

# **Does How We Feel About Financial Strain Matter for Mental Health?**

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*This study investigated how stress responses to financial strain are related to mental health (i.e., depression) to answer the question: Does how we feel about financial strain matter? Informed by the ABC-X model of family stress and analyzed with data from the Health and Retirement Study (HRS), results reveal that financial strain is significantly related to increased depression; however, financial stress was found to moderate this relationship. Financially strained respondents without a stress response did not have significantly different depression scores than those who were not experiencing financial strain; however, depression scores increased as the stress response to financial strain increased. Consistent with the ABC-X model, results suggest that financial strain is a neutral event until it is processed and interpreted by an individual, with subjective perceptions a more powerful predictor of mental health than objective financial circumstances. These results emphasize an area of synergy for financial and mental health researchers and professionals.*

*Keywords: financial stress; financial stressors; financial strain; mental health; depression*

## **INTRODUCTION**

Financial stress is often conceptualized and operationalized through measures of financial strain (Sheets & Craighead, 2014; Wrosch, Heckhausen, & Lachman, 2000), defined as perceived economic pressure (Vinokur, Price, & Caplan, 1996). Research has found a consistent negative relationship between financial strain and mental and physical health outcomes (Kahn & Pearlin, 2006; Vinokur et al., 1996). Thus, it has become common knowledge that the presence of financial strain is harmful to one's health. However, the health psychology literature suggests the relationship between financial strain and health is more nuanced than what is currently reflected in the financial planning and counseling literature.

To frame this study, it is important to determine the difference between a stressor (i.e., financial strain) and stress (i.e., financial stress). A stressor is defined as "... events or thoughts that can cause harm or pose threats or challenges," whereas stress is defined as "...a

negative experience that is associated with threat, harm, or demand” (Baum, 1990, p. 660). In other words, stress surfaces as a negative emotional reaction to a stressor (Grable & Britt, 2012). *Financial strain*—perceived economic pressure that creates a potentially harmful, threatening, or challenging situation—aligns with the definition of a stressor to which individuals choose their emotional response. The emotional response to financial strain is defined as *financial stress*. Based upon these definitions, stress does not always occur in the presence of stressors (Baum, 1990). Baum suggested that individuals differ in their emotional response (i.e., stress level) to stressors, and that people can “adapt while a stressor is still present” (p. 655). Consequently, it is possible for financial strain to exist (i.e., the stressor) and not result in a negative emotional reaction. In other words, “it’s how you think about stress that determines how it affects you. And many times, how we think about stress is the only thing we can control” (Schulte, 2015, p. 2).

The literature reflects a consistent and robust relationship between greater perceived financial strain and reduced mental health; however, the literature does not yet reflect how a domain specific stress response to financial strain may affect this relationship. The purpose of this study is to investigate how stress responses to financial strain are related to mental health—i.e., does how we feel about financial strain matter? This study is focused on mental health as it is an area of synergy between financial and mental health professionals.

## LITERATURE REVIEW

Both objective (i.e., events) and subjective (i.e., thoughts or perceptions) financial constraints align with the definition of a financial stressor. This study investigates how variability in the emotional reaction to *perceived* financial strain affects mental health while controlling for objective financial stressors. Thus, this literature review is focused on the relationship between financial strain, objective financial stressors, and mental health.

### Financial Strain and Mental Health

While financial strain is both objective and subjective in nature, the subjective perception of economic pressure has been found to be a more robust and significant predictor of reduced mental health than objective financial resources (Bridges & Disney, 2010; Selenko & Batinic, 2011; Wilkinson, 2016). For example, Selenko and Batinic (2011) found perceptions of financial strain and mental health status to vary within their sample of debt-counseling agency clients who were all on the verge of bankruptcy. Their findings underscore the subjective nature of financial strain and the idea that individuals with the same objective economic reality can view and respond to their situation quite differently: “for example, two individuals with the same income are likely to have different perceptions about their financial condition, in part because their consumption values and spending habits may differ” (Prawitz et al., 2006, p. 35).

The relevance of subjective financial strain to mental health has been widely documented within the literature in a variety of samples and has most commonly been operationalized through a series of questions ascertaining the level of financial difficulty in

meeting monthly bill payments—ranging from basic needs (e.g., food, clothing, and housing) to more optional purchases (e.g., furniture, automobiles, and recreation). Overall, greater difficulty paying bills has been consistently linked to reduced mental health (e.g., Bridges & Disney, 2010; Kahn & Pearlin, 2006; Krause, 1987; Pearlin, Menaghan, Lieberman, & Mullan, 1981; Selenko & Batinic, 2011; Wilkinson, 2016). Financial strain has also been linked to higher depression scores based upon how much money was left over at the end of the month (e.g., just enough or not enough to manage; Dijkstra-Kersten, Biesheuvel-Leliefeld, van der Wouden, Penninx, & van Marwijk, 2015), and expected change in standard of living (Price, Choi, & Vinokur, 2002; Vinokur et al., 1996).

Overall, the relationship between greater perceived financial strain and reduced mental health appears to be robust and consistent across a variety of samples with varying measurements—although significant overlap exists through an assessment of monthly bill pay difficulty. These measures of financial strain ascertain the perceived magnitude of current economic pressure, yet do not directly account for the emotional reaction (i.e., stress) to financial strain. As Pearlin et al. (1981) described, “... the intensity of the stress that people exhibit cannot be adequately predicted solely from the intensity of its sources... Instead, people typically confront stress-provoking conditions with a variety of behaviors, perceptions, and cognitions that are often capable of altering the difficult conditions or of mediating their impact” (p. 340). While financial strain has been linked to greater financial stress (Heckman, Lim, & Montalto, 2014), financial strain may not always result in stress (Pearlin et al., 1981).

### **Objective Financial Stressors**

Objective economic hardship contributes significantly to perceived financial strain (Vinokur et al., 1996). Consequently, it is important to account for objective economic circumstances when examining the relationship between financial strain and depression. Lower income was associated with an increased likelihood of exhibiting depressive and/or anxiety disorders (Blazer, Burchett, & George, 1991; Dijkstra et al., 2015; Kahn & Pearlin, 2006). Having more savings accounts, not having debt, and being a homeowner reduced the likelihood of depression (Bridges & Disney, 2010). Employment status—e.g., being unemployed—was associated with feelings of depression (Goldsmith, Veum, & William, 1996); whereas being employed lowered the likelihood of depression (Bridges & Disney, 2010). Additionally, being retired for more than two years (as compared to being newly retired or not yet retired) was associated with greater depressive symptoms (Kim & Moen, 2002).

### **Health and Socio-Demographic Characteristics**

Financial strain, physical health, and mental health are intertwined. Higher levels of financial strain have been associated with increased oxidative stress (Palta et al., 2015), and elevated cortisol (Puterman et al., 2013). Poor physical health has been connected to greater depressive symptoms. For example, functional impairment (Zeiss, Lewinsohn, Rohde, & Seeley, 1996), chronic disease (Moussavi et al., 2007), smoking (Boden, Fergusson, &

Horwood, 2010), alcohol abuse or dependence (Fergusson, Boden, & Horwood, 2009), and lack of exercise (Salmon, 2001) are associated with poorer mental health.

Several socio-demographic attributes have been connected to depression. Women have higher depression scores than men (Blazer et al., 1991; Bridges & Disney, 2010; Kahn & Pearlin, 2006); whereas African Americans (as compared to Whites) and those with some college education (as compared to those without a high school education) have lower depression scores (Kahn & Pearlin, 2006). Becoming married was associated with decreased depressive symptoms (Wilkinson, 2016). Older individuals tend to exhibit fewer depressive symptoms (Blazer et al., 1991); however, cortisol levels rise with age making older adults at greater risk of anxiety, depression, and poor physical health (Tuttle, 2004). Older adults may be more able to adjust their perception of financial difficulty than younger adults, as the relationship of bill pay difficulty with age has been found to be negative and curvilinear (Francoeur, 2002). Thus, older adults' coping abilities may make them less susceptible to reduced mental health when experiencing financial difficulties. When examining the literature, differing results have been noted. For example, Kahn and Pearlin (2006) did not find a statistically significant relationship between the onset of financial strain between ages 50 to 65 and greater depression; whereas Wilkinson (2016) found financial strain to be a strong predictor of increased depressive symptoms for older adults. Given the differing results noted in the literature, vulnerability to poor health, and possible increased ability to cope with financial pressure, this study explored how stress responses to financial strain were related to depression with a sample of older adults.

### **THEORETICAL FRAMEWORK**

This research was guided by the ABC-X model of family stress (Hill, 1949). This model has four main factors, A, B, C, and X: A the stressor event, B the family resources or strengths, C the family's perception of the event, and X the crisis or stress outcome. Stressors (A) are events of significant magnitude causing changes in the way an individual or family functions, possibly leading to increased stress levels (Boss, 2002). Stressors are neutral and only become positive or negative after events are interpreted. Stressors are often described by whether they are internal or external to the family and by how long they persist—many times categorized as either acute or chronic. Chronic stressors are expected to last a long time, whereas an acute stressor may be intense but happens quickly and does not endure. Chronic stressors are particularly challenging due to their impact on a family's resources.

The second factor, B, represents current resources or assets that are available for an individual or family to deal with the stress that is being caused by the A factor (i.e., stressor events). Individual resources can include concepts such as education level, or personal factors like perseverance and work ethic (McCubbin & Patterson, 1983). Family level resources include the broader safety net provided by the family system, such as support during unemployment or sharing in household production responsibilities. The more resources available to an individual or family, the more positive the response to the stressor will be (McCubbin & Patterson, 1983).

The third factor, C, identifies how an individual or family defines or views the event. The way in which an individual or family interprets or thinks about a stressor will impact how they access and utilize resources, and ultimately how they respond to the stressor event (Lazarus & Launier, 1978). This interaction between resources and perceptions is defined as coping (Smith & Hamon, 2012). The cognitive framing of stressors as an event that can be solved or managed becomes an important indicator of how individuals and families react to or experience stressful events (Burr, 1982).

The final factor is the outcome, X, which is a crisis or stress that extends from the stressor event. Stress is an outcome that upsets a family's sense of normalcy, whereas a crisis can greatly disrupt the family foundation (Smith & Hamon, 2012). The construct of crisis or stress can be adapted to better assess the way an individual or family manages stressful events.

As viewed through the ABC-X family stress model, the experience of financial strain—while subjective—can be seen as a neutral stressor (A) that becomes positive or negative depending upon how the individual or family responds to or thinks about their financial situation (C). This perception affects how they access resources (B), potentially resulting in stress (X). Overall, the ABC-X model suggests that individuals and families may vary in their stress response to financial strain. Constructive responses may become a catalyst for positive change; however, negative reactions may result in stress or crises. This study investigates how stress responses to financial strain are related to mental health. Based on the ABC-X model and existing literature, two hypotheses were tested:

H1: Financial strain is associated with reduced mental health.

H2: Lower levels of stress about financial strain reduces the negative relationship between financial strain and mental health.

## **METHOD**

### **Data and Sample**

Data were utilized from the 2012 and 2014 waves of the Health and Retirement Study (HRS), a biennial panel study focused on the health and economic well-being of American adults age 50 and over. The 2014 RAND version of the HRS served as the core data file, with data from the 2012 and 2014 *Leave-Behind* Psychosocial and Lifestyle Questionnaire (LB) utilized to operationalize financial stress, presence of ongoing financial strain, and level of difficulty paying bills. The LB is administered on a rotating basis to half the HRS panel at each collection cycle, requiring the use of the 2012 and 2014 waves to incorporate LB data for the full sample. All other variables were measured in 2014 using data from the RAND HRS file. The sample was restricted to the financial respondent of the household aged 50 and over in 2014 and included both pre-retired and retired individuals living outside of a nursing home. The final analytic sample included 8,366 observations, representing approximately 43 million American adults age 50 and over after accounting for the weighting information provided within the HRS.

## Variable Measurement

**Dependent Variable.** Mental health served as the dependent variable and was operationalized through the Center for Epidemiologic Studies Depression (CESD) scale. The CESD scale was measured based upon whether the respondent felt any of the following sentiments during the past week (i.e., yes = 1, or no = 0): (a) depressed, (b) activities were an effort, (c) sleep was restless, (d) felt unmotivated, (e) felt lonely, (f) felt sad, (g) enjoyed life, and (h) was happy. As constructed by Bugliari et al. (2016), positive items were reverse coded such that *no* responses to feeling happy or enjoying life over the past week were coded as 1. All items were then summed to produce a scale ranging from 0 to 8, with higher scores reflecting stronger negative feelings over the past week.

**Financial Stress.** Financial stress was operationalized through data from the LB survey with a measure that asked if financial strain is a current and ongoing problem that has lasted for twelve months or more and if so, how upsetting the financial strain is. Responses ranged from 1 to 4, as follows: (1) no, [financial strain] didn't happen; (2) yes, but [financial strain] is not upsetting; (3) yes, and [financial strain] is somewhat upsetting; and (4) yes, and [financial strain] is very upsetting. How upset respondents are about the presence of ongoing financial strain measures the domain specific emotional stress response to a significant ongoing stressor (Troxel, Mathews, Bromberger, & Sutton-Tyrrell, 2003), which aligns with the definition of stress (Baum, 1990; Grable & Britt, 2012). Financial stress was included in our second estimated model.

**Financial Strain.** Avison and Turner (1988) suggested that stress arises from discrete life events and continuous problems. While both contribute to mental health, Avison and Turner found that ongoing problems contribute more significantly to reduced mental health. Thus, financial strain was operationalized through two separate measures: (a) level of current financial strain and (b) ongoing financial strain.

The level of difficulty meeting monthly bill payments has been widely used as a measure for financial strain and economic hardship and was included to control for the perceived magnitude of economic pressure resulting from current financial circumstances. Difficulty paying bills was measured on a 1 to 5 scale, with higher scores indicating more difficulty meeting monthly bill payments. Difficulty paying bills was included in both of our estimated models. Additionally, the presence of ongoing financial strain was included and constructed from the financial stress variable. If respondents indicated ongoing financial strain has been a problem, they were coded as 1; otherwise 0. The first estimated model included the binary measure for ongoing financial strain, whereas the second estimated model operationalized ongoing financial strain through the 4-category financial stress variable (e.g., no ongoing financial strain; yes, not upset; yes, somewhat upset; yes, very upset).

**Objective Financial Stressors.** Objective financial stressors were controlled for in the models based on existing literature and included the following: (a) natural logarithm of total household income; (b) non-housing net worth categories (i.e., less than \$0; \$0 to

\$24,999; \$25,000 to \$99,999; \$100,000 to \$499,999; and \$500,000 and above); (c) presence of mortgage debt and homeownership categories (i.e., mortgage holding homeowner, non-mortgage holding homeowner, and non-homeowner); (d) presence of other debt (e.g., credit card, intrafamily loan, life insurance loan, etc.); and (e) presence of a three-month emergency fund. The emergency fund variable was computed by dividing current cash assets (e.g., checking, savings, money market, government savings bonds, T-bills, and CD's) by monthly total household income. Emergency funds that met the three-month recommended guideline were coded as 1, with those that did not meet the guideline coded as 0. Lastly, labor force status was controlled for through the following categories: (a) working, (b) retired, (c) unemployed, and (d) other. The *disabled* ( $n = 121$ ) and *not in labor force* ( $n = 201$ ) categories were combined due to smaller sample sizes to construct the *other* labor force category. The *working* category included both full-time ( $n = 1,766$ ) and part-time ( $n = 358$ ) workers.

**Health Characteristics.** Health characteristics were controlled for based upon existing literature. The following health behaviors were included as separate binary measures, with responses coded as 1 if the respondent reported they currently: (a) smoked, (b) drank alcohol, and (c) exercised moderately at least once per week. Respondents' perception of their health was operationalized through a self-reported scale, ranging from 1 to 5 with higher scores representing a more positive view of health, as it is important to control for subjective perceptions of both financial and health events (Bridges & Disney, 2010). Difficulty performing any of the following activities of daily living were controlled for through a single binary (yes/no) measure: (a) bathing, (b) eating, (c) dressing, (d) walking across a room, and (e) getting in or out of bed. Lastly, the number of doctor-diagnosed serious health conditions at the time of interview (i.e., high blood pressure, diabetes, cancer, lung disease, and heart disease/stroke) was included and ranged from 0 to 5.

**Socio-Demographic Attributes.** Socio-demographic attributes were included as control variables consistent with existing literature. Age was operationalized through a continuous measure. The following education categories were included: (a) less than high school, (b) high school, (c) some college, and (d) college graduate. Race was incorporated through the following three categories: (a) White, (b) Black, and (c) other. Gender and marital status categories were combined as follows: (a) married female, (b) married male, (c) single female, and (d) single male.

## **Data Analysis**

An ordinal logistic regression model was employed given the discrete and bounded nature of the dependent variable, CESD Depression Score. Overall performance statistics revealed an adequate fit of the final model with a pseudo r-squared of .29 and a concordance ratio of 73.50. All variance inflation factors were less than 3.20. The HRS' weighting and complex sampling design information was incorporated through the Taylor series method (Wolter, 1985) in calculating estimates and associated variances in accordance with recommended methodology (Heeringa & Conner, 1995; Nielsen & Seay, 2014).

## RESULTS

### Descriptive Statistics

Sample characteristics can be found in Tables 1 and 2 for the full sample and by subsample for the presence of ongoing financial strain. The majority of the sample were White (85%), college educated (57%), and retired (63%). Only about 2% in the sample were unemployed and 32% were working. The sample was almost equally divided between men (48%) and women (52%), and married (51%) and single (49%) individuals. Respondents' average age was 68 (range = 54 to 101). Most respondents (75%) reported at least one serious health issue (e.g., high blood pressure, diabetes, cancer, lung disease, or heart disease/stroke). Overall, respondents reported generally positive objective and subjective health characteristics.

Financial characteristics were generally positive across the sample with most respondents indicating they owned a home (77%), had no debt outside of a mortgage (65%), and had positive non-housing net worth (82%). Almost half of the sample had total household income of \$50,000 or more. About 38% had at least a 3-month emergency fund. Approximately half of the sample (47%) reported financial strain that had lasted at least 12 months, with difficulty paying bills relatively low ( $M = 2$ , range 1 to 5). In terms of financial stress, about 22% of the sample were not upset (i.e., not stressed) about their financial strain, 18% were somewhat stressed, and 7% were very stressed.

Table 1.

*Sample characteristics of categorical variables and by financial strain (N = 8,366)*

Variable	Total Sample (N = 8,366)		By Financial Strain			
	N	% (weighted)*	n	% (weighted)*	n	% (weighted)*
			No (n = 4,456)		Yes (n = 3,910)	
Race						
White	6247	85.15%	3611	88.54%	2636	81.29%
Black	1591	9.69%	605	7.01%	986	12.74%
Other	528	5.15%	240	4.44%	288	5.97%
Household status and gender						
Married male	2406	31.83%	1438	35.40%	968	27.76%
Married female	1643	19.36%	876	19.81%	767	18.85%
Single female	3206	32.96%	1582	30.26%	1624	36.03%
Single male	1111	15.85%	560	14.53%	551	17.35%
Education						
Less than high school	1247	10.55%	618	9.75%	629	11.46%
High school	2883	32.69%	1519	31.63%	1364	33.91%
Some college	2146	25.88%	1015	22.94%	1131	29.22%
College graduate	2090	30.88%	1304	35.68%	786	25.41%
Labor force status						
Working	2124	31.89%	938	27.07%	1186	37.37%
Unemployed	160	1.88%	29	0.74%	131	3.18%

Retired	5760	62.76%	3339	69.00%	2421	55.64%
Other	322	3.47%	150	3.18%	172	3.80%
Homeownership & mortgage debt status						
Homeowner with mortgage	2168	31.04%	1035	27.45%	1133	35.14%
Homeowner without a mortgage	3970	45.85%	2602	57.50%	1368	32.59%
Non Homeowner	2228	23.10%	819	15.05%	1409	32.27%
Presence of other debt						
No	5601	65.04%	3471	77.04%	2130	51.37%
Yes	2765	34.96%	985	22.96%	1780	48.63%
Emergency fund ( $\geq 3$ months)						
No	5311	62.25%	2205	48.45%	3106	77.96%
Yes	3055	37.75%	2251	51.55%	804	22.04%
Total household income						
\$0 to \$24,999	2947	29.14%	1219	21.42%	1728	37.93%
\$25,000 to \$49,999	2174	23.77%	1183	23.88%	991	23.64%
\$50,000 to \$74,999	1216	15.34%	714	16.67%	502	13.83%
\$75,000 to \$99,999	696	9.79%	416	10.16%	280	9.38%
\$100,000 and above	1333	21.96%	924	27.87%	409	15.22%
Non-housing net worth						
Less than \$0	1512	18.17%	346	7.39%	1166	30.45%
\$0 to \$24,999	3754	40.53%	1756	34.92%	1998	46.93%
\$25,000 to \$99,999	1257	16.89%	842	20.51%	415	12.77%
\$100,000 to \$499,999	1268	16.36%	995	23.66%	273	8.04%
\$500,000 and above	575	8.05%	517	13.52%	58	1.80%
Financial strain and stress response						
No	4456	53.25%	4456	100.00%	-	-
Yes, not upset	1844	21.89%	-	-	1844	46.82%
Yes, somewhat upset	1460	17.85%	-	-	1460	38.18%
Yes, very upset	606	7.01%	-	-	606	15.00%
Serious Health Issue						
No	1763	25.51%	1005	27.70%	758	23.02%
Yes	6603	74.49%	3451	72.30%	3152	76.98%
ADL Difficulty						
No	7017	86.40%	3916	89.95%	3101	82.36%
Yes	1349	13.60%	540	10.05%	809	17.64%
Smoke						
No	7334	87.38%	4078	91.28%	3256	82.95%
Yes	1032	12.62%	378	8.72%	654	17.05%
Drink						
No	3847	40.65%	1954	38.40%	1893	43.22%
Yes	4519	59.35%	2502	61.60%	2017	56.78%
Workout						
No	2663	28.21%	1281	25.11%	1382	31.75%
Yes	5703	71.79%	3175	74.89%	2528	68.25%

\* Weighted percentages are provided to account for the oversampling techniques utilized by the HRS. N of 8,366. The weighted sample represents 43,147,268 individuals age 50 and over.

Table 2.

*Sample characteristics of scales and continuous variables and by financial strain*

Variable	By Financial Strain								
	Total Sample (N = 8,366)			No (n = 4,456)			Yes (n = 3,910)		
	Mean (se)	Min	Max	Mean (se)	Min	Max	Mean	Min	Max
Depression Score	1.34 (0.03)	0.00	8.00	0.94 (0.03)	0.00	8.00	1.78 (0.04)	0.00	8.00
Self-report of health	3.23 (0.02)	1.00	5.00	3.44 (0.02)	1.00	5.00	2.99 (0.03)	1.00	5.00
Serious Health Issues	1.39 (0.02)	0.00	5.00	1.30 (0.02)	0.00	5.00	1.48 (0.02)	0.00	5.00
Age	67.64 (0.29)	54.00	101.00	69.59 (0.32)	54.00	101.00	65.42 (0.27)	54.00	100.00
Log household income	10.61 (0.03)	0.00	15.32	10.84 (0.03)	0.00	15.32	10.35 (0.03)	0.00	14.61
Current difficulty paying bills	2.00 (0.02)	1.00	5.00	1.37 (0.01)	1.00	5.00	2.71 (0.02)	1.00	5.00

\* The Taylor series method (Wolter, 1985) was employed to incorporate the HRS's weighting and complex sampling design information. N of 8,366. The weighted sample represents 43,147,268 individuals age 50 and over.

## Regression Results

**Model 1.** The primary purpose of Model 1 was to replicate results found within the literature. Model 1 results (see Table 3) for the relationship between financial strain and mental health were consistent with existing literature and provided support for Hypothesis 1 (financial strain is associated with reduced mental health). Holding all else equal, for every one-unit increase in perceived bill pay difficulty, the odds of reporting higher depression scores increased by 31%. Additionally, ongoing financial strain was associated with reduced mental health. The odds of reporting higher depression scores were 20% greater for those experiencing ongoing financial strain, holding all else equal. Control variable results from Model 1 are provided in Table 3 and will be interpreted based upon Model 2.

**Model 2.** Results (see Table 3) from Model 2 provided support for Hypothesis 2 (lower levels of stress about ongoing financial strain reduces the negative relationship between financial strain and mental health). The depression scores for those who were currently experiencing financial strain that had lasted 12 months or more, but were not upset about their situation, were not significantly different than respondents without ongoing financial strain. Holding all else equal, the odds of reporting higher depression scores were 56% greater for those who were somewhat upset, and 44% greater for those who were very upset about their financial strain, compared to respondents without any ongoing financial strain. The level of difficulty paying bills was significantly related to higher depression scores. For every one-unit increase in bill pay difficulty, the odds of reporting higher depression scores increased by 17%.

Table 3.

*Ordinal Logistic Results for Higher Depression (N = 8,366)*

Variable	Model 1			Model 2		
	<i>b</i>	<i>SE b</i>	<i>OR</i>	<i>b</i>	<i>SE b</i>	<i>OR</i>
Intercept 1	-3.45***	0.43	-	-3.52***	0.44	-
Intercept 2	-2.47***	0.44	-	-2.53***	0.44	-
Intercept 3	-1.81***	0.44	-	-1.87***	0.44	-
Intercept 4	-1.33**	0.44	-	-1.39**	0.44	-
Intercept 5	-0.88*	0.43	-	-0.93*	0.44	-
Intercept 6	-0.31	0.43	-	-0.35	0.43	-
Intercept 7	0.38	0.43	-	0.35	0.43	-
Intercept 8	1.52***	0.43	-	1.49**	0.43	-
Age	-0.01**	0.00	0.99	-0.01**	0.00	0.99
Race (white)						
Black	-0.11	0.08	0.89	-0.08	0.07	0.93
Other	0.18†	0.10	1.20	0.22*	0.10	1.25
Household status (married male)						

Married female	0.39***	0.09	1.48	0.36***	0.09	1.44
Single female	0.77***	0.06	2.16	0.73***	0.06	2.08
Single male	0.68***	0.07	1.98	0.67***	0.07	1.96
Education (college graduate)						
Less than high school	0.41***	0.10	1.51	0.45***	0.10	1.57
High school	0.17*	0.07	1.18	0.20**	0.07	1.22
Some college	0.01	0.07	1.01	0.02	0.07	1.02
Labor Force Status (working)						
Unemployed	0.39*	0.19	1.48	0.31†	0.19	1.37
Retired	0.29***	0.07	1.34	0.28***	0.07	1.32
Other	0.65***	0.16	1.91	0.63***	0.16	1.87
Non-Housing Net Worth (less than \$0)						
\$0 to \$24,999	0.08	0.09	1.09	0.12	0.09	1.12
\$25,000 to \$99,999	-0.06	0.11	0.94	-0.03	0.11	0.97
\$100,000 to \$499,999	0.17	0.13	1.19	0.18	0.13	1.20
\$500,000+	0.32†	0.17	1.38	0.32†	0.16	1.38
Total log income	-0.03	0.03	0.97	-0.03	0.03	0.97
Homeownership and Mortgage (mtg holding homeowner)						
Homeowner no mtg	0.01	0.08	1.01	0.02	0.08	1.02
Non homeowner	-0.02	0.09	0.98	-0.02	0.09	0.98
Emergency fund ≥ 3 months	0.15*	0.07	1.16	0.15*	0.07	1.16
Non-mortgage debt	0.17*	0.08	1.19	0.18*	0.08	1.19
ADL Difficulty	0.94***	0.08	2.56	0.92***	0.08	2.52
Serious Health Issues	0.01	0.03	1.01	0.01	0.03	1.01
Self-reported health	-0.62***	0.04	0.54	-0.60***	0.04	0.55
Exercise	-0.15**	0.05	0.86	-0.15**	0.05	0.86
Smoke	0.33***	0.09	1.40	0.32***	0.09	1.38
Drink	0.07	0.05	1.07	0.06	0.05	1.06
Difficulty level paying bills	0.27***	0.04	1.31	0.16***	0.04	1.17
Ongoing financial strain (yes/no)	0.19*	0.08	1.20	-	-	-
Ongoing financial Strain (None)						
Yes, not upset	-	-	-	0.07	0.09	1.07
Yes, somewhat upset	-	-	-	0.45***	0.10	1.56
Yes, very upset	-	-	-	0.89***	0.17	2.44
Pseudo R <sup>2</sup>			0.29			0.29
Concordance ratio			73.30			73.50

† $p < .10$ . \*  $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

Overall, the significance, direction, and effect sizes were robust and consistent across the two models except for bill pay difficulty. After accounting for the stress response to ongoing financial strain, the effect size of bill pay difficulty with depression decreased by 14% ( $OR = 1.31$  in model 1, and  $OR = 1.17$  in Model 2). This result suggests financial stress levels significantly affect the relationship between bill pay difficulty and depression.

Health characteristics and behaviors were significantly associated with depression scores. Holding all else equal, those who smoked ( $OR = 1.38$ ) and had difficulty performing activities of daily living ( $OR = 2.52$ ) were more likely to report higher depression scores; whereas those who exercised moderately at least once per week ( $OR = 0.86$ ), and held a positive view of their health ( $OR = 0.55$ ) were less likely to report higher depression scores. Regarding financial characteristics, those with non-mortgage debt (e.g., credit card, medical, family loans;  $OR = 1.19$ ), and a 3-month or more emergency fund ( $OR = 1.16$ ) were more likely to report higher depression scores. Holding all else equal, the odds of reporting higher depression scores were 32% greater for retired individuals than for those with full or part-time employment ( $OR = 1.32$ ). Moreover, respondents who were disabled and not in the labor force for reasons unrelated to retirement, unemployment, or disability (i.e., the *other* category) were more likely to report higher depression scores than employed individuals ( $OR = 1.87$ ).

Lastly, socio-demographic characteristics were significantly related to depression scores. Holding all else equal, married females ( $OR = 1.44$ ), single females ( $OR = 2.08$ ), and single males ( $OR = 1.96$ ) were more likely to report higher depression scores than married males. Non-Whites and non-Blacks (i.e., the *other* category) were more likely to report higher depression scores than Whites ( $OR = 1.25$ ). Those with a high school education ( $OR = 1.22$ ) or less ( $OR = 1.57$ ) were associated with higher depression scores compared to college graduates. Lastly, age had a slight negative relationship with higher depression scores ( $OR = .99$ ), holding all else equal.

## DISCUSSION

Does how we feel about financial strain matter for mental health? With a consistent and robust relationship between financial strain—perceived economic pressure—and reduced mental health present in the literature, this study investigated how varying stress responses to financial strain affect this relationship. Consistent with the ABC-X model of family stress (Hill, 1949), results reveal that how individuals think about and respond to financial strain (i.e., a neutral financial stressor) is significantly related to their mental health outcomes. To answer the research question—yes, how we feel about financial strain matters.

First, Model 1 was examined to determine if financial strain—operationalized through two separate measures ascertaining bill pay difficulty and persistence of financial strain—had a significant relationship with reduced mental health in the current sample. In support of Hypothesis 1, greater difficulty paying bills and the presence of ongoing financial strain are each significantly related to higher depression scores after controlling for objective financial circumstances, health status, and socio-demographic factors. These

results support the robust and consistent link between financial strain and mental health found within the existing literature.

Second, results support Hypothesis 2—lower levels of stress about ongoing financial strain reduces the negative relationship between financial strain and mental health. Most notably, the presence of ongoing financial strain is not associated with reduced mental health when individuals do not exhibit a negative emotional stress response specifically about their financial situation. Individuals without a financial stress response (i.e., not upset) were not significantly different than individuals without any financial strain, even though they were experiencing a significant ongoing financial stressor for 12 months or more. However, ongoing financial strain is significantly related to higher depression scores when financial stress is present (i.e., upset), with an increasing effect size as stress increases.

It is important to note that the financial stress effects with depression were found after controlling for the magnitude of perceived current economic pressure (i.e., bill pay difficulty), objective financial circumstances (e.g., income, debt, net worth, and labor force status), and health conditions (e.g., functionality, serious health conditions, and health behaviors) potentially affecting depression levels. The financial stress effects remained after controlling for the severity of the financial situation and other situational circumstances associated with depression. Results support the notion that subjective perceptions are a more powerful predictor of mental health than objective financial circumstances (Bridges & Disney, 2010; Wilkinson, 2016). Neither income nor net worth were associated with mental health within the model; however, debt (e.g., credit cards, family debt, or medical debt) was related to greater depression, consistent with existing literature (Bridges & Disney, 2010).

Limitations and opportunities for future research were identified within this study. A domain specific stress response to greater bill pay difficulty was not available within the HRS. Thus, only the stress response to ongoing financial strain was captured within the analysis. Also, it is possible that individuals with greater financial stress have an objectively worse financial situation. This study attempted to account for relevant financial- and health-related circumstances to isolate the marginal effect between financial stress and depression. The financial strain and stress variables were measured in 2012 for approximately half the sample. Consequently, a time lag exists between these variables and the depression outcome in 2014. While this poses a limitation to the model, additional tests revealed the results were robust despite the time delay. More research is needed to explain why the emergency fund measure was associated with higher depression scores; it is possible that the three-to-six-month guideline is a poor proxy in a sample with retired individuals. A higher cash position results in less investment market participation and more portfolio sale transaction activity for retirees, potentially inducing increased worry and stress about asset depletion.

## **Implications and Conclusion**

Financial strain has been emphasized within the literature as a negative event associated with reduced mental health. As viewed through the ABC-X model of family stress, results support the notion that financial strain originates as a neutral event to which individuals choose their response; it is this response to financial strain (i.e., stress) that is

significantly related to varying mental health outcomes. Thus, financial strain remains a neutral event when individuals can effectively manage their stress level and utilize individual, family, and community resources to overcome adversity (Hill, 1949; McCubbin & Patterson, 1983). It is important to note that financial stress was operationalized with a domain-specific and direct assessment about the experience of ongoing financial strain—a significant financial stressor—providing unique insight into the potential for coping techniques to protect mental health. Financial and mental health professionals can serve a critical role in helping clients overcome adversity associated with financial strain while mitigating—or potentially eliminating—negative mental health outcomes.

While the coping literature is extensive and a thorough summary is beyond the scope of this paper, Lazarus and Folkman (1984) suggested there are three primary ways families cope when confronted with stressors that are relevant for financial strain and financial therapy practice: using direct actions, employing intrapsychic coping techniques, and managing emotions. *Direct actions* literally mean, “doing something” to address the situation, such as changing jobs or seeking support from an outside source through counseling or therapy (Lazarus & Folkman, 1984). From a financial perspective, this could mean developing an action plan designed to economically recover from the financially straining situation, including: creating a budget, cutting unnecessary expenses, exploring ways to increase income, downsizing, or declaring bankruptcy. While direct financial actions can promote a sense of control, it is important for financial professionals to understand the significance of the psychological aspects of financial strain and refer clients to a counselor or mental health professional—an additional direct action undertaken to facilitate coping.

*Intrapsychic coping* occurs when a problem is mentally restructured so that it does not seem as large or overwhelming (Lazarus & Folkman, 1984). For financial strain (particularly persistent financial strain) it may be useful to cognitively reframe the larger situation into smaller, more actionable steps. For example, cutting expenses can be daunting—financial and mental health professionals can help clients simplify the problem and accomplish larger budgetary changes over time by focusing on small daily behavioral adjustments. It is important to note that financial strain is inherently subjective and relative to an individual’s accustomed standard of living, personal values, and goals (Prawitz et al., 2006). Consequently, financial strain and associated stress is not a plight limited to low income individuals—the wealthy can also be affected. If clients are functioning objectively-well financially yet exhibit signs of perceived financial strain and stress, it may be useful to provide additional education or analysis to the client to demonstrate their financial strengths; however, it is important that any financial analytics be completed with an understanding of the client’s underlying goals, values, and lifestyle perceptions. Finally, the client may need help with cognitively reframing a change in standard of living to improve their financial situation—such as downsizing to a smaller home, driving a different vehicle, or sending the children to public versus private school. Both financial and mental health professionals can help clients with intrapsychic coping when experiencing financial strain.

Lastly, *managing emotions* involves controlling the emotional response that the stressor triggers (Lazarus & Folkman, 1984). The measure of financial stress used within this study directly ascertained *how upset* respondents were about their financial strain—a

negative emotional reaction directly associated with the stressor. Results demonstrated there was no statistically significant relationship between ongoing financial strain and depression when the negative emotional reaction was not present, suggesting this emotional coping technique might have a significant impact for client's mental health. Helping clients emotionally cope with their financial situation may be the most challenging area of intervention. Financial professionals tend to be more comfortable dealing with the objective financial situation and are not always trained in assisting clients emotionally; yet, mental health professionals typically have adequate training and can effectively address client's interpersonal needs. Thus, a *collaborative* intervention conducted by a financial *and* mental health professional may be necessary.

How clients react to perceived financial strain has significant implications for their mental health. Results of this study highlight an important and impactful area of synergy between financial and mental health professionals, as coping methods involve collaboration between financial analytics and mental health interventions. It is important for future research and practice to incorporate the financial and mental health perspectives to effectively help clients deal with the realities or perceptions of their financial situation—overall, how we feel about financial strain matters for mental health.

## REFERENCES

- Avison, W. R., & Turner, J. (1988). Stressful life events and depressive symptoms: Disaggregating the effects of acute stressors and chronic strains. *Journal of Health and Social Behavior, 29*(3), 253-264.
- Baum, A. (1990). Stress, intrusive imagery, and chronic distress. *Health Psychology, 9*(6), 653-675. doi: 10.1037/0278-6133.9.6.653
- Blazer, D., Burchett, B., & George, L. K. (1991). The association of age and depression among the elderly: an epidemiologic exploration. *Journal of Gerontology, 46*(6), 210-215. doi: 10.1093/geronj/46.6.M210
- Boden, J. M., Fergusson, D. M., & Horwood, L. J. (2010). Cigarette smoking and depression: tests of causal linkages using a longitudinal birth cohort. *Journal of Psychiatry, 196*(6), 440-446. doi: 10.1192/bjp.bp.109.065912
- Boss, P. (2002). *Family stress management: A contextual approach* (2<sup>nd</sup> edition). Thousand Oaks, California: Sage Publications.
- Bridges, S., & Disney, R. (2010). Debt and depression. *Journal of Health Economics, 29*(3), 388-403. doi: 10.1016/j.jhealeco.2010.02.003
- Bugliari, D., Campbell, N., Chan, C., Hayden, O., Hurd, M., Main, R., ... St. Clair, P. (2016). RAND HRS data documentation, Version P. *RAND Center for the Study of Aging*. Retrieved from [http://hrsonline.isr.umich.edu/modules/meta/rand/randhrsp/randhrs\\_P.pdf](http://hrsonline.isr.umich.edu/modules/meta/rand/randhrsp/randhrs_P.pdf)
- Burr, W. (1982). Families under stress. In H. McCubbin, A. Cauble, & J. Patterson (Eds.), *Family stress, coping, and social support*. Springfield, IL: Charles C. Thomas.
- Dijkstra-Kersten, S. M. A., Biesheuvel-Leliefeld, K. E. M., van der Wouden, J. C., Penninx, B. W. J. H., & van Marwijk, H. W. J. (2015). Associations of financial strain and income with depressive and anxiety disorders. *Journal of Epidemiology and Community Health, 69*(7), 660-665. doi:10.1136/jech-2014-205088
- Fergusson, D. M., Boden, J. M., & Horwood, L. J. (2009). Tests of causal links between alcohol abuse or dependence and major depression. *Archives of General Psychiatry, 66*(3), 260-266. doi: 10.1001/archgenpsychiatry.2008.543
- Francoeur, R. B. (2002). Use of an income-equivalence scale to understand age-related changes in financial strain. *Research on Aging, 24*(4), 445-472. doi: 10.1177/01627502024004003
- Goldsmith, A. H., Veum, J. R., & William, D. (1996). The impact of labor force history on self-esteem and its component parts, anxiety, alienation and depression. *Journal of Economic Psychology, 17*(2), 183-220. doi: 10.1016/0167-4870(96)00003-7
- Grable, J. E., & Britt, S. L. (2012). Assessing client stress and why it matters to financial advisors. *Journal of Financial Service Professionals, 66*(2), 39-45.
- Heckman, S., Lim, H., & Montalto, C. (2014). Factors related to financial stress among college students. *Journal of Financial Therapy, 5*(1), 19-39. doi: 10.4148/1944-9771.1063
- Heeringa, S. G., & Conner, J. H. (1995, May). Technical description of the Health and Retirement Survey sample design. *Institute for Social Research: University of Michigan Survey Research Center*. Retrieved from <http://hrsonline.isr.umich.edu/sitedocs/userg/HRSSAMP.pdf>

- Hill, R. (1949). *Families under stress: Adjustment to the crises of war separation and reunion*. New York, NY: Harper.
- Kahn, J. R., & Pearlin, L. I. (2006). Financial strain over the life course and health among older adults. *Journal of Health and Social Behavior*, 47(1), 17-31. doi: 10.1177/002214650604700102
- Kim, J. E., & Moen, P. (2002). Retirement transitions, gender, and psychological well-being: A life-course, ecological model. *Journal of Gerontology* 57(3), 212-222. doi: 10.1093/geronb/57.3.P212
- Krause, N. (1987). Chronic financial strain, social support, and depressive symptoms among older adults. *Psychology and Aging*, 2(2), 185-192. doi: 10.1037/0882-7974.2.2.185
- Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. New York, NY: Springer Publishing Co.
- Lazarus, R. S., & Launier, R. (1978). Stress-related transaction between person and environment. In L. A. Pervin & M. Lewis (Eds.), *Perspectives in Interactional Psychology*. New York, NY: Plenum Press.
- McCubbin, H. I., & Patterson, J. M. (1983). Family transitions: Adaptation to stress. In H.I. McCubbin & C. R. Figley (Eds.), *Stress and the family: Coping with normative transitions* (Vol. 1, pp. 5-25). New York, NY: Brunner/Mazel.
- Moussavi, S., Chatterji, S., Verdes, E., Tandon, A., Patel, V., & Ustun, B. (2007). Depression, chronic diseases, and decrements in health: results from the World Health Surveys. *The Lancet*, 370(9590), 851-858. doi: 10.1016/S0140-6736(07)61415-9
- Nielsen, R. B., & Seay, M. C. (2014). Complex samples and regression-based inference: Considerations for consumer researchers. *Journal of Consumer Affairs*, 48(3), 1-17. doi: 10.1111/joca.12038
- Palta, P., Szanton, S. L., Semba, R. D., Thorpe, R. J., Varadhan, R., & Fried, L. P. (2015). Financial strain is associated with increased oxidative stress levels: The women's health and aging studies. *Geriatric Nursing*, 36(2), 533-537. doi: 10.1016/j.gerinurse.2015.02.020
- Pearlin, L. I., Menaghan, E. G., Lieberman, M. A., & Mullan, J. T. (1981). The stress process. *Journal of Health and Social Behavior*, 22(4), 337-356.
- Prawitz, A. D., Garman, E. T., Sorhaindo, B., O'Neill, B., Kim, J. & Drentea, P. (2006). InCharge financial distress/financial well-being scale: Development, administration, score interpretation. *Journal of Financial Counseling and Planning*, 17(1), 34-50.
- Price, R. H., Choi, J. N., & Vinokur, A. D. (2002). Links in the chain of adversity following job loss: How financial strain and loss of personal control lead to depression, impaired functioning, and poor health. *Journal of Occupational Health Psychology*, 7(4), 302-312. doi: 10.1037//1076-8998.7.4.302
- Puterman, E., Haritatos, J., Adler, N. E., Sidney, S., Schwartz, J. E., & Epel, E. S. (2013). Indirect effect of financial strain on daily cortisol output through daily negative to positive affect index in the coronary artery risk development in young adults study. *Psychoneuroendocrinology*, 38(12), 2883-2889. doi: 10.1016/j.psyneuen.2013.07.016
- Salmon, P. (2001). Effects of physical exercise on anxiety, depression, and sensitivity to stress: a unifying theory. *Clinical Psychology Review*, 21(1), 33-61. doi: 10.1016/S0272-7358(99)00032-X

- Schulte, B. (2015). Science shows that stress has an upside. Here's how to make it work for you. Retrieved from: <https://www.washingtonpost.com/news/inspired-life/wp/2015/05/04/stress-doesnt-have-to-be-so-stressful-heres-how-to-make-it-work-in-your-favor/>
- Selenko, E., & Batinic, B. (2011). Beyond debt. A moderator analysis of the relationship between perceived financial strain and mental health. *Social Science and Medicine*, 73(12), 1725-1732. doi: 10.1016/j.socscimed.2011.09.022
- Sheets, E. S., & Craighead, W. E. (2014). Comparing chronic interpersonal and noninterpersonal stress domains as predictors of depression recurrence in emerging adults. *Behaviour Research and Therapy*, 63, 36-42. doi: 10.1016/j.brat.2014.09.001
- Smith, S. R., & Hamon, R. R. (2012). *Exploring family theories* (3rd ed.). New York, NY: Oxford University Press.
- Tuttle, D. (2004). Cortisol: Keeping a dangerous hormone in check. Retrieved January 4, 2017 from <http://www.encognitive.com/files/Cortisol.pdf>
- Troxel, W. M., Matthews, K. A., Bromberger, J. T., & Sutton-Tyrrell, K. (2003). Chronic stress burden, discrimination, and subclinical carotid artery disease in African American and Caucasian women. *Health Psychology*, 22(3), 300-309. doi: 10.1037/0278-6133.22.3.300
- Vinokur, A. D., Price, R. H., & Caplan, R. D. (1996). Hard times and hurtful partners: How financial strain affects depression and relationship satisfaction of unemployed persons and their spouses. *Journal of Personality and Social Psychology*, 71(1), 166-179. doi: 10.1037/0022-3514.71.1.166
- Wilkinson, L. R. (2016). Financial strain and mental health among older adults during the great recession. *The Journals of Gerontology*, 71(4), 745-754. doi: 10.1093/geronb/gbw001
- Wolter, K. M. (1985). *Introduction to variance estimation*. New York, NY: Springer.
- Wrosch, C., Heckhausen, J., & Lachman, M. E. (2000). Primary and secondary control strategies for managing health and financial stress across adulthood. *Psychology and Aging*, 15(3), 387-399. doi: 10.1037/0882-7974.15.3.387
- Zeiss, A. M., Lewinsohn, P. M., Rohde, P., & Seeley, J. R. (1996). Relationship of physical disease and functional impairment to depression in older people. *Psychology and Aging*, 11(4), 572-581. doi: 10.1037/0882-7974.11.4.572