goals of the third hypothesis.

### **Hypothesis 3: Conditional Goal Setting and Goal Importance**

The third hypothesis was intended to demonstrate that conditional goal setting is one factor that influences perceived goal importance. It was argued that individuals with higher CGS scores for a specific goal would demonstrate higher importance for that goal, even after controlling for prior ratings of importance. Again, this hypothesis involved perceptions of importance for a goal impacted by COVID-19, and participants provided retrospective ratings of goal importance for January 2020 and March 2020. However, there was not sufficient evidence to support the regression model as predicted (CGS on importance T1 and importance T2). Rather, only initial perceptions of importance in January significantly predicted CGS scores for a specific goal. This finding seems to suggest that conditional goal setting may drive up the perceived importance of a goal, but it may not necessarily maintain importance at rigidly high levels.

Rather, other factors may be at play that drive down importance despite CGS. For instance, attainability may be reduced so much that the goal seems virtually impossible and must be abandoned. Additionally, one's ability to generate meaningful alternative goals may offset the impact of CGS, although this is yet to be explored. Being able to think of a replacement goal that is similar, or an alternative path towards the goal, would allow for reductions in importance for

the initial goal, despite CGS. For example, someone who conditionally links career success to happiness may shift to a new major after failing a course and feel they have gotten back on track with their goals.

It is also helpful to consider the nature of CGS as a construct. Perhaps it is more state-dependent, and people vary in how they conditionally set goals across time. Some days the goal may feel overwhelmingly essential, but over time they develop a new perspective that alters how the goals are conditionally linked. For example, one may value money as a source of happiness until an event shifts their values. Exploring how values relate to conditional goal setting could be a valuable avenue for future research.

Additionally, the complex network of goal hierarchies that people establish make it somewhat difficult to clarify how people conditionally set goals. When completing the general measure, they may be focusing on a few concrete goals or on a broader set of more abstract goals. Someone who completes the measure thinking about the goal of graduating with a degree in psychology might be able to more easily dismiss the idea that their happiness depends on this goal. It may be easier to generate alternative pathways toward happiness, compared to someone who focuses on the goal of just having a career in general.

#### **Exploratory Question 4: Conditional Goal Setting and Disengagement**

The final analyses explored factors thought to be associated with disengagement behaviors for specific goals. It was theorized that contextual factors related to the goal itself would be related to disengagement behaviors, whereas general measures of disengagement may not be as predictive. Past research has not yet provided evidence that general measures are associated with disengagement behavior from specific goals (Thompson et al., 2011; Thompson et al., 2013). General measures may not capture context-specific factors that drive

disengagement. Rather, factors that drive disengagement behavior may be more relevant. Recall that research has found that declines in importance has been associated with impulses to disengage (Ghassemi et al., 2017). Further, this study found evidence that lower importance perceptions predicted greater odds of disengagement behavior. It was expected that factors that influence goal importance would then be associated with disengagement behavior, and thus CGS was considered as one relevant factor.

In line with these speculations, GAS scores were not significantly associated with specific disengagement behaviors. Surprisingly, CGS scores for a specific goal were also not associated with disengagement from that goal. Rather, only general CGS scores were significantly correlated with disengagement behavior, despite being unexpectedly positive. Further, when a direct comparison of these correlations was made, the CGS correlation was significantly different from the GAS correlation. This seems to provide evidence for the above assertions that goal-relevant factors like CGS are associated with disengagement behavior. However, it runs contrary to the proposal that context specific factors (e.g., specific CGS) may be more relevant in predicting disengagement behavior for a specific goal than general measures (e.g., general CGS). Further research is needed to understand how general measures of disengagement compare in predicating specific behaviors, as well as what other factors might be in play. Regardless, the observed relationship between general CGS and disengagement behavior provides important foundational evidence that CGS may play a role in adaptive disengagement.

In speculating why this pattern of findings emerged, one consideration is that specific CGS scores were not predictive of goal importance as expected. As discussed above, the nature of the specific CGS measurement and individual differences in interpretation may have impacted the observed association between specific CGS and importance. For instance, some may consider

a goal important because of external pressures, but not feel that the goal will bring happiness or fulfillment, as measured by the CGS. Another possibility is that CGS may not drive-up importance of one goal if individuals can easily generate alternative goals that could replace the problematic goal to facilitate well-being. Additionally, specific CGS scores were expected to predict disengagement behavior because it was assumed that CGS drives up importance and that importance predicts disengagement. Thus, since CGS scores did not follow the expected trends with importance, it is not surprising that they were also not associated with specific disengagement behaviors in the current sample. It would be helpful to first clarify how CGS might influence perceptions of importance before continuing to examine CGS and disengagement behavior, since it was proposed that importance links CGS and disengagement.

Lastly, while it is not unexpected for general CGS scores to be associated with disengagement behavior, the positive valence of the relationship was surprising. This seems to suggest that those who disengaged from their goal reported higher tendencies to conditionally set goals, across all goals. One assumption as to why this might be is that people who generally set goals conditionally may have a number of alternative goals conditionally linked to a higher priority goal. When one pathway towards this goal is blocked, other pathways are available that make the higher order goal still feel attainable. So even if an individual fails one course, they may feel that success in other courses will still meet their graduation goal. Of course, these ideas draw extensively on speculation and further examinations of CGS and how people think about their system of goals is required.

### **Clinical Implications**

The model presented by this study is highly relevant for clinical work and presents several implications for treatment of depressive disorders. By following the path presented by the

model, one can see a few potential points at which intervention could play a role. There are two potential treatment approaches that could be proposed, guided by whether perceptions of a goal are accurate or inaccurate.

First, consider situations in which an individual has inaccurate perceptions. These models demonstrated that cognitive factors play a role in how individuals adjust to goal difficulties.

Alterations in cognition are common in depression, such perfectionism (e.g., high standards/expectations) and negative attributions (Hu et al., 2015; Smith et al., 2021). Each of these, although not necessarily entirely distinct from one another, could lead someone to view a goal as unattainable and unnecessarily trigger a depressive response. For example, a negative attributional style might lead one to globalize a recent romantic rejection and lead them to the assumption that the goal of finding love is not attainable. Perfection is arguably a more difficult standard to achieve and theoretically less attainable. Certainly, this could have consequences that could otherwise be addressed through treatment approaches like cognitive restructuring, which target automatic thought patterns such as these. Theoretically, this could offset impulses to disengage that might then lead to depression. Further, high standards stemming from perfectionism might drive up a goal's perceived importance, making it more difficult to disengage adaptively. Thus, both importance and attainability could be targets of cognitive approaches to treatment.

Second, it is also important to consider treatment implications in cases where perceptions of importance and attainability are thought to be more accurate. In these cases, true difficulties may be substantially impacting a goal that is essential to one's well-being. Clinically, a therapist could play an essential role in helping clients navigate these issues and develop plans to respond as adaptively as possible. For example, problem solving is a commonly taught skill in therapeutic

settings that would be helpful for clients in deciding whether to disengage. A therapist could help to evaluate why the individual is stuck and generate possible solutions. Therapists might also help a client evaluate why a goal feels so important and help to shift thinking towards more adaptive patterns or identify reasonable alternatives. For example, considering the benefits of disengagement or reconsidering their values, to devalue the current problematic goal. If clients are conditionally linking one specific goal to their happiness, a clinician might be able to reveal this problematic thought pattern.

Because of the complex nature of goals, clinicians having knowledge of how goals are conceptualized is important to help manage client goals. Educating clients more about the nature of their goals and how they relate to emotional states and mental health is especially important for developing client autonomy. Given that much of this is speculation, more research with clinical populations is warranted to develop adaptive goal adjustment skillsets that can be taught in treatment settings and extend beyond therapy.

### **Limitations**

There were several limitations within this study that prevented further analysis and may have impacted findings. One of the primary limitations of this study was the time span across which data was collected. Because participants completed retrospective accounts about COVID-19 at varying time frames since onset, the influence of time and memory may be relevant. For example, individuals may simply be more likely to disengage over time and depressive symptoms can ebb and flow. Fortunately, analyses that involved possible influence of time were examined and the influence of time was ruled out. More relevant may be the role of time in influencing retrospective reports of goal perceptions and disengagement behaviors. For instance, it could simply be the case that those who already disengaged reported less importance and



attainability after the fact, in a sense justifying their decisions. It may not accurately capture their perceptions back in March 2020. The current findings rest on the assumption the participants accurately recalled their perceptions of goals and disengagement behaviors at the onset of COVID-19. It is possible that their reported perceptions were more driven by current attitudes about the goal. Individuals who did in fact disengage might be more likely to claim that their goal was in fact not that important, to justify their decision.

Further, the individual retrospective report of disengagement behavior may not fully reflect their actual disengagement behavior when COVID-19 began. Disengagement behaviors may be more elaborate than individual instances of giving up. For some, disengagement may be gradual and occur across a broader time range, or they may alternate between engaging and disengaging, such as a student who switches back and forth between majors. This body of research would benefit greatly from longitudinal work that obtains accurate and current reports of appraisals and behaviors across time to study the dynamics of these relationships.

Another limitation that is important to consider, yet difficult to account for, is that there is great variation in how individuals conceptualize their goals, particularly when completing measures such as those presented in the Goal Interview. Because sets of goals can be connected in complex patterns, differences in conceptualization could manifest in various ways. For one, when asked about goals some people might think only about concrete events, like losing weight or buying a house. Others might consider abstract goals of improving a relationship or being happy. This could certainly influence how participants respond. Arguably, being happy, as an example, might be considered highly important to most people. It also inherently creates concerns for measures like the CGS, which specifically asks about how goals relate to one's happiness.

One's hierarchy of goals is also important to consider, and it could be very relevant for how one responds to disengagement items. For example, someone might have the goal of finding a romantic partner, and report disengagement because they ended a recent relationship, but they are still seeking a partner and have not truly disengaged from the primary goal at hand. This could easily skew the observed relationships between disengagement and depression. In this example, they would be reporting disengagement, despite demonstrating an inability to disengage alongside high levels of depression. One could also consider the network of goals not only in terms of a vertical hierarchy, but in the horizontal hierarchy: the set of sub-goals that contribute to a single higher-order goal. Some may have many sub-goals contributing to a single goal, in which case disengagement from one may not have as much of an impact, as compared to someone who has a single sub-goal linked to the primary goal.

Finally, as mentioned previously, it is difficult to comprehensively assess all goals that an individual may be pursuing. This is not only because this can be methodologically burdensome, but because there is great variation in how people conceptualize their goals, including both between and within-person differences. Individuals may not think of all of their goals as "goals" in the research sense; they may not be aware of certain goals and their goals may change from day to day. This makes it much harder to clarify relationships with depression and goal adjustment. Given the complexity of depressive conditions, it is especially important to control for confounds that may also be influencing depression. However, it might be difficult to comprehensively assess all of an individual's goals. This factor, along with the additional limitations described above, will be important considerations for future work.

## Measurement Considerations

Given the nature of importance and attainability constructs, there are several considerations to discuss. Although the use of single-item self-report was based on past studies that have followed similar procedures, there is variation in how these constructs are presented and even how they are interpreted. Some studies have used multi-item measures of importance and attainability (Haratsis et al., 2015; Thompson et al., 2012) while others have referred to similar constructs and even used importance and attainability to reference them. For example, some studies have assessed goal desirability by asking questions like, “How important does this goal seem?” (Ghassemi et al., 2017; Herrmann & Brandstätter, 2015). Because of the disparity in how researchers conceptualize and measure goal appraisals, it is difficult to unite these literatures. There may be significant individual differences in interpretation, depending on whether a participant is asked about desirability as compared to importance. Even with just the term importance, one might think about how much they want to achieve a goal or they might think about how essential the goal is because of external pressure. A goal of excessive wealth could be highly desirable, but not important, for instance. Thus, because this study only relied on a single item measure, it may be difficult to make comparisons to other work. It could be that ratings of goal desirability better explain one’s rigid adherence to goal pursuit. Given that this limitation is present across an array of studies, proposals will be made below in the discussion of future directions.

Similarly, some analyses were limited by the nature of the importance construct. For the first hypothesis, participants were asked specifically to think about important goals and to provide ratings of importance. Thus, by design, importance ratings were all very high for participants’ current important goals. This was necessary to test the model of interest in the

context of pursuing important goals. However, it did prevent further analysis of the impact of importance on other constructs, given the lack of variance. It also prevented other worthwhile analyses, such as understanding how importance and attainability interact to predict depression. This analysis might be particularly useful to explore because it may influence one's magnitude of depressive response. Perhaps individuals who pursue a goal that feels very important and very unattainable demonstrate a larger depressive response than someone with more mild appraisals. These are valuable avenues for future research to consider.

These concerns are also particularly relevant for the GAS measure. Again, how one completes this measure is subject to individual differences in interpretation. If individuals think only of more concrete, lower-level goals, they might report high capacities for disengagement. If instead they were asked specifically to think about more complex goals, like being likeable, being healthy, or having a family, it could be speculated that the measure might be filled out differently. It is also important to reiterate once again, that the GAS may not always reflect behaviors with specific goals. This might explain why no significant associations were found with the disengagement subscale of the GAS. Perhaps this study could have benefited from administering the GAS while referencing a specific goal, which would provide more information on how this measure is related to disengagement behaviors. Although the GAS has been useful in demonstrating several key trends linking depression and goal adjustment, the limitations of this measure have been present across a range of studies and represents an important gap to be addressed in future work.

Lastly, another factor to consider for self-report goal measures is the degree of clarity one has when thinking about goals. Depending on how thoroughly an individual thinks through their goals, this may impact not only how they complete these measures, but how these goals relate to

depression. For instance, consider students planning their pathway towards a college degree. Some may have clear directions for the steps they will take to graduate, and the linking of these steps may be particularly salient such that failure on one step influences perceptions of their graduation goal. Others, on the other hand, may not think through these steps and individual instances of success or failure may not influence their expectations for graduation. Additionally, there may be differences in how thoroughly one thinks through a specific goal. Some may have goals that they don't even perceive to be formal goals, others may have goals but think of them only in the abstract sense, like experiencing an urge to find a romantic partner. These individuals may not have clear pathways to success, which could potentially influence goal adjustment, goal appraisals and emotional responses. In contrast, individuals who think conscientiously about goals and set specific plans and objectives may more effectively evaluate goal pursuit and options for goal adjustment. Goal clarity is certainly a worthwhile construct to consider in future work to better understand factors that influence goal adjustment and well-being.

### **Future Directions**

Although the results from this study contribute a number of key findings to better clarify the relationship between depression and disengagement, additional work is still needed. Several questions arose from the analyses that would serve as meaningful future directions and additional gaps in the literature remain to be addressed.

One of the primary proposals of this paper was that specific disengagement behaviors would ultimately determine whether depression persists in the face of goal difficulties. A direct examination of this would be a valuable contribution to the literature. This would involve tracking participants longitudinally, gathering regular measures of depressive symptoms, and evaluating adjustment behaviors for specific goals. One could then examine how depressive

levels change in response to pursuing and disengaging from unattainable goals. Future studies could also comprehensively evaluate how goal appraisals and impulses to disengage also vary across time alongside depression and goal adjustment. More longitudinal work is needed across all aspects of disengagement research as this is somewhat limited in general and would help to clarify the causal relationship between depression and disengagement. Again, exploring the dynamics of disengagement, appraisals and depression across time would be highly informative for understanding patterns of depression. This would also contribute to understanding factors that moderate the magnitude of depressive response, which has not been thoroughly examined in the context of adaptive goal adjustment.

Another aim of this paper was to propose that the literature work towards greater consensus on how goal appraisals and related constructs should be measured and operationalized, as discussed in the limitations. It is thought that importance and attainability could serve as useful core constructs that take into account all other related variables. Whereas importance could be defined as reflecting all related factors that increase commitment towards a goal (e.g., drive, desire, motivation), attainability captures factors that impact perceived likelihood for success (e.g., difficulty, resources, self-efficacy). Although this is just one suggestion, more consistency in operationalizing how these constructs are interrelated is essential.

Much of the goal adjustment literature relies on the GAS. However, as demonstrated by this paper and reviews of the literature, this measure may not be sufficient for understanding certain aspects of the depression and disengagement relationship. To address this concern, more research is needed that compares the GAS to alternative measures of goal adjustment, both specific and general. This would provide more clarity of the utility and limitations of this

measure. Additionally, work that is done using the GAS should be replicated with more narrow examinations of specific goals to determine if past findings with the GAS are truly reflective of the patterns and theories surrounding depression and disengagement. Even simply having participants complete the GAS both generally and with respect to a specific goal could be a helpful first step for the literature.

Findings related to the CGS also emphasize another need for research to address. Results from this study provide preliminary evidence that certain factors, such as how people connect their goals, can influence perceptions that ultimately drive adaptive disengagement. Because this was the first study to consider CGS as possibly influencing disengagement, more research on the relationship between CGS and goal adjustment is warranted. Further, if goal perceptions determine disengagement, then other factors should also be considered for their influence over goal perceptions. Factors related to motivation or that might influence the nature of the goal, for example, might be particularly relevant. For example, perfectionism is one factor that has been linked to depression (Limburg et al., 2017) and perhaps this is because high standards for success limit the attainability of a goal. Other commonly cited correlates and risk factors for depression could also be considered regarding how they relate to perceptions of importance, attainability and goal adjustment. This also relates back to the proposal of anchoring many related variables under one all-encompassing construct, as discussed previously.

This paper presented a model in which maladaptive patterns of goal disengagement lead to depression. The overall goal was to clarify pathways toward depression, in which perceptions of importance and attainability trigger impulses to disengage, resulting in depression until disengagement occurs. Although findings provide evidence supporting these assertions, more work is needed to unify the literature across several disparate constructs to better understand the

true nature of depression and adaptive goal adjustment. By continuing to build off this work, particularly with more consistent, longitudinal examinations of goal adjustment for specific goals, researchers can clarify the factors that promote maladaptive outcomes and inform clinical interventions that help to alleviate these concerns.



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APPENDIX A: TABLES AND FIGURES

**Table A1. Studies in Support of the Inability to Disengage Hypothesis**

Citation	Population	Depression Measure	Disengagement Measure	Goals Assessed	Cross or Longitudinal	Direction/Valence
Barlow et al., 2020 (meta analysis)	Multiple	Multiple	GAS	General Self-Report	Meta	R = -.09
Wrosch et al., 2007	Adults	CES-D	GAS	General Self-Report	Cross	-
Wrosch, Scheier, Miller, et al., 2003	Parents of children with cancer	CES-D	GAS	General Self-Report	Cross	-
Garnefski et al., 2012	Individuals w/ acquired hearing loss	HADS	GOQ	General Self-Report	Cross	-
Jobin & Wrosch, 2016	Older Adults	CES-D	GAS	General Self-Report	Longitudinal	- Dis -> Dep
Dunne et al., 2011	Older Adults	CES-D	GAS	General Self-Report	Longitudinal	- Dis -> Dep
Coffey et al., 2014	Individuals w/ amputations	BDI-II	GAS	General Self-Report	Longitudinal	- Dis -> Dep
Eddington, 2014	College Students	PHQ-9	GAS	General Self-Report	Longitudinal	- Dis -> Dep

*Note.* Center for Epidemiologic Studies Depression Scale (CES-D), Goal Adjustment Scale (GAS), Hospital Anxiety and Depression Scale (HADS), Patient Health Questionnaire-9 (PHQ-9), Beck Depression Inventory-Second Edition (BDI-II), Goal Obstruction Questionnaire (GOQ).

**Table A2. Studies in Support of the Facilitated Disengagement Hypothesis**

<b>Citation</b>	<b>Population</b>	<b>Depression Measure</b>	<b>Disengagement Measure</b>	<b>Goals Assessed</b>	<b>Cross or Longitudinal</b>	<b>Direction/Valence</b>
Dickson et al., 2016	Patients w/ Depression + Controls	PHQ-9	GAS	General Self-Report	Cross	+
Koppe & Rothermund, 2017	Inpatients	Diagnosis	Time on anagrams	Specific Lab task	Cross	+
Silvia et al., 2016	College Students	CES-D	Effort (cardiac)	Specific Lab task	Cross	+
Silvia et al., 2014	Adults	DASS	Effort (cardiac)	Specific Lab task	Cross	+
Treadway et al., 2012	Depression dx + Controls	BDI-II	Effort (choosing hard trials)	Specific Lab task	Cross	+
Cléry-Melin et al., 2011	Inpatients	Diagnosis	Effort (grip)	Specific Lab task	Cross	+
Ginty et al., 2020	College students	HADS	COPE	General Self-report	Cross	+
Boudrenghien et al., 2012	College students	BDI	Actual (drop-out) Perceived	Specific Self-report	Cross	+
Neter et al., 2009	Multiple sclerosis Patients	HADS	GAS	General Self-report	Cross	+
Bowie et al., 2017	College students	BDI-II	Computer Task (i.e., skipping items)	Specific Lab Task	Cross	+
van den Elzen & MacLeod, 2006	College students	BDI-II	Learning task (i.e., shifting strategies)	Specific Lab Task	Cross	+
Wrosch & Miller, 2009	Adolescents	BDI	GAS	General Self-Report	Longitudinal Dep -> Dis	+

*Note.* Center for Epidemiologic Studies Depression Scale (CES-D), Goal Adjustment Scale (GAS), Hospital Anxiety and Depression Scale (HADS), Patient Health Questionnaire-9 (PHQ-9), Beck Depression Inventory-Second Edition

(BDI-II), Goal Obstruction Questionnaire (GOQ), Depression Anxiety Stress Scales (DASS), Coping Orientation to Problems Experienced (COPE).

**Table A3. Timeline and Description of Recruited Samples**

<b>Recruitment Method</b>	<b>Time Range</b>	<b>Measures Collected</b>	<b>Goal Interview Components</b>
DTRP Lab (UNCG students)  N = 79	09/2020 – 10/2021	CES-D, GAS, ACRSS, CGS	3 current goals - Importance - Attainability COVID (retrospective reports of 01/20 and 03/20) - Importance (T1, T2) - Attainability (T1, T2) - Diseng Behavior (T2, current)
SONA (UNCG students)  N = 40	09/2021 – 12/2021	CES-D, GAS, ACRSS, CGS	3 current goals - Importance - Attainability COVID (retrospective reports of 01/20 and 03/20) - Importance (T1, T2) - Attainability (T1, T2) - Diseng Behavior (T2, current)
Prolific  N = 190	02/2022	CES-D, GAS, ACRSS, CGS	3 current goals - Importance - Attainability

*Note.* Center for Epidemiologic Studies Depression Scale (CES-D), Goal Adjustment Scale (GAS), Action Crisis Scale (ACRSS), Conditional Goal Setting Scale (CGS).

**Table A4. Description of Samples and Measures Used for Each Hypothesis**

<b>Hypothesis</b>	<b>Sample</b>	<b>Measures</b>	<b>Time Period</b>
Hypothesis 1A	DTRP: 79 SONA: 40 <u>Prolific: 191</u> <b>Total: 310</b>	<i>Current reports of:</i> Depression: CES-D Diseng Impulse: ACRSS Attain: current report Import: current report	Current most important goal
Hypothesis 1B	DTRP: 79 SONA: 40 <u>Prolific: 191</u> <b>Total: 310</b>	<i>Current reports of:</i> Depression: CES-D Diseng Capacity: GAS Attain: current report Import: current report	Current most important goal
Hypothesis 1C	DTRP: 77 <u>SONA: 40</u> <b>Total: 117</b>	<i>Current reports of:</i> Depression: CES-D Diseng Impulse: ACRSS  <i>Retrospective reports of:</i> Disengagement Behavior: retro-report (T2)	COVID impacted goal
Hypothesis 2	DTRP: 77 <u>SONA: 40</u> <b>Total: 117</b>	<i>Retrospective reports of:</i> Disengagement Behavior: retro-report (T2) Attain: retro-report (T1, T2) Import: retro-report (T1, T2)	COVID impacted goal
Hypothesis 3	DTRP: 74 <u>SONA: 40</u> <b>Total: 114</b>	Conditional Goal Setting: CGS  <i>Retrospective reports of:</i> Import: retro-report (T1, T2)	COVID impacted goal
Exploratory 4	DTRP: 74 <u>SONA: 40</u> <b>Total: 114</b>	Diseng Capacity: GAS Conditional Goal Setting: CGS <i>Retrospective reports of:</i> Disengagement Behavior: retro-report (T2) Import: retro-report (T1, T2)	COVID impacted goal

*Note.* Center for Epidemiologic Studies Depression Scale (CES-D), Goal Adjustment Scale (GAS), Action Crisis Scale (ACRSS), Conditional Goal Setting Scale (CGS).

**Table A5. Test for Differences in Means Between Recruitment Groups**

Variable	Mean Difference	SE	t	95% CI		<i>p</i>
				Lower	Upper	
CES-D	2.06	1.49	1.39	-0.87	4.99	.167
GAS-D	-1.06	0.40	-2.63	-1.84	-0.27	.009
GAS-R	-0.18	0.46	-0.39	-1.08	0.73	.699
ACRSS	-1.50	1.08	-1.39	-3.64	0.63	.167
Attain	0.38	0.22	1.73	-0.05	0.81	.085

*Note.* UNCG students were coded “0” and Prolific participants were coded “1”. Center for Epidemiologic Studies Depression Scale (CES-D), Goal Adjustment Scale (GAS; disengagement and reengagement subscales), Action Crisis Scale (ACRSS), Conditional Goal Setting Scale (CGS).

**Table A6. Descriptive Statistics of Primary Variables**

Variable	N	Mean	SD	Skew	Kurtosis
Depression	310	19.56	12.76	0.45	-0.62
<i>UNCG</i>	119	20.83	11.43	0.34	-0.67
<i>Prolific</i>	191	18.77	13.50	0.54	-0.60
Disengagement (General; GAS)	310	10.36	3.46	0.28	-0.37
<i>UNCG</i>	119	9.71 <sup>a</sup>	3.24	0.34	-0.39
<i>Prolific</i>	191	10.77 <sup>a</sup>	3.54	0.23	-0.39
Reengagement (General; GAS)	310	22.39	3.94	-0.60	0.52
<i>UNCG</i>	119	22.28	3.66	-0.26	-0.06
<i>Prolific</i>	191	22.46	4.10	-0.77	0.76
Disengagement Impulse (ACRSS)	310	27.90	9.30	0.25	-0.59
<i>UNCG</i>	119	26.97	9.60	0.46	-0.60
<i>Prolific</i>	191	28.48	9.08	0.13	-0.49
Attainability	310	7.97	1.89	-0.92	0.45
<i>UNCG</i>	119	8.20	1.80	-0.81	-0.07
<i>Prolific</i>	191	7.82	1.93	-0.97	0.62
CGS (general)	307	22.38	9.20	0.07	-0.57
<i>UNCG</i>	119	20.05	9.59	0.46	-0.36
<i>Prolific</i>	188	23.86	8.64	-0.14	-0.38
CGS (specific)	309	16.38	3.59	-0.82	0.76
<i>UNCG</i>	118	16.28	3.57	-0.75	0.88
<i>Prolific</i>	191	16.44	3.60	-0.86	0.76

*Note.* Means are presented for the total combined group and sub-groups. Center for Epidemiologic Studies Depression Scale (CES-D), Goal Adjustment Scale (GAS), Action Crisis Scale (ACRSS), Conditional Goal Setting Scale (CGS).

<sup>a</sup>Test for difference in means revealed significant group differences



**Table A7. Descriptive Statistics for COVID-19 Interview Variables (UNCG Only)**

Variable	N	Mean	SD	Skew	Kurtosis
Disengage (T2)	117	0.46	0.50	0.16	-2.01
Frequency		63 0 54 1			
Attainability (T1)	117	5.6	1.6	-1.37	1.59
Attainability (T2)	116	3.5	1.6	-0.05	-0.83
Importance (T1)	117	5.9	1.3	-1.56	2.86
Importance T2)	116	5.2	1.8	-0.76	-0.50

*Note.* “Disengage” refers to specific disengagement behavior, dichotomized such that lack of disengagement was coded “0” and disengagement was coded “1”. Frequencies for each response are presented below the mean. “T1” refers to Retrospective Time 1 (January 2020) and “T2” refers to Retrospective Time 2 (March 2020).

**Table A8. Pairwise Correlations for First set of Hypotheses**

Variable	2	3	4	5	6	7
1. Depression (CES-D)	0.006 (310)	-0.273** (310)	0.192* (117)	0.501** (310)	-0.289** (310)	0.346** (307)
2. Disengagement (General; GAS)	—	0.180** (310)	-0.102 (117)	0.000 (310)	-0.023 (310)	-0.088 (307)
3. Reengagement (General; GAS)		—	-0.199* (117)	-0.241** (310)	0.213** (310)	-0.251** (307)
4. Disengage Behavior (Specific; T2)			—	0.241** (117)	-0.059 (117)	0.231** (117)
5. Disengage Impulse (ACRSS)				—	-0.452** (310)	0.221** (307)
6. Attainability (most important)					—	-0.094 (307)
7. CGS (General)						—

*Note.* Center for Epidemiologic Studies Depression Scale (CES-D), Goal Adjustment Scale (GAS), Action Crisis Scale (ACRSS), Conditional Goal Setting Scale (CGS).

\* $p < .05$ . \*\* $p < .001$ .

**Table A9. Pairwise Correlations for Hypothesis 2 and 3**

Variable	2	3	4	5	6
1. Disengage Behavior (specific; T2)	0.069 (116)	-0.040 (117)	-0.459* (116)	-0.146 (116)	-0.363** (116)
2. CGS (specific)	—	0.086 (116)	0.069 (115)	0.249** (116)	-0.033 (115)
3. Attainability (retrospective; T1)		—	0.254* (116)	0.228* (117)	-0.033 (116)
4. Attainability (retrospective; T2)			—	0.162 (116)	0.249** (116)
5. Importance (retrospective; T1)				—	0.411** (116)
6. Importance (retrospective; T2)					—

*Note.* “T1” refers to Retrospective Time 1 (January 2020) and “T2” refers to Retrospective Time 2 (March 2020). Conditional Goal Setting Scale (CGS).

\* $p < .05$ . \*\* $p < .001$ .

**Table A10. Frequency Distribution of COVID-19 Interview Goal Adjustment Item**

Continued Engagement Item (coded “0”)	Frequency
Continued pursuit	63
Disengagement Items (coded “1”)	Frequency
Stopped pursuit, replaced with alternative	26
Stopped pursuit, lingering commitment	13
Stopped pursuit, abandoned	6
Stopped pursuit, stuck/uncertain	9
Total	54

*Note.* Data refers to Retrospective Time 2 (March 2020).

**Table A11. Mediating Effects of Initial Attainability (Standardized)**

Parameter	Estimate ( $\beta$ )	SE	<i>p</i>
Depression ON			
Disengagement Impulse	0.47	0.05	.000
Attainability	-0.08	0.06	.150
-----			
Attainability (total)	-0.29	0.05	.000
Attainability (indirect)	-0.21	0.03	.000

*Note.*  $X^2=0$  (0), RMSEA=0, CFI=1, TLI=1. Depression measured using Center for Epidemiologic Studies Depression Scale (CES-D). Disengagement impulse measured using ACRSS.

**Table A12. Logistic Regression Predicting Odds of Goal Disengagement Behavior**

Predictor	$\beta$	SE	Odds Ratio	95% CI		<i>p</i>
				Lower	Upper	
Attain (T1)	0.08	0.11	1.13	0.83	1.53	.428
Attain (T2)	-0.47	0.09	0.52	0.38	0.71	.000
Import (T1)	-0.03	0.12	0.95	0.61	1.47	.814
Import (T2)	-0.30	0.10	0.68	0.52	0.91	.004
Time	0.01	0.10	1.00	0.997	1.003	.899

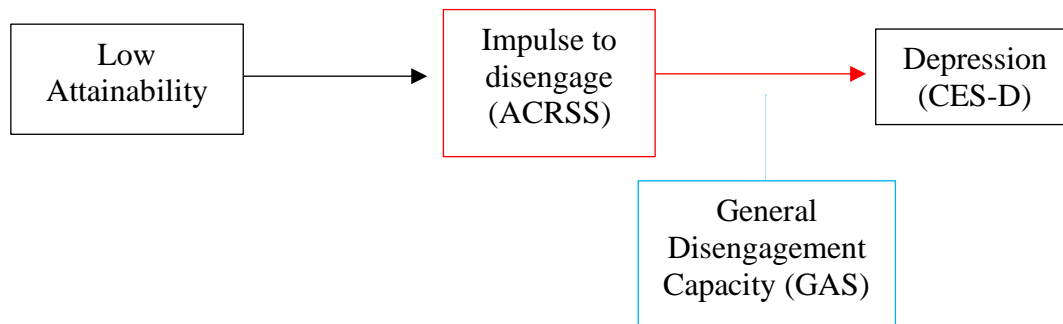
*Note.* “T1” refers to Retrospective Time 1 (January 2020) and “T2” refers to Retrospective Time 2 (March 2020).

**Table A13. Multiple Regression Predicting Specific CGS Scores**

Predictor	$\beta$	SE	95% CI		<i>p</i>
			Lower	Upper	
Import (T1)	0.30	0.09	0.12	0.47	.001
Import (T2)	-0.15	0.09	-0.33	0.04	.121
Time	-0.08	0.10	-0.28	0.12	.416

*Note.* “T1” refers to Retrospective Time 1 (January 2020) and “T2” refers to Retrospective Time 2 (March 2020). Conditional Goal Setting Scale (CGS).

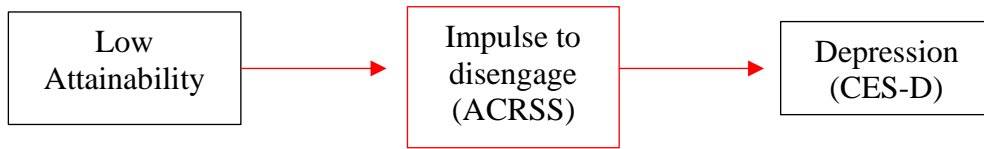
**Figure A1. Pathway Toward Depression in Pursuing Important Goals**



*Note.* Center for Epidemiologic Studies Depression Scale (CES-D), Action Crisis Scale (ACRSS), Goal Adjustment Scale (GAS).

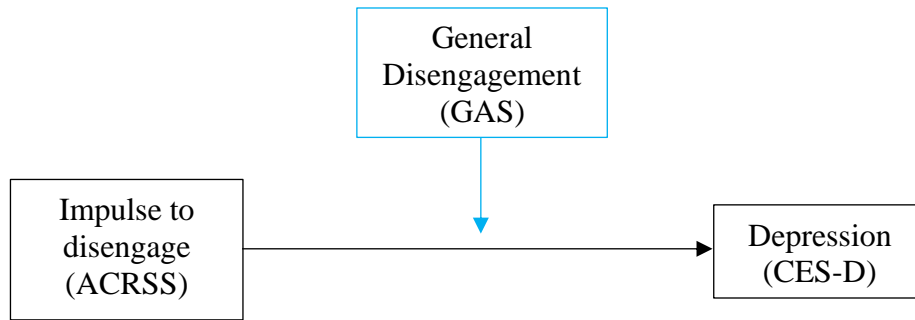


**Figure A2. Mediating Effects of Disengagement Impulses**



*Note.* Center for Epidemiologic Studies Depression Scale (CES-D), Action Crisis Scale (ACRSS).

**Figure A3. Moderating Effects of General Disengagement Capacities**



*Note.* Center for Epidemiologic Studies Depression Scale (CES-D), Action Crisis Scale (ACRSS), Goal Adjustment Scale (GAS).

## APPENDIX B: GLOSSARY

- **Action Crisis:** a state of considering accommodation to goal difficulties, typically characterized as feeling stuck between goal pursuit and disengagement.
- **Attainability:** likelihood of the desired outcome; can be both objective (e.g., number of obstacles present) and subjective (e.g., perceptions of attainability)
  - Note. Within the literature, goal attainability is not consistently operationalized; many develop self-report or objective measures that relate to likelihood. Related terms are distinguished below.
  - **Difficulty:** relative challenge in completing a task; not the same as attainability because while difficulty may increase, a task can still be attainable, and subjective ratings of attainability may not directly change with difficulty. However, these constructs are sometimes used interchangeably in the literature (i.e., measuring attainability perceptions by asking how difficult a goal seems).
  - **Other Related Terms:** self-efficacy, obstacles, barriers (each of these may contribute to overall levels of attainability, but not necessarily).
- **Conditional Goal Setting:** linking the outcome of a higher priority goal to a lower priority goal, such that the success of the higher depends on the lower.
- **Goal Adjustment:** strategies for modifying goal pursuit in the face of difficulties, typically characterized as patterns of goal disengagement and goal reengagement.
- **Goal Disengagement:** reductions in effort or commitment towards a goal.
  - **Effort:** one's engagement and energy put forth.
  - **Commitment:** one's inner drive and desire to continuously pursue a goal. Also related to importance as described below.
- **Goal Reengagement:** increases in effort or commitment towards a new goal.
- **Importance:** overall drive or need towards accomplishing a goal.
  - Note. This term is often used interchangeably with commitment, and it is arguably difficult to tease these constructs apart; while both involve desire/drive to some degree, commitment may capture a more subjective level of drive and reflects long term drive to pursue; importance also takes into account more objective factors (e.g., it is important to pay taxes, but I may not be committed to doing so). Commitment and importance may overlap more for highly desirable goals.
  - **Other related terms:** drive, motivation, desirability, reward.
- **Impulse to Disengage:** an urge or consideration of disengagement from a goal; does not necessarily reflect one's capacity, tendency or actual disengagement behavior.

APPENDIX C: GOAL ADJUSTMENT SCALE

**Goal Adjustment Scale (GAS)**

During their lives people cannot always attain what they want and are sometimes forced to stop pursuing the goals they have set. We are interested in understanding how you usually react when this happens to you. Please indicate the extent to which you agree or disagree with each of the following statements, as it usually applies to you.

If I have to stop pursuing an important goal in my life...	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. It's easy for me to reduce my effort towards the goal.					
2. I convince myself that I have other meaningful goals to pursue.					
3. I stay committed to the goal for a long time; I can't let it go.					
4. I start working on other new goals.					
5. I think about other new goals to pursue					
6. I find it difficult to stop trying to achieve the goal.					
7. I seek other meaningful goals.					
8. It's easy for me to stop thinking about the goal and let it go.					
9. I tell myself that I have a number of other new goals to draw upon.					
10. I put effort toward other meaningful goals.					

## APPENDIX D: CES-D

### Center for Epidemiologic Studies Depression Scale (CES-D), NIMH

Below is a list of the ways you might have felt or behaved. Please tell me how often you have felt this way during the past week.

Week	During the Past			
	Rarely or none of the time (less than 1 day )	Some or a little of the time (1-2 days)	Occasionally or a moderate amount of time (3-4 days)	Most or all of the time (5-7 days)
1. I was bothered by things that usually don't bother me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. I did not feel like eating; my appetite was poor.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. I felt that I could not shake off the blues even with help from my family or friends.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. I felt I was just as good as other people.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. I had trouble keeping my mind on what I was doing.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. I felt depressed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. I felt that everything I did was an effort.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. I felt hopeful about the future.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. I thought my life had been a failure.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. I felt fearful.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. My sleep was restless.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. I was happy.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. I talked less than usual.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. I felt lonely.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. People were unfriendly.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. I enjoyed life.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. I had crying spells.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. I felt sad.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. I felt that people dislike me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. I could not get "going."	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**SCORING:** zero for answers in the first column, 1 for answers in the second column, 2 for answers in the third column, 3 for answers in the fourth column. The scoring of positive items is reversed. Possible range of scores is zero to 60, with the higher scores indicating the presence of more symptomatology.

## APPENDIX E: CONDITIONAL GOAL SETTING SCALE

### Specific CGS

The following questions refer to your [MOST IMPORTANT] goal:

1. What are the reasons you are pursuing this goal? List as many as possible.
2. Why is this goal important to you? Please use as much detail as possible.
3. How much do you believe your happiness depends on reaching this goal? (1 - Not at all, 7 - Very Much)
4. How much do you believe your self-worth depends on reaching this goal? (1 - Not at all, 7 - Very Much)
5. How much do you believe your personal fulfillment depends on reaching this goal? (1 - Not at all, 7 - Very Much)

### General CGS

For the next set of statements, think about all of your goals in general. Rate the degree to which you agree or disagree with each of the following statements (1=strongly disagree, 7=strongly agree):

6. Even if I do not achieve my goals, I can still be happy.
7. I can only be happy if I reach my goals.
8. Even if I do not achieve my goals, I can still feel fulfilled.
9. I can only feel fulfilled if I reach my goals.
10. Even if I do not achieve my goals, I can still have a sense of self-worth.
11. I can only have a sense of self-worth if I reach my goals.

## APPENDIX F: ACTION CRISIS SCALE

*Responses to the following items lie on a 7-point scale (1 = "Strongly Disagree; 7 = "Strongly Agree")*

1. A. "I doubt whether I should continue striving for my goal or disengage from it.";  
B. "Lately I feel torn between continuing to strive for this goal and abandoning it."
2. A. "When striving for this goal I am confronted with situations where I do not know how to continue."  
B. "I often feel stuck and am unsure of how to continue pursuing this goal."
3. "I have thought of disengaging from my goal."
4. "I repeatedly ruminate about my goal."
5. "I find myself not having worked on my goal, despite my intention of doing so."
6. "So far my goal pursuit has been smooth and unproblematic."

## APPENDIX G: GOAL INTERVIEW TRANSCRIPT

### **Current Goals Interview**

INTERVIEWER SCRIPT: *"We are interested in the things that you typically are trying to do in your everyday behavior. Think about the objectives that you are typically trying to accomplish or attain. We call these personal goals. These can involve various life areas, such as school, family, friends, leisure time, health, jobs, or housing conditions. Specific examples might include: finding a romantic partner, graduating from college, improving a relationship with a friend, getting an A on the next exam, learning how to cook, etc."*

*"Think about some goals you are currently pursuing that are the **most** important to you. These are goals that you are actively working on right now. Try to focus on long-term goals (such as improving a relationship with a friend), as opposed to short-term goals (such as buying a friend a present). Please come up with 3 goals now. I will give you a minute to think about it. If you can think of many different goals, focus on the ones that are the most essential to your life."*

Participants generate 3 personal goals. For each one they respond to the following questions:

1. How important is this goal to you? (On a scale from 1 - [Least Important] to 10 - [Most Important])
2. How attainable does this goal seem? (On a scale from 1 - [not attainable] to 10 - [very attainable])
3. What obstacles or failures have you experienced while striving for this goal? List as many as possible:
4. If you could not achieve this goal, what alternatives would you pursue instead, if any? (List as many as possible) [IF NONE: What different strategies could you use to accomplish this goal?]

### **COVID-19 Goals Interview**

#### **INTRODUCTION**

INTERVIEWER: *"Many changes have occurred across the world recently due to the impact of the COVID pandemic. We are interested in learning more about how environmental events such as this impact personal goals. For the following questions, think about all of your goals, particularly those you were pursuing during the onset of COVID, focusing on the ones most important to you. We will ask questions about varying time periods, including the period before the pandemic began to significantly impact the United States (around January and February), the period during which the impact became more significant (around March and April), and finally the current period. Do you remember what you were doing from January 2020 to April 2020? Take some time to think about the goals you were pursuing at this time."*

*"Think about all of your goals broadly, not just the ones we've already talked about." [PAUSE.] "Which of your goals was interrupted, blocked or made more difficult due to*



*the impact of the pandemic? If more than one, please choose the goal that was MOST impacted by the pandemic. You do NOT have to select goals you are currently pursuing, these can be goals that you have stopped or given up on. They only need to be goals that you were at least pursuing just before COVID began. Please describe this goal in detail."*

[Participants report a goal that was impacted by COVID-19.]

### PRE-COVID-19 ITEMS

INTERVIEWER: *"The next set of questions will ask about this goal that was impacted. Think about the period before the events of the pandemic began (around January and February, 2020)"*

1. During this period, how attainable did your goal seem? (From 1 - "not attainable at all", to 7 - "very attainable")
2. During this period, how important did your goal seem? (From 1 - "not important at all", to 7 - "very important")
3. During this period, how much progress had you made? (From 1 - "no progress at all", to 7 - "a lot of progress")
4. During this period, how difficult did the goal seem? (From 1 - "not difficult at all", to 7 - "very difficult")
5. What difficulties or obstacles were you facing before the pandemic? Please list as many details as possible.

### COVID-19 ONSET ITEMS

INTERVIEWER: *"Now, think about the transitions that occurred as the pandemic began to have more impact (around March/April 2020; transitions such as new safety protocols, being restricted to home or indoors, business closings, etc)."*

1. During this period, how attainable did your goal seem? (From 1 - "not attainable at all", to 7 - "very attainable")
2. During this period, how important did your goal seem? (From 1 - "not important at all", to 7 - "very important")
3. During this period, how difficult did the goal seem? (From 1 - "not difficult at all", to 7 - "very difficult")
4. What difficulties or obstacles arose specifically because of the pandemic? Please list as many details as possible.
5. GOAL ADJUSTMENT ITEM (Specific disengagement behavior)  
*"I am now going to ask about how you first responded to these goal difficulties during this transition period in March 2020."*

"During these difficulties, did you give up on this goal, even if only temporarily?"

[IF NO: Select Response 1; IF YES: Continue with script...]

"When you stopped working on this goal, did you start pursuing a different goal or replace this goal with an alternative?"

[IF YES: Select Response 2; IF NO: Continue with script...]

"When you stopped working on this goal, did it still feel important to reach this goal? Or did you feel uncertain, stuck, or unsure about this goal?"

[**IF YES:** Select Response 3; **IF NO:** Select Response 4; **IF UNCERTAIN:** Select Response 5]

Response Options:

1. I continued trying to pursue this goal.
2. I stopped trying to pursue this goal, and instead found an alternative goal to replace it.
3. I stopped trying to pursue this goal, although it was still important for me to reach it.
4. I stopped trying to pursue this goal, and it was no longer important for me to reach it, but I did not replace it with an alternative goal.
5. I stopped trying to pursue this goal, and felt stuck and uncertain on if I should proceed.

### CURRENT PERIOD ITEMS

INTERVIEWER: *"Finally, the following questions refer to the current period, and what you are doing NOW."*

1. During this period, how attainable did your goal seem? (From 1 - "not attainable at all", to 7 - "very attainable")
2. During this period, how important did your goal seem? (From 1 - "not important at all", to 7 - "very important")
3. During this period, how much progress had you made? (From 1 - "no progress at all", to 7 - "a lot of progress")
4. During this period, how difficult did the goal seem? (From 1 - "not difficult at all", to 7 - "very difficult")
5. What difficulties or obstacles were you facing before the pandemic? Please list as many details as possible.
6. GOAL ADJUSTMENT ITEM (Specific disengagement behavior)  
*"I am now going to ask about how you first responded to these goal difficulties during this transition period in March 2020."*

"During these difficulties, did you give up on this goal, even if only temporarily?"

[**IF NO:** Select Response 1; **IF YES:** Continue with script...]

"When you stopped working on this goal, did you start pursuing a different goal or replace this goal with an alternative?"

[**IF YES:** Select Response 2; **IF NO:** Continue with script...]

"When you stopped working on this goal, did it still feel important to reach this goal? Or did you feel uncertain, stuck, or unsure about this goal?"

[**IF YES:** Select Response 3; **IF NO:** Select Response 4; **IF UNCERTAIN:** Select Response 5]

Response Options:

1. I continued trying to pursue this goal.
2. I stopped trying to pursue this goal, and instead found an alternative goal to replace it.
3. I stopped trying to pursue this goal, although it was still important for me to reach it.
4. I stopped trying to pursue this goal, and it was no longer important for me to reach it, but I did not replace it with an alternative goal.
5. I stopped trying to pursue this goal, and felt stuck and uncertain on if I should proceed.