

Financial Capability, Financial Threat, and Health: Implications for Social Work Practice

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Interest in financial capability and financial threat has gained momentum in social work. However, little is known about the relationship between an individual's financial capability and perception of financial threat with self-reported health scores. This study examines connections between financial capability, financial threat, and self-reported health scores. Primary data was collected via a paper and pencil survey yielding responses from 153 adults ages 18 and older. Respondents primarily came from the east coast of the United States. Results indicate lower Financial Threat Scores (FTS) are significantly correlated with better self-reported health scores. Regression results reveal FTS is a significant predictor of self-reported health, $b = -0.59$, $t(126) = -7.46$, $p < 0.001$. Financial capability score is not significantly associated with self-reported health. Results may inform social work practice.

Keywords: financial capability; financial threat; self-reported health; money and health

Interest in financial capability in social work and financial therapy practice is growing as new financial threats like COVID-19 are more common (Sherraden et al., 2017). Financial capability is an individual's ability (financial literacy level) combined with their opportunity (access) to make beneficial financial choices that improve their overall quality of life (Kempson et al., 2006; Sherraden, 2013; Xiao et al., 2014). The importance of financial capability education, practice, and policies for social work and financial therapy students, practitioners, and faculty is a focus of research (Sherraden et al., 2017). Social workers and financial therapists educated in financial capability can better assist clients and communities, leading to improved quality of life outcomes (Sherraden et al., 2017). However, more research is needed to explore financial capability, perception of financial threat, and health.

LITERATURE REVIEW

Research demonstrates that financial capability may play an important role in financial threat, health status, and outcomes (Greenglass et al., 2014; Haines et al., 2009;

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Kahn & Pearlin, 2006). Further, individuals who have higher financial capability scores also have better health outcomes (Allmark & Machaczek, 2015). In addition, financial capability level may be positively associated with an individual's perception of financial threat and well-being (Allmark & Machaczek, 2015; Brown et al., 2012; Fiksenbaum et al., 2017b). As such, higher levels of financial capability may lead to improved well-being for the clients and communities that social workers and financial therapists serve (Caplan, 2014; Guven, 2012; Taylor et al., 2011).

Moreover, lower levels of financial capability may lead to increased perceptions of financial stress and poor health outcomes that exacerbate the cycle of poverty over generations (Lemoine et al., 2016; Lusardi, 2011). Thus, social workers and financial therapists must understand the relationship between financial capability, perception of financial threat, and health (Ayllón & Fusco, 2017). This study explores associations between financial capability, financial threat, and health.

Financial Capability

To thrive in the current economic climate of increasing income and wealth inequality, households need financial capability and assets for short and long-term financial well-being (Sherraden, 1991). Lower-income families are particularly vulnerable to the fast-paced financial shifts of an increasingly consumer-driven environment, where financial capability, knowledge, and skills are necessary to improve healthy financial choices (Huang et al., 2018). Unfortunately, research on financial capability in the United States indicates many Americans lack adequate financial skills and access to affordable financial products and services, such as no-fee checking and savings accounts and lower interest rate credit cards (Huang et al., 2018; Lusardi, 2011). Thus, *building financial capability for all* was deemed an essential *grand challenge for social work* to prioritize assisting clients in improving their financial capability (Huang et al., 2018; Sherraden et al., 2019). To meet this challenge, researchers have focused on micro, mezzo, and macro approaches that educate and train social work faculty, students, and practitioners (Birkenmaier et al., 2016; Frey et al., 2017; Hageman et al., 2019; Sherraden et al., 2019) to connect financial capability with significant quality of life indicators, such as health.

Financial Capability and Health

Several studies demonstrate the connection between financial capability and physical and behavioral health (Allmark & Machaczek, 2015; Mitchell, 2020; Taylor et al., 2011). For example, one researcher found that respondents avoided doctor visits or did not fill prescriptions because of costs (Mitchell, 2020). Another group of researchers highlighted how respondents struggled to manage finances when diagnosed with acute medical conditions (Cagle & Ware, 2019). Both studies showed that lower levels of financial capability were connected to more negative health outcomes for respondents (Cagle & Ware, 2019; Mitchell, 2020).

Researchers exploring financial capability and behavioral health found similar associations. Taylor et al. (2011) drew a nationally representative sample from the British Household Panel Survey (1991-2006) and reported that lower levels of financial capability

were negatively associated with the perception of loss of income, including job loss and divorce, while higher levels of financial capability played a protective role in maintaining behavioral health. Another researcher explored the financial capability of behavioral health consumers in the United States (U.S.) and found that respondents with higher levels of financial capability reported less anxiety and psychological stress (Caplan, 2014).

Financial Threat and Health

An additional and important indicator related to health outcomes is the perception of financial threat. Several researchers demonstrated that an individual's perception of financial threat might have a more substantial association with their self-reported health than neighborhood socio-economic factors (Greenglass et al., 2014; Haines et al., 2009). Further, several researchers found evidence that perception of financial threat over time is associated with health outcomes (Allmark & Machaczek, 2015; Brown et al., 2012; Fiksenbaum et al., 2017a). Long-term connections between financial threat and health disparities indicate that financial threat over time is associated with health outcomes in later life (Kahn & Pearlin, 2006). More recently, a group of researchers examined the connection between job insecurity, financial threat, and adults' behavioral health during COVID-19 (Alcover et al., 2020). Using a cross-sectional sample, Alcover et al. (2020) found a significant relationship between financial threat and poor behavioral health. Overall, researchers have generated support for an association between financial threat and physical and behavioral health.

Financial Capability, Financial Threat, and Health

To expand current literature on financial capability, financial threat, and health, this study applies the conservation of resources (COR) theory (Hobfoll, 1989) to examine the association of financial capability and financial threat with self-reported health. The COR theory (Hobfoll, 1989) explains how the threat of loss drives individuals to maintain current resources and acquire additional resources. Tibbetts and Lutter (2018) apply the COR theory to explore the association of the gain and loss of health and financial resources on an individual's life and financial stress. Approximately 243 adults between age 18 and 65 completed an online survey including topics related to financial stress, life stress, resources, and demographic items (Tibbetts & Lutter, 2018). Results revealed that health resources were significantly associated with life stress, financial resources, success resources, and being White (Tibbetts & Lutter, 2018). Household income was also associated with financial stress (Tibbetts & Lutter, 2018). Overall, individuals who perceived an increase in their financial resources felt better equipped to handle life's ups and downs. In contrast, individuals who perceived financial scarcity experienced more stress when their needs were not met (Tibbetts & Lutter, 2018).

While previous research indicates households experience additional financial threat if family members are in poorer health (Alcover et al., 2020; Wilson et al., 2020), a deeper understanding of financial capability, financial threat, and health may inform social work practice with vulnerable households experiencing financial and health concerns. Given connections between financial capability and health, and financial threat and health, this

study examines whether financial capacity and financial threat are significant predictors of self-reported health when combined in a multiple regression model. This paper addresses the following research questions:

1. Are financial capability, financial threat, and self-reported health scores associated?
2. Are financial threat and financial capability (independent variables) significant predictors of self-reported health scores (dependent variable)?

Our hypotheses are that (a) financial capability, financial threat, and self-reported health scores are associated (H1), and (b) financial threat and financial capability (independent variables) are significant predictors of self-reported health scores (dependent variable; H2).

METHODS

Data

We administered a cross-sectional, anonymous, 20-minute paper-and-pencil survey to a convenience sample of adults age 18 years old and older living in eastern areas of the United States. Data was collected by Masters in Social Work (MSW) students during the Spring 2018 semester as part of a course research project. We administered all surveys in the English language. We did not calculate response rates because we used a convenience sample. We obtained IRB approval at the University of Maryland, Baltimore (HP-00069753).

Survey Instruments and Measures

Dependent Variable

Self-Reported Health. Self-reported health was measured using the 12-item short-form health survey (SF-12; Ware et al., 1996). The 12-item short-form health survey (Ware et al., 1996) asks respondents about their general health, physical activities, daily activities, emotional health (for example, feeling depressed, anxious, calm, energetic), and whether or not pain or physical or emotional problems interfere with the respondent's social activities (for example, visiting friends and relatives). The validity and reliability of the 12-item short-form health survey were tested against the more extended Medical Outcomes Study 36-Item Short-Form Health Survey (SF-36; Ware et al., 1996). Results indicate scores for the two surveys are similar, but standard errors are larger for the 12-item short-form health survey (Ware et al., 1996). The Cronbach alpha score of the 12-Item short-form health survey ranges from 0.72 to 0.89 (Resnick & Parker, 2001). The Cronbach alpha score for the 12-Item short-form health survey using this study's sample is 0.83, indicating the scale is highly reliable (Taber, 2018). Appendix C includes a copy of the 12-item short-form health survey.

Independent Variables

Financial Capability. The Financial Industry Regulatory Authority (FINRA) Investor Education Foundation (2016) used the *financial capability survey instrument* in the National Financial Capability Study. The financial capability survey instrument was originally titled the *financial literacy quiz* (FINRA, Investor Education Foundation, 2016). No additional question items were added to the financial capability survey when the name was changed (FINRA, Investor Education Foundation, 2016). The National Financial Capability Study includes a quiz consisting of six multiple choice questions on the following topics: (a) interest rates, (b) inflation, (c) risk diversification, (d) mortgages, (e) bond pricing, and (f) compounding interest (FINRA Investor Education Foundation, 2016). Only one answer for each item is correct, and each item includes a “prefer not to answer” choice (FINRA Investor Education Foundation, 2016). The author’s Institutional Review Board requested we add the “prefer not to answer” choice to the financial capability quiz. The FINRA Investor Education Foundation National Financial Capability quiz was created by Dr. Annamaria Lusardi, Applied Research & Consulting LLC, the Office of Financial Education of the U.S. Department of the Treasury Department, and the FINRA Investor Education Foundation (Applied Research & Consulting LLC, 2009). The authors of the quiz did not report any measures of reliability or validity. The Cronbach alpha result for the financial capability items using this study’s sample is 0.58, indicating poor internal consistency (Taber, 2018). Appendix A includes the FINRA Investor Education Foundation National Financial Capability quiz items.

Financial Threat. Perception of financial threat was measured using the Financial Threat Scale (FTS) consisting of five items measuring uncertainty, risk, threat, worry, and thoughts about the respondent’s financial situation on a Likert scale ranging from *not at all*=1 to *a great deal*=5 (Marjanovic et al., 2013). The psychometric properties of the FTS were assessed and found to be reliable and valid, measuring a unidimensional construct with high internal consistency (eigenvalue =3.54), accounting for 70.73% of the variance. The FTS item loadings were between 0.78 and 0.89, with a Cronbach alpha score of 0.90 and a mean score of 2.74 (SD = 1.03; Marjanovic et al., 2013). The Cronbach alpha score for the FTS using this study’s sample is 0.89, indicating the scale is highly reliable (Taber, 2018). Appendix B includes the FTS items.

Covariates

The covariates include standard demographic variables (gender, number of dependents, race, age, marital status, household income, and education) and one question asking respondents if they have ever experienced an income shock defined as a job loss, divorce, health issues, death, etc. All covariates were measured as categorical with either three categories (age and income) or dichotomous as yes or no (race/ethnicity, gender, dependents, marital status, education, and experienced an income shock).

ANALYSES

The SPSS version 23 was used to clean and conduct all data analyses. Descriptive statistics, including frequencies and measures of central tendency, were completed on all financial capability, financial threat, self-reported health, and demographic variables. We used Pearson correlation and multiple regression tests to examine associations between financial capability, financial threat, and self-reported health. We report missing data in the results section.

RESULTS

Respondent Characteristics

The sample for this study yielded 153 respondents, including 139 complete cases and 14 cases with missing responses. We excluded the 14 cases with missing responses from the regression analyses as they were not significantly different from the 139 complete cases. The final sample used in the regression analyses were the 139 complete cases.

Approximately 56% of the sample is age 29 years old or younger. Almost 70% of the sample identified as cisgender women ~~female~~, and about 50% identify as White. More than 65% of respondents reported they do not have dependents, and more than 63% indicated they are not married. About 86% of respondents reported graduating from college. Out of 139 respondents, the mean financial capability score is 3.07 out of a maximum score of 6 ($SD = 1.56$). Scores for the FTS yielded a mean of 11.86 ($SD = 4.28$), with scores ranging from a minimum of 5 to a maximum of 25. The mean score for self-reported health is 37.63 ($SD = 5.52$), with scores ranging from a low of 18 to a high of 45. Table 1 includes the details of respondent characteristics and the number of missing cases for each variable.

Table 1.*Respondent Characteristics for Categorical Variables*

Variable Name	N	%
Age ^a		
18-29	79	56.1
30-39	28	18.3
40 +	44	28.8
Race/Ethnicity ^a		
White	77	50.3
Non-White	73	47.7
Gender ^a		
Cisgender Women	106	69.3
Other	45	29.4
Dependents ^a		
Has dependents	48	31.4
Does not have dependents	102	66.7
Marital Status ^a		
Married	54	35.3
Not Married	97	63.4
Education ^a		
Graduated College	131	85.6
Did not Graduate College	19	12.4
Income ^a		
Less than 25,000	37	24.2
25,000 – 50,000	22	14.3
50,001 or more	92	60.1
Experienced an Income Shock (job loss, divorce, health issues, death, etc.) ^a		
Yes	44	28.8
No	107	69.9

Note. N = 139.

^a Missing cases for each variable are as follows: Age = 2; Race/Ethnicity = 3; Gender = 2; Dependents = 3; Marital Status = 2; Education = 3; Income = 2; Experienced an Income Shock = 2.

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We used a Pearson correlation to assess the association between financial capability, FTS, and self-reported health. There is a significant, strong negative correlation between FTS and self-reported health, $r(137) = -0.61, p < 0.01$. Decreases in FTS correlate with increases in self-reported health. Correlations between financial capability and self-reported health and financial capability and FTS are not significant. Table 2 includes the correlation results.

Table 2.

Correlations for Scaled Variables

Variable Name	Mean (<i>SE</i>), Range	<i>SD</i>	1	2	3
1. Financial Capability	3.07 (.13), 0-6	1.56	-		
2. Financial Threat ^a	11.86 (.36), 5-25	4.28	-0.09	-	
3. Self-Reported Health ^a	37.63 (.47), 18-45	5.52	0.10	0.61**	-

Note. $N = 139$. ** $p < .01$.

^a Missing cases for each variable are as follows: Financial threat = 1; self-reported health = 8.

Multiple Regression

We conducted multiple regression to determine if the selected covariates and independent variables (age, race/ethnicity, gender, dependents, marital status, education, income, experienced an economic shock, financial capability, and FTS) are significantly associated with self-reported health (the dependent variable). We included 139 cases and all variables in the multiple regression model. We used the SPSS version 23 to check the assumptions for multiple regression, which were assessed and met (Cohen et al., 2003). Table 3 presents the results of the multiple regression model.

Table 3.*Multiple Regression Model Estimating Self-Reported Health (DV)*

Variable	<i>B</i>	<i>SE</i>	<i>t</i>	95% CI		<i>p</i>
				<i>LL</i>	<i>UL</i>	
Financial Capability Score	.23	.32	.73	-.40	.87	.45
Financial Threat Score	-.76	.10	-7.46	-.96	-.56	.000
Age						
18-29 (ref)						
30-39	.82	1.24	.66	-1.63	3.28	.51
40+	-1.35	1.34	-1.01	-4.01	1.30	.32
Race/Ethnicity ^a	.50	.87	.57	-1.22	2.21	.57
Gender ^b	-.14	.94	-.15	-2.00	1.71	.88
Dependents ^c	-.44	.97	-.46	-2.38	1.50	.67
Marital Status ^d	.40	1.27	.31	-2.13	2.92	.76
Education ^e	-2.04	1.20	-1.70	-4.42	.34	.09
Income						
Less than 25,000 (ref)						
25,000 – 50,000	-.37	1.41	-.26	-3.15	2.41	.79
50,001 or more	.30	1.13	.26	-1.94	2.54	.80
Experienced an Income Shock (job loss, divorce, health issues, death, etc.) ^f	.31	.94	.32	-1.56	2.18	.75

Note. Total *N* = 139. CI = confidence interval; *LL* = lower limit; *UL* = upper limit.

^a Non-White = 0, White = 1. ^b other = 0, cisgender women = 1. ^c does not have dependents = 0, has dependents = 1. ^d not married = 0, married = 1. ^e did not graduate college = 0, graduated college = 1. ^f yes = 0, no = 1.

Analyses of the parameter estimates reveal the independent variables and covariates explain a significant proportion of variance in self-reported health, $R^2 = 0.40$, $F(12, 126) = 7.089$, $p < 0.001$. FTS is a significant predictor of self-reported health, $b = -0.59$, $t(126) = -7.46$, $p < 0.001$. Financial capability and all covariates (respondent characteristic variables) are not significant predictors of self-reported health in the model tested.

DISCUSSION

This paper reports the results for the following research questions:

1. Are financial capability, financial threat, and self-reported health scores associated?
2. Are financial threat and financial capability (independent variables) significant predictors of self-reported health scores (dependent variable)?

Our hypotheses are that (a) financial capability, financial threat, and self-reported health scores are associated (H1), and (b) financial threat and financial capability (independent variables) are significant predictors of self-reported health scores (dependent variable; H2). Results indicate that our model partially supports our hypotheses. Specifically, financial threat and self-reported health are associated, but financial capability and self-reported health are not. Further, financial capability and financial threat are not associated. We find that financial threat significantly predicts self-reported health ($p < 0.001$), however financial capability is not a significant predictor of self-reported health ($p = 0.45$).

The results of this study suggest that individuals in our sample who perceive financial threats as low are more likely to be in better health, which is consistent with previous literature. In particular, Marjanovic and colleagues (2018) found that financial threat associated with economic hardship (reduced income) and positive financial behavior intentions (willing to reduce expenses) may improve health. Additionally, researchers found that higher levels of financial threat lead to higher rates of depression, anxiety, and stress (Mamun et al., 2020; Viseu et al., 2019), poorer behavioral health outcomes (Alcover et al., 2020), and higher levels of suicidal ideation (Fiksenbaum et al., 2017a). As such, it may be essential to address an individuals' perception of financial threat to improve overall health status.

Financial capability, however, has no association with self-reported health scores in this study ($p = 0.45$), which is not consistent with previous literature. For example, Taylor and colleagues (2011) found that financial capability has a significant association with behavioral health (measured using the 12-item short-form health survey, the same instrument used in this study). Taylor et al. argued that improving financial capability skills will likely improve behavioral health over time. However, because no universal definition of financial capability currently exists (Kempson et al., 2006), variations in measuring and assessing this construct could influence results. For example, Taylor et al. used the British Household Panel Survey (1991-2006) to create a seven-item financial capability survey covering the perception of financial situation, debt, planning, and managing money. In contrast, we measured financial capability using six questions on topics including interest

rates, inflation, risk diversification, mortgages, bond pricing, and compounding interest (FINRA Investor Education Foundation, 2016). More research is needed to determine whether different definitions, measures, and assessments of financial capability influence study results.

Age, race, gender, number of dependents, marital status, education, income, and the experience of economic shock are not significantly associated with self-reported health in this study. It may be that perception of financial threat and self-reported health are associated with health regardless of demographic and socio-economic variability. Additional studies are needed to determine whether specific respondent characteristics are associated with the relationship between perception of financial threat and self-reported health. For example, future researchers may examine the connection between financial threat and self-reported health by age group, health status (chronic disease and behavioral illness diagnosis), credit score, debt burden, and income status.

We wish to highlight that more than half of our sample is young (age 29 years old or younger; 56.1%), White (50.3%), and identified as cisgender women (69.3%). Further, more than 60% of respondents in our sample report they do not have dependents, are not married (63.4%), and graduated from college (85.6%). Thus, our sample demographics should be considered when interpreting our results.

LIMITATIONS AND STRENGTHS

Several limitations in this study exist. Primarily, our sample size is small, convenient, and reflects only one point in time (cross-sectional). Thus, we cannot generalize our results or assess causality. Additionally, most of our sample is young (29 years old or younger), White, a cisgender woman, a college graduate, unmarried, and without dependents. Future researchers examining this topic should include a larger, more demographically diverse sample and use a longitudinal study design to determine causal relationships. Qualitative methods may also further inform financial threat and health perceptions and connections.

We included only six questions representing the construct of financial capability in the study and measured economic shock using only one question. These questions are not part of a standardized survey instrument as the authors of the quiz did not report any measures of reliability or validity. The Cronbach alpha result for this study's sample is 0.58, indicating poor internal consistency (Taber, 2018). Currently, no universal definition of financial capability exists (Kempson et al., 2006), resulting in additional challenges measuring and assessing financial capability. There is hope that a standardized instrument measuring financial capability will be developed and tested in the future. Finally, this study did not include survey questions about chronic diseases or behavioral health diagnoses. Future researchers could include questions related to these topics to examine more specific associations between the perception of financial threat and health status.

In terms of strengths, this study may be the first to examine the relationship between financial capability, financial threat, and health. While the survey questions for financial capability are not standardized, the surveys used to measure financial threat and health are

standardized and validated. Overall, the association between financial threat and health is statistically significant in this study. Clinical interventions in social work could aim to reduce clients' perception of financial threat to improve overall health.

IMPLICATIONS AND CONCLUSIONS

The results of this study may inform and improve social work and financial therapy interventions leading to better health and financial outcomes for clients. Researchers are currently exploring how financial capability is a determinant of health (Mitchell, 2020), and interest in interprofessional collaborations between health care providers and financial services is growing (Bell et al., 2020; Brown & D'Angelo, 2021). Social workers and financial therapists should know that close to 70% of adults in the U.S. either experience or are at risk for financial insecurity, meaning they do not have savings and live paycheck to paycheck (Brown & D'Angelo, 2021). Financially insecure clients are more likely to experience higher levels of perceived financial threats and poorer health outcomes (Brown & D'Angelo, 2021). Thus, social workers and financial therapists should address client perceptions of financial threats to improve client health outcomes. We also recommend that social workers and financial therapists implement interventions to address health and financial concerns regardless of client demographic and socio-economic factors.

Social workers and financial therapists need to assess client perceptions of financial threats and self-reported health status together to create more holistic interventions. Other researchers found that more holistic interventions also reduce clients' risk of anxiety and depression (Bialowolski et al., 2021). Social workers and financial therapists can successfully address their client's perception of financial threats in clinical work, mainly using financial therapy and financial social work interventions (Despard et al., 2012). Further, if social workers and financial therapists are trained experts in financial therapy, financial social work, and financial capability and asset building, they may directly address client financial issues to improve overall client outcomes (Despard & Chowa, 2013).

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Appendix A

(FINRA) Investor Education Foundation (2016) National Financial Capability Quiz Questions Including Correct Answers in Bold

Interest question

1. Suppose you had \$100 in a savings account and the interest rate was 2% per year. After 5 years, how much do you think you would have in the account if you left the money to grow?
 - **More than \$102**
 - Exactly \$102
 - Less than \$102
 - Don't know
 - Prefer not to say

Inflation question

2. Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, how much would you be able to buy with the money in this account?
 - More than today
 - Exactly the same
 - **Less than today**
 - Don't know
 - Prefer not to say

Risk diversification question

3. Buying a single company's stock usually provides a safer return than a stock mutual fund.
 - True
 - False
 - Don't know
 - Prefer not to say

Mortgage question

4. Please tell me whether this statement is true or false. 'A 15-year mortgage typically requires higher monthly payments than a 30-year mortgage, but the total interest paid over the life of the loan will be less.'
 - True
 - **False**
 - Do not know
 - Prefer not to say

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Bond pricing question

5. If interest rates rise, what will typically happen to bond prices?
- They will rise
 - **They will fall**
 - They will stay the same
 - There is no relationship between bond prices and the interest rates
 - Do not know
 - Prefer not to say

Compounding interest question

6. Suppose you owe \$1,000 on a loan and the interest rate you are charged is 20% per year compounded annually. If you didn't pay anything off, at this interest rate, how many years would it take for the amount you owe to double?
- Less than 2 years
 - **At least 2 years but less than 5 years**
 - At least 5 years but less than 10 years
 - At least 10 years
 - Do not know
 - Prefer not to say

Appendix B*Marjanovic et al (2013) Financial Threat Scale (FTS)*

Please indicate how you feel about your current financial situation by answering the following questions

1. How uncertain do you feel?
1 =Not At All to 5=Extremely Uncertain
2. How much do you feel at risk?
1 =Not At All to 5=A Great Deal
3. How much do you feel threatened?
1 =Not At All to 5=Extremely Threatened
4. How much do you worry about it?
1 =Not At All to 5=A Great Deal
5. How much do you think about it?
1 =Not At All to 5=A Great Deal

Note. Higher scores reflect greater perceived financial threat.

Appendix C

SF-12 Health Survey

This survey asks for your views about your health. This information will help keep track of how you feel and how well you are able to do your usual activities. **Answer each question by choosing just one answer.** If you are unsure how to answer a question, please give the best answer you can.

1. In general, would you say your health is:

- ₁ Excellent ₂ Very good ₃ Good ₄ Fair ₅ Poor

The following questions are about activities you might do during a typical day. Does **your health now limit you** in these activities? If so, how much?

	YES, limited a lot	YES, limited a little	NO, not limited at all
2. Moderate activities such as moving a table, pushing a vacuum cleaner, bowling, or playing golf.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃
3. Climbing several flights of stairs.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃

During the **past 4 weeks**, have you had any of the following problems with your work or other regular daily activities **as a result of your physical health**?

	YES	NO
4. Accomplished less than you would like.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
5. Were limited in the kind of work or other activities.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂

During the **past 4 weeks**, have you had any of the following problems with your work or other regular daily activities **as a result of any emotional problems** (such as feeling depressed or anxious)?

	YES	NO
6. Accomplished less than you would like.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
7. Did work or activities less carefully than usual.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂

8. During the **past 4 weeks**, how much **did pain interfere** with your normal work (including work outside the home and housework)?

- ₁ Not at all ₂ A little bit ₃ Moderately ₄ Quite a bit ₅ Extremely

These questions are about how you have been feeling during the **past 4 weeks**.

For each question, please give the one answer that comes closest to the way you have been feeling.

How much of the time during the **past 4 weeks**...

	All of the time	Most of the time	A good bit of the time	Some of the time	A little of the time	None of the time
9. Have you felt calm & peaceful?	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆
10. Did you have a lot of energy?	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆
11. Have you felt down-hearted and blue?	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆

12. During the **past 4 weeks**, how much of the time has your **physical health or emotional problems** interfered with your social activities (like visiting friends, relatives, etc.)?

- ₁ All of the time ₂ Most of the time ₃ Some of the time ₄ A little of the time ₅ None of the time

SF12-Item Short-Form Health Survey (SF-12; Ware et al., 1996).