

# Consequences of Financial Strain for Psychological Distress among Older Adults: Examining the Explanatory Role of Multiple Components of the Self-Concept

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## Abstract

Guided by a sociological perspective on mental health encapsulated in a stress process perspective, the authors examine the role of mastery, self-esteem, and mattering in explaining how financial strain is associated with symptoms of depression, anxiety, and anger in older adults. Analyses focus on the Caregiving, Aging, and Financial Experiences study, a national longitudinal survey of Canadian older adults conducted in the fall of 2021 and 2022 ( $n = 3,977$ ). Financial strain is associated with greater psychological distress across outcomes, but most strongly with anxiety. Although financial strain depletes mastery, self-esteem, and mattering, only mastery and self-esteem act as mediators between financial strain and psychological distress, with mastery predominant. This research suggests that a sociological perspective on stress and mental health can inform efforts to enhance the well-being of an aging population by identifying how reinforcements to the self-concept may truncate the consequences of financial challenges for psychological distress in later life.

## Keywords

financial strain, depression, anxiety, anger, mastery, self-esteem, mattering, aging

Maintaining the well-being of older adults is a topic of critical social relevance because the population is aging rapidly in many nations around the globe (Newmyer et al. 2022). Especially relevant to these issues is the study of the consequences of financial strain, both because of the risk that financial strain poses to the psychological well-being of older adults (Wilkinson 2016) and also because financial strain tends to increase in later life (Bierman 2014). Social stress research has commonly examined financial strain in terms of difficulty affording bills and basic needs, as well as how finances work out at the end of the month (e.g., Cheng et al. 2014; Reyes and Garcia 2020; Szanton, Thorpe, and Gitlin 2014). The paradigmatic theoretical perspective in the sociological study of stress and mental health, the stress process perspective, positions financial strain as pivotal among chronic stressors (Kahn and Pearlin 2006), with the destructive potency of financial strain derived from its potential for creating a “grinding life of uncertainty and fear” (Pearlin 1999:399). This destructive power is reflected in studies of older adults showing adverse associations between financial

strain and different dimensions of psychological distress (Marshall et al. 2021; Pudrovska et al. 2005).

The purpose of the present research is to contribute to an understanding of the consequences of financial strain for psychological distress in later life by expanding focus to examine multiple mechanisms for these effects across multiple outcomes in a national longitudinal study of older adults. We base this study in a stress process perspective, fundamental to which is the tenet that the consequences of chronic stress are indirect, and a key pathway through which

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stress exposure influences psychological distress is by diminishing one's sense of self (Pearlin and Bierman 2013; Thoits 2013). Sociologically-based research on financial strain and psychological distress has emphasized the mediating role of mastery, which is indicative of an individual's sense of control, in explaining the mental health consequences of financial strain (Koltai and Stuckler 2020; Pearlin 2010). There are multiple additional components to the self-concept, though, with self-esteem and mattering also identified as particularly relevant to the sociological study of mental health (Fazio 2009; Louie and Upenieks 2022). The mutual importance of mastery, self-esteem, and mattering to the sociological study of mental health is due in part to their common basis in structures of inequality, in which socioeconomic disadvantages undermine these components of the self-concept (Mirowsky and Ross 2003; Osborne, Sibley, and Sengupta 2015; Schieman, Bierman, and Ellison 2010). Yet the shared structural origins of these components implies that they will co-occur. Consequently, previous research may have over-emphasized the explanatory power of mastery in the consequences of financial strain by not taking into account self-esteem and mattering. Moreover, psychological distress encompasses not only symptoms of depression, but also anxiety and anger (Coutu et al. 2015). The ramifications of stress can in turn vary across these outcomes in later life because of the degree to which a stressor is enervating or activating (Bierman and Lee 2018). Thus, a thorough understanding of the degree to which different components of the self-concept explain the consequences of financial strain for psychological distress must also consider multiple dimensions of psychological distress.

To address these questions, we analyze a national longitudinal survey of Canadian older adults gathered between 2021 and 2022 ( $n=4,010$ ) and examine how mastery, self-esteem, and mattering explain the association between financial strain and depression, anxiety, and anger in later life. In our analyses of these data, we use sequential latent change score models (SLCSMs) that differentiate between baseline and longitudinal associations. This distinction is necessary because cross-sectional analyses may reflect consequences of financial strain established earlier life course (Kahn and Pearlin 2006), whereas analyses of change more clearly isolate the ramifications of increases in financial strain experienced in later life (Leggett, Burgard, and Zivin 2016). In summary, as nations around the globe confront a growing number of older adults, it is important to examine the resources that can bolster mental health in later life. This research shows how a sociological perspective on stress and mental health can inform these cross-national efforts by identifying components of the self-concept that can be strengthened to interrupt the chain of adverse effects that emanate from financial challenges to ultimately create psychological distress in later life.

## Background

Within sociologically oriented social psychology, a common definition of the self-concept is the "totality of an individual's thoughts and feelings having reference to himself as a particular object" (Rosenberg 1979:7). Inherent to the self-concept is that individuals take themselves as objects, a process in which they "stand outside themselves and react to themselves as detached entities of observation" (Owens and Samblanet 2013:227). The process of taking oneself as object is fundamentally a social product, as this process is informed by social structural constraints and resources, as well as interpersonal interactions (Cast and Stets 2016). As Owens (2003) explains, in a

sociological sense, self-concept (like self generally) is a social creation molded by a person's interactions with others, his or her past and ongoing affiliations and experiences within and across social contexts and institutional affiliations, and his or her location within culture and social structure. (p. 209)

Social interactions and the larger social structure cast an individual's sense of self by providing an evaluation of the individual in the form of reflected appraisals, as well as a basis for social comparisons to others, in addition to facilitating or hindering personal successes and failures that also inform one's understanding of self (Cast and Stets 2016; Gallagher 2021; Keith and Thompson 2019). Through these processes, multiple aspects of an understanding of one's self are formed, including mastery, mattering, and self-esteem (Thoits 2011). Attention to these three components of the self-concept is critical because "All three measures are necessary and meaningful components of the self-concept" (Fazio 2009:152).

Although related through their origins in the multiple processes that shape the self-concept, these three components are variegated in the degree to which they center an individual's sense of potency and value. Mastery reflects individuals' view of their own power and efficacy, as mastery "involves the generalized sense that one has control over the important events and outcomes in everyday life" (Badawy and Schieman 2020:325). Mastery is therefore generally considered to reflect perceptions of individual control (Pearlin and Pioli 2003). Rather than individual power, self-esteem refers to the value that people see in themselves by reflecting a "sense of self-worth and self-respect" (Monteiro et al. 2022:931; Trzesniewski, Donnellan, and Robins 2013). Mattering is also a measure of worth, but social worth (Bonhag and Froese 2022), as mattering refers to the "the personal sense of feeling significant and valued by other people" (Flett 2022:4). Mastery, self-esteem, and mattering are therefore distinct components of the self-concept, in that they reflect an individual's sense of personal control, self-worth, and worth to others, respectively.

## *Role of the Self-Concept in Conveying the Effects of Financial Stress*

Inherent to a sociological understanding of the self is that the self is both a social product and a social force (Gecas 2001). A stress process perspective builds from this understanding to suggest that the self-concept will play an intermediate role in the stress process both by being shaped by social stressors and in turn influencing psychological distress (Pearlin and Bierman 2013; Thoits 2013). Notably, conceptualizations of mastery, self-esteem, and mattering have positioned each of these components as fundamental for well-being, and as a result an influential resource in forestalling psychological distress. For example, Christie-Mizell et al. (2023) state that, “Scholars argue that mastery is one of the most important psychosocial, health-enhancing resources” (p. 3). Mastery is seen as critical for psychological well-being because a high level of mastery “averts the tendency to become helpless in frustrating and aversive situations,” (Mirowsky and Ross 2007:1343). Conversely, a low sense of mastery leaves individuals distressed because they feel they are unable to achieve desired ends and avoid stressful situations (Koltai, Bierman, and Schieman 2018). Self-esteem has also been framed as critical for human functioning (Orth and Robins 2014), as self-esteem can insulate the psyche from rejections and failures (Zeigler-Hill 2013), thereby providing a bulwark against psychological distress (Sowislo and Orth 2013). Similar to mastery and self-esteem, conceptualizations of mattering emphasize its pivotal necessity, in which mattering can be “characterized as a core psychological need or fundamental motivation” (Scarpa, Zopluoglu, and Prilleltensky 2022:1482; see also Flett 2022; Tucker, Dixon, and Griddine 2010). The importance of mattering extends from its provision of feelings of belonging, social support, and purpose in life (Milner, Page, and LaMontagne 2016), with the result that mattering may be critical in forestalling psychological distress (Flett and Heisel 2021). Each of these components of the self-concept is therefore framed as central to individual mental health, with reductions in each of these likely to be distressing.

Financial strain is in turn likely to deplete each of these components of the self-concept. Mastery will be influenced by financial strain because a lack of resources and funds will constrain individual choices and lead to a sense of limitations on the individual’s ability to obtain desired ends (Koltai et al. 2018). Moreover, a basic motivation that most people have is to live life free of threat, and an inability to escape the threat posed by financial strain will further deteriorate an individual sense of control (Ross 2011). Financial strain is also likely to harm self-esteem. Western cultural conceptions frame financial success in the context of personal responsibility and effort, with the result that financial problems are often construed by individuals and the broader society as a marker of personal failings (Osborne et al. 2015). Additionally, a sense that one is not doing financially as well

as others, and is also not effective at avoiding or escaping from financial problems, is likely to further diminish an individual’s sense of self-worth (Maclean and Hill 2015). The negative effects of financial strain on mastery are likely to further extend to mattering. The cultural emphasis on the individual causes of financial success also mean that financial failure is socially stigmatized, with individuals who experience financial problems often feeling shamed and seen as a burden to society (Chase and Walker 2013; Reutter et al. 2009). Consequently, individuals experiencing financial difficulties feel socially devalued (Inglis et al. 2019), in turn likely leading these individuals to feel that they matter less to others (Bonhag and Froese 2022).

These arguments support a set of indirect paths by which financial strain in later life diminishes the different components of the self-concept, which in turn leads to psychological distress. Previous research among older adults provides some support for these indirect pathways. Cross-sectional analyses of older adults show that mastery mediates the association between financial strain and symptoms of depression (Lincoln 2007), as well as for both symptoms of depression and anxiety, although with less mediating power for anxiety (Pudrovska et al. 2005). Cross-sectional research among older adults has also shown dual mediating roles of self-esteem and mastery for symptoms of depression (Krause, Jay, and Liang 1991). However, as mastery, self-esteem, and mattering will tend to have a common genesis in financial strain, considering all three in the same analyses is likely necessary to accurately identify the mediating role of each component of the self-concept. Additionally, research suggests that prior financial hardships condition exposure to financial strain in later life (Pudrovska et al. 2005) and that part of the cross-sectional association between financial strain and psychological distress among older adults is actually due to these earlier life hardships (Kahn and Pearlin 2006). Consequently, cross-sectional analyses of older adults do not necessarily show whether increases in financial strain specifically in later life lead to a loss of psychological resources or increases in distress (Leggett et al. 2016; O’Laughlin, Martin, and Ferrer 2018). Comparing baseline associations with analyses of change in later life can therefore better show whether these cross-sectional associations clearly represent the consequences of occurrences of financial strain specifically in later life.

## *Differentiating Dimensions of Psychological Distress*

Although we describe a general process in which financial strain influences psychological distress through multiple components of the self-concept, it should also be noted that psychological distress is a multivalent phenomenon, encapsulating not only depression, but also anxiety and anger (Coutu et al. 2015; Grace and VanHeuvelen 2022). Each of these outcomes constitutes a distinct set of emotional

activities and orientation to others: Depression and anxiety are internally focused, but anxiety represents an active set of emotions and depressive symptoms are passive, whereas anger is both externally focused and active in nature (Bierman 2012; Ross and Mirowsky 2008). Despite these distinctions, depression has been the main focus of research on financial stress and psychological distress (Guan et al. 2022), with some research going as far as to use depression as representative of distress in general (e.g., Ferraro and Su 1999). The diversity of these distress outcomes is important to consider, though, because a predominant focus on depression may understate the strength of the effects of financial strain for psychological distress. Financial shortfalls necessitates focus and attention (Gennetian and Shafir 2015), with this burden preventing an ability to relax that is likely to be anxiety provoking and also stimulate anger (Marshall et al. 2022; Ong, Theseira, and Ng 2019; Schieman 1999). Yet, to our knowledge, previous longitudinal studies of the effects of financial strain in older adults has not simultaneously considered anxiety and anger as outcomes in tandem with depression. Consequently, it is unknown as to whether there is variation in the degree to which the different components of the self-concept explain the consequences of financial strain for these outcomes.

### *The Present Study*

Despite the stress process perspective's positioning of the self-concept as a key mechanism for the effects of chronic stress, it remains an open question as to the degree to which mastery, self-esteem, and mattering explain the consequences of financial strain across multiple forms of psychological distress in later life. This is a question we now turn to, by analyzing a national longitudinal survey of older adults. Within these analyses, we examine the extent to which financial strain is associated with symptoms of depression, anxiety, and anger, not only at baseline, but also how changes in financial strain relate to changes in these distress outcomes, as well as the role of mastery, self-esteem, and mattering in explaining these associations. We also compare an analysis that includes all three components of the self-concept to alternative models that include only one component of the self-concept at a time. This comparison shows the extent to which consideration of multiple components of the self-concept is necessary for an accurate depiction of the mediating role of these components in the consequences of financial strain for psychological distress later life.

## **Methods**

### *Data*

Data are derived from the Caregiving, Aging, and Financial Experiences (CAFE) study, a national survey intended to examine social conditions and well-being among older

Canadians. Data were gathered by the study authors in cooperation with the Angus Reid Forum, a Canadian national survey research firm that maintains an ongoing national panel of Canadian respondents from which nationally representative samples can be drawn. The first wave of the CAFE survey was gathered in late September and early October 2021, as an online survey conducted among a representative sample of 4,010 Canadians between age 65 and 85 years of age. The response rate was 56 percent, but results were statistically weighted according to the most current age, gender and region census data to ensure a sample representative of older Canadians.<sup>1</sup> The follow-up was conducted in late September and early October 2022, approximately a year later. In total, 2,420 respondents were recontacted, for a 60 percent retention rate. Analytic methods used to address attrition are described in the plan of analysis.

### *Focal Measures*

Focal measures were measured at both baseline and follow-up, thereby facilitating the study of baseline associations and change from baseline. For each scale, the mean of responses at a specific wave is used to measure the construct at that observation point.

Measurement of psychological distress was based on established scales of depression (Karim et al. 2015), anxiety (Spitzer et al. 2006), and anger (Fuqua et al. 1991). Depression symptoms were: depressed, everything was an effort, restless sleep, happy, lonely, enjoyed life, sad, and unable to get going. Anxiety symptoms were: not being able to stop or control worrying; worrying too much about different things; trouble relaxing; being so restless that it is hard to sit still; feeling afraid as if something awful might happen; and feeling nervous, anxious or on edge. Anger items were: angry, mad, and furious. Responses were for the previous week, on a scale of 1 ("most or all of the time [5–7 days]") to 4 ("rarely or never (less often than once a day)"), with all responses coded to indicate greater distress. Separate principal component analyses at baseline indicated one eigenvalue greater than 1 for each scale, accounting for 55 percent of the variance for the depression items, 66 percent of the variance for the anxiety items, and 76 percent of the variance for the anger items. At baseline, Cronbach's  $\alpha$  coefficient for the depressive symptom scale was .88, for anxiety was .90, and for anger was .83.

Measurement of financial strain was based on three questions from Koltai et al.'s (2018) study of financial strain.

<sup>1</sup>In terms of the demographic characteristics of the sample at baseline, when weighted, the sample included 53 percent women. For highest educational degree obtained, 15 percent had a high school degree and 39 percent a university degree or more. The mean age of the sample was 72 years and 6 percent of the sample identified as being a member of a visible minority. About two thirds of the sample was partnered, and about 85 percent was retired.

Respondents indicated how often in the previous three months they had trouble paying the bills, did not have enough money to buy household needs, and how their finances usually worked out by the end of the month. Responses to the first two questions ranged from 1 (“never”) to 5 (“very often”); responses to the third question ranged from 1 (“not enough to make ends meet”) to 5 (“a lot of money left over”). A principal component analysis of these items at baseline indicated one component with an eigenvalue greater than 1 that accounted for 77 percent of the variance in the items, with a Cronbach’s  $\alpha$  coefficient of .85.

Dimensions of the self-concept were measured using established scales of mastery, self-esteem, and mattering. Mastery was measured using a five-item version of Pearlin’s mastery scale previously used in the study of financial stress and mental health in older adults (Pudrovska et al. 2005): “There is really no way I can solve some of the problems I have,” “Sometimes I feel that I’m being pushed around in life,” “I have little control over the things that happen to me,” “I can do just about anything I really set your mind to,” and “I often feel helpless in dealing with the problems of life.” Self-esteem was measured using a five-item version of the Rosenberg self-esteem scale that has been validated in older adults (Monteiro et al. 2022): “At times I think I am no good at all”; “All in all, I am inclined to think that I am a failure”; “I feel I do have much to be proud of”; “On the whole, I am satisfied with myself”; and “I take a positive attitude toward myself.” Mattering was measured using a five-item general mattering scale validated by Davis et al. (2019): “I am important to others,” “Other people pay attention to me,” “I would be missed if I went away,” “Other people are interested in what I have to say,” and “Other people depend on me.” For all scales, responses ranged from 1 (“strongly disagree”) to 5 (“strongly agree”), with all responses coded to denote greater levels of the component of the self-concept. Separate principal component analyses at baseline indicated one eigenvalue greater than 1 for each scale, accounting for 61 percent of the variance for the mastery items, 62 percent of the variance for the self-esteem items, and 58 percent of the variance for the mattering items. At baseline, Cronbach’s  $\alpha$  coefficient for mastery was .84, for self-esteem was .84, and for mattering was .81.

### Covariates

Covariates in the statistical analyses focus on background social statuses and indicators of social engagement that were likely to influence financial strain, the self-concept mediators, and/or the psychological distress outcomes. These social statuses included gender, education, income, age, visible minority status, and whether retired, each of which was measured at baseline. For gender, respondents could identify as a man or woman, but could also choose to self-describe. No respondent chose to self-describe, and gender was therefore coded as a dichotomous variable (0 = men, 1 = women). Education was measured as a set of dichotomous indicators,

in which post-high school (some college or trade school or university), graduated from trade school, and university undergraduate degree or greater were contrasted to a high school degree; less than 3 percent of the raw sample at baseline had less than a high school degree, and these respondents were included with the comparison category. Age was measured in years. A common approach to race in Canadian research is a general “visible minority” category (Little 2016), and in keeping with this approach, visible minority status was a dichotomous variable based on the question, “Would you say you are a member of a visible minority here in Canada (in terms of your ethnicity/race)?” with affirmative answers coded 1. A dichotomous variable also indicated whether a respondent was currently retired.

Indicators of social engagement were also measured at baseline and included whether the respondent was living with a romantic partner and number of people in the respondent’s household, as well as separate indicators of in-person and electronic social contact. A dichotomous variable indicated whether respondents were currently married or living with a romantic partner in a common-law relationship. Number of people in the household was measured on a scale of 1 (respondent lives alone) to 5 (four or more). In-person social contact was measured by asking respondents, “In the past month, how often did you have visits or meetings in-person with any of your friends or members of your family who do not live with you?” Electronic social contact was measured by asking respondents, “In the past month, how often were you in contact with any friends or family who do not live with you through phone calls, texting, or video chat?” Responses to both social contact questions were coded from 1 (“never”) to 6 (“once a day or more”).

### Plan of Analysis

Analyses are conducted using latent change score modeling, which is an extension of structural equation modeling (Coman et al. 2013). In a basic latent change score model, two latent variables are of primary interest: A latent variable indicating baseline levels of a measure and a latent variable indicating change in the measure between waves. The variance of these variables is also of interest by being indicative of individual variability at baseline and change over time. Moreover, a covariance term between these variances accounts for coordination between individual baseline levels and between-wave change. As a first step in the analyses, separate latent change score models are estimated for the measures of financial strain, the self-concept, and psychological distress, which serves to show the extent of change for each of these measures over the course of the study, as well as the degree of interindividual variation in these patterns.

In the primary analyses, the latent change score approach is extended to a SLCSM (Bierman, Upenieks, and Schieman 2021). As depicted in Figures 1 and 2 in the “Results” section, the SLCSM was used to examine interrelationships in

baseline associations and also in change over time. In the SLCSM, baseline interrelationships are examined by using baseline financial strain to predict baseline mastery, mattering, and self-esteem, while also using baseline financial strain and the components of the self-concept to predict the baseline measures of distress. Simultaneously, the SLCSM models change in the measures of the self-concept as a consequence of change in financial strain, and models change in the measures of distress as the result of change in financial strain and the measures of the self-concept. Consequently, baseline financial strain can relate to the different baseline measures of psychological distress indirectly through each of the different components of the self-concept at baseline; similarly, change in financial strain can influence change in the different measures of distress indirectly through change in each component of the self-concept. Indirect associations are estimated and tested using Sobel tests (MacKinnon 2008), but supplementary mediation tests of the focal model shown in Figures 1 and 2 using bias-corrected bootstrapping produced substantively the same findings (Valente et al. 2016). The associations between financial strain and the distress outcomes are then considered “direct effects,” which represent the portion of the consequences of financial strain for distress not explained by the self-concept measures (MacKinnon 2008). Moreover, a total effect of financial strain is also estimated, which is the sum of the indirect and direct effects of financial strain on a distress outcome; the total effect is equivalent to the associations between financial strain and each measure of distress when the measures of the self-concept are not included in the models (MacKinnon 2008). Additionally, covariates are integrated into the SLCSM by using the full set of covariates to predict all baseline and latent change variables.

In a final set of analyses, we compare the focal SLCSM with a set of three SLCSMs that include each component of the self-concept one at a time. These comparisons serve to demonstrate the extent to which research is likely to overstate the role of the different components of the self-concept in explaining the consequences of financial strain for psychological distress in later life by including only one component as a putative mediator.

All models are estimated using Mplus version 8.8 and apply the baseline sampling weight. Additionally, all models are estimated using full-information maximum likelihood, which takes information available from each observation into account (Enders 2010), thereby producing model estimates that are more robust to missing data than listwise deletion (Allison 2003). Within the Mplus system, missing values are taken into account when variables are endogenous, thereby addressing sample attrition. Furthermore, income was also treated in the focal model as endogenous to the remaining covariates, but exogenous to the latent variables, which took missing data on this measure into account. Missing data on the covariates was otherwise sparse, resulting in a final analytic sample size of 3,977 for the SLCSMs,

with little bias suggested by the exclusion of less than 1 percent of the sample because of missing data.

## Results

### *Descriptives of Baseline and Change in Focal Measures*

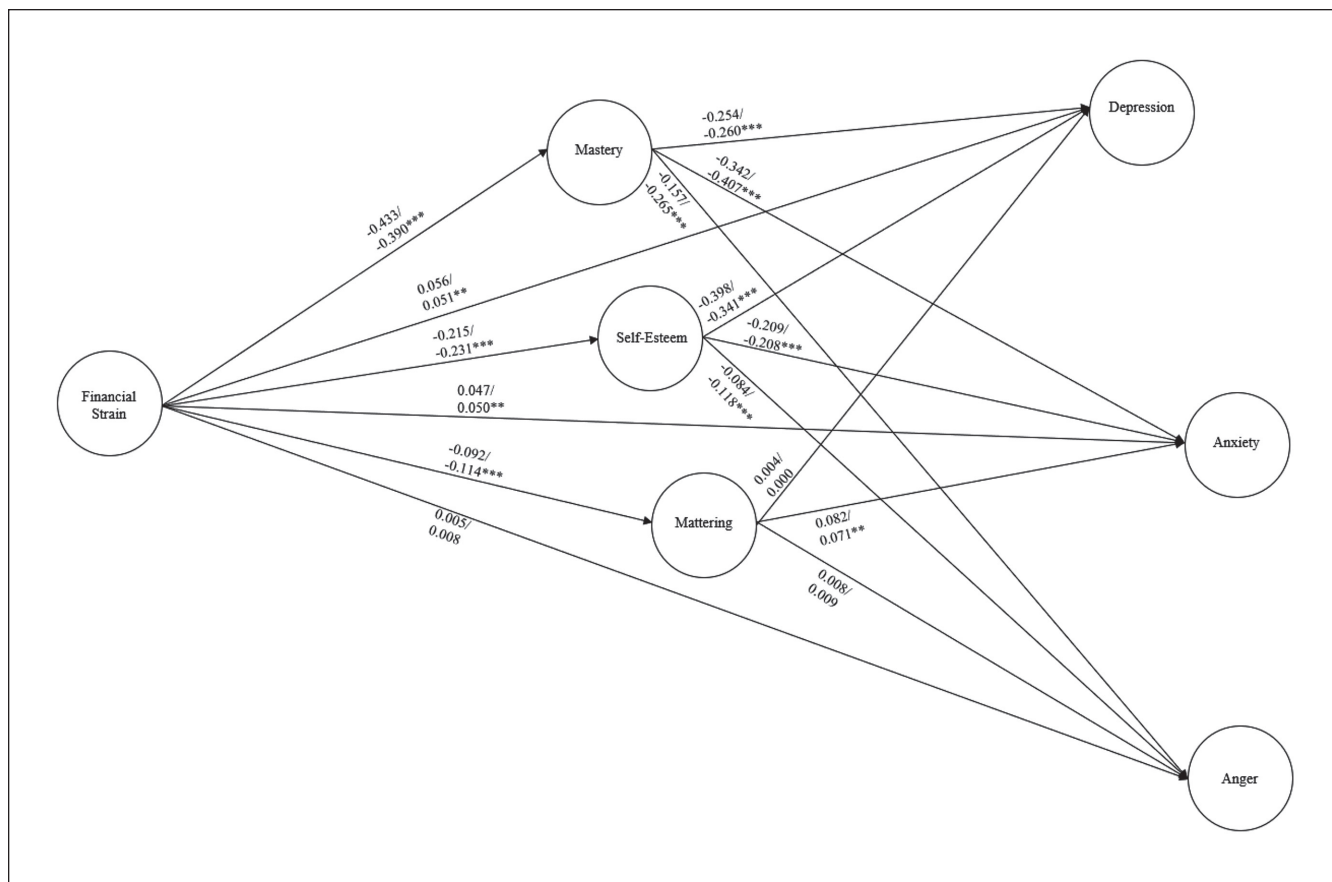
The first stage of analyses is shown in Table 1 and describes the basic patterns of baseline levels and change on the basis of individual latent change score models for each focal measure. Over the course of the study, respondents experienced a significant increase in financial strain, on average. Respondents also experienced significant declines in mastery and mattering. Although there may be concern that there were not significant mean changes in self-esteem or the distress outcomes, it should be noted that the variance of each latent variable is statistically significant. Thus, there was significant variation between individuals in changes in the components of the self-concept and psychological distress, and it is this variation that we attempt to account for with financial strain in the next set of analyses.

### *Analyses of Interrelationships at Baseline*

The primary SLCSM examines interrelationships between baseline measures and latent change scores simultaneously in one model. For a clearer presentation of results, though, the baseline associations are displayed in Figure 1, while the interrelationships among latent change scores are shown in Figure 2.<sup>2</sup> Appendix A shows all coefficients, standard errors, and *p* values for associations with the baseline and latent change scores measures; the coefficients of determination (i.e.,  $R^2$ ) are also shown in Appendix A.

As Figure 1 shows, at baseline, financial strain is significantly associated with lower levels of mastery, mattering, and self-esteem. Comparison of the standardized slopes shows that, of the different components of the self-concept, financial strain has the strongest association with mastery and weakest with mattering. When examining how these components of the self-concept predict psychological distress, both mastery and self-esteem are significantly associated with lower symptoms of each of the dimensions of psychological distress.<sup>3</sup> However, mastery is more strongly associated with depression and anger, while self-esteem is more strongly associated with anxiety. More unexpectedly, mattering is not significantly associated with symptoms of depression and anger. Mattering is significantly associated with anxiety, but *positively*, indicating that higher levels of mattering are associated with greater levels of anxiety; however, the standardized slopes also show that the association between mattering and anxiety is substantially weaker than the degree to which mastery and self-esteem are associated with anxiety.

Table 2 shows tests of mediating associations between financial strain and each distress outcome, as well as direct



**Figure 1.** Associations between baseline measures.  
 Note: Metric coefficients are listed first, then standardized coefficients.  
 \* $p \leq .05$ . \*\* $p \leq .01$ . \*\*\* $p \leq .001$ .

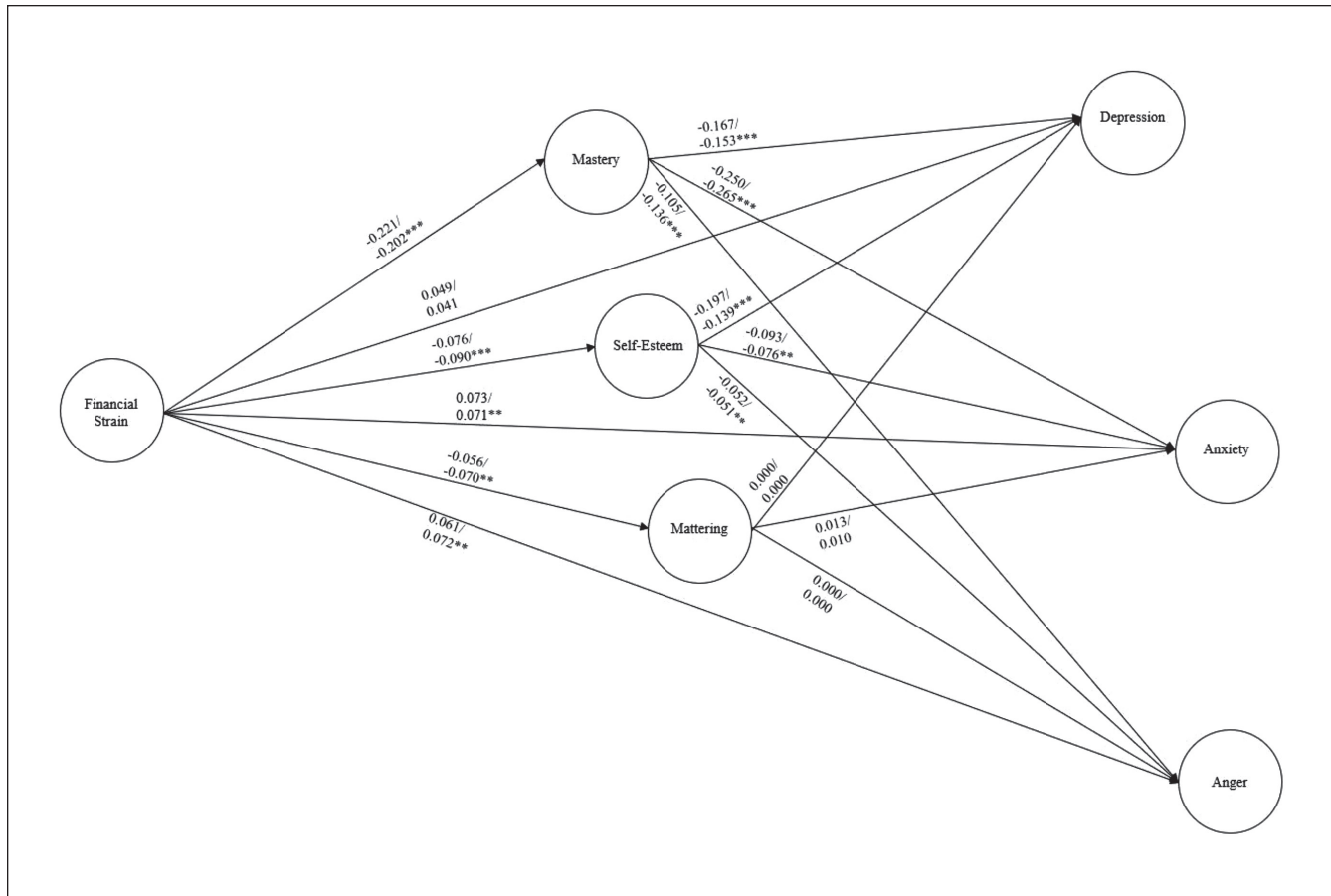
and total effects. The indirect effects through mastery and self-esteem are statistically significant for each distress outcome, thereby indicating that both mastery and self-esteem contribute to explaining the deleterious association between financial strain and symptoms of depression, anger, and anxiety. Comparison of standardized indirect effects shows, however, that for anxiety and anger, the indirect association through mastery is more than twice the strength of the indirect association through self-esteem; for depression, the indirect effects through mastery and self-esteem are more similar in strength, but still stronger through mastery. Additionally, because of the positive association between mattering and anxiety, there is a negative indirect association between financial strain and anxiety through mattering, but the strength of this indirect association is much weaker than the deleterious indirect associations through mastery and self-esteem. Financial strain also has significant direct effect on depression and anxiety, indicating that the components of the self-concept do not completely account for the baseline association between financial strain and these outcomes. Because of these additional direct effects, when the indirect and direct effects of financial strain are combined into total effects, financial strain has the strongest overall association with anxiety, a

slightly weaker association with depression, and a much weaker association with anger.

**Interrelationships in Change over Time**

Figure 2 shows that between-wave increases in financial strain are significantly and negatively associated with changes in each of the components of the self-concept. The strongest of these associations is with mastery, with this association more than twice as strong as with self-esteem, although associations with self-esteem and mattering are much more similar in strength. Changes in both mastery and self-esteem are in turn significantly and negatively associated with changes in symptoms of depression, anxiety, and anger; associations between changes in mastery and the distress outcomes are stronger than between changes in self-esteem and the distress outcomes, particularly for anxiety and anger. However, changes in mattering are not significantly associated with changes in any distress outcome, and the coefficients for these associations are close to zero.

Table 2 also shows the direct, indirect, and total effects for the latent change measures. For the indirect effects, increases in financial strain are positively associated with changes in



**Figure 2.** Associations between latent change measures.

Note: Metric coefficients are listed first, then standardized coefficients.

\* $p \leq .05$ . \*\* $p \leq .01$ . \*\*\* $p \leq .001$ .

depression, anxiety, and anger through both mastery and self-esteem, but comparison of the standardized indirect effects show that the indirect associations are substantially stronger through mastery than through self-esteem. Additionally, the direct association between financial strain and changes in depression is not significant. Changes in the components of the self-concept therefore largely explain the overall association between changes in financial strain and changes in depression. However, for anxiety and anger, the indirect effects explain less than half of the total associations with financial strain, and the direct associations between changes in financial strain and changes in both anxiety and anger are statistically significant. As a result of these additional direct effects, total effects of increases in financial strain are stronger for changes in both anxiety and anger compared with depression, although the strongest overall association is again with anxiety.<sup>4</sup>

### Comparison with Single-Mediator Analyses

Table 3 displays the coefficients for the focal associations and indirect effects when only one component of the self-concept is included as a mediator. To facilitate comparison

with the main analyses that simultaneously include all three components of the self-concept, an additional column in Table 3 shows a proportional comparison between coefficients in the single-mediator and multiple-mediator analyses. Several findings are of note in these comparisons. First, for both mastery and self-esteem, associations with the distress outcomes are substantially stronger when considered in isolation than in the main analyses. Second, for mattering, as opposed to the results presented in Figures 1 and 2 that are counter to theoretically-informed expectations, the coefficients presented in Table 3 are in line with expectations in showing that baseline mattering is inversely associated with baseline levels of depression, anxiety, and anger and also that change in mattering is inversely associated with change in depression and anxiety; the association between change in mattering and change in anger is also negative but not significant, although near significance ( $p = .061$ ). This pattern of results indicates that the appearance of a beneficial association between mattering and psychological distress is largely attributable to the overlap between mattering and additional salubrious components of the self-concept. Third, because associations between the components of the self-concept and psychological distress are attenuated when these



**Table 1.** Univariate Latent Change Score Models.

	Latent Baseline						Latent Change						Baseline-Change Covariance			
	Mean	SE	<i>p</i>	Variance	SE	<i>p</i>	Mean	SE	<i>p</i>	Variance	SE	<i>p</i>	Covariance	SE	<i>p</i>	Correlation
Financial Strain	1.652	.013	***	.567	.021	***	.113	.012	***	.316	.012	***	-.114	.014	***	-.269
Mastery	3.603	.015	***	.708	.016	***	-.077	.013	***	.373	.013	***	-.192	.011	***	-.373
Self-Esteem	3.977	.012	***	.494	.014	***	-.012	.010		.227	.009	***	-.117	.008	***	-.348
Mattering	3.653	.010	***	.370	.011	***	-.019	.009	*	.203	.008	***	-.098	.007	***	-.359
Depression	1.507	.015	***	.684	.024	***	-.014	.015		.475	.023	***	-.254	.018	***	-.445
Anxiety	1.611	.013	***	.509	.017	***	-.015	.012		.334	.016	***	-.187	.013	***	-.455
Anger	1.299	.008	***	.250	.012	***	-.005	.010		.230	.011	***	-.123	.009	***	-.513

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

components are included in the same model, the indirect effects of financial strain are substantially weaker in the multiple component model. This pattern is most notable in the case of mattering. Reductions for indirect effects through self-esteem are also quite marked, though, with these indirect effects halved or more in the multiple component model. For mastery, smaller but still notable reductions are evidenced. Overall, these additional analyses demonstrate that the consequences of specific components of the self-concept for psychological distress—and in turn their roles as mechanisms for the effects of financial strain—are likely to be overstated when multiple components of the self-concept are not considered in conjunction.

<sup>2</sup>Not shown in these figures are covariances between disturbances of baseline and latent change scores of the same construct (e.g., the disturbance for baseline financial strain covaries with the disturbance for latent change in financial strain). When standardized, covariances between baseline and latent change of the same construct ranged between  $-.291$  (for self-esteem) and  $-.499$  (for anger). Disturbances between the mediators were allowed to covary at baseline, with covariances when standardized ranging from  $.315$  (between mattering and mastery) to  $.535$  (between mastery and self-esteem). Disturbances between the latent change measures of the mediators were also allowed to covary and these standardized covariances were between  $.154$  (mastery and mattering) and  $.206$  (between mastery and self-esteem). Similarly, at baseline the disturbances for the distress measures were allowed to covary and the standardized covariances ranged between  $.247$  (between depression and anger) and  $.458$  (between depression and anxiety). For the measures of latent change in distress, the standardized covariances were between  $.160$  (between anxiety and anger) and  $.266$  (between depression and anxiety). All covariances were significant at  $p < .001$ .

<sup>3</sup>On the basis of Chatterjee and Simonoff (2013:28), ancillary analyses calculated the variance inflation factors (VIFs) for the three components of the self-concept for both the latent baseline and latent change score measures. At baseline, these VIFs were 1.91 for mastery, 2.08 for self-esteem, and 1.69 for mattering and for latent change were 1.17 for mastery, 1.17 for self-esteem, and 1.10 for mattering. Following a benchmark of a VIF of 5 to indicate problematic multicollinearity (Khan et al. 2020), multicollinearity due to shared variance in the components of the self-concept did not have substantial influence on the analyses.

## Discussion

Supporting the well-being of older adults is quickly becoming a pressing topic around the globe as many nations are confronting an aging population (Newmyer et al. 2022). Our research suggests that financial strain is likely to be a key rising threat to the mental health of older adults, as we show that older adults experienced a significant increase in financial strain between 2021 and 2022, with multiple adverse impacts on psychological distress. As the interval of this study was only a year, the increase in financial strain is unlikely to be due to aging. Instead, the study coincided with historic increases in inflation (DeSilver 2022), and our findings suggest that older adults were vulnerable to increasing costs during this time period, resulting in financial strain. Moreover, because financial strain is indicative of fundamental levels of privation in ability to afford basic needs, a significant increase over a year suggests a pronounced decline in the financial standing of older adults as inflation increased.

In the context of these increasing financial troubles, older adults across the sample on average lost not only a sense of control over life, but also a sense of mattering. From a sociological perspective, loss of sense of control is a key indicator of alienation by indicating individuals' separation from themselves (Mirowsky and Ross 2003). When paired with a loss of a sense of social significance as indicated by an average decline in mattering, this research shows how older adults were feeling more alienated and marginalized as increases in costs of goods and services were making it harder to survive. Our findings therefore suggest that older adults, who represent a growing proportion of the population, feel increasingly disaffected and ostracized because of greater financial problems. Thus, a stress process perspective's emphasis on the ways that the self-concept is shaped by financial stress can reveal substantial consequences for changes in the social gradient of alienation in the context of shifting macroeconomic circumstances. In reflection of the basic sociological insight that the self can also be a social force (Gecas 2001), greater attention should be given to the harms for not only individual well-being, but also social well-being, that may be created by an increasing level of alienation in a growing portion of the population.

**Table 2.** Indirect, Direct, and Total Effects in Sequential Latent Change Score Model.

	Depression				Anxiety				Anger			
	<i>b</i>	<i>SE</i>	<i>p</i>	$\beta$	<i>b</i>	<i>SE</i>	<i>p</i>	$\beta$	<i>b</i>	<i>SE</i>	<i>p</i>	$\beta$
<b>Baseline</b>												
Indirect effect of financial strain through mastery	.110	.010	***	.101	.148	.010	***	.159	.068	.007	***	.103
Indirect effect of financial strain through self-esteem	.085	.009	***	.079	.045	.006	***	.048	.018	.004	***	.027
Indirect effect of financial strain through mattering	.000	.002		.000	-.008	.002	**	-.008	-.001	.002		-.001
Direct effect of financial strain	.056	.020	**	.051	.047	.016	**	.050	.005	.013		.008
Total effect of financial strain	.251	.022	***	.231	.232	.018	***	.249	.091	.012	***	.138
<b>Change</b>												
Indirect effect of financial strain through mastery	.037	.006	***	.031	.055	.007	***	.054	.023	.004	***	.027
Indirect effect of financial strain through self-esteem	.015	.005	**	.013	.007	.003	*	.007	.004	.002	*	.005
Indirect effect of financial strain through mattering	.000	.002		.000	-.001	.001		-.001	.000	.001		.000
Direct effect of financial strain	.049	.028		.041	.073	.023	**	.071	.061	.019	**	.072
Total effect of financial strain	.101	.029	***	.085	.135	.024	***	.131	.088	.019	***	.104

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

Increases in financial problems and the loss of self these problems created were in turn associated with increases in psychological distress in the form of symptoms of depression, anxiety, and anger. Of these three distress outcomes, financial strain was most strongly associated with anxiety, and in analyses of change financial strain was more strongly associated with anger and anxiety than symptoms of depression. The stronger consequences of financial strain for anxiety and anger were in part because changes in financial strain were associated with changes in these outcomes even after the components of the self-concept were taken into account. Both anxiety and anger represent active forms of psychological distress (Ross and Mirowsky 2008). Over and above indirect pathways through the self-concept, then, increases in financial strain in later life are additionally activating. These additional consequences are likely because financial shortfalls result in an unceasing burden that requires consistent attention (Gennetian and Shafir 2015; Ong et al. 2019). This research therefore shows how financial strain serves as a source of tension in later life, as the inability to provide for one's self amplifies not only apprehension and fear, but also a general state of acrimony. It is by creating these multiple facets of active distress simultaneously that financial strain can have such destructive power for the mental well-being of older adults. Moreover, anger is seldom studied as an outcome of financial strain among older adults, yet anger is associated with additional negative outcomes, such as suicidality and chronic inflammation, even when depression is taken into account (Barlow et al. 2019; Dillon, Van Voorhees, and Elbogen 2020; Jang et al. 2014). That increases in financial strain had stronger consequences for increases in anger than symptoms of depression suggests that a critical aspect

of psychological distress is being overlooked in studies of financial strain and mental health in later life.

A primary question of this research was the degree to which the different components of the self-concept explain the consequences of financial strain for psychological distress. Previous sociologically-oriented research has emphasized the role of mastery in explaining the consequences of financial strain (e.g., Koltai et al. 2018; Pudrovskaya et al. 2005), and the current research supports the primacy of this focus. Mastery was consistently the strongest mediator across outcomes in both the cross-sectional and longitudinal analyses. In older adulthood, feeling that one's life is increasingly spinning out of control because of a loss of financial security is not simply depressing, it is also anxiety and anger provoking. Moreover, that the indirect effects of financial strain through mastery most strongly influenced anxiety reinforces not only a need to consider outcomes beyond depressive symptomologies, but also how mastery may be more strongly

A model that allowed the focal direct associations in the SLCSM to differ between the retired and nonretired did not fit significantly better than a model that constrained the focal paths to be equal between these two groups. We also used a multigroup model to compare the focal paths between men and women. A model with all focal paths allowed to vary between men and women did fit significantly better than a model that constrained these paths to be equal between men and women. Additional analyses indicated that this improvement was due primarily to two direct associations—one between baseline mastery and depression and the second between change in mastery and change in anxiety—but for both men and women the paths were negative and significant at  $p < .001$ . Identifying these two paths required 60 comparisons, and both appeared to be differences in degree of association rather than differences in direction or specificity to one group. We therefore attribute these differences to the number of comparisons that led to identifying these two specific paths, and conclude that there are no differences by gender or baseline retirement status in the overall focal SLCSM.

<sup>4</sup>At the suggestion of a reviewer, we also examined differences in the focal SLCSM by gender and whether a respondent was retired at baseline. A multigroup model was used to compare the SLCSM between respondents who were retired and not retired at baseline.

**Table 3.** Single-Mediator Sequential Latent Change Score Models.

	Mastery					Self-Esteem					Mattering				
	b	SE	p	β	Retained <sup>a</sup>	b	SE	p	β	Retained	b	SE	p	β	Retained
<b>Baseline</b>															
Direct association between financial strain and component of the self-concept	-.434	.018	***	-.386	99.770	-.218	.017	***	-.233	98.624	-.093	.015	***	-.115	98.925
Direct association between component of the self-concept and depression	-.452	.018	***	-.465	56.195	-.557	.019	***	-.478	71.454	-.354	.025	***	-.263	-1.130
Direct association between component of the self-concept and anxiety	-.423	.015	***	-.509	80.851	-.387	.017	***	-.389	54.005	-.197	.021	***	-.172	-41.624
Direct association between component of the self-concept and anger	-.196	.013	***	-.334	80.102	-.180	.015	***	-.254	46.667	-.113	.016	***	-.139	-7.080
Indirect association between financial strain and depression	.196	.011	***	.179	56.122	.121	.011	***	.111	70.248	.033	.006	***	.030	0.000
Indirect association between financial strain and anxiety	.184	.010	***	.196	80.435	.084	.008	***	.091	53.571	.018	.004	***	.020	-44.444
Indirect association between financial strain and anger	.085	.006	***	.129	80.000	.039	.004	***	.059	46.154	.011	.002	***	.016	-9.091
<b>Change</b>															
Association between financial strain and component of the self-concept	-.224	.023	***	-.205	98.661	-.087	.020	***	-.103	87.356	-.063	.017	***	-.079	88.889
Association between component of the self-concept and depression	-.217	.024	***	-.199	76.959	-.254	.032	***	-.181	77.559	-.103	.031	**	-.069	0.000
Association between component of the self-concept and anxiety	-.267	.022	***	-.283	93.633	-.175	.029	***	-.145	53.143	-.076	.025	**	-.060	-17.105
Association between component of the self-concept and anger	-.115	.015	***	-.334	91.304	-.090	.019	***	-.090	57.778	-.040	.021	*	-.038	0.000
Indirect association between financial strain and depression	.049	.007	***	.041	75.510	.022	.006	***	.019	68.182	.007	.003	*	.005	0.000
Indirect association between financial strain and anxiety	.060	.007	***	.058	91.667	.015	.004	**	.015	46.667	.005	.002	*	.005	-20.000
Indirect association between financial strain and anger	.026	.004	***	.030	88.462	.008	.003	**	.009	50.000	.003	.002	*	.003	0.000

<sup>a</sup>Indicates the percentage retained in metric coefficients in the full sequential latent change score model presented in Figures 1 and 2. Negative values refer to a change in coefficient direction.

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

consequent for activating aspects of distress in later life. Previous sociological work on mastery has largely considered mastery a general resource for mental health (e.g., Mirowsky and Ross 2003), but greater theoretical expansion on the consequences of mastery for activating aspects of distress is likely to better explain when and why social stressors vary in their effects across mental health outcomes.

Despite results showing the importance of mastery, self-esteem also played an important role in explaining the effects of financial strain across distress outcomes. These findings therefore underscore how the self-concept is inherently a social product and social force, as multiple components of the self-concept are both shaped by financial deprivation and in turn influence psychological functioning well into later life. These findings also suggest that a primary way that the negative effects of financial stress in later life can be disrupted is by strengthening mastery and self-esteem. Sociological theory provides directions for these efforts in delineating how the self-concept is formed in a crucible of social activity and social relationships (Cast and Stets 2016). Following this logic, social programs that provide avenues for social contact and rewarding social relationships can help reinforce older adults' self-esteem, while creating opportunities for individual agency and successful task execution can support a sense of mastery. In the midst of rising inflation, application of a sociological perspective on the self can therefore be used to support the well-being of older adults.

Yet, studies of social stress which examine only one component of the self-concept are likely to present a skewed depiction of the importance of this component in the stress process. Our analyses showed that the role of both mastery and self-esteem in explaining the effects of financial strain on psychological distress were overstated in single-mediator models. In particular, mastery absorbed indirect effects through self-esteem unless self-esteem was included in the model. It is rare in social stress research on older adults to examine mastery, self-esteem, and mattering together analytically. We are in fact aware of no other national longitudinal studies of older adults that measure all three components of the self-concept. However, a more accurate description of the degree to which the self-concept explains the effects of social stressors is dependent on simultaneously considering these different components of the self-concept.

The importance of considering multiple components of the self-concept can especially be seen in the results for mattering. When examined without mastery and self-esteem, mattering was beneficially related to all distress outcomes. These associations were essentially reduced to nil, though, when mastery and self-esteem were taken into account, except for a positive association between mattering and symptoms of anxiety at baseline. This pattern of findings challenges previous research characterizing mattering as essential for human functioning (Flett and Heisel 2021; Scarpa et al. 2022; Tucker et al. 2010). The semblance of mattering's relevance to psychological distress in later life instead appears largely attributable to

the overlap between mattering and other components of the self-concept. It should also be emphasized, though, that mattering represents feelings of social significance (Bonhag and Froese 2022). That increases in financial strain appeared to result in older adults feeling less socially worthy is an important indication of psychological damage, regardless of further effects on psychological distress. Moreover, an association at baseline between mattering and greater anxiety, but only when mastery and self-esteem were taken into account, suggests the potential for psychological tension when individuals see themselves as needed by others, but with the toll of this burden far less substantial than the covarying benefits derived from higher mastery and self-esteem.

This research also underscores the importance of longitudinal research among older adults when considering the effects of stress. That financial strain was more weakly associated with anger at baseline, and that self-esteem was more strongly associated with anxiety at baseline, shows that cross-sectional analyses may not clearly reflect the consequences of changes in stress exposure and the self-concept specifically during later life. It is likely that these cross-sectional associations differed from the analyses of change because they encompassed the consequences of influences earlier in the life course (Kahn and Pearlin 2006). Conversely, the analyses of change shifted focus to influence of financial strain as it occurred expressly in later life. Thus, if a focal interest is in how older adults respond to social stressors during later life, longitudinal studies during this period of the life course are likely to be more informative.

Several weaknesses to this study should also be taken into account. First, although a large majority of the sample under study was retired, this research did not consider additional economic stressors, such as work interruptions or slowdowns that may have occurred to the respondent or another household member. A primary pathway through which individual work discontinuities are likely to affect well-being is through financial strain (Ervasti and Venetoklis 2010), but it is possible that these discontinuities may have also created relational conflicts. We therefore suggest that an important area for future research is to take broader household stressors into account in examining the consequences of financial strain. Second, this study was conducted at the tail end of the coronavirus disease 2019 pandemic, which may have accentuated the stress of financial strain. Whether increasing financial constraints during less tumultuous times have the same substantial effects across multiple components of the self-concept and dimensions of psychological distress is a topic worthy of further study. Third, the stress process perspective also underscores that the self-concept is a critical resource for mental health through stress buffering, in which psychological resources weaken the consequences of stressors (Pearlin and Bierman 2013). In a longitudinal framework, stress buffering is more complex, as a full understanding

must account for how not only levels of the self-concept, but also changes over time, may serve to buffer the effects of stress exposure. The study of stress buffering by multiple components of the self-concept across different dimensions of psychological distress was therefore beyond the scope of this study, but worthy of attention in future research. Similarly, social contact and support were also shown to be critical for well-being during the coronavirus disease 2019 pandemic (Bierman et al. 2021), and it is likely that social support and social contact and support served as vital buffers for the consequences of financial strain. In particular, social support resources were likely to act as a stabilizer for the components of the self-concept, thereby preventing mental health consequences of financial strain through the self-concept. Additionally, this research was focused on older adults, and the extent to which the interrelationships between multiple components

of the self-concept and psychological distress apply to other age groups also remains to be seen.

### Conclusion

Financial strain can have substantial negative effects not only for symptoms of depression, but even more strongly for anxiety and anger in later life. These effects occur in large part because problems affording daily necessities rob older adults of a sense of mastery and self-esteem, but older adults also feel less socially significant when their financial problems increase. The threat that an increasing level of financial strain in later life poses is therefore not only to heighten individual distress, but also in creating a population of older adults who feel more powerless and marginalized, which is especially troubling as the proportion of older adults around the world is rapidly increasing.

**Appendix.** Sequential Latent Change Score Model Coefficients, Standard Errors, and Coefficients of Determination.

Panel A: Financial Strain	Financial Strain					
	Baseline		Latent Change			
	<i>b</i>	<i>SE</i>	<i>p</i>	<i>b</i>	<i>SE</i>	<i>p</i>
Gender (Women=1)	0.050	0.023	*	-0.005	0.025	
Visible Minority	0.133	0.063	*	-0.002	0.059	
Post-High School <sup>a</sup>	0.036	0.041		-0.060	0.039	
Trade School <sup>a</sup>	-0.016	0.041		-0.004	0.040	
University Degree <sup>a</sup>	-0.007	0.039		-0.037	0.037	
Income	-0.084	0.005	***	0.001	0.005	
Age	-0.019	0.002	***	-0.001	0.002	
Retired	-0.092	0.032	**	-0.023	0.036	
Partnered	-0.233	0.034	***	-0.059	0.036	
Number of People in Household	0.116	0.024	***	0.037	0.024	
In-Person Social Contact	-0.066	0.011	***	0.035	0.010	**
Electronic Social Contact	-0.010	0.013		-0.013	0.013	
Intercept	3.798	0.192	***	0.167	0.206	
R <sup>2</sup>		0.176			0.009	

Panel B: Components of the Self-Concept	Mastery			Self-Esteem			Mattering												
	Baseline		Latent Change	Baseline		Latent Change	Baseline												
	<i>b</i>	<i>SE</i>	<i>p</i>	<i>b</i>	<i>SE</i>	<i>p</i>	<i>b</i>	<i>SE</i>	<i>p</i>										
Baseline Financial Strain	-0.433	0.018	***				-0.215	0.018	***										
Latent Change Financial Strain				-0.221	0.024	***					-0.076	0.020	***				-0.056	0.017	**
Gender (Women=1)	-0.146	0.027	***	0.029	0.026		-0.094	0.023	***	0.000	0.021		0.019	0.019	***	-0.003	0.020		
Visible Minority	-0.042	0.058		-0.127	0.059	*	0.044	0.054		-0.048	0.044		-0.016	0.045		-0.012	0.042	*	
Post-High School <sup>a</sup>	-0.015	0.043		-0.018	0.041		-0.011	0.038		-0.087	0.034	*	-0.005	0.031		0.010	0.033		
Trade School <sup>a</sup>	-0.013	0.045		0.023	0.044		-0.002	0.039		-0.018	0.034		-0.066	0.033		0.025	0.033		
University Degree <sup>a</sup>	-0.004	0.043		-0.027	0.039		0.012	0.037		-0.015	0.031		0.004	0.030		0.039	0.031		
Income	0.026	0.006	***	0.005	0.006		0.011	0.005	*	-0.001	0.004		0.022	0.004	***	0.004	0.004		
Age	-0.005	0.003		0.002	0.003		0.008	0.002	**	-0.001	0.002		0.000	0.002		0.002	0.002		
Retired	-0.022	0.035		-0.027	0.036		-0.017	0.030		0.031	0.029		-0.040	0.027		-0.021	0.027		
Partnered	-0.020	0.037		-0.030	0.035		0.039	0.030		-0.036	0.028		0.126	0.026		-0.007	0.026		
Number of People in Household	-0.017	0.022		-0.017	0.021		-0.012	0.019		-0.020	0.019		0.089	0.016		-0.028	0.016		
In-Person Social Contact	0.084	0.012	***	-0.015	0.012		0.074	0.010	***	-0.007	0.009		0.060	0.009	***	-0.007	0.008		
Electronic Social Contact	0.061	0.014	***	-0.017	0.013		0.092	0.012	***	-0.021	0.011	*	0.142	0.011	***	-0.024	0.010		
Intercept	4.041	0.244	***	-0.030	0.209		3.042	0.199	***	0.278	0.160		2.547	0.172	***	-0.009	0.146		
R <sup>2</sup>		0.250			0.049			0.154			0.021			0.198			0.014		

(continued)

## Appendix. (continued)

Panel C: Dimensions of Psychological Distress	Depression						Anxiety						Anger					
	Baseline			Latent Change			Baseline			Latent Change			Baseline					
	b	SE	p	b	SE	p	b	SE	p	b	SE	p	b	SE	p	b	SE	p
Latent Change Mastery				-0.167	0.023	***				-0.250	0.022	***				-0.105	0.016	***
Latent Change Self-Esteem				-0.197	0.033	***				-0.093	0.028	**				-0.052	0.020	**
Latent Change Mattering				0.000	0.031					0.013	0.026					0.000	0.021	
Latent Change Financial Strain				0.049	0.028					0.073	0.023	**				0.061	0.019	**
Baseline Mastery	-0.254	0.022	***				-0.342	0.019	***				-0.157	0.015	***			
Baseline Self-Esteem	-0.398	0.026	***				-0.209	0.021	***				-0.084	0.019	***			
Baseline Mattering	0.004	0.025					0.082	0.021	***				0.008	0.017				
Baseline Financial Strain	0.056	0.020	**				0.047	0.016	**				0.005	0.013				
Gender (Women = 1)	0.126	0.024	***	-0.047	0.028		0.175	0.021	***	-0.032	0.023		-0.006	0.017		0.014	0.020	
Visible Minority	-0.042	0.055		0.151	0.072	*	-0.036	0.046		0.085	0.060		0.014	0.036		0.036	0.045	
Post-High School <sup>a</sup>	0.037	0.038		-0.023	0.046		0.006	0.036		0.019	0.040		-0.054	0.028		0.001	0.035	
Trade School <sup>a</sup>	0.014	0.040		-0.056	0.046		-0.023	0.037		0.073	0.041		-0.047	0.029		-0.013	0.035	
University Degree <sup>a</sup>	0.067	0.038		-0.067	0.043		0.021	0.037		0.022	0.037		-0.014	0.028		-0.023	0.034	
Income	0.009	0.005		-0.001	0.006		0.007	0.005		0.003	0.005		0.004	0.004		0.003	0.004	
Age	0.003	0.002		-0.001	0.003		-0.002	0.002		0.001	0.003		-0.004	0.002	*	-0.001	0.002	
Retired	-0.033	0.031		-0.004	0.039		-0.013	0.027		-0.018	0.035		-0.030	0.023		0.014	0.029	
Partnered	-0.038	0.033		0.005	0.039		0.016	0.030		0.042	0.034		0.076	0.023	**	-0.042	0.028	
Number of People in Household	-0.015	0.021		-0.003	0.024		0.023	0.019		-0.038	0.021		-0.014	0.014		0.025	0.017	
In-Person Social Contact	-0.026	0.011	*	-0.014	0.012		-0.009	0.011		-0.018	0.011		-0.002	0.007		-0.010	0.008	
Electronic Social Contact	-0.013	0.013		0.025	0.014		0.003	0.012		0.001	0.012		-0.002	0.009		-0.007	0.010	
Intercept	3.773	0.214	***	0.004	0.242		3.304	0.193	***	-0.011	0.197		2.448	0.146	***	0.072	0.155	
R <sup>2</sup>		0.342			0.066			0.331			0.103			0.125			0.037	

\*p < 0.05. \*\*p < 0.01. \*\*\*p < 0.001.

<sup>a</sup>High school degree is reference.

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