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Financial hardship and change in emotional well-being before to during COVID-19 pandemic among middle-aged and older Americans: Moderating effects of internal coping resources

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**Credit Author Statement**

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## **Financial Hardship and Change in Emotional Well-Being Before to During COVID-19 Pandemic Among Middle-Aged and Older Americans: Moderating Effects of Internal Coping Resources**

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## **Financial Hardship and Change in Emotional Well-Being Before to During the COVID-19 Pandemic Among Middle-Aged and Older Americans: Moderating Effects of Internal Coping Resources**

### **Abstract**

*Objective:* The purpose of this study was to investigate associations between financial hardship and change in emotional well-being—positive and negative affect—before to during the COVID-19 pandemic among middle-aged and older Americans and to examine the extent to which associations were moderated by internal coping resources—dispositional mastery and optimism.

*Method:* Data derived from the Leave-Behind Questionnaire in the 2016 and 2020 waves of the Health and Retirement Study, a nationally representative longitudinal survey of U.S. adults aged 51 and older ( $N = 1,312$ ). We estimated multivariate ordinary least squares regression models with interaction terms to evaluate prospectively the benefits of mastery and optimism as internal coping resources for middle-aged and older adults.

*Results:* Dispositional mastery moderated the effects of financial hardship on changes in negative and positive affect, respectively, before to during the COVID-19 pandemic; however, optimism did not significantly moderate the effects of financial hardship on change in negative and positive affect before to during the COVID-19 pandemic.

*Conclusions:* Our findings have implications for interventions aimed at improving middle-aged and older adults' emotional well-being by promoting internal coping resources. Specifically, interventions should focus on financial hardship and mastery for vulnerable middle-aged and older adults in the context of public health crises.

*Keywords:* Coping, COVID-19, emotional well-being, financial hardship, mastery, optimism

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## Introduction

The COVID-19 pandemic has brought overwhelming physical, mental, emotional, and financial impacts to individuals all over the world. Although many individuals may be aware of the health dangers older age groups face, relatively little discussion has occurred about their affective responses and financial hardship in recent COVID-19 studies. The COVID-19 pandemic has not only harmed the physical health of individuals but also caused emotional and financial difficulties. The COVID-19 pandemic has caused stressful events, such as income loss, financial hardship, and material hardship (Karpman et al., 2020; Mann et al., 2020). Prior to the onset of COVID-19, many middle-aged and older individuals struggled with mental health, financial management, and daily necessities, including food access (Li & Mutchler, 2020; Wilkinson, 2016); but the pandemic could have magnified these issues. Thus, understanding what has happened to this middle-aged and older population since the onset of the COVID-19 pandemic, compared to before it began, is important.

Previous researchers have examined the relationship between financial resources and well-being or life satisfaction, and findings have suggested that older adults with more economic resources report higher levels of well-being (Hansen et al., 2008; Jivraj & Nazroo, 2014; Smith et al., 2005). Older individuals experienced higher well-being when they felt both physically and psychologically well (Herzog et al., 1991). Similarly, older adults with more economic resources were more likely to cope well with stressful events when they occurred (Gallo & Matthews, 2003). Previous studies have also indicated that people with higher levels of wealth reported higher levels of subjective well-being (Hansen et al., 2008; Jivraj & Nazroo, 2014). We know of no population-based studies in the United States, however, designed to directly explore whether middle-aged and older adults with financial hardship experienced change in emotional well-

being before to during the COVID-19 pandemic using a longitudinal dataset. Although extensive research documents strong inverse association between coping resources and mental health (e.g., depression; Purol & Chopik, 2021), whether these protective effects are evidenced among middle-aged and older Americans facing financial hardship during the COVID-19 pandemic is unclear.

Drawing on stress-buffering mechanisms (Cohen & Wills, 1985), we evaluated prospectively whether the effects of financial hardship during the COVID-19 pandemic on change in positive and negative affect before to during the COVID-19 pandemic were buffered by internal coping resources—dispositional mastery and optimism. We used nationally representative data collected from the 2016 and 2020 waves of the Health and Retirement Study (HRS), adjusting for confounders that might shape these experiences, including demographic and socioeconomic characteristics as well as health conditions. We sought to add to the growing literature on COVID-19 from a financial and emotional perspective, enhancing understanding of how middle-aged and older individuals were impacted in terms of financial hardship experiences. Documenting risk factors for emotional distress related to financial hardship among middle-aged and older adults during the pandemic was an important and policy-relevant goal because middle-aged and older adults are vulnerable to both the virus and financial hardship during the pandemic (Choi, Carr, et al., 2022).

### **Emotional Well-Being Among Middle-Aged and Older Adults**

In previous research emotional well-being has been defined with a number of components, including the emotional quality of an individual's everyday experiences, life satisfaction, and positive moods or characteristics (e.g., self-esteem, psychological well-being, joy) as well as negative moods or characteristics (e.g., stress, anxiety, worry), social support, and



overload (Kahneman & Deaton, 2010; Schofield et al., 1997; Simsek, 2011). Life satisfaction, often considered one's psychological or emotional well-being, can be a combination of positive experiences and a lack of negative experiences (Yeo & Lee, 2019). Emotional well-being is a key component of life satisfaction (Kahneman & Deaton, 2010); therefore, balancing positive and negative affect, such as happiness, sadness, stress, and accomplishment, is important.

Since the occurrence of the COVID-19 pandemic, several researchers have examined the impact of the pandemic on health and well-being outcomes. Many of them have examined the role of COVID-19 in the disruption of perceived well-being (Carney et al., 2020), in perceived stress (Whitehead & Torossian, 2021), and in mental health (Turchioe et al., 2021). The literature has suggested that emotional well-being can also be affected if people have higher levels of resilience. For example, Benker (2021) found that resilience is crucial because people face unexpected disruptions through life events or large-scale events like COVID-19.

As public health officials encouraged limiting in-person contact and staying at home, older adults who live alone had significantly fewer in-person contacts during the COVID-19 outbreak than those who resided with others. Emerging evidence has shown that in-person contact is so crucial for older adults' emotional well-being that even technologically mediated communication like video chat could not replace the physical presence of others during the pandemic (Fingerman et al., 2021; Turchioe et al., 2021). Older adults' emotional well-being has received considerable attention during the COVID-19 pandemic in the context of social isolation, yet a point requiring clarification is how financial hardship due to the pandemic impacted change in emotional well-being before to during the COVID-19 pandemic among U.S. middle-aged and older adults. Gerlach et al. (2021) indicated that women compared to men, middle-aged adults 50 to 64 compared to older adults aged 65+, and Blacks and Hispanics compared to Whites were

more likely to make lifestyle changes and have experienced worsened mental health during the first nine months of the COVID-19 pandemic. Middle-aged adults may be particularly vulnerable to emotional distress, as they might feel technologically less competent during pandemic-driven involuntary remote work and face an increased work-life conflict, workload, childcare, and eldercare demands, as well as an increased health risk of infection (Scheibe et al., 2022).

### **Emotional Consequences of Financial Hardship Among Middle-Aged and Older Adults**

As components of life satisfaction, financial resources are important factors in individuals' perceptions of their emotional status; specifically, as one's income increases, feelings of stress decrease, and more positive emotions occur up to a certain income level (Kahneman & Deaton, 2010). Income and wealth can allow individuals to feel more financially secure and satisfied with their financial situations (Yeo & Lee, 2019). Difficulties with financial resources, economic insecurity, financial strain, and financial hardship can create stress and anxiety, especially among older individuals preparing for retirement (Li & Mutchler, 2020; Mann et al., 2020; Wilkinson, 2016). For example, older adults who experienced difficulty paying bills were more likely to have high levels of depressive symptoms than those without such financial hardship (Marshall et al., 2021); furthermore, the probability of mortality significantly increased among older adults reporting financial hardship but not among those reporting no financial hardship (Tucker-Seeley et al., 2009). Researchers have been also paying closer attention to older adults' financial hardship because of health shocks and chronic medical conditions (e.g., cancer) and have suggested an application of material–psychosocial–behavioral financial hardship in prevention research (Tucker-Seeley & Thorpe, 2019).

According to a Pew Research Center survey conducted in June 2020, nearly half of older adults reported COVID-19 as a major threat to their health; and one third reported COVID-19 as

a major threat to their finances (Schaeffer & Rainie, 2020). Another Pew Research Center survey conducted August 3–16, 2020, demonstrated that age was associated with many Americans' ability to pay their bills (Parker et al., 2020). These findings suggested that although the threat of COVID-19 to their health was the primary concern, meeting financial obligations was also an important concern for older adults. Recent studies suggested that the COVID-19 pandemic has disproportionately impacted the communities and businesses of underserved populations such as Blacks and Hispanics (Choi, Harrell, et al., 2022; Taylor et al., 2022). Middle-aged and older Blacks and Hispanics experienced more financial hardships, including difficulty paying regular bills, business closure, and job loss than their White counterparts (Choi, Harrell, et al., 2022). Job insecurity during COVID-19 has been directly related to poorer mental health (Guberina & Wang, 2021; Khudaykulov et al., 2022). Using the COVID-19 module released by the Health and Retirement Study, Taylor et al. (2022) examined how financial hardship during COVID-19 influenced changes in psychological resilience among middle-aged and older adults. They found that psychological resilience was diminished because of the financial hardship during COVID-19; however, this effect differed by racial/ethnic groups. During the COVID-19 pandemic, three common financial experiences were income drops, financial hardships, and material hardships, many adults struggling to make payments and purchase necessities (Choi, Carr, et al., 2022; Mann et al., 2020; Whitehead & Torossian, 2021).

Even prior to the COVID-19 pandemic, income was a persistent issue among middle-aged and older adults. For example, Hawkey et al. (2020) found that during the Great Recession, income shock, or a sudden loss in income increased loneliness in older adults. Previous research has shown that many older adults do not have emergency savings and are unprepared for economic downturns or income drops (Li & Mutchler, 2020). Marshall et al. (2022) indicated

that many middle-aged and older Americans experienced the temporal dynamics of financial hardship, including difficulty paying bills (68%) and reduced medication due to cost (62%).

Thus, middle-aged and older adults may experience financial hardship during the pandemic, such as lack of access to financial resources to pay for bills and other necessities. Moreover, middle-aged and older adults often have difficulties with accessibility and food hardship as a result of financial or non-financial barriers, a concern that was magnified during the COVID-19 pandemic (Choi, Carr, et al., 2022; Choi & Men, 2021). As part of COVID-19, many who experienced income loss or were economically vulnerable reduced their spending on food to meet other immediate expenses (Karpman et al., 2020; Loopstra, 2020); yet we know little about middle-aged and older adults' emotional distress in the context of financial hardship due to the COVID-19 pandemic. Literature on the effect of the pandemic has been focused mainly on broad aspects of economic, mental, and physical health outcomes.

### **Theoretical Framework**

Stress and coping theories offer valuable frameworks for understanding middle-aged and older adults' emotional well-being (Cohen & Wills, 1985; Lazarus & Folkman, 1984; Pearlin et al., 2005). Literature has been shown that coping resources reduced the detrimental psychological impacts of stress (Cohen & Wills, 1985). From the perspective of stress-buffering, researchers have employed the theoretical framework of stress and coping theories to assess relationships between coping resources and mental health outcomes among vulnerable middle-aged and older adults (e.g., Choi, Namkung, et al., 2022). Researchers have further suggested a role of external coping resources, such as psycho-social support, community support, and an effective system of organizational support to sustain individuals' emotional and mental well-

being during the COVID-19 pandemic (e.g., Sahni, 2020). Based on these theories and the current literature, we present the following hypotheses (see Figure 1):

**H1a:** Individuals who experienced more financial hardship during the COVID-19 pandemic will be more likely to experience *decreases* in *positive* affect.

**H1b:** Individuals who experienced more financial hardship during the COVID-19 pandemic will be more likely to experience *increases* in *negative* affect.

During the unprecedented pandemic, stress and coping research has been recently rejuvenated, yet most studies have been focused on *external* coping resources. Whether *internal* coping resources like mastery and optimism operate similarly in the context of financial hardship during the COVID-19 pandemic is less clear. Frankham et al. (2020) demonstrated that coping resources are pivotal mechanisms among several other psychological factors in examining their effects on the link between financial hardship and mental health. Indeed, Drentea and Reynolds (2015) found that the influence of financial hardship on mental health concern is partially explained by mastery, yet in the COVID-19 pandemic economic situation, “adverse emotional reactions to the perceived threat [might] account for maladaptive coping” (Obrenovic et al., 2021, p. 10). The fear of COVID-19 could be conceptualized as an antecedent of maladaptive coping mechanisms (Khudaykulov et al., 2022).

Thus, we need to further evaluate whether the effects of financial hardship during the COVID-19 pandemic on change in positive and negative affect before to during the COVID-19 pandemic were buffered by internal coping resources—dispositional mastery and optimism. In the current study we tested the associations between financial hardship and change in middle-aged and older adults’ affective responses—positive and negative affect—before to during the COVID-19 pandemic and further evaluated the extent to which associations were moderated by

internal coping resources: dispositional mastery and optimism (see Figure 1). Based on prior empirical research and theoretical frameworks, we present the following hypotheses:

**H2a:** Dispositional mastery will moderate the effects of financial hardship on change in middle-aged and older adults' *positive* affect. Specifically, mastery will diminish the negative effects of financial hardship during COVID-19 on *positive* affect.

**H2b:** Dispositional mastery will moderate the effects of financial hardship on change in middle-aged and older adults' *negative* affect. Specifically, mastery will buffer against the effects of financial hardship during COVID-19 on *negative* affect.

**H2c:** Optimism will moderate the effects of financial hardship on change in middle-aged and older adults' *positive* affect. Specifically, optimism will diminish the negative effects of financial hardship during COVID-19 on *positive* affect.

**H2d:** Optimism will moderate the effects of financial hardship on change in middle-aged and older adults' *negative* affect. Specifically, optimism will buffer against the effects of financial hardship during COVID-19 on *negative* affect.

[Figure 1 about here]

## Methods

### Data and Sample

Data derived from the 2016 and 2020 waves of the Health and Retirement Study (HRS), a biennial nationally representative longitudinal survey of U.S. adults aged 51 and older and their spouses or cohabiting partners of any age. In June 2020, a module on COVID-19 was administered to a random 25% subsample of the HRS participants (Health and Retirement Study, 2020). Our analyses are limited to those who completed the Leave-Behind Questionnaire (LBQ), which assessed our key variables of emotional well-being and internal coping resources—

mastery and optimism. The LBQ is a psychosocial questionnaire, piloted in 2004 and fully implemented in 2006. In each wave, 50% of the HRS respondents received this module, such that the entire HRS sample completed the LBQ over each four-year period. More details on the study design were described in Sonnega et al. (2014) and the Health and Retirement Study (2020).

Of the 1,830 participants who were administered the LBQ and completed the emotional well-being questions in the 2020 COVID-19 module, a random subsample did not receive the emotional well-being questions at baseline (in the 2016 wave, before the pandemic,  $n = 477$ ); an additional 23 did not report optimism questions, and 11 did not report mastery questions at baseline. We omitted these cases and also excluded seven respondents under 51 years of age, resulting in a final analytic sample of 1,312 individuals aged 51 years and older. The two waves of data in 2016 and in 2020 enabled us to track U.S. middle-aged and older adults' emotional well-being before and during the COVID-19 pandemic.

## Measures

### *Dependent Variable*

**Change in Emotional Well-Being Before to During COVID-19.** Emotional well-being consists of *positive affect* and *negative affect*. Affective responses in this study were measured with the International Positive and Negative Affect Schedule Short-Form (I-PANAS-SF; Thompson, 2007), estimating the degree to which individuals experienced positive and negative affectivities in the past months. Ten items in this scale were retrieved from the original 20 PANAS (Watson et al., 1988) items pool. Five *positive* affective responses were active, determined, attentive, inspired, and alert; whereas five *negative* affective responses included afraid, upset, hostile, nervous, and ashamed. Participants were invited to rate their affective

responses on a 5-point scale indicating to the extent to which each described the way they have felt; higher scores referred to more intensive affectivities. The I-PANAS-SF is psychometrically acceptable across cultures (Karim et al., 2011). In the current study, Cronbach's  $\alpha$ s for positive and negative affect were 0.81 and 0.78, respectively.

### ***Focal Independent Variable***

**Financial Hardship During COVID-19.** Financial hardship was measured as a *count*, experienced since the onset of the COVID-19 pandemic. Hardships include missing any regular payment on (a) rent or mortgage, (b) credit cards or other debt, or (c) utilities or insurance; or any indication of difficulty (d) paying medical bills or (e) having enough money to buy food. Observed values ranged from 0 to 5.

### ***Moderators***

**Internal Coping Resources During COVID-19.** Internal coping resources—*mastery* and *optimism* during the COVID-19 pandemic were our focal moderators. First, *mastery* was measured using four items: (a) I can do just about anything I really set my mind to; (b) When I really want to do something, I usually find a way to succeed at it; (c) Whether or not I am able to get what I want is in my own hands; (d) What happens to me in the future mostly depends on me; and (e) I can do the things that I want to do (Lachman & Weaver, 1998; Pearlin & Schooler, 1978). Second, *optimism* was measured with a three-item version of the Life Orientation Test-Revised (LOT-R), which has excellent reliability and validity (Scheier et al., 1994). Respondents indicated their level of agreement or disagreement with three items: (a) In uncertain times, I usually expect the best; (b) I'm always optimistic about my future; and (c) I expect more good things to happen to me than bad. Participants indicated their level of agreement or disagreement with each item on a 6-point scale, ranging from 1 (*strongly disagree*) to 6 (*strongly agree*). Items



were recoded so that higher scores corresponded to higher levels of perceived mastery ( $\alpha = 0.90$ ) and optimism ( $\alpha = 0.82$ ).

### ***Covariates***

We adjusted for emotional well-being, and both positive and negative affect, at *baseline* (in 2016, prior to the COVID-19 pandemic) while adjusting for demographic, socioeconomic, and health characteristics at *follow-up* (in 2020, during the pandemic). Demographic and socioeconomic characteristics included age, sex, race/ethnicity (non-Hispanic White [reference], non-Hispanic Black, Hispanic of any race, and non-Hispanic Asian/other race), marital status (married or cohabiting [reference], divorced/separated, widowed, and never married), number of household members, years of education, working status (currently working vs. not working [reference]), total household income, household non-housing wealth, household housing wealth, and health insurance policy ownership.

Health variables included self-rated health (poor or fair vs. good or better health [reference]) and number of chronic medical conditions, respondents reporting whether they ever experienced any of eight chronic medical conditions (high blood pressure, diabetes, cancer, lung disease, heart problems, stroke, psychiatric problems, or arthritis; range 0 to 8).

### **Analyses**

Descriptive statistics were computed for all study variables and appear in Table 1. We then estimated multivariate ordinary least squares (OLS) regression models to evaluate (a) the main effects of financial hardship, mastery, and optimism on change in positive and negative affect, respectively, before and during the COVID-19 pandemic; and (b) two-way interactions between each pair of focal measures to assess whether mastery or optimism buffer the effects of experiencing financial hardship on change in affect (see in Table 2). We separately evaluated

each two-way interaction term in the fully adjusted models. Table 2 presents the results from multiple regression models that included the main effects of financial hardship, mastery, and optimism and each two-way interaction effect—“financial hardship  $\times$  mastery” in Model 1 (positive affect) and Model 3 (negative affect) and “financial hardship  $\times$  optimism” in Model 2 (positive affect) and Model 4 (negative affect)—respectively.

## Results

### Descriptive Results

Descriptive statistics for the sample characteristics are presented in Table 1. The total number of financial hardships respondents had experienced during the COVID-19 pandemic was 0.2. The mean levels of internal coping resources—mastery and optimism—were 4.8 and 4.6, respectively. Regarding emotional well-being before the COVID-19 pandemic, the mean levels of positive and negative affect at baseline (in 2016) were 3.6 and 1.6, respectively. The mean levels of positive and negative affect during the COVID-19 pandemic (at follow-up in 2020) were 3.6 and 1.7, respectively.

The respondents' mean age was 69.8 and the median was 69. Slightly more than half were female (58.1%) and married or cohabiting (58.5%). The mean number of household members was 2.2 and the median was 2. The majority of the sample was non-Hispanic White (71.6%) and currently not working (75.1%). The mean years of education was 13.7. The mean total household income was \$90,253 and the median was \$57,000. The mean total household non-housing wealth was \$436,120 and the median was \$83,700. The mean total household housing wealth was \$154,522 and the median was \$100,000. Most respondents owned health insurance policies covered by either government or employer-sponsored plans (90.7%). Healthwise, more than one fifth self-reported their health as poor or fair, whereas 77.7% reported

as good or better health. The mean number of chronic medical conditions was 2.4; these included whether respondents ever had high blood pressure, diabetes, cancer, lung disease, heart problems, stroke, psychiatric problems, or arthritis.

[Table 1 about here]

## **Multivariate Results**

### ***Financial Hardship and Change in Emotional Well-Being***

We conducted moderated multiple regression analyses to test the associations between financial hardship and change in positive and negative affect before (in 2016) and during the COVID-19 pandemic (in 2020) and evaluated the extent to which associations were moderated by internal coping resources: mastery or optimism. As noted above, *positive* affective responses were active, determined, attentive, inspired, and alert, whereas five *negative* affective responses included afraid, upset, hostile, nervous, and ashamed. As shown in Models 1 and 3 in Table 2, financial hardship during the early months of the COVID-19 pandemic were significantly associated with a decrease in positive affect ( $b = -0.291, p < .05$ ) and an increase in negative affect ( $b = 0.308, p < .01$ ) between 2016 and 2020 among U.S. middle-aged and older adults after adjusting for emotional well-being at baseline as well as sociodemographic characteristics and health variables at follow-up during the pandemic. In each model internal coping resources—both mastery and optimism—were significantly associated with increase in positive affect, whereas they were significantly related to decline in negative affect at the  $p < .001$  level after controlling for covariates.

[Table 2 about here]

### ***Results of Moderation Analyses***

Results from the multiple moderation models testing the extent to which the internal coping resources moderated the impact of COVID-19 financial hardship on change in emotional well-being also appear in Table 2. We evaluated two-way interaction terms—“financial hardship  $\times$  mastery” and “financial hardship  $\times$  optimism”—to assess whether the impact of financial hardship on change in positive and negative affect differed significantly on the basis of mastery and optimism.

Our results revealed that the internal coping resource, particularly mastery, provided protection against decline in positive affect and increase in negative affect from 2016 to 2020 in the face of financial hardship during the COVID-19 pandemic. Statistically significant interactions are plotted in Figures 2 and 3, providing a visual interpretation of the estimated marginal effects for change in positive affect (Model 1) and negative affect (Model 3), respectively, with other measures held at the mean.

More specifically, in Model 1, the main effect of total financial hardship during the COVID-19 pandemic on a decline in positive affect from 2016 to 2020 was statistically significant ( $b = -0.291, p < .05$ ), yet a coping resource like dispositional mastery was protective under conditions of greater adversity (i.e., greater total financial hardships) during the COVID-19 pandemic ( $b = 0.062, p < .05$ , in Model 1, Table 2). Results indicated that among those reporting no financial hardship during the COVID-19 pandemic, persons with low (-1SD) and high (+1SD) mastery experienced a negligible change in positive affect between 2016 and 2020. Depicted in Figure 2, as levels of financial hardship increased, middle-aged and older adults with low mastery experienced decrease in positive affect; whereas those with high mastery experienced increase in positive affect before to during the COVID-19 pandemic. The gap widened considerably as the number of financial hardships increased.

[Figure 2 about here]

In contrast, COVID-19 financial hardships were associated with an increase in negative affect ( $b = 0.308, p < .01$ ), yet a much flatter increase for those with high mastery ( $b = -0.052, p < .05$ , in Model 3, Table 2) than those with low mastery. As Figure 3 depicts, the slope of the effects of total financial hardships on change in negative affect was steeper among those with low mastery than those with high mastery. This result revealed that middle-aged and older adults with high mastery remained relatively the same regardless of the levels of total financial hardships during the COVID-19 pandemic, whereas those with low mastery experienced substantial increase in negative affect.

[Figure 3 about here]

On the other hand, no comparable protective effect of optimism occurred on the relationship between COVID-19 financial hardship and change in emotional well-being from 2016 to 2020 in our sample after adjusting for sociodemographic and health factors. Optimism levels among middle-aged and older adults did not protect against decrease in positive affect ( $b = 0.018, p = .497$ ) nor increase in negative affect ( $b = -0.021, p = .303$ ) before to during the COVID-19 pandemic.

Taken together, our findings suggest that internal coping resources like dispositional mastery are protective in the face of adversity related to financial hardship during the COVID-19 pandemic against the decline in positive affect and increase in negative affect among middle-aged and older Americans. This effect was observed significantly only for mastery, not for optimism.

## Discussion

To the best of our knowledge, our study is the first to evaluate whether dispositional optimism and mastery buffer against the COVID-19 pandemic-related stressor of financial hardship on change in positive and negative affect among U.S. middle-aged and older adults. Guided by stress and coping models (Pearlin et al., 2005), our analyses confirm well-documented findings: More financial hardships predict heightened negative affect, and increasing levels of mastery predict decreasing levels of negative affect. Stressful financial hardships during the COVID-19 pandemic predicted increase in negative affect and decline in positive affect. Internal coping resources—both mastery and optimism—predicted decline in negative affect and increase in positive affect; however, our moderation analyses call into question the assumptions that financial hardship is distressing and that internal coping resources—mastery and optimism—are protective for all persons; instead, these associations are conditional on financial hardship and level of mastery. Overall, these findings are consistent with the current literature (Cohen & Wills, 1985; Lazarus & Folkman, 1984; Pearlin et al., 2005) and extend the findings on middle-aged and older adults' pandemic-related financial hardship in the context of emotional well-being.

Consistent with the classic stress-buffering hypothesis (Cohen & Wills, 1985), findings from the current study suggest that one of the internal coping resources (e.g., mastery) buffers negative effects of stress, such as financial hardship during the COVID-19 pandemic, on emotional well-being. The effects of financial hardship on change in positive and negative affect before and during the COVID-19 pandemic are conditional on one's level of mastery: The protective effects of mastery are evident. As the levels of financial hardships increase, the increase in negative affect is much higher among persons with low mastery than those with high mastery. Those with high mastery remain relatively the same regardless of the levels of total

financial hardships during the COVID-19 pandemic, whereas those with low mastery experience substantial increase in negative affect when they face greater financial hardship. These patterns are consistent with stress theories, which suggest that coping resources like mastery buffer against negative affect at high levels of stress (Lazarus & Folkman, 1984), operationalized here as a greater number of financial hardships during the COVID-19 pandemic.

Although optimism plays an important role in predicting emotional well-being later in life (Wrosch et al., 2016), in contrast to our hypothesis, we found no evidence that optimism buffered effects of financial hardship on change in affective responses among U.S. middle-aged and older adults. Our findings echoed previous findings indicating that optimism for older adults may be unrealistic and may lead to disappointment (Purol & Chopik, 2021) during the unprecedented pandemic. Unrealistic optimism may be beneficial for protecting well-being (Shepperd et al., 1996) but could be also harmful for one's health (Gassen et al., 2021; Hanoch et al., 2019; Weinstein et al., 2005). When we evaluated the two-way interaction term—"financial hardship  $\times$  optimism"—after controlling for health and sociodemographic characteristics, the main effect of financial hardship on change in positive and negative affect was no longer statistically significant. On one hand, because our study was carried out during the early stages of the pandemic, the impacts may not yet have been felt by middle-aged and older adults in the HRS. Another possibility is that middle-aged and older adults cope well with greater resilience in public health crises (Verhage et al., 2021).

Finally, the associations between health, sociodemographic characteristics, and change in emotional well-being before and during the pandemic also warrant some brief comments. Individuals who were younger, female, Hispanics, and not working and those who were in poorer health reported a significant increase in negative affect or decline in positive affect before

to during the COVID-19 pandemic. This study found no evidence that marital status, the number of household members, year of education, total household income and wealth, and the number of chronic medical conditions were related to change in emotional well-being among U.S. middle-aged and older adults before to during the COVID-19 pandemic.

Our findings have potentially important implications for policy, practice, and future research related to mechanisms of emotional well-being among middle-aged and older adults. The economic impact of COVID-19 has been far-reaching (Mann et al., 2020). Our findings reveal an urgent need to promote policies and procedures to protect middle-aged and older adults from financial hardship. During the COVID-19 pandemic, experiencing financial hardship was significantly related to increase in negative affect and decrease in positive affect among middle-aged and older adults. These hardships could have more detrimental effects in the long run. The effects of changes in financial situation and hardship experiences might translate into numerous emotional outcomes (Pfefferbaum & North, 2020), including stress, depression, anger, frustration, and so on. In this study we focused on two emotional outcomes: change in positive affective responses (i.e., determined, active, attentive, inspired, and alert) and negative affective responses (i.e., afraid, upset, hostile, nervous, and ashamed) before to during the COVID-19 pandemic. Future studies can further explore a wider range of emotional distress and change in emotional outcomes during to post-pandemic.

The COVID-19 outbreak has alarming implications for emotional and social functioning (Pfefferbaum & North, 2020). Because of financial hardship during the pandemic, middle-aged and older adults may experience individual vulnerability with loss or lack of control in this uncertain circumstance. Our findings can be also discussed in the context of social capital. Social networking and social resources play an important role in emotional well-being of middle-aged



and older adults (Bourdieu, 1989; Yeo & Lee, 2019) and emerge as a powerful frame of reference for implementing interventions (Wong & Kohler, 2020). During the early months of the COVID-19 pandemic, access to social capital could suddenly be cut off (Pitas & Ehmer, 2020). In the context of the pandemic, loss or lack of social capital (e.g., access to social connections, community attachment, social trust, etc.) may intensify middle-aged and older adults' emotional distress. Thus, structured social support systems become more vital for middle-aged and older adults to cope with emotional distress. Special attention should be paid to providing more social support to middle-aged and older adults during the pandemic. For example, not only support from family and friends but also care and support from community health and social services should be considered for middle-aged and older adults during the pandemic situation.

Given that previous studies exploring coping during the aging process and disasters are less conclusive on how middle-aged and older adults cope, further research examining whether individuals' and communities' resilience may moderate these associations between experiencing financial hardship and emotional well-being is warranted. Some scholars have argued that older adults have greater resilience and cope better because of life experiences (Barusch, 2011; Whitbourne, 2005), advanced social networking, and social support. Consistent with Lazarus' transactional theory of stress and coping (Folkman & Moskowitz, 2004; Lazarus, 1993), coping can be considered a process in the context of the COVID-19 pandemic (Verhage et al., 2021). Conversely, by seeing coping as a personality disposition (Verhage et al., 2021), some previous studies have suggested that older adults struggled more to cope with unprecedented circumstances because they were less open to change and uncertainty (Donnellan & Lucas, 2008). Although the literature has suggested that coping includes both problem-focused and

emotion-focused strategies, older adults largely resorted to emotion-focused coping strategies during the COVID-19 pandemic (Verhage et al., 2021).

Our results also may be explained partly by individual differences, particularly personality and age. A recent study by Mann et al. (2020) revealed that demographics and personality traits were correlated with emotional distress (e.g., anxiety) about financial hardship due to COVID-19. They indicated that low conscientiousness and low openness to experience were associated with greater economic anxiety, whereas high neuroticism was associated with greater economic anxiety due to the pandemic. Given that age differences in emotional distress during the pandemic are relatively robust, further investigation regarding whether the associations between change in financial situation and emotional distress differ by age is recommended.

Taken together, our findings point to middle-aged and older adults' sense of mastery in the face of financial stressors during the COVID-19 pandemic and suggest this is an important construct to target in interventions addressing emotional well-being. Intervention programs may benefit from increasing a sense of mastery among middle-aged and older adults who have experienced financial hardship during a pandemic outbreak. This approach may improve coping with financial hardship and COVID-19 stressors and may be more effective than interventions intended to promote positive thinking (i.e., optimism) among middle-aged and older adults with financial hardship.

### **Limitations and Future Research Directions**

The findings of our study should be considered in light of several limitations and should result in questions to be addressed in future studies. First, all interviews were conducted via telephone in the early stage of the COVID-19 pandemic in June 2020. Respondents may have

under- or over-reported their financial situation and hardships as well as their emotional feelings. This remains an open debate. Thus, concern may be warranted regarding the limitations to report reliably on their own emotional distress.

Second, those persons without the baseline emotional well-being assessments were excluded from our analytic sample. We carried out supplemental analyses and found that persons who did not receive the emotional well-being modules at baseline in 2016 had significantly higher numbers of household members and lower levels of total household income and housing assets relative to those who did. Thus, our results may be biased toward older adults with more economic resources and had a lower number of household members.

Third, we were unable to specify the geographical residence of respondents because of a data restriction; however, the mandates of protective measures, the lockdowns, and restrictions of social distancing varied by state, county, and city in the United States. These legal requirements may have affected individuals' emotional well-being during the COVID-19 pandemic. Future research would benefit from the inclusion of a measure of geographical information.

Fourth, we were able to analyze financial hardships by counting five subcategories, but specific categories might provide more insights. In our analyses, financial hardships included missing any regular payments on (a) rent or mortgage, (b) credit cards or other debt, or (c) utilities or insurance; or any indication of difficulty (d) paying medical bills or (e) having enough money to buy food. Some types of financial hardships may be found more common among middle-aged adults than older adults, and vice-versa. Thus, future researchers should analyze those specific types of financial hardship across the life course when more data are available.

Fifth, we used the HRS, which is limited to the United States. Replicating these analyses using the international datasets like HRS-Family Studies (i.e., KLoSA, MHAS, ELSA, SHARE, and so on) in the context of the global consequences of the outbreak is important. Finally, we examined middle-aged and older adults' emotional well-being during the early months of the COVID-19 pandemic. We encourage future researchers to further investigate middle-aged and older adults' emotional distress and well-being in the post-pandemic period.

### **Conclusions**

Despite these limitations, our study—to the best of our knowledge—is the first exploration of dispositional optimism and mastery as buffers against the COVID-19 pandemic-related stressor of financial hardship on change in positive and negative affect among middle-aged and older Americans. Our findings underscore that the internal coping resource, particularly mastery, moderates the effects of financial hardship on changes in negative and positive affect before and during the COVID-19 pandemic. However, it is not feasible that optimism is a buffer in the relationship between financial hardship and affective responses among middle-aged and older Americans. Although optimism was related to decrease in negative affect and increase in positive affect, optimism did not significantly moderate the effects of financial hardship on change in negative and positive affect before and during the COVID-19 pandemic.

Our findings have implications for interventions aiming to improve middle-aged and older adults' emotional well-being by promoting internal coping resources. Specifically, interventions should be focused on financial hardship and mastery, the ability and motivation of people to address and resolve the challenges facing them, for vulnerable middle-aged and older adults in the context of public health crises. For middle-aged and older adults during the COVID-19 pandemic, optimism may be unrealistic and lead to disappointment (Choi, Namkung, et al.,

2022; Purol & Chopik, 2021). Our findings may provide those working with middle-aged and older individuals with important insights that may help in the development of intervention programs to enhance the quality of life of middle-aged and older adults. Understanding the role of financial hardship in increasing negative affect and decreasing positive affect is critical to ensure that government policies and programs adequately address the basic needs of older individuals during the pandemic in the United States and worldwide.

Furthermore, understanding health and sociodemographic factors associated with emotional well-being during the COVID-19 pandemic may provide policymakers and professionals with information as they develop interventional or social support programs targeted especially for financially vulnerable subgroups (e.g., older women, ethnic minorities, or those are in poor physical health conditions). Structural and institutional supports (Choi, Namkung, et al., 2022; Schneiderman et al., 2005) and interventions, intended to promote mastery, may be effective among vulnerable middle-aged and older adults experiencing financial hardship.

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Table 1. Sample Characteristics, 2016 and 2020 HRS ( $N = 1,312$ )

| Variables   | Mean (Median) or % |
|---|--------------------|
| Total financial hardships (0-5)                                 | 0.16 (0.0)         |
| Internal coping resources (1-6)                                 |                    |
| Mastery   | 4.79 (5.0)         |
| Optimism  | 4.61 (4.7)         |
| Emotional well-being before COVID-19 in 2016 (1-5) <sup>a</sup> |                    |
| Positive affect at baseline                                     | 3.64 (3.8)         |
| Negative affect at baseline                                     | 1.61 (1.4)         |
| Emotional well-being during COVID-19 in 2020 (1-5)              |                    |
| Positive affect at follow-up                                    | 3.55 (3.6)         |
| Negative affect at follow-up                                    | 1.65 (1.6)         |
| Age   | 69.8 (69.0)        |
| 51-60 years old   | 20.7               |
| 61-70 years old   | 34.8               |
| 71-80 years old   | 27.4               |
| 81+ years old   | 17.1               |
| Sex   |                    |
| Male  | 41.9               |
| Female  | 58.1               |
| Marital status  |                    |
| Married or cohabiting   | 58.5               |
| Separated or divorced   | 17.1               |
| Widowed   | 18.3               |
| Never married or other  | 6.2                |
| Number of household members                                     | 2.23 (2.0)         |
| Race and ethnicity  |                    |
| Non-Hispanic White  | 71.6               |
| Non-Hispanic Black  | 13.9               |
| Hispanic  | 9.8                |
| Non-Hispanic Asian/Other  | 4.7                |
| Years of education  | 13.7 (14.0)        |
| Employment status   |                    |
| Currently working   | 24.9               |
| Not working   | 75.1               |
| Total household income (\$)                                     | 90,253 (57,000)    |
| Total household non-housing wealth (\$)                         | 436,120 (83,700)   |
| Total household housing wealth (\$)                             | 154,522 (100,000)  |
| Health insurance policy ownership                               |                    |
| Yes   | 90.7               |
| No  | 9.3                |
| Self-rated health   |                    |
| Poor or fair  | 22.3               |
| Good or better health   | 77.7               |
| Number of chronic medical conditions (0-8) <sup>b</sup>         | 2.36 (2.0)         |

Notes. <sup>a</sup> All variables are assessed at follow-up (i.e., during the COVID-19 in 2020), except emotional well-being before the COVID-19 (i.e., at baseline in 2016).

<sup>b</sup> Chronic medical conditions included: ever had high blood pressure, diabetes, cancer, lung disease, heart problems, stroke, psychiatric problems, or arthritis.



Table 2. OLS Regression Coefficients for Changes in Emotional Well-Being Before to During the COVID-19 Pandemic Among Older Americans, 2016 and 2020 HRS ( $N = 1,312$ )

| Variables   | Changes in emotional well-being before to during the COVID-19 pandemic |           |                 |           |
|---|--|-----------|-----------------|-----------|
|   | Positive affect  |           | Negative affect |           |
|   | Model 1  | Model 2   | Model 3         | Model 4   |
| <i>Main effects</i>                                 |  |           |                 |           |
| Total financial hardships during COVID (0-5)        | -0.291*  | -0.074    | 0.308**         | 0.158     |
| Internal coping resources during COVID              |  |           |                 |           |
| Mastery (1-6)                                       | 0.148***   | 0.160***  | -0.081***       | -0.090*** |
| Optimism (1-6)                                      | 0.089***   | 0.086***  | -0.051***       | -0.047*** |
| <i>Interaction effects</i>                          |  |           |                 |           |
| Financial hardship $\times$ Mastery                 | 0.062*   |           | -0.052*         |           |
| Financial hardship $\times$ Optimism                |  | 0.018     |                 | -0.021    |
| <i>Baseline emotional well-being (before COVID)</i> |  |           |                 |           |
| Positive affect at baseline                         | -0.534***  | -0.535*** |                 |           |
| Negative affect at baseline                         |  |           | -0.521***       | -0.520*** |
| <i>Sociodemographic characteristics</i>             |  |           |                 |           |
| <i>Age</i>  |  |           |                 |           |
| 51-60 years old (reference)                         |  |           |                 |           |
| 61-70 years old                                     | 0.043  | 0.046     | -0.134***       | -0.136*** |
| 71-80 years old                                     | 0.061  | 0.068     | -0.162***       | -0.168*** |
| 81+ years old                                       | -0.049   | -0.043    | -0.157**        | -0.162**  |
| <i>Sex (male = reference)</i>                       |  |           |                 |           |
| Female  | -0.012   | -0.010    | 0.103***        | 0.101***  |
| <i>Race/ethnicity</i>                               |  |           |                 |           |
| Non-Hispanic White (reference)                      |  |           |                 |           |
| Non-Hispanic Black                                  | 0.007  | 0.009     | -0.031          | -0.032    |
| Hispanic  | -0.165**   | -0.162*   | 0.146**         | 0.144**   |
| Non-Hispanic Asian/Other                            | 0.054  | 0.049     | -0.107          | -0.104    |
| <i>Marital status</i>                               |  |           |                 |           |
| Married or cohabiting (reference)                   |  |           |                 |           |
| Divorced or separated                               | -0.060   | -0.058    | -0.048          | -0.050    |
| Widowed   | 0.087  | 0.083     | -0.057          | -0.054    |
| Never married                                       | -0.076   | -0.075    | 0.016           | 0.016     |
| Number of household members                         | 0.021  | 0.022     | 0.007           | 0.006     |
| Years of education                                  | 0.010  | 0.010     | 0.005           | 0.004     |
| Currently working                                   | 0.096*   | 0.096*    | -0.077*         | -0.077*   |
| Log of total household income                       | 0.045  | 0.046     | 0.041           | 0.041     |
| Log of total household non-housing wealth           | -0.004   | -0.005    | -0.006          | -0.006    |
| Log of total household housing wealth               | -0.002   | -0.001    | 0.016           | 0.016*    |
| Had health insurance policies                       | -0.053   | -0.056    | 0.082           | 0.083     |
| <i>Health variables</i>                             |  |           |                 |           |
| <i>Self-rated health</i>                            |  |           |                 |           |
| Poor or fair health                                 | -0.116*  | -0.118*   | 0.060           | 0.061     |
| Good or better health (reference)                   |  |           |                 |           |
| Chronic medical conditions (0-8)                    | -0.022   | -0.022    | 0.011           | 0.011     |
| <i>Intercept</i>                                    | 0.466*   | 0.416*    | 1.153***        | 1.188***  |
| <i>Adjusted R<sup>2</sup></i>                       | 0.296  | 0.293     | 0.295           | 0.293     |

Notes. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .

**Figure Captions**

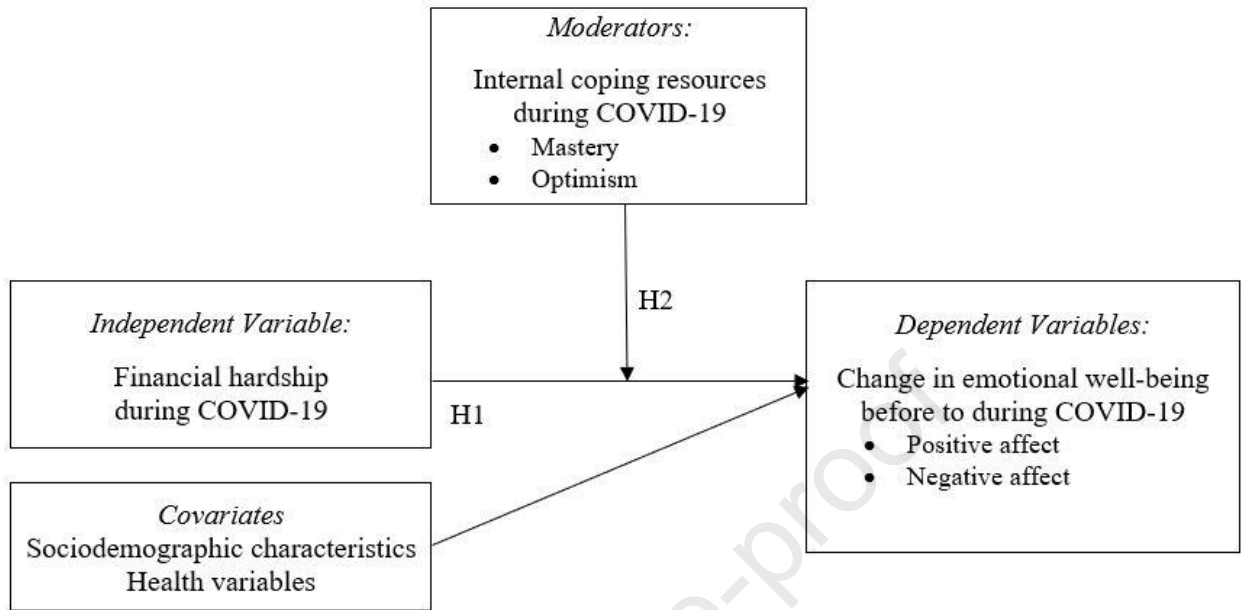
**Figure 1.** Conceptual model

**Figure 2.** Interaction effects of financial hardship and mastery during COVID-19 on changes in positive affect before to during COVID-19

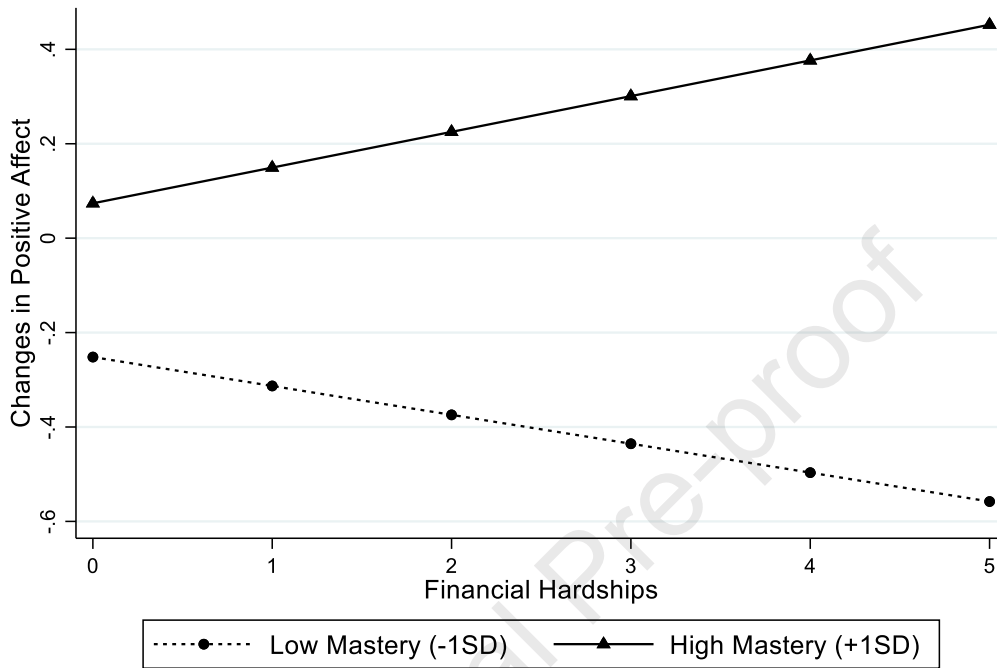
**Figure 3.** Interaction effects of financial hardship and mastery during COVID-19 on changes in negative affect before to during COVID-19

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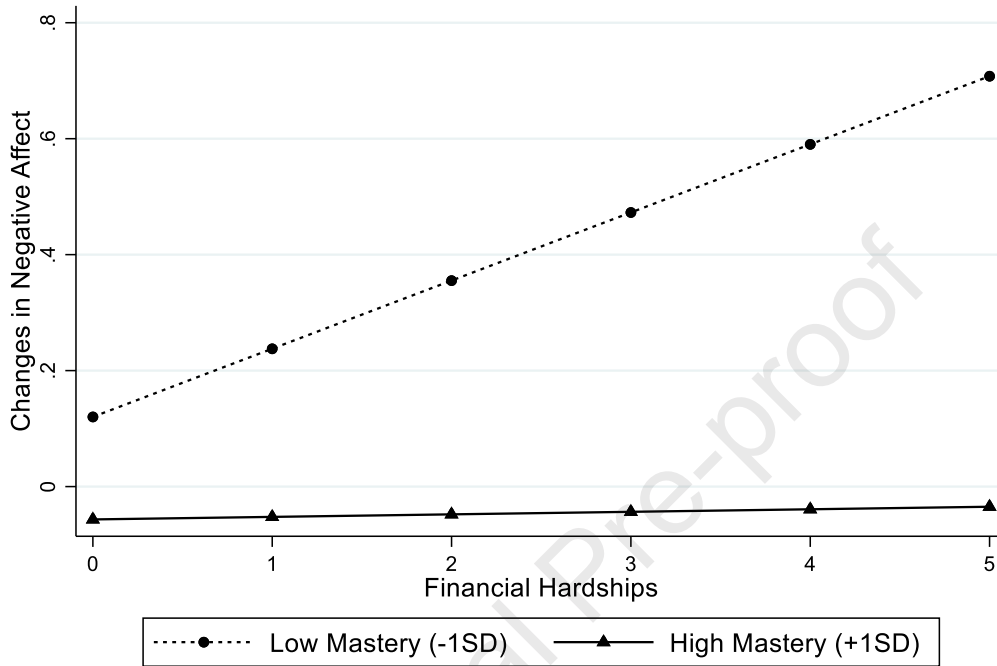
**Figure 1.** Conceptual model



**Figure 2.** Interaction effects of financial hardship and mastery during COVID-19 on changes in positive affect before to during COVID-19



**Figure 3.** Interaction effects of financial hardship and mastery during COVID-19 on changes in negative affect before to during COVID-19



## Highlights

- Financial hardship reduced positive affect and increased negative affect.
- Internal coping resources increased positive affect and reduced negative affect.
- Mastery moderated the effect of financial hardship on emotional well-being.
- Mastery protected well-being under conditions of greater financial hardship.
- Optimism exerted no comparable protective effect on emotional well-being.