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The upside: How people make sense of difficulty matters during a crisis

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ABSTRACT

We used IBM theory and the COVID-19 pandemic to test the prediction that how people respond to all-encompassing life difficulties requiring novel difficult tasks/goals is a function of what they infer about their identities from these experiences of difficulty (N = 698 U.S. adults, three datasets). People were more likely to see silver linings if they experienced difficulties with a task/goal as implying its importance and life difficulties as opportunities for self-improvement. People who endorsed difficulty-as-importance were more likely to mask, distance, and wash hands in part because they saw silver linings for themselves in the pandemic; for difficulty-as-improvement, silver linings fully mediated these effects. People apply their difficulty-as-importance and difficulty-as-improvement mindsets to cope with novel life difficulties.

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Experiencing difficulty is part of life. People can experience difficulty while working on or imagining working on tasks and goals as well as due to an array of personal, community- and national-level difficulties such as job loss and illness, floods and fires, and wars and pandemics. In the current paper, we build on Identity-based Motivation theory (Oyserman, 2007) to predict that how people respond to difficulties emerging in times of crisis depends in part on how they interpret their experiences of difficulty and hence the identities they form. We use as our concrete example the COVID-19 pandemic and focus on the relationship among people's interpretations of their experiences of difficulty, novel identity construction, and engaging in pandemic-relevant action. Before detailing our predictions and describing our studies, we outline what Identity-based Motivation Theory is and provide a brief summary of relevant empirical evidence to date.

Identity-based motivation

IBM theory is a social psychological theory of goal pursuit and self-regulation that describes how identities, meaning making, and behaviors are interrelated (Oyserman, 2007, 2009; Oyserman et al., 2017). IBM theory predicts that people are motivated to act

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and make sense of their experiences in identity-congruent ways – in ways that fit their identities. How certain people are about an identity affects how they interpret their experiences of difficulty when engaging or considering tasks and goals relevant to that identity. IBM theory predicts that this process is bidirectional – how people interpret their experiences of difficulty while working on a task or goal shapes identities—who people believe they are (or might become) and what actions they should take. In doing so, people are guided by a set of three “difficulty mindsets”, two of which address the identity implications of their experiences of difficulty while engaging with a task or goal and one of which focuses on the identity implications of their experiences of difficulty in life. The task-focused difficulty mindsets are termed difficulty-as-importance and difficulty-as-impossibility, and the life-focused difficulty mindset is termed difficulty-as-improvement. Each is detailed next.

When working on or imagining a task or goal feels difficult, people can interpret their difficulty as implying that the task or goal is self-relevant, important to who they are or might become (a “difficulty-as-importance” mindset). This difficulty mindset can be reliably measured with a brief scale (Fisher & Oyserman, 2017). Scale items reflect the focus on the self-defining aspects of difficulty working on tasks and goals (e.g., “Sometimes if a task feels difficult to me my gut says that it really matters for me.” “If a goal feels difficult to work on, I often think it might be a critical one for me.” “When a task feels difficult, the experience of difficulty sometimes informs me that succeeding in the task is important for me.” “Often when a goal feels difficult to attain it turns out to be worth my effort”).

However, when working on a task or goal feels difficult, people can also interpret their difficulty as implying that the task or goal is not self-relevant, a waste of their time. This difficulty-as-impossibility mindset can be reliably measured with a brief scale as well (Fisher & Oyserman, 2017). Scale items reflect the focus on the self-defining aspects of difficulty working on tasks and goals (e.g., “Sometimes if a task feels difficult, my gut says it is impossible for me.” “If a goal feels difficult to work on, I often think it might not be for me.” “When a task feels difficult, the experience of difficulty sometimes informs me that succeeding in the task is just not possible for me.” “Often when a goal feels difficult to attain it turns out to be out of my reach”).

In contrast to experiences of difficulty linked to tasks or goals, when people experience life difficulties such as economic downturns, job loss or community-level or personal tragedies, they can interpret these difficulties as an opportunity for building character and for self-growth. This “difficulty-as-improvement” mindset can be reliably assessed with a brief scale (Yan et al., 2022). Scale items reflect the focus on the self-defining aspects of life difficulties (e.g., “In a way, the struggles I have today are strengthening my character to meet tomorrow’s challenges.” “Experiencing difficulty makes me grow stronger.” “Experiencing difficulty is the strongest of teachers; I may temporarily feel broken but in the long run, I will be better.” “Life is not complete without difficulty, hardship, and suffering.”). As these scale items concretize, difficulty-as-improvement is not about responding to difficulties with discrete tasks or goals, it is about responding to difficulties, struggles, and hardships more generally.

IBM theory predicts that the more people endorse difficulty-as-importance and difficulty-as-improvement, the more likely they will be to endorse connected identities and take relevant action (Oyserman, 2007, 2009). IBM theory also predicts that the reverse is

true. The more people endorse difficulty-as-impossibility, the more likely they will be to reject connected identities (see these identities as untrue for them) and reject related actions (see these actions as not for them). In sum, IBM theory highlights the bi-directional paths by which interpretations of difficulty with tasks and goals and life circumstances shape identities and behavior.

In the current paper, we consider the COVID-19 pandemic because the pandemic reflects both a life difficulty and a difficult novel task or goal (following the CDC guidelines). While COVID-19 is a pandemic, it is not unique. Climate-induced environmental tragedies that devastate communities have a similar quality of including both a life difficulty and novel tasks or goals that people can find identity congruent or not, with likely implications for the meaning that they make of their difficulties and what they do. Hence, we use identity-based motivation theory to predict that people's responses will be a function of their interpretations of difficulty.

In response to the COVID-19 pandemic, the CDC asked people to perform an array of novel and challenging behaviors in the hopes of reducing spread. In addition to cleaning and disinfecting surfaces, the CDC recommended staying home, wearing a mask, and keeping physical distance from others. Wearing a mask impedes both breathing freely and ease of communication, as does keeping physical distance from others. Though initial messaging from the CDC did not present these behaviors as difficult or requiring a new identity, taking these actions is difficult in part because they are socially isolating. People are inherently social beings (Van Bavel et al., 2020), so social isolation takes a toll on mental health (Hawryluck et al., 2004, increasing people's risk of feeling detached, angry, and frustrated, Brooks et al., 2020).

Identity-based motivation theory implies that people would be more likely to engage in these novel and difficult pandemic-relevant behaviors if they create a novel identity of a person who can take appropriate action during the pandemic. One way to operationalize a pandemic-relevant novel identity is being the kind of person who can see a silver lining for themselves in the difficult situation of the pandemic. Prior studies document that finding silver linings can be beneficial: people who report finding silver linings in disasters report more well-being (Taylor, 1983), seek more support, and pray and meditate more (Lechner et al., 2006; Mohr et al., 1999). We did not find prior studies showing that taking on a silver lining identity is associated with taking action to mitigate the risk of infection and spread of disease. However, the identity-to-action link is central to identity-based motivation theory. Hence, in our studies, we focus on how endorsing each difficulty mindset can predict taking on this new identity and the downstream consequences of difficulty mindsets and identity for taking action. The new identity we focus on is a silver lining identity of a person who has gained positive attributes in the wake of the pandemic.

We predict that the more people interpret difficulties working on or imagining working on their tasks and goals as implying importance, the more they should take on a silver lining identity and the more they should engage in difficult but necessary action. We also predict that the more people interpret their experiences of difficulty in life as implying that these difficulties can build their character and improve them, the better positioned they will be to take on a silver lining identity. Given that IBM theory predicts that people prefer to act in identity-congruent ways (Oyserman, 2007), endorsing this new silver lining identity should increase the likelihood that people take the difficult, but relevant, pandemic-appropriate actions. The silver lining identity of becoming a better person through

the pandemic may give people the stamina and strength to take on and persist in the difficult and novel pandemic-relevant behaviors. In contrast, difficulty-as-impossibility is less clearly related to novel tasks and identities. People who interpret their experiences of difficulty as implying impossibility may simply shift to something else when faced with novel difficulties or they may reject the novel identities and actions as not for them.

We make our predictions based on the assumption that people have access to and endorse each difficulty mindset (difficulty-as-importance, difficulty-as-improvement, and difficulty-as-impossibility) to differing degrees, deploying them in ways shaped by their identities. Though researchers have mostly focused on the situated nature of difficulty mindset accessibility (e.g., Aelenei et al., 2017; Oyserman et al., 2015, 2018; Smith & Oyserman, 2015), several studies examine the effects of differential endorsement of each mindset (e.g., Fisher & Oyserman, 2017; Yan et al., 2022). Situated studies entail making a single difficulty mindset differentially accessible. This method provides causal evidence that an accessible difficulty mindset matters for meaning making and action. For example, students guided to think of difficulty-as-importance are more likely to see academics as identity-central (Smith & Oyserman, 2015) and report greater confidence that they can attain their academic possible future selves (Aelenei et al., 2017). They persist longer and perform better on academic tasks than students guided to think of difficulty-as-impossibility (Oyserman et al., 2018; Smith & Oyserman, 2015).

While invaluable in documenting causality, this methodology does not address how each mindset can matter in the real world. Real-world processes require measuring the consequences of endorsing each difficulty mindset for meaning making and action. Some emerging research addresses this gap. For example, how much students endorsed difficulty-as-importance and difficulty-as-impossibility mediated the effect of a classroom intervention on students' academic trajectory measured over a school year (Oyserman et al., 2021). In addition, people reported more meaning in life and conscientiousness, and other virtuous character traits when they endorsed difficulty-as-importance and difficulty-as-improvement more and difficulty-as-impossibility less (Yan et al., 2022 using samples from eight countries).

Taken together, these studies imply that how much people endorse difficulty-as-importance, difficulty-as-improvement, and difficulty-as-impossibility is meaningfully associated with identity-relevant traits and behavioral responses. The process is multi-directional. Thus, the extent to which people endorse each difficulty mindset shapes their identities and behaviors, and their identities can shape which difficulty mindset is used and which behaviors are adopted. At the same time, identity-based motivation theory describes the consequences of both personal and social identities on taking action (Oyserman, 2007, Oyserman, 2009). Hence, while we focus in particular on the pandemic-induced possibility of taking on a novel identity and novel behavior, we also explore the possibility that the likelihood of taking up this identity and set of behaviors was moderated in part by another identity, party affiliation.

We focus on party affiliation because identities as conservative and liberal (Conway et al., 2021) and Republican and Democrat emerged as particularly relevant during the COVID-19 pandemic (Howard, 2022). Republican politicians and media outlets responded to the challenges of the pandemic quite differently from Democrats and there is some evidence that which judgments and behaviors feel congruent with political identities depends on social contexts (e.g., Oyserman & Schwarz, 2017). Consider, for example,

wearing a mask, social distancing, and washing hands. These behaviors could be identity-congruent for conservatives. After all, each of these behaviors entails taking personal responsibility and none entails a government program or spending tax dollars. But, in part due to statements from former President Trump and other leading Republicans, people with Republican identities came to see COVID-19 itself as not a serious problem (The Economist/YouGov poll July 10 to 13, 2021) and each of these actions as antithetical to holding a Republican identity (see, for example, Calvillo et al., 2020; Gollwitzer et al., 2020; Kerr et al., 2021). This reframing of a set of beliefs and behaviors as incongruent with Republican identity had behavioral consequences. Compared to Democrats, Republicans report being less likely to wear masks (Capraro & Barcelo, 2020; Chan, 2021; Howard, 2021; Xu & Cheng, 2021), maintain distance (2020; Bruine de Bruin et al., 2020; Painter & Qiu, 2021; van Holm et al., 2020), and wash their hands (van Holm et al., 2020).

Current studies

Predictions

We focus on how identity-based difficulty mindsets matter during a crisis. We make two predictions (H1, H3) regarding the positive effects of difficulty-as-improvement and two parallel ones (H2, H4) regarding difficulty-as-importance.

H1: The more people endorse a difficulty-as-improvement mindset, the more likely they will be to find a silver lining, a positive effect of the COVID-19 pandemic for themselves and their communities. We make this prediction because people who endorse difficulty-as-improvement see life's difficulties as character-building opportunities and should be more likely to see the pandemic as a specific chance to become better in various ways and assume others do as well.

H2: The more people endorse a difficulty-as-importance mindset, the more likely they will be to report a silver lining, a positive effect of the COVID-19 pandemic for themselves. We make this prediction because people who endorse difficulty-as-importance believe that experiences of difficulty imply the value of their goals; hence, they should be more likely to see the pandemic as making them better by pushing them to work on challenging goals.

H3: The effects of difficulty-as-improvement and difficulty-as-importance are robust. That is, H1 and H2 will remain significant when we take each difficulty mindset simultaneously into account as predictors and include political identity (Democrat, Republican) and date of data collection as controls. We make this prediction because each mindset should have unique effects and the mindset-silver-lining-action linkage should be stable even though people with a Republican identity report that they are less likely to take the CDC-recommended actions we are studying.

H4: People who endorse difficulty-as-improvement and difficulty-as-importance will be more likely to wear masks, social distance, and handwash partly due to their propensity to see a pandemic-related silver lining. People who endorse difficulty-as-improvement believe that they can grow from life's difficulties so should be willing to weather the unpleasant and isolating aspects of pandemic-related restrictions and guidelines. People

who endorse difficulty-as-importance believe that experiences of difficulty imply that a goal is worth their effort so should be willing to engage in difficult actions like wearing masks and social distancing. People who find silver linings should be more likely to take difficult but necessary preventive action.

Exploratory questions: We also examined two exploratory questions. First, we asked if people who endorse difficulty-as-impossibility would be less likely to find a silver lining and take relevant action. Second, we asked whether our model was stable across party affiliation or if party affiliation (or being a conservative) moderated our model.

Method

Open practices and data availability

We collected data at three points in time in three studies. We provide the full scales in the Appendix, data files and analysis scripts for each study and Study 3's pre-registration at: https://osf.io/enz37/?view_only=7cbf9b5a8f60433a834471eb70cb3209

Samples and procedure

Our participants were U.S. adults (see, Table 1 for demographics) recruited on Prolific. They completed predictor (difficulty mindsets) and outcome (silver linings, taking action) measures, indicated location, demographics, and political orientation, in that order. Procedures across studies were identical except as noted below.

In Figure 1, we situate our studies in the context of U.S. daily COVID-19 cases and events from March 2020 to 2021. We recruited in May 2020 as the first U.S. COVID-19 infection wave stabilized (Study 1), in July 2020 as the second U.S. wave neared its peak (Study 2), and in February 2021 after the third U.S. wave peaked and 8% of American adults were vaccinated (Study 3). We based Study 3 sample size on Tabachnick & Fidell's (2013) SEM recommendation of $n = 300$, recruiting 325 to account for potential exclusions. We excluded people failing an attention check (Study 1 $n = 5$, Study 2 $n = 2$, Study 3 $n = 23$).

Table 1. Demographic information of samples by study.

| Demographics | Study | | |
|--|---------------|---------------|---------------|
| | Study 1 | Study 2 | Study 3 |
| Sample size (n) | 196 | 200 | 302 |
| % Women | 51% | 57% | 48% |
| % White | 83% | 68% | 75% |
| % Republican, Republican Leaning | 36% | 27% | 24% |
| Mean age (SD) | 36.77 (12.01) | 32.98 (11.45) | 34.16 (12.00) |
| Mean education (SD) (1–9 scale) | 5.11 (1.81) | 4.83 (1.92) | 5.00 (1.86) |
| Mean income (SD) (1–11 scale) | 5.62 (3.41) | 5.09 (3.38) | 5.21 (3.22) |
| Mean conservatism (SD) (1–7 scale) | 3.23 (1.69) | 3.19 (1.72) | 3.01 (1.60) |

Note. Education: 1 = < High school diploma, 2 = High school diploma or GED, 3 = Some college, no degree, 4 = Vocational/ technical degree, 5 = Associate degree, 6 = Bachelor's degree, 7 = Master's Degree, 8 = Professional Degree (M.D., D.D.S., J.D.), 9 = PhD. Income: 1 = < \$10,000, 2 = \$10,000 to \$19,999, 3 = \$20,000 to \$29,999, 4 = \$30,000 to \$39,999, 5 = \$40,000 to \$49,999, 6 = \$50,000 to \$59,999, 7 = \$60,000 to \$69,999, 8 = \$70,000 to \$79,999, 9 = \$80,000 to \$89,999, 10 = \$90,000 to \$99,999, 11 = > \$100,000.

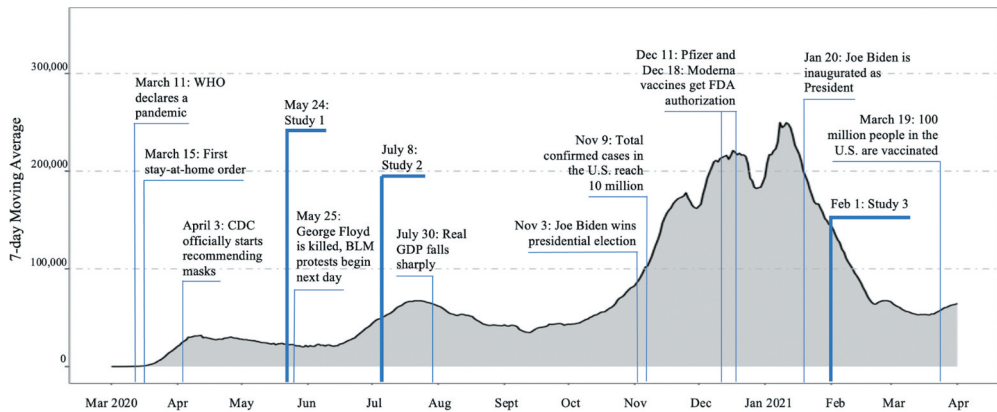


Figure 1. Study Times contextualized with New U.S. COVID-19 cases and noteworthy events. Note. The black smoothed line represents the 7-day average of new COVID-19 cases. WHO = World Health Organization; CDC = U.S. Centers for Disease Control and Prevention; BLM = Black Lives Matter; Real GDP = Real (inflation-adjusted) Gross Domestic Product; FDA = Food and Drug Administration. We created this graph using CDC (2021) data.

Measures

Preliminary analyses

We conducted a 5-factor confirmatory factor analysis (CFA), verifying that our three difficulty mindset scales, silver lining, and taking action scales are distinct (see Tables S1 and S2, Supplementary Materials).

Predictors: Difficulty mindset scales

Participants indicated their agreement (6 = strongly agree) or disagreement (1 = strongly disagree) with twelve statements which were presented in a randomized order and are provided in the Appendix, [Table A1](#)). The statements included the 4-item difficulty-as-improvement (Yan et al., 2022), the 4-item difficulty-as-importance (modified from Fisher & Oyserman, 2017), and the 4-item difficulty-as-impossibility (modified from Fisher & Oyserman, 2017) scales. Each scale was reliable ([Tables 2–4](#)).¹

Experiencing a pandemic-related silver lining

We adapted the 38-item Silver Lining Questionnaire (Sodergren & Hyland, 2000; Sodergren et al., 2002) to focus on the COVID-19 pandemic. Two-thirds of the original items focused on personal growth (e.g., “My illness gave me more confidence”), a third on other positive consequences (e.g., “People can be more open with me since my illness”). We replaced the word “illness” with “pandemic” in the seven personal growth items most relevant to the pandemic. We presented these items to participants in a single block in the order we show in [Table A2](#) (Appendix, left panel) and again as a single block with items slightly modified to be about community (e.g., “This pandemic is making society face up to problem areas,” [Table A4](#), Appendix). Participants rated how

Table 2. Study 1: Means, Standard Deviations, Cronbach's α , and Correlations With 95% Confidence Intervals.

| Variable | M | SD | α | 1 | 2 | 3 | 4 | 5 |
|--------------------------------|------|------|---------------|---------------------|---------------------|--------------------|------------------|---------------------|
| 1. Difficulty-as-Improvement | 4.56 | 0.90 | .81[.77, .86] | | | | | |
| 2. Difficulty-as-Importance | 4.17 | 0.77 | .74[.68, .79] | .55***[.45, .64] | | | | |
| 3. Difficulty-as-Impossibility | 3.01 | 1.02 | .85[.82, .88] | -.38***[-.50, -.26] | -.29***[-.41, -.16] | | | |
| 4. Silver Linings | 3.26 | 0.89 | .87[.84, .90] | .42***[.30, .53] | .42***[.29, .52] | -.19**[-.32, -.05] | | |
| 5. Taking Action | 3.94 | 0.81 | .81[.77, .85] | .15* [.01, .29] | .27***[.14, .40] | -.04[-.18, .10] | .46***[.34, .57] | |
| 6. Conservatism | 3.23 | 1.69 | – | .22** [.08, .35] | .06[-.08, .20] | -.20**[-.33, -.06] | .10[-.04, .24] | -.24***[-.36, -.10] |

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

Table 3. Study 2: Means, Standard Deviations, Cronbach's α , and Correlations With 95% Confidence Intervals.

| Variable | M | SD | α | 1 | 2 | 3 | 4 | 5 |
|--------------------------------|------|------|---------------|---------------------|------------------|--------------------|------------------|---------------------|
| 1. Difficulty-as-Improvement | 4.75 | 0.85 | .79[.74, .84] | | | | | |
| 2. Difficulty-as-Importance | 4.31 | 0.81 | .77[.72, .82] | .50***[.38, .59] | | | | |
| 3. Difficulty-as-Impossibility | 3.00 | 0.95 | .79[.74, .84] | -.25***[-.37, -.11] | -.13[-.27, .00] | | | |
| 4. Silver Linings | 3.53 | 0.85 | .86[.83, .89] | .36***[.24, .48] | .42***[.30, .53] | -.20**[-.33, -.06] | | |
| 5. Taking Action | 4.22 | 0.59 | .77[.72, .82] | .08[-.06, .22] | .16* [.02, .29] | -.07[-.21, .07] | .22** [.09, .35] | |
| 6. Conservatism | 3.19 | 1.72 | – | .17* [.03, .30] | .07[-.07, .21] | -.11[-.24, .03] | -.02[-.16, .12] | -.31***[-.43, -.18] |

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

Table 4. Study 3: Means, Standard Deviations, Cronbach's α , and Correlations With 95% Confidence Intervals.

| Variable | M | SD | α | 1 | 2 | 3 | 4 | 5 |
|--------------------------------|------|------|---------------|--------------------|---------------------|-------------------|------------------|---------------------|
| 1. Difficulty-as-Improvement | 4.46 | 0.92 | .84[.81, .87] | | | | | |
| 2. Difficulty-as-Importance | 4.05 | 0.86 | .81[.77, .84] | .68***[.62, .74] | | | | |
| 3. Difficulty-as-Impossibility | 3.01 | 1.04 | .85[.82, .88] | -.15**[-.26, -.04] | -.19***[-.30, -.08] | | | |
| 4. Silver Linings | 3.33 | 0.88 | .86[.84, .89] | .46***[.37, .55] | .47***[.38, .55] | -.11*[-.22, -.00] | | |
| 5. Taking Action | 4.11 | 0.68 | .82[.79, .85] | .06[-.05, .18] | .17**[.06, .28] | -.03[-.14, .09] | .34***[.24, .44] | |
| 6. Conservatism | 3.01 | 1.60 | – | .09[-.02, .20] | .02[-.10, .13] | -.05[-.17, .06] | -.11[-.22, .01] | -.34***[-.44, -.24] |

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

much they agreed (5 = strongly agree) or disagreed (1 = strongly disagree) with each item, yielding a reliable scale, as reflected in the Cronbach reliabilities we present by Study in [Tables 2–4](#).

Taking action

Participants responded to seven statements about COVID-relevant action (presented in the order shown on the right panel of [Table A2](#) in the Appendix). Our statements reflect the CDC's recommendations as brief phrases that could be answered on a 5-point Likert scale (1 = Never, 5 = Always). In Study 1, we asked: "Which of the following steps have you taken to protect yourself from contracting the virus?" Given the ongoing nature of the pandemic, in Study 2, we asked, "Looking forward, how often do you plan on taking each of the following steps to protect yourself from contracting the virus in the coming weeks?". In Study 3, we asked, "How certain are you that you will engage in each of the following steps to protect yourself so that you reduce your chances of contracting COVID-19 or suffering from serious symptoms?". The scale was reliable in each study, as we detail in [Tables 2–4](#).

In Study 3, we also asked people explicitly about actions to protect their community (see Appendix). We do not include these new items in our analyses because our pre-registered CFAs suggested that these items do not form a coherent latent construct or set of constructs (as detailed in the Supplemental Materials).

Party identity and conservative identities

Participants reported how politically conservative they were (single item, 1 = Very liberal, 7 = Very conservative) and their party affiliation (Democrat, Republican, or Independent). We asked people who chose "Independent" which party they leaned toward and treated people who leaned toward Democrats as Democrats and those who leaned Republican as Republicans following research on political behavior (e.g., Pappi, 1996). We used our political conservatism item in our main SEM analysis and our party affiliation item as part of our robustness check.

Description of pandemic experience and demographic information

We asked participants whether they had experienced adversity in finances, health, and other obligations due to the pandemic (measure in Appendix) and to report their age, sex, education, income, and U.S. state of residence. We also obtained current state-wide COVID-19 mandates (see supplemental materials for measures). In [Table 1](#) we provide descriptive statistics for demographics. We provide other descriptive information (location and mandates, [Table S3](#); correlations among all variables, are [Table S4](#)) in Supplemental Materials.

Analytic strategy

We used the *psych* (v. 2.1; Revelle, 2021) and *lavaan* (v. 0.6; Rosseel, 2012) packages in the R (v. 4.1) programming language (R Core Team, 2020).

H1 and H2. . We created scale scores from item means in each sample and tested H1 and H2 using Pearson correlations with 95% Confidence Intervals (CI).

H3 and H4. In Figure 2 we display our hypothesized process model which we tested by pooling our three datasets to conduct a structural equations model (SEM, Model 1). SEM is the appropriate analytic strategy given that people's difficulty mindset scores were correlated as we previously showed in Tables 2, 3, and 4. In Model 1 we included factor loadings of each item on their respective latent variables, direct paths from difficulty mindsets to silver linings and action, and indirect paths from difficulty mindsets to actions via silver linings. We accounted for the possible effect of conservatism on silver linings and taking action. We used two dummy-coded variables (July vs. May 2020, February 2021 vs. May 2020) to account for possible sample effects on taking action. We checked for model fit adequacy using chi-square (χ^2) with degrees of freedom (*df*), Comparative Fit Index (CFI), Tucker Lewis Index (TLI), and Root Mean Square Error of Approximation (RMSEA) following Hu and Bentler (1999, CFI > .90 and RMSEA < .08 show a good fit of the hypothesized model to data). We show this model in our results.² We applied a Bonferroni-type correction, dividing our .05 *p*-value threshold by the five latent variables (.05/5 = 0.1) to account for multiple comparisons and thus reduce Type I error risk. We use the resultant .01 *p*-value threshold to claim significance in our SEM analyses.

Exploratory analyses. We examined our exploratory difficulty-as-impossibility question by examining bivariate correlations and our Model 1 direct and indirect paths. We examined our exploratory political affiliation question in Model 2 by conducting the Model 1 SEM separately for Democrats and Republicans.

Results

H1 and H2

People who endorsed difficulty-as-improvement were more likely to report experiencing a pandemic-related silver lining for themselves (Studies 1 to 3 *r*s = .42, .36, .46, *p*s < .001) and their community (*r*s = .21, .14, .30, Studies 1, 3 *p*s < .004, Study 2 *p* = .056). People who

endorsed difficulty-as-importance were more likely to report a pandemic-related silver lining for themselves (Studies 1 to 3 *r*s = .42, .42, .47, *p*s < .001) and their community (*r*s = .19, .07, .21, Studies 1, 3 *p*s < .006, Study 2 *p* = .339). Table 2 to 4 detail these results by Study.

H3 and H4

To test H3 and H4, we use SEM. Our SEM Model 1 analysis supports our predictions – Model 1, estimated with unconstrained error terms, variances, and covariances, adequately fit the data (Hu & Bentler, 1999), $\chi^2 = 1255.128$, *df* = 363, $\chi^2/df = 3.458$, CFI = .883, TLI = .870, RMSEA = .059. As our Figure 3 process model depicts, the positive relationships between difficulty-as-improvement, difficulty-as-importance, and silver linings for self remain when accounting for difficulty-as-impossibility, conservatism, and date of data collection.³ People who endorsed difficulty-as-importance and difficulty-as-improvement were more likely to see a silver lining. As we show in Table 5, this and not having a conservative identity predicted that they would take CDC-recommended action. Consistent with H4, difficulty-as-importance had a significant total effect on taking action. Both difficulty-as-improvement and difficulty-as-importance had significant indirect effects on taking action via silver linings.

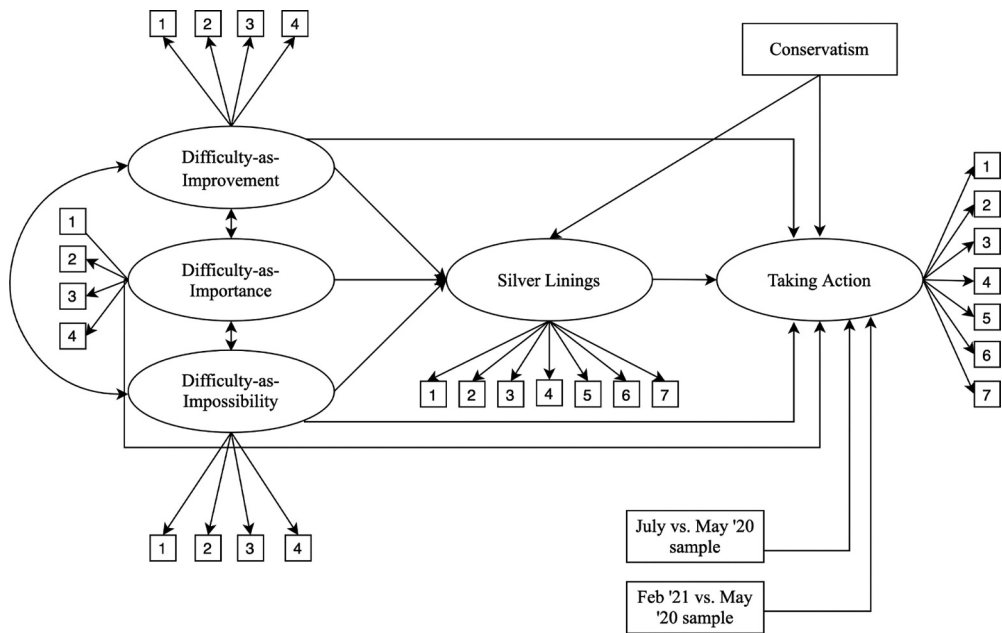


Figure 2. Hypothesized structural equations model (model 1).

Testing predictions regarding silver linings for community

Our SEM Model including silver linings for community and for oneself as mediators adequately fit the data ($\chi^2 = 1890.943$, $df = 541$, $\chi^2/df = 3.495$, CFI = .859, TLI = .846, RMSEA = .060) as detailed in Figure S2 in Supplemental Materials which also details our analyses. The more people endorsed difficulty-as-improvement the more they found silver linings for their community ($\beta = .32$, $p < .001$). However, people who found silver linings for their community were no more likely to take CDC-recommended action ($\beta = .06$, $p = .160$)

Exploratory analyses

Does difficulty-as-impossibility matter for silver linings or taking action?

People who endorsed difficulty-as-impossibility were less likely to report experiencing a silver lining ($r_s = -.19, -.20, -.11$, $p_s < .046$) but no more or less likely to take CDC-recommended action ($p_s > .307$), as detailed in Tables 2 to 4. But as detailed in Figure 3 and Table 5, neither relationship was significant once difficulty-as-importance and difficulty-as-improvement were included.

Political conservatism and party affiliation

Conservatism matters; as displayed in Figure 3, people who rated themselves as more politically conservative were less likely to take CDC-recommended action ($\beta = -.32$, $p < .001$), but not necessarily less likely to find a pandemic-related silver lining ($\beta = -.08$, $p = .018$, above our corrected threshold of $p = .01$). We also conducted an unconstrained exploratory multigroup SEM (Model 2) with binary political party affiliation (Democrat

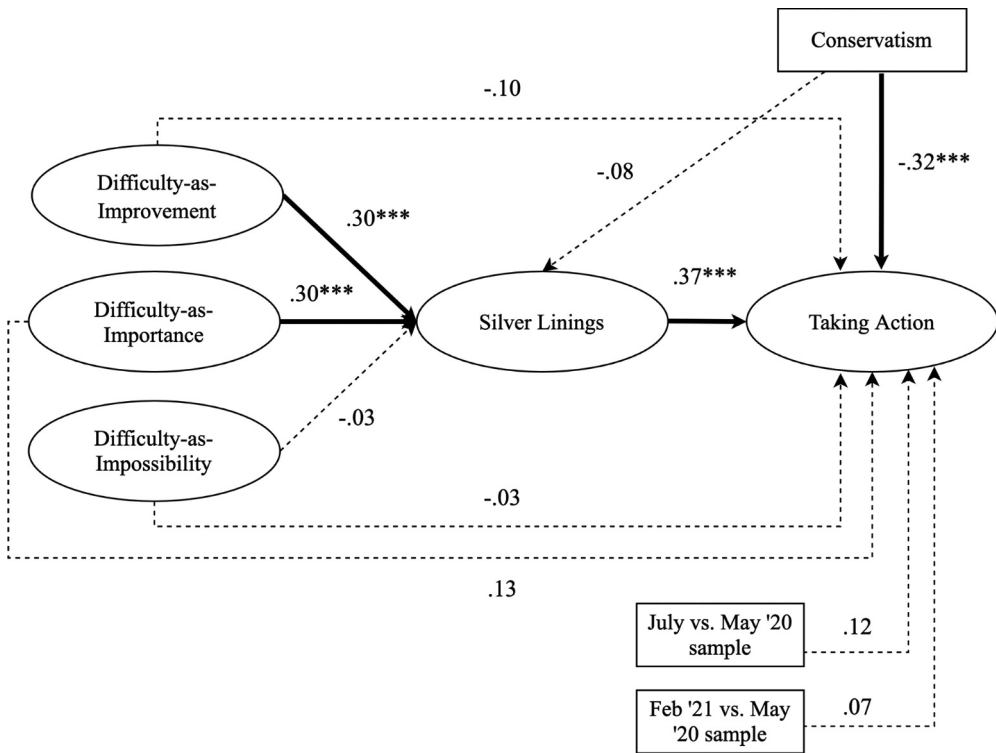


Figure 3. Model 1: Difficulty mindsets predict taking action via seeing silver linings for oneself. Note. Coefficients are standardized estimates. Ovals are latent and rectangles are manifest variables. Solid lines are significant paths, dashed lines are non-significant paths. ** $p < .01$; *** $p < .001$.

vs. Republican) as our grouping variable. We present this SEM in Figure 4 for Democrats (left) and Republicans (right).⁴ We freely estimated a unique model for each, not constraining the models to be equal on any parameters. Our initial model adequately fit the data ($\chi^2 = 1634.499$, $df = 678$, $\chi^2/df = 2.411$, CFI = .872, TLI = .858, RMSEA = .064). Democrats and Republicans who found a COVID-related silver lining were more likely to act. They were more likely to find one if they agreed that difficulty implies improvement and importance. These patterns were more robust for Democrats than Republicans.

General discussion

We collected data during three unique periods in the COVID-19 pandemic in the U.S. Building on identity-based motivation theory (Oyserman, 2007, 2009; Oyserman et al., 2017), we predicted and showed that people’s difficulty mindsets mattered for their

Table 5. Model 1: Direct, indirect, and total effects of difficulty mindsets on taking action [95% Confidence Intervals].

| Difficulty mindSet | Direct Effect | Indirect Effect via Silver Linings | Total Effect |
|-----------------------------|------------------|------------------------------------|------------------|
| Difficulty-as-Improvement | -.13 [-.33 .08] | .11 [.03, .19] | -.02 [-.22, .19] |
| Difficulty-as-Importance | .17 [-.04, .38] | .12 [.04, .20] | .29 [.08, .51] |
| Difficulty-as-Impossibility | -.02 [-.09, .12] | -.01 [-.05, .03] | .01 [-.10, .11] |

** $p < .01$, *** $p < .001$. Effects from the unconstrained model. Table S5 in Supplemental Materials details effects in the modified model.

identities and actions. People were more likely to create a new identity of being the kind of person who finds a silver lining for themselves in the pandemic if they endorsed a difficulty-as-importance mindset for tasks and goals and a difficulty-as-improvement mindset for life's difficulties. People were more likely to follow pandemic-related recommended behavioral guidelines (wear a mask, distance, wash hands) if they endorsed difficulty-as-importance and difficulty-as-improvement mindsets.

The extent to which people endorsed each mindset was associated with their endorsement of other mindsets. People who endorsed difficulty-as-importance were more likely to endorse difficulty-as-improvement and less likely to endorse difficulty-as-impossibility. Yet, as revealed in our structural equations model, each difficulty mindset had a unique and distinguishable effect on identity construction as a person who found a pandemic-related silver lining for themselves. We also predicted and found that people who endorsed difficulty-as-improvement would create a social identity of silver linings for their communities. We predicted but did not find that people who found a silver lining for their community would be more likely to take CDC-recommended action. Our results imply a unique benefit of creating a new personal identity of seeing a silver lining for oneself, at least in our American sample. Our data were collected during the COVID-19 pandemic, but we assume that our results are applicable to other kinds of community-level life difficulties such as fires, floods, wars, and other situations in which people face both a life difficulty and a set of new challenging tasks and goals which they may or may not find identity-congruent.

We explored the effect of difficulty-as-impossibility, the belief that difficulty engaging with a task or goal implies that succeeding is unlikely, perhaps even impossible for the self. We did not find an additive positive or negative effect of difficulty-as-impossibility after accounting for difficulty-as-improvement and difficulty-as-importance mindsets. We infer from our results that during a crisis, interpretations of difficulty as chances for self-improvement and as signals of the importance of engaging in relevant tasks help people find a silver lining and take necessary action. We did not have a clear prediction for

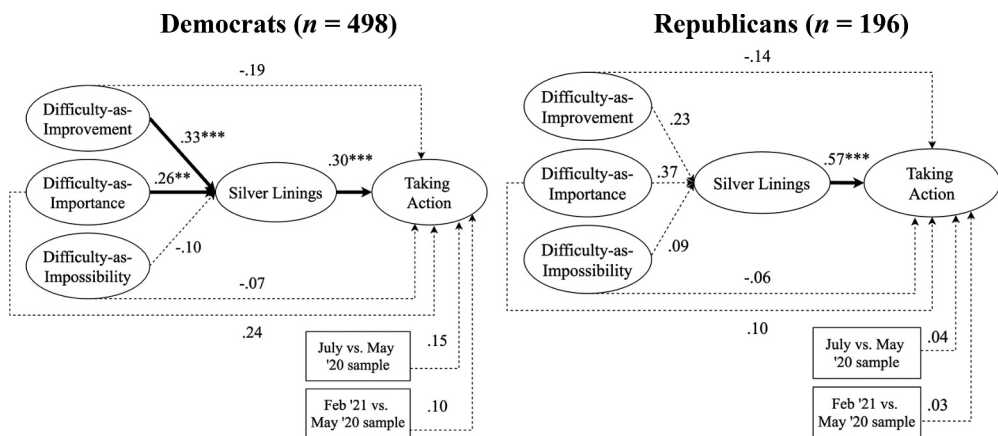


Figure 4. Model 2: Structural equations model (unconstrained) for Democrats (left) and Republicans (right) with standardized estimates. Note. ** $p < .01$, *** $p < .001$

difficulty-as-impossibility because prior research has focused on difficulty engaging in tasks and goals that have already been associated with an identity while our research focused on creation of a new identity.

We also explored the role of political identity (being a conservative, a Republican, or Republican-leaning versus a Democrat or Democratic-leaning) in seeing a silver lining and taking action. People with conservative identities were less likely to take action. These results are congruent with other reports that Republicans have come to identify taking CDC-recommended preventive action as identity-incongruent (Grossman et al., 2020; Niemi et al., 2021) and are more likely to believe that government sources exaggerate the danger of COVID-19 (The Economist/YouGov Poll, July 10 to 13, 2021). However, we also found that the relationships among endorsing each difficulty mindset, silver linings, and action were the same across political identities. These results support our identity-based motivation prediction that difficulty-as-importance and difficulty-as-improvement mindsets help people cope in a crisis by scaffolding identities of growth and positive meaning-making. People who experience difficulties as signals of importance and as opportunities for self-improvement are more likely to see crisis-related silver linings for themselves. Seeing these silver linings for oneself in turn may motivate people to take on novel behaviors in times of crisis. As our results show, the particular course of action people take depends on the extent that these actions feel identity congruent, something that is dependent on the context.

Limitations and future directions

Any study is limited, and here we focus on four limitations of the present research (focus on COVID-19, panel design, online panel, U.S. only sample). First, we studied responses during a particular national and worldwide crisis, COVID-19, rather than sampling across personal, community, and other crises. Understanding how identity-based motivation might matter during COVID-19 is important because the pandemic was and continues to be devastating to populations worldwide. At the same time, COVID-19 might be unique. In addition to its death toll, its novelty, and the never prior experienced national response in the form of shutdowns of public spaces and workplaces created massive uncertainty. People could no longer be certain about every aspect of their lives, their finances, work, and what to do generally, experienced physical illness and its longer-term consequences, as well as other life difficulties including social isolation and loss of daily structure (Keeter, 2021; van Kessel et al., 2021). Though we believe that our results may generalize to other times of crisis, future research is needed to test our predictions in other crisis situations such as climate chanced induced community evacuations.

Second, regarding our design choice, we collected data at three points fitting the first three waves of COVID-19 in the U.S., but our panel design means that our data are cross-sectional. We cannot study causal processes, even in interpreting our mediation analysis. Mediation analysis allows us to test the significance of a hypothetical mediator (finding a silver lining), but mediation cannot help us infer whether that mediator is the true mediator (Fiedler et al., 2011). We focused on taking action as our outcome and finding a silver lining as our mediator but taking action may affect the subsequent likelihood of finding a silver lining (e.g., a reciprocal relationship). Our analyses suggest total and indirect effects of endorsing difficulty-as-importance and an indirect effect of endorsing

difficulty-as-improvement on behavior via finding a silver lining. People who endorse difficulty-as-importance and difficulty-as-improvement may find silver linings in part because they are adopting necessary preventive behaviors. It may be that finding a silver lining and taking necessary action are two separate consequences of endorsing difficulty-as-importance and difficulty-as-improvement. What we can show is that our theorized process could matter. Future research using COVID-19 or other kinds of personal, community-level, and nation-level life difficulties could take the next step by using a longitudinal, rather than a panel design, to better understand causal and reciprocal processes.

Regarding our choice of an online panel, we recruited adults. These adults are more representative than a sample of college students; at the same time, as we found in our exploratory analyses, our participants on average reported relatively few difficulties in various life domains (health, financial, and other obligations). In our exploratory analyses, we found that people who reported experiencing more pandemic-related hardships were higher in their endorsement of difficulty-as-importance, more likely to report a pandemic-related silver lining, and more likely to take action. Our results might have been stronger, or we might have found effects of endorsing difficulty-as-impossibility had we sampled healthcare workers or people whose lives were upended through loss of job, home, loved ones, or personal health. The pandemic might have affected people of different ages and at different life phases differently and age and economic circumstance might matter for endorsement of difficulty mindsets and taking up a silver linings identity. Though our data might reflect the modal experience of the pandemic, future research should focus on the most negatively impacted populations.

Finally, our focus on the U.S. allowed us to document that the pattern of relationships that we found remained stable across three panels. At the same time, it may be that some of our findings may not be fully generalizable to other countries and societies. We focused on a creation of a particular novel identity of being a person who finds silver linings for themselves. In other countries, other novel identities or adding novel aspects to existing identities may have parallel effects. For example, in times of crisis, people who endorse difficulty-as-importance and difficulty-as-improvement mindsets might be more likely to expand their conscientious person identities to include following health- or other guidelines. Similarly, we found that endorsing difficulty-as-improvement was associated with finding silver linings for one's community but silver linings for community identity was not associated with taking action. These relationships may be culture-bound. It is possible that when collectivistic or honor mindsets are salient, people who take on a silver lining for their community identity would be more likely to take preventive action (e.g., Wang et al., 2021). These are questions for future research.

Conclusion

We demonstrated that in a time of crisis, how people interpret difficulty matters. People are more likely to construct an identity as someone who finds crisis-related silver linings if they interpret difficulties thinking about or engaging in tasks as signals of the importance of the task for them (termed difficulty-as-importance). The same is true for people who interpret life difficulties as opportunities for self-improvement (termed difficulty-as-improvement). People who endorse difficulty-as-importance are more likely to take

crisis-relevant difficult but necessary actions. The same is true for people who take on silver linings identities. Our results provide new insights into how identity-based motivation can support or undermine identity construction and relevant action during a crisis.

Notes

1. We present McDonald's omega (ω) reliabilities in Table S2 in Supplemental Materials.
2. After fitting the model, we followed SEM guidelines and checked for Modification Indices (MI) and added covariance paths for error terms of items belonging to the same construct if an MI was >10.83 , indicating model fit would significantly improve at $p < .01$. We added the highest error covariance, checking for MIs again until we found no more within-construct error covariances with MIs of >10.83 . We provide all the modified models in Supplemental Materials. Modifications do not change the process model or the significance of our theorized pathways.
3. People were more likely to act in July 2020 than May 2020, p ($\beta = .12, p = .010$); this effect was less strong by February 2021 ($\beta = .07, p = .137$). We present item loadings on each construct and correlations among the three difficulty mindsets in Figure A1 (Appendix) and the modified model in Figure S1 (Supplemental Materials).
4. Supplemental Materials Figure S3 (Democrats) and S4 (Republicans) present item loading on each factor and correlations among factors for interested readers. Covarying error terms of items belonging to the same construct based on modification indices that exceeded 10.83 ($\chi^2 = 1237.187, df = 702, \chi^2/df = 1.762, CFI = .929, TLI = .919, RMSEA = .047$) improves fit.

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References

- Aelenei, C., Lewis, N. A., Jr, & Oyserman, D. (2017). No pain no gain? Social demographic correlates and identity consequences of interpreting experienced difficulty as importance. *Contemporary Educational Psychology, 48*, 43–55. <https://doi.org/10.1016/j.cedpsych.2016.08.004> There is no issue number but the issue came out in Jan

- Allcott, H., Boxell, L., Conway, J., Gentzkow, M., Thaler, M., & Yang, D. (2020). Polarization and public health: Partisan differences in social distancing during the coronavirus pandemic. *Journal of Public Economics*, 191, 104254. <https://doi.org/10.1016/j.jpubeco.2020.104254>
- Brooks, S. K., Webster, R. K., Smith, L. E., Woodland, L., Wessely, S., Greenberg, N., & Rubin, G. J. (2020). The psychological impact of quarantine and how to reduce it: rapid review of the evidence. *The Lancet*, 395(10227), 912–920.
- Bruine de Bruin, W., Saw, H., & Goldman, D. (2020). Political polarization in US residents' COVID-19 risk perceptions, policy preferences, and protective behaviors. *Journal of Risk and Uncertainty*, 61(2), 177–194. <https://doi.org/10.1007/s11166-020-09336-3>
- Calvillo, D., Ross, B., Garcia, R., Smelter, T., & Rutchick, A. (2020). Political ideology predicts perceptions of the threat of covid-19 (and susceptibility to fake news about it). *Social Psychological and Personality Science*, 11(8), 1119–1128. <https://doi.org/10.1177/1948550620940539>
- Capraro, V., & Barcelo, H. (2020). The effect of messaging and gender on intentions to wear a face covering to slow down COVID-19 transmission. *arXiv preprint arXiv:2005.05467*.
- Chan, E. Y. (2021). Moral foundations underlying behavioral compliance during the COVID-19 pandemic. *Personality and Individual Differences*, 171, 110463. <https://doi.org/10.1016/j.paid.2020.110463>
- Conway III, L. G., Woodard, S. R., Zubrod, A., & Chan, L. (2021). Why are conservatives less concerned about the coronavirus (COVID-19) than liberals? Comparing political, experiential, and partisan messaging explanations. *Personality and individual differences*, 183, 111124.
- Fiedler, K., Schott, M., & Meiser, T. (2011). What mediation analysis can (not) do. *Journal of Experimental Social Psychology*, 47(6), 1231–1236. <https://doi.org/10.1016/j.jesp.2011.05.007>
- Fisher, O., & Oyserman, D. (2017). Assessing interpretations of experienced ease and difficulty as motivational constructs. *Motivation Science*, 3(2), 133–163. <https://doi.org/10.1037/mot0000055>
- Gollwitzer, A., Martel, C., Brady, W., Pärnamets, P., Freedman, I., Knowles, E., & Van Bavel, J. (2020). Partisan differences in physical distancing are linked to health outcomes during the COVID-19 pandemic. *Nature Human Behaviour*, 4(11), 1186–1197. <https://doi.org/10.1038/s41562-020-00977-7>
- Grossman, G., Kim, S., Rexer, J. M., & Thirumurthy, H. (2020). Political partisanship influences behavioral responses to governors' recommendations for COVID-19 prevention in the United States. *Proceedings of the National Academy of Sciences*, 117(39), 24144–24153. <https://doi.org/10.1073/pnas.2007835117>
- Hawryluck, L., Gold, W. L., Robinson, S., Pogorski, S., Galea, S., & Styra, R. (2004). SARS control and psychological effects of quarantine, Toronto, Canada. *Emerging infectious diseases*, 10(7), 12061212
- Howard, M. C. (2022). Are face masks a partisan issue during the COVID-19 pandemic? Differentiating political ideology and political party affiliation. *International Journal of Psychology*, 57(1), 153–160. [10.1002/ijop.12809](https://doi.org/10.1002/ijop.12809)
- Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, 6(1), 1–55. <https://doi.org/10.1080/10705519909540118>
- Keeter, S. (2021). *Many Americans continue to experience mental health difficulties as pandemic enters second year*. Pew Research Center. Retrieved <https://www.pewresearch.org/fact-tank/2021/03/16/many-americans-continue-to-experience-mental-health-difficulties-as-pandemic-enters-second-year>
- Kerr, J., Panagopoulos, C., & van der Linden, S. (2021). Political polarization on COVID-19 pandemic response in the United States. *Personality and Individual Differences*, 179, 110892.
- Lechner, S., Carver, C., Antoni, M., Weaver, K., & Phillips, K. (2006). Curvilinear associations between benefit finding and psychosocial adjustment to breast cancer. *Journal of Consulting and Clinical Psychology*, 74(5), 828–840. <https://doi.org/10.1037/0022-006X.74.5.828>
- Mohr, D., Dick, L., Russo, D., Pinn, J., Boudewyn, A., Likosky, W., & Goodkin, D. (1999). The psychosocial impact of multiple sclerosis: Exploring the patient's perspective. *Health Psychology*, 18(4), 376–382. <https://doi.org/10.1037/0278-6133.18.4.376>

- Niemi, L., Kniffin, K., & Doris, J. (2021). It's not the flu: Popular perceptions of the impact of COVID-19 in the US. *Frontiers in Psychology*, 12, 1376. <https://doi.org/10.3389/fpsyg.2021.668518>
- Oyserman, D. (2007). Social identity and self-regulation. In A. Kruglanski, and T. Higgins (Eds.) *Handbook of Social Psychology*, Second Edition. (pp. 432–453). Guilford Press.
- Oyserman, D., Destin, M., & Novin, S. (2015). The context-sensitive future self: Possible selves motivate in context, not otherwise. *Self and Identity*, 14(2), 173–188. <https://doi.org/10.1080/15298868.2014.965733>
- Oyserman, D., Elmore, K., Novin, S., Fisher, O., & Smith, G. C. (2018). Guiding people to interpret their experienced difficulty as importance highlights their academic possibilities and improves their academic performance. *Frontiers in Psychology*, 9, 781. <https://doi.org/10.3389/fpsyg.2018.00781>
- Oyserman, D., Lewis, N. A., Jr, Yan, V. X., Fisher, O., O'Donnell, S. C., & Horowitz, E. (2017). An identity-based motivation framework for self-regulation. *Psychological Inquiry*, 28(2–3), 139–147. <https://doi.org/10.1080/1047840X.2017.1337406>
- Oyserman, D., O'Donnell, S. C., Sorensen, N., & Wingert, K. M. (2021). Process matters: Teachers benefit their classrooms and students when they deliver an identity-based motivation intervention with fidelity. *Contemporary Educational Psychology*, 66, 101993. <https://doi.org/10.1016/j.cedpsych.2021.101993>
- Oyserman, D., & Schwarz, N. (2017). Conservatism as a situated identity: Implications for consumer behavior. *Journal of Consumer Psychology*, 27(4), 532–536. <https://doi.org/10.1016/j.jcps.2017.08.003>
- Oyserman, D. (2007). Social identity and self-regulation. In A. Kruglanski & T. Higgins (Eds.), *Handbook of Social Psychology* (2nd ed., pp. 432–453). Guilford Press.
- Oyserman, D. (2009). Identity-based motivation: Implications for action-readiness, procedural-readiness, and consumer behavior. *Journal of Consumer Psychology*, 19(3), 250–260. <https://doi.org/10.1016/j.jcps.2009.05.008>
- Painter, M., & Qiu, T. (2021). Political beliefs affect compliance with government mandates. *Journal of Economic Behavior & Organization*, 185(May), 688–701. <https://doi.org/10.1016/j.jebo.2021.03.019>
- Pappi, F. (1996). Political behavior: Reasoning voters and multi-party systems. In R. E. Goodin, and H.-D. Klingemann (Eds.), *A new handbook of political science* (Oxford University Press) (pp. 255–275).
- Revelle, W. (2021). *psych: Procedures for psychological, psychometric, and personality research*. Northwestern University. R package version 2.1.6. <https://CRAN.R-project.org/package=psych>
- Rossee, Y., Oberski, D., Vanbrabant, L., Vanbrabant, L., Savalei, V., & Merkle, E. (2012). Package 'lavaan'. R package version 0.6-3 Package 'lavaan'. R package version 0.6–3. Package 'lavaan'. R package version 0.6–3.
- Smith, G. C., & Oyserman, D. (2015). Just not worth my time? Experienced difficulty and time investment. *Social Cognition*, 33(2), 85–103. <https://doi.org/10.1521/soco.2015.33.2.1>
- Sodergren, S., Hyland, M., Singh, S., & Sewell, L. (2002). The effect of rehabilitation on positive interpretations of illness. *Psychology & Health*, 17(6), 753–760. <https://doi.org/10.1080/088704402100009674>
- Sodergren, S., & Hyland, M. (2000). What are the positive consequences of illness?. *Psychology & Health*, 15(1), 85–97. <https://doi.org/10.1080/08870440008400290>
- Tabachnick, B. G. & Fidell, L. S. (2013) *Using multivariate statistics*. Pearson, Boston.
- Taylor, S. (1983). Adjustment to threatening events: A theory of cognitive adaptation. *American Psychologist*, 38(11), 1161–1173. <https://doi.org/10.1037/0003-066X.38.11.1161>
- Team, R. C. (2019). 2020. R: A Language and Environment for Statistical Computing. R Foundation for Statistical Computing, Vienna, Austria: Available at: <https://www.R-project.org>. Available at.
- The Economist/YouGov poll July 10 to 13, 2021 <https://today.yougov.com/topics/economist/survey-results>
- Van Bavel, J., Baicker, K., Boggio, P. S., Capraro, V., Cichocka, A., Cikara, M., and Willer, R. (2020). Using social and behavioral science to support COVID-19 pandemic response. *Nature Human Behaviour*, 4(5), 460–471 <https://doi.org/10.1038/s41562-020-0884-z>.
- van Holm, E., Monaghan, J., Shahar, D., Messina, J., & Surprenant, C. (2020). *The impact of political ideology on concern and behavior during COVID-19*. Available at SSRN (Social Sciences Research Network) 3573224.

- van Kessel, P., Baronavksi, C., Scheller, A., & Smith, A. (2021). *In their own words, Americans describe the struggles and silver linings of the COVID-19 Pandemic*. Pew Research Center. Retrieved <https://www.pewresearch.org/2021/03/05/in-their-own-words-americans-describe-the-struggles-and-silver-linings-of-the-covid-19-pandemic>
- van Kessel, P., & Quinn, D. (2020). *Both Republicans and Democrats cite masks as a negative effect of COVID-19, but for very different reasons*. Pew research center. Retrieved <https://pewrsr.ch/3jHpDT7>
- Wang, P., Atari, M., & Oyserman, D. (2021). *Who can i count on: Honor and self-reliance during the COVID-19 Pandemic*. <https://psyarxiv.com/h26pt>
- Xu, P., & Cheng, J. (2021). Individual differences in social distancing and mask-wearing in the pandemic of COVID-19: The role of need for cognition, self-control and risk attitude. *Personality and Individual Differences, 175*, 110706. <https://doi.org/10.1016/j.paid.2021.110706>
- Yan, V. X., Oyserman, D., Kiper, G., & Atari, M. (2022). *Difficulty-as-improvement: The courage to keep going in the face of life's difficulties*. Manuscript under review. PsyArXiv, Retrieved November 04, 2021. <https://doi.org/10.31234/osf.io/f7epj> PPR: PPR415799

Measures Appendix

Table A1. Difficulty mindset scale items.

| Scale | | |
|---|--|--|
| Difficulty-as-Improvement | Difficulty-as-Importance | Difficulty-as- Impossibility |
| 1. In a way, the struggles I have today are strengthening my character to meet tomorrow's challenges. | 1. Sometimes if a task feels difficult to me my gut says that it really matters for me. | 1. Sometimes if a task feels difficult, my gut says it is impossible for me. |
| 2. Experiencing difficulty makes me grow stronger. | 2. If a goal feels difficult to work on, I often think it might be a critical one for me. | 2. If a goal feels difficult to work on, I often think it might not be for me. |
| 3. Experiencing difficulty is the strongest of teachers; I may temporarily feel broken but in the long run, I will be better. | 3. When a task feels difficult, the experience of difficulty sometimes informs me that succeeding in the task is important for me. | 3. When a task feels difficult, the experience of difficulty sometimes informs me that succeeding in the task is just not possible for me. |
| 4. Life is not complete without difficulty, hardship, and suffering. | 4. Often when a goal feels difficult to attain it turns out to be worth my effort. | 4. Often when a goal feels difficult to attain it turns out to be out of my reach. |

Participants indicated how much they agreed or disagreed (1 = strongly disagree, 6 = strongly agree).

Table A2. Silver linings and actions scale items.

| Scale | |
|--|---|
| Silver Linings | Taking Action |
| 1. This pandemic has made me a better person. | 1. Frequent handwashing. |
| 2. This pandemic made me face up to problem areas of my life. | 2. Disinfecting surfaces at home frequently. |
| 3. This pandemic made me more mature. | 3. Use hand sanitizer when outside. |
| 4. This pandemic made me a more tolerant person. | 4. Wear a mask when outside. |
| 5. This pandemic made me a more determined person. | 5. Practice social distancing. |
| 6. This pandemic made me more aware of my strengths. | 6. Stay at home as much as possible. |
| 7. Because of this pandemic I find it easier to accept what life has in store. | 7. Use delivery or curbside pickup services to avoid going into establishments. |

Participants indicated their response on a 5-point Likert scale (1 = disagree/never, 5 = agree/always).

Table A3. Experiences of adversity (8 items).

| These are questions about your ... | | |
|--|---|--|
| Income | health | Other obligations |
| My income has ... | | My other obligations have ... |
| become more uncertain because of COVID-19. | I have had symptoms of COVID-19. | increased because of COVID-19. |
| dropped because of COVID-19. | My physical health has suffered due to COVID-19. | become more difficult to manage because of COVID-19. |
| | I have not been able to keep up my regular physical health maintenance because of COVID-19. | become more stressful because of COVID-19. |

Instructions and Response Scale by Study: Study 1 Please rate the extent to which you agree or disagree with each of the following statements regarding your own experiences during the COVID-19 pandemic (1 = disagree, 2 = disagree a little, 3 = neutral, 4 = agree a little, 5 = agree). Studies 2 and 3 Please tell us whether you've experienced any of the following during the COVID-19 pandemic (1 = No, 2 = Yes). Other obligations were detailed as schooling for your children, parenting, caring for family members, household responsibilities.

Table A4. Silver linings for community (7-items) and additional actions that would not load on onto a one- or two-factor structure (study 3).

| Scale Name and Items | |
|--|---|
| Silver Linings For Community | Taking Action |
| (1) This pandemic is making society better. | (1) Take supplements like vitamin D. |
| (2) This pandemic is making society face up to problem areas. | (2) Get the COVID-19 vaccine as soon as one is available for people in my category. |
| (3) This pandemic is making elected local officials more mature. | (3) Get my flu vaccine. |
| (4) This pandemic is making society more tolerant. | (4) Be cautious with my finances |
| (5) This pandemic is making society more determined to do the right thing (e.g., volunteering, providing financial assistance to the needy). | (5) Time grocery trips. |
| (6) This pandemic is making a stronger, less divided society. | (6) Limit socializing. |
| (7) This pandemic is making society more accepting of future uncertainties. | (7) Tip more generously than usual. |
| | (8) Donate my time or money (e.g., food drives, delivering meals, volunteering for organizations like Red Cross). |
| | (9) Support local businesses rather than buying from the big box stores (e.g., Amazon). |

Instructions and Response Scales: Please rate the extent to which you agree or disagree with each of the following statements regarding society's experiences with the COVID-19 pandemic (1 = disagree, 2 = disagree a little, 3 = neutral, 4 = agree a little, 5 = agree). For Actions, We attempted to expand the list and focus of actions but we could not create a reliable one- or two-factor scale and hence used only the 7-item taking actions scale assessed in all three studies. In addition to asking about actions performed to protect oneself, we asked how likely people were to take each of these actions to protect one's community: *How certain are you that you will engage in each of the following steps to protect your community so that you help to reduce the community spread of COVID-19 and do not add to the burden of the health care system?*

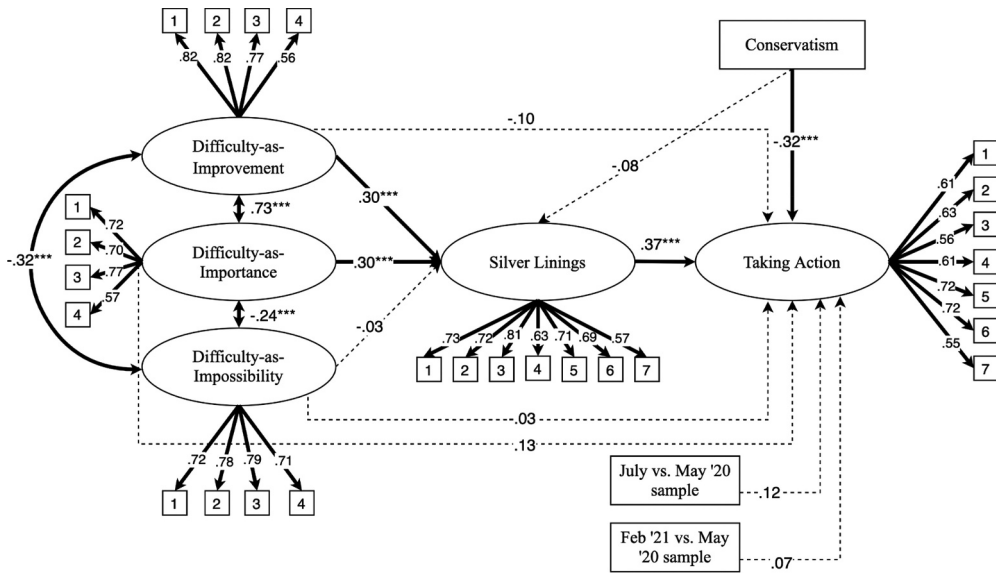


Figure A1. Difficulty mindsets predict taking action via silver linings: detailed structural equations model with correlations, regression paths, and factor loadings (unconstrained model). Note. Coefficients are standardized estimates. Factor indicators are numbered consistent with their numbering in Tables A1 to A4. All factor loadings were significant at $p < .001$. Bolded lines represent significant paths; dashed lines represent non-significant paths. ** $p < .01$, *** $p < .001$.