

**Research Proposal, 2014**

**NBER Household Finance Working Group**

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## **The Role of Financial Stress on Financial Behavior and Household Finance**

### ***The link between stress and psychological decision making***

It is generally recognized that stress has both a biological effect on the physical body and an influence on decision making through psychological, emotional, and behavioral influences (Pfaff, 2005; Sapolsky, 2004). Researchers working in diverse fields have reported support for the existence of an association between stress and psychological/emotional outcomes (Buchanan and Preston, 2014; Geslani and Gaebelein, 2013; Lai et al., 2014; Warren et al., 2014). Physiologically, long-term stress does provoke negative effects, such as chronic disease and feelings of depression. On the other hand, short-term stress can sometimes improve immediate decision making by focusing attention and energy away from normal states to modes of arousal. Focused arousal can improve short-term problem solving.

Much of the literature on long- and short-term stress has been published in fields outside the domain of personal and household finance. A key question that remains to be answered is if psychological stress triggers the same behavioral, attitudinal, and emotional patterns among individuals when making financial decisions as has been reported in the medical and psychophysiological literature. Within a household finance framework, stress effects can be varied by decision timing, decision type, demographics, and the personalities of decision makers (Buchanan and Preston, 2014; Mather and Lighthall, 2012; Starcke and Brand, 2012). For instance, men tend to be more likely to exhibit a “fight-or-flight” strategy when stressed, whereas women often show a “tend and befriend” strategy when feeling extreme stress (Buchanan and Preston, 2014; Preston, 2013; Tylor et al., 2000). The obvious point is that stress has an effect on psychological, emotional, and behavioral changes. Based on the association between stress and diverse effects, this proposed project will focus on the link between stress and psychological and behavioral decision making.

### ***Financial stress***

This study focuses on two primary research questions. First, what is the level of financial stress experienced at the household level. It is reasonable to hypothesize that among a diverse group of stressors, financial stressors can be perceived and measured as both of long- and short-term stressors. For instance, long-term economic constraints could produce household long-term financial stress. Stress may be invoked by random events, such as commercials showing consumption patterns among peer group members. Second, the study will examine the degree to which financial stress is manageable. In other words, the study will evaluate whether reducing stress actually leads to better and more informed (i.e., rational) management decisions and behavioral outcomes (at least in relation to risk taking behavior). Therefore, if the study finds a significant result, it will contribute to the literature by showing that reducing stress has positive influences on both body (physical effect) and mind (decision making and management of financial environments).

### ***Importance of financial stress research***

To specify the importance of the study consider the following. First, in actual decision making, many people exhibit irrational decision making because of stress (Young et al. 2012). Research shows that reducing stress can lead to rational decision making. Therefore, if this study finds an existence of financial stress, and an effect associated with reducing stress, then the findings will help to increase households’ financial well-being. For instance, further research works could suggest various appropriate public policies for controlling the financial stress of general households.

Second, in terms of obtaining advice from financial experts, the effect of stress could be more critical. Financial recommendations suggested by a financial advisor could influence clients’ financial well-being during

the client's lifetime. However, not all recommendations are accepted and executed by clients (Grable and Britt, 2012). Some people who present stress in their meeting with financial advisor do not accept the financial advisors' recommendations. This implies that financial stress may influence a clients' rational decision making in diverse financial choices.

Third, reducing stress as treatment intervention could be a solution to persistent negative household financial management behaviors. Research findings by Zauszniewski et al. (2013) suggest that it is possible to control stress through physiological feedback. They found that grandmothers who used a stress reducing device like Stress Eraser® showed decreased stress physiological stress, which then improved the grandmothers' relationships with family members. Could stress management also influence financial attitudes and behavior? After all, it is possible to assume that reducing financial stress could affect consumers' rationality in financial decision making.

### ***Data gathering and methodology***

As proposed, this study employs three stages of data gathering. The first stage is a general survey ( $n = 1,000$ ) that includes psychological features such as risk tolerance, the Perceived Stress Scale (PSS10 by Cohen, Kamarck, and Mermelstein, 1983), time orientation, socialization, financial behavior with saving behavior, locus of control, self-efficacy, as well as standard demographic and socioeconomic control variables.

Among the 1,000 observations, the survey will be used to collect a random sample of 120 participants for  $3^1 \times 2^1$  two factorial experiments. Two treatments will administered at two different times for checking the controllability of financial stress and a sequential effect of the controllability.

For the first treatment, the procedure is as follows: (1) the participants will be divided into three groups with 40 in each group; (2) at the first phase meeting, all 120 participants will meet a financial planner; (3) 40 people in each group will be asked financial questions with three different levels of potential financial stressors; (4) while answering financial questions, participant stress will be measured using physiological tools, including skin conductance, blood flow, and brain wave analytics; and (5) at the end of meeting, the financial planner will ask behavioral question designed to check the behavioral effect of the stress response.

For the second treatment, the procedure is as follows: (1) at the first meeting, half of the participants (20) (totally, 60) will be taught to use a portable biofeedback stress machine; (2) after two weeks of controlling and reducing stress, the participants will return back to the clinic and to participate in the second stage of the experiment; and (3) the 60 participants (with three different levels of financial stressors as followed the first group) will complete a post-test assessment.

### ***Uniqueness of the research***

In summary, the planned research has three points of uniqueness. First, it gathers both survey data and physiological experimental data. Each set of measures helps verify the level of stress experienced by participants. Second, the study employs stress research from the biology and physiology fields, and expands this stress research into the household finance area. Therefore, it could help researchers and policy makers to understand the empirical effect of households' financial stress. Finally, the study examines psychological and behavioral effects of financial stress. Therefore, by conducting the research, the study will provide evidence about the diverse cues that can be used to improve households' financial and consumer well-being. Diverse results from this study have implications for the way financial advice and education is provided in the marketplace.

Note: References used in this proposal abstract are available upon request.

### Itemized Budget

Category	Budget Amount	Brief Justification
Survey	\$10,000	1,000 observations survey
Experiment	\$2,400	6 Groups × 20 participants = 120 participants
Assistants	\$1,500	3 Assistants (1 planner and 2 recorders)
Stress Eraser*	\$3,000	20 units
Skin Conductor**	\$0	1 unit
Brain Wave**	\$0	1 unit
Faculty Support***	(\$2,500)	Faculty support for research
<b>Total</b>	<b>\$14,400</b>	

#### Notes.

\* Partially, supplies is already existed and supported by University of Georgia.

\*\* Supplies needed in research project will be supported by University of Georgia.

\*\*\* Faculties in Housing and Consumer Economics department at University of Georgia will support some part of budget amounts.

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## Education

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Ph.D.	University of Georgia: Athens, Georgia Department of Financial Planning, Housing, and Consumer Economics <i>Major in Financial Planning and Consumer Economics</i> <i>Dissertation Topic on Life Insurance</i>	2011-Present
M.A.	Seoul National University: Seoul, Korea Department of Consumer Studies and Resource Management <i>Major in Consumer Studies and Resource Management</i> <i>Thesis: "A Study on the Concept of Consumer Alienation"</i>	2004-2006
B.A.	Seoul National University: Seoul, Korea Department of Consumer and Child Studies <i>Major in Consumer Studies and Resource Management</i>	1997-2004

## Academic and Professional Experience

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Graduate Teaching Assistant, University of Georgia Department of Housing and Consumer Economics, Athens, GA	2013-Present
Graduate Research Assistant, University of Georgia Department of Housing and Consumer Economics Department of Housing and Consumer Economics, Athens, GA	2011-2013
Account Executive, Marketing Consultant, & Consumer Researcher, Plansahead Brand Communication Division, Seoul, Korea (2008) Strategic Marketing Planning Division, Seoul, Korea (2007)	2006-2008
Assistant Researcher, Rural Development Administration (Gov.) Rural Research Division, Suwon, Korea	2006
Graduate Computing Assistant, Seoul National University College of Human Ecology, Seoul, Korea	2004-2006
Operating Manager, Sergeant, Republic of Korean Army Transportation & Motor Division, Yang-gu, Korea	1999-2001

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Publication

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**Academic Publication**

- Heo, W., Grable, E. J., & Chatterjee, S., (2013). Life Insurance Consumption as a Function of Wealth Change, *Financial Services Review*, 22(4)
- Heo, W., & Kim, R. (2006). A Study on the Concept of Consumer Alienation, *Study of Consumer Policy and Education [Korean Journal]*, 2(2), 21-43.

Book Chapters

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- Grable, J. E., & Heo, W. (Upcoming, 2015). Korean Immigration, In Wherry, F. (Eds.), *Encyclopedia of Economics and Society* (page upcoming).
- Heo, W., & Grable, J. E. (Upcoming, 2015). Koreatown, In Wherry, F. (Eds.), *Encyclopedia of Economics and Society* (page upcoming).
- Ruiz-Menjivar, J., Heo, W., & Grable, J. E., (Upcoming, 2015). Understanding Risk Aversion based on Attribution Theory. In Copur, Z. (Eds.), *Behavioral Finance and Investment Strategies: Decision Making in the Financial Industry* (page upcoming).

Conference papers, posters, and presentations

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- Ruiz-Menjivar, J., Heo, W., & Grable, J. E., (2014, April). *The Effect of Situational and Dispositional Factors on Risk Aversion: an Attribution Theory Perspective*, Poster Presentation at American Council of Consumer Interest Annual Conference, Milwaukee, WI.
- Heo, W., Rabbani, A., & Grable, J. E. (2014, March). *Testing the Association between Client Stress and Financial Help-Seeking Behavior*, Poster Presentation at Association for Applied Psychophysiology and Biofeedback Annual Scientific Meeting, Savannah, GA.
- Heo, W., (2013, June). *Impact of Determinant Factors of Assimilation on Professional Help-Seeking Behavior Among Asian-American Immigrants*. Award presentation at the American Association of Family and Consumer Science, Houston, TX.
- Cude, J. B., Chatterjee, S., & Heo, W. (2013, April). *Effects of Actual and Perceived Financial Knowledge on Young Adults' Financial Behaviors*. Presentation at the American Council of Consumer Interests Annual Conference, Portland, OR.
- Heo, W., & Grable, J., (2013, April). *Life Insurance Demand as a Function of Wealth Change*. Poster presented at the American Council of Consumer Interests Annual Conference, Portland, OR.
- Heo, W., & Kim, R., (2006, June), *A Study on the Concept of Consumer Alienation*. Paper presented at the Korean Society of Consumer Policy and Education Semiannual Conference, Kyungsoong University, Daegu, Korea.
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## Honors, Awards, and scholarships

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Hazel and Gene Franklin Scholarship College of Family and Consumer Science, UGA	2014-2015 school year
Endsley-Peifer Student Research Award College of Family and Consumer Science, UGA	April, 2014
Family and Consumer Sciences Fund for Excellence Scholarship College of Family and Consumer Science, UGA	2013-2014 school year
Graduate Assistantship Award Housing and Consumer Economics, University of Georgia	2013-2014 school year
Emerging Researcher Award Family Economics and Resource Management of the AAFCS (American Association of Family and Consumer Science)	June, 2013
Korean Life Insurance Association Scholarship Award 4+ Years Scholarship for Abroad Doctoral Student from South Korea	2012-Ph.D. Graduation
Graduate Assistantship Award Graduate School, University of Georgia	2011-2013 School year
New Pedagogy Developing Award Korea Institute of Consumer Education (KOINCE) and Korea Consumer Agency (Gov.)	2005 Competition
Reema Scholarship Award	1997, 1998

## Teaching Experience

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HACE5250, Family Financial Planning (Curriculum Capstone Course) Co-Teach with Dr. John E. Grable	Spring, 2014
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## Invited Presentation and Lecture

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Invited Lecturer for Graduate Students, Korean National Sports University, Seoul <i>"How to Make a Better PPT File and Do a Better Presentation"</i>	June, 2004
Selected Presenter for Department Seminar, Housing and Consumer Economics, UGA <i>"Impact of Determinant Factors of Assimilation on Professional Help-Seeking Behavior Among Asian-American Immigrants"</i>	September, 2013

## Academic Services

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Reviewer, Conference Paper Presentation 2014 Academy of Financial Services Annual Conference	2014
Reviewer, Journal Paper Financial Services Review	2014
Reviewer, Conference Paper Presentation 2014 American Association of Family and Consumer Science Annual Conference	2014

Group Leader, Stata Studying Group Dep. of Financial Planning, Housing & Consumer Economics, UGA	2014
Reviewer, Conference Paper Presentation 2014 Annual Conference held by American Council of Consumer Affair	2013
Reviewer, Journal Paper Journal of Financial Therapy	2013
Reviewer, Conference Paper Presentation 2013 American Marketing Association Winter Marketing Educators' Conference	2013
Reviewer, Conference Paper Presentation 2013 American Marketing Association Summer Marketing Educators' Conference	2013
Reviewer, Conference Poster Presentation 2013 Annual Conference held by American Council of Consumer Affair Late Breaking Call for Poster	2013
Head Leader of Undergraduates' Symposium Team in Consumer Science Annual Undergraduate Symposium in Consumer studies, SNU, Seoul, Korea Title: <i>How do Consumers lead Industries as Consumer-Oriented Industries</i>	2002

#### Other Services

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##### **Industry services**

Consumer Analyst, <i>Simple Survey &amp; Analysis for Understanding Youth Behavior on MP3</i> SM Entertainment Co. Seoul, Korea	2006
Researcher, <i>Educational Guide-Line for being a Better B2B Salesmen</i> Samsung Heavy Industry Company, Seoul, Korea	2005
Assistant Researcher, <i>Home Life Model Analysis for Accepting Ubiquitous Technology</i> Ministry of Science and Technology (Korean Gov.), Seoul, Korea Samsung Advanced Institute of Technology, Seoul, Korea	2004

##### **Community services**

Volunteer Photographer, Directory Settlement St. Mark's Methodist Church, Bloomington, Indiana, the U.S.A.	2009-2010
Volunteer Photographer, Mission Trip toward Kenya Kyungshin Methodist Church with 3,000 members, Seoul, Korea	2007
Chief Head of 500 Members in 20-30 ages Kyungshin Methodist Church with 3,000 members, Seoul, Korea	2004
Chief Producer, Media Division Kyungshin Methodist Church with 3,000 members, Seoul, Korea	2002-2003
Volunteer Staff, Sangnok Orphan-Care Aram, United Club of Volunteering for Orphan-Care, Seoul, Korea	1998-1999
Student Representative of Alumni Alumni Association of Chungju High School in SNU	1998



Undergraduate Student Representative 1997-1998  
Department of Consumer and Child Studies, SNU

Professional associations

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**The U.S. Associations**

Association for Applied Psychophysiology and Biofeedback (AAPB) 2014-Present  
Academy of Financial Services (AFS) 2014-Present  
American Association of Family & Consumer Sciences (AAFCS) 2013-Present  
American Council on Consumer Interest (ACCI) 2011-Present

**Korean Associations**

Korean Association of STATA 2012-Present  
Korean Society of Consumer Studies (KSCS) 2004-2006  
Korean Society of Consumer Policy and Education (COPE) 2004-2006

Academic Honor Society

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Delta Epsilon Iota 2013 – Present

Certificate & Related professional training

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Statement Stanford University: online Spring, 2014  
*Statement of Accomplishment: Our Body in the World (Physiology)*  
Marketing and Public Policy Research Workshop in Atlanta (Doctoral Student Workshop) June, 2012  
Georgia State University, Atlanta, GA  
Certificate Indiana University: Bloomington, IN 2008-2009  
*Certificate of Intensive English Program*

Manuscripts in preparation and/or under review

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Grable, J., Heo, W., & Rabbani, A., (submitted on 2014 Financial Therapy Association Conference) Topic: Financial Anxiety, Physiological Arousal, and Planning Intention  
Heo, W. & Grable, J. (submitted on 2014 Academics of Financial Planning Conference) Topic: Taxonomies of Equity Ownership  
Heo, W. & Grable, J. (submitted on 2014 Academics of Financial Planning Conference) Topic: Life Insurance and Wealth Change: Are These Financial Complements Among Different SES Groups?  
Kuzniak, S., Rabbini, A., Heo, W., Ruiz-Menjivar, J., & Grable, J. E. (submitted on 2014 Academics of Financial Planning Conference) Topic: The Grable and Lytton Risk-Tolerance Scale: A 15-Year Retrospective  
Heo, W., Mauldin, T. & Ruiz-Menjivar, J. (in preparation) Topic: Determinants for Consumer Vulnerability and Saving Behavior.  
Heo, W., Fang, L., & Grable, E. J., (in preparation) Topic: The event of catastrophe and the change in demand of life insurance.  
Heo, W., Nho, J., & Grable, E. J., (in preparation) Topic: Finding appropriate combination of financial ratios to predict poverty people.

Heo, W., & Anong, S., (in preparation) Topic: Cell phone usage of African countries and the association with Health status

Heo, W., & Jung, J. (in preparation) Topic: Asian-American help seeking behavior

Heo, W., & Cho, Y. (in preparation) Topic: Lottery purchasing among Georgia Counties