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Soft landings: Extending the cushion hypothesis to financial well-being in collectivistic cultures

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Abstract

This study extends the cushion hypothesis to examine cultural differences in the role of willingness to take financial risk in an individual's objective financial outcomes (e.g., the experience of material hardship) and in an individual's assessment of their financial well-being. Using data collected in South Korea, Taiwan, and the United States, we find support for a cushion (i.e., weaker relationship) in the association between material hardship and present and future financial well-being. A cushion was also observed in a weaker association between willingness to take financial risk and expectations for future financial security but not in the experience of material hardship or current money management stress. Our results suggest that cultural context influences an individual's objective situation as well as their subjective assessment of that situation. This paper adds to existing literature by documenting a cushion effect beyond risk taking to include a person's objective financial situation and financial well-being.

KEYWORDS

Asia, cultural differences, cushion hypothesis, financial socialization, financial well-being, risk taking

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1 | INTRODUCTION

One household and personal finance topic that has received considerable cross-cultural attention is risk tolerance. The consensus opinion among researchers is that someone's willingness to take risk varies by cultural context. The cushion hypothesis, a widely used framework in studies of cross-cultural risk taking, posits that cultural differences are related to an individual's willingness to take financial risk, and that those residing in countries that have a strong collectivistic culture (e.g., South Korea or Taiwan) should be more willing to take financial risk compared to people residing in countries that are dominated by individualistic norms (e.g., the United States (Hsee & Weber, 1999)). The premise underlying the hypothesis is that risk takers in collectivist cultures believe their social networks, and economic and social safety nets will provide a 'cushion' that will soften the blow associated with negative outcomes (Fan & Xiao, 2006; Hsee & Weber, 1999). Studies demonstrate that financial decision makers from collectivistic cultures are more likely to be risk seeking (Fan & Xiao, 2006; Hsee & Weber, 1999; Schneider et al., 2017) and that this greater willingness to engage in risk-taking behavior can be explained by the perception of a cushion (Hsee & Weber, 1999; Schneider et al., 2017). Numerous studies confirm higher risk tolerance in Asian settings, with some studies examining the ability of the cushion hypothesis to explain objective markers of a household's financial situation (e.g., savings (see Yang et al., 2020)). However, few studies have been undertaken to investigate the relevance of the cushion hypothesis in explaining the effects of a willingness to take financial risk on financial well-being.

A person's financial well-being[1] plays an important role in determining their overall well-being, explaining more of the variance in overall well-being than relationships, job/career, and health combined (Netemeyer et al., 2018). In recent years, financial well-being (CFPB, 2015; Brüggen et al., 2017; Netemeyer et al., 2018) has emerged as an important subjective measure of an individual's assessment of their objective financial situation. While financial well-being is related to objective markers of one's financial situation (e.g., savings, debt, net worth, material hardship), financial well-being is unique in its focus on the individual's subjective assessment of that objective situation (CFPB, 2018). In this regard, Brüggen et al. (2017) defined financial well-being as "the *perception* of being able to sustain current and anticipated desired living standards and financial freedom" (2017, p. 229 [emphasis added]). Yet, few studies have examined the process by which this subjective assessment happens or how cultural factors might influence what matters in this process.

While overall well-being has been studied across cultures, financial well-being studies have been concentrated largely in the United States and Europe. There is a general assumption that the frameworks and models developed, tested, and applied in Western countries will apply equally to individuals residing in Asia. This is, of course, simply an assumption. Yet studies of overall well-being suggest that there are important cultural differences to be considered. Such differences may stem from shared cultural values. For example, individuals residing in individualistic societies often strive for increased material well-being as a source of happiness (Ahuvia, 2001; Veenhoven, 1999). Those residing in more collectivistic cultures tend to find happiness in honoring elders and parents (Triandis et al., 1990) compared to focusing on career advancement, notoriety, or wealth (Adrianson, 2019). Rather than measuring one's independent sense of well-being, those residing in collectivistic cultures tend to pursue more interdependent forms of happiness or well-being. Before Western models of well-being can or should be adopted broadly worldwide, it behooves researchers and policy

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makers to test cross-cultural assumptions (Cole, 1998; Segall et al., 1990). Therefore, it is appropriate to question whether Western notions of financial well-being apply in Eastern settings.

In this study, we extend the cushion hypothesis beyond risk taking and financial behavior as the outcomes of interest by examining whether the relationship between willingness to take financial risk and financial well-being depends on whether the financial decision maker resides in an individualistic or collectivistic culture. More specifically, we view risk as a probabilistic construct that may produce positive or negative outcomes. We then use this definitional perspective to examine whether the association between willingness to take financial risks and the experience of material hardship or financial well-being, as well as the translation of material hardship into one's assessment of financial well-being, differs by region. We explore these relationships using data collected from South Korea, Taiwan, and the United States. If the cushion hypothesis holds, there should be a weaker association between a willingness to take financial risk and material hardship and financial well-being, as well as a weaker association between material hardship and financial well-being, in Asia as compared to the United States.

2 | LITERATURE REVIEW

2.1 | The cushion hypothesis

Financial risk tolerance or "a person's willingness to engage in a financial behavior in which the outcomes of the decision are unknown and potentially costly" (Nobre et al., 2016, p. 314) has received considerable cross-cultural attention (Fan & Xiao, 2006; Grable et al., 2010; Ruiz-Menjivar et al., 2014). The financial risk-tolerance literature generally supports the cushion hypothesis, which states that individuals from collectivistic cultures will be less risk averse than those from individualistic cultures (Hsee & Weber, 1999). Empirical tests of this hypothesis have shown that Asians tend to exhibit greater risk tolerance as compared to Americans (Fan & Xiao, 2006; Statman, 2008). The relationship also applies to corporate risk taking as well (Illiashenko, 2019).

This greater willingness to take financial risk stems from a cultural belief within collectivistic societies that a financial outcome (i.e., landing) will be less severe (i.e., softer) if things go wrong given the greater likelihood of support from tighter social networks and social policies (Hsee & Weber, 1999; Illiashenko, 2019; Schneider et al., 2017). Conversely, social exclusion (i.e., "the breakdown of social connectedness") seems to lessen the perceived cushion available in the context of financial decision making and thus increase the need for liquidity, especially among males (Yang et al., 2020, p. 2). It is thus thought that "collectivism cushions in-group members against the consequences of negative outcomes" (Weber & Hsee, 1998, p. 1215).

It is worth noting, however, that the cushion hypothesis has been used to examine primarily objective financial outcomes associated with financial decisions (Grable et al., 2010; Yang et al., 2020). In their now seminal paper, Hsee and Weber (1999) noted that an individual's belief that a cushion is present influences financial management behavior such as a willingness to take investment risk. Although inferred in some papers, very few explicit references have been made in the literature regarding the cushion hypothesis relative to the experience of material hardship or the assessment of financial well-being. This gap in the literature suggests that an opportunity exists to examine whether the cushion hypothesis extends beyond risk taking to the interconnectedness of material hardship, financial well-being, and financial risk taking.

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2.2 | The experience of material hardship

A willingness to take financial risk relates to the amount of uncertainty an individual is willing to accept in their financial situation or when making a financial decision (Grable, 2000). The risk one takes might produce a gain or loss. In some cases, a loss might take the form of material hardship or a significant reduction in the ability to acquire food, housing, utilities, medical care, or other basic needs (Beverly, 2001; Mayer & Jencks, 1989). Whereas financial well-being represents an individual's subjective assessment of how they are or will be doing in their financial life, material hardship is an indicator of the individual's objective financial situation. An experience of material hardship is typically associated with lower levels of life satisfaction (Mayer & Jencks, 1989) and well-being (Sen, 1985, 1987). The cushion hypothesis suggests that the social network and social policies of a collectivistic culture should lead an individual to believe that a cushion will be available should hardship occur as a result of risks taken (Schneider et al., 2017). As an extension of the cushion hypothesis, the inability to afford basic material needs (e.g., food, housing, or medical care) should be perceived as a less likely outcome in a collectivistic culture given the presence of social and public support systems. The cushion might be explicit support directed at reducing hardships or it might consist of more indirect or implicit support to maintain a person's motivation to take action that minimizes or avoids the experience of hardship (Dasgupta, 1993; Kim et al., 2008).

2.3 | Financial well-being

While financial well-being has been explored conceptually and examined empirically for quite some time (Draughn et al., 1994; Hayhoe & Wilhelm, 1998; Joo, 2008; Williams, 1983), few attempts were made to define or measure it as a distinct construct until a series of studies in the mid-2010s (CFPB, 2015; Brüggen et al., 2017; Netemeyer et al., 2018). Some prior studies tended to infer financial well-being from objective markers of an individual's financial situation (e.g., credit card usage, money management, mortgage decisions and management (Allgood & Walstad, 2011; Bucks & Pence, 2008; Chu et al., 2017; Donnelly et al., 2012; Gerardi et al., 2010; Schmeiser & Seligman, 2013)). Other studies relied on an individual's summary judgment of satisfaction with their financial situation as proxy of financial well-being (Rutherford & Fox, 2010; Xiao et al., 2014; Xiao & O'Neill, 2018). While objective financial situation and financial satisfaction are constructs that should be correlated with financial well-being, they are not, however, conceptualizations of it (Ngamaba et al., 2020). Financial well-being is a distinct and inherently subjective construct that reflects an individual's determination of how they are doing financially—an assessment with which they might (or might not) be satisfied (Joo, 2008). This subjective determination will accurately reflect the objective state for many but not all people (CFPB, 2018).

The conceptualization and operationalization of financial well-being as a distinct and inherently subjective construct has been informed by many researchers (Draughn et al., 1994; Hayhoe & Wilhelm, 1998; Joo, 2008) but captured by three central studies (CFPB, 2015, 2018; Brüggen et al., 2017; Netemeyer et al., 2018). Based on a review of the extant literature and a national qualitative research study, the Consumer Financial Protection Bureau (CFPB) proffered a definition of financial well-being as "a state of being where in a person: (a) has control over day-to-day and month-to-month finances, (b) has the capacity to absorb a financial shock, (c) is on track to meet financial goals, and (d) has the financial freedom to make the choices

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that allow the person to enjoy life" (2015, p. 5). In a similar vein, Brüggen et al. defined financial well-being as "the *perception* of being able to sustain current and anticipated desired living standards and financial freedom" (Brüggen et al., 2017, p. 299 [emphasis added]). When viewed this way, an individual's financial well-being represents one domain of life that describes the person's overall well-being (Cummins, 2005; Diener, 1984; Moghaddam, 2008; Rojas, 2006).

One common element linking these definitions is the present and future dimensions of financial well-being. These dimensions are reflected in current money management stress (CMMS) and expected future financial security (EFFS (Netemeyer et al., 2018)). CMMS reflects how an individual feels they are doing financially in the here and now including their worry about meeting current financial obligations and their ability to enjoy life because of their financial situation (Netemeyer et al., 2018). EFFS reflects how an individual perceives their financial trajectory or how well they believe they will be doing in the future, including expectations for financial security and the ability to meet financial goals (Netemeyer et al., 2018). Financial well-being defined as CMMS and EFFS explains more variance in overall well-being than career/job, relationship, and health domains combined (Netemeyer et al., 2018). Thus, understanding the drivers of financial well-being represents an important opportunity to build overall well-being, at least in Western cultural settings where the majority of this research has been conducted.

2.4 | The expectation of cultural differences in financial well-being

Studies of overall well-being suggest caution in the application of Western notions of financial well-being to Eastern cultures as there are likely important social and cultural differences to be considered.[2] The term culture, as used in this study, refers to a pattern of behavior acquired and transmitted by "symbols, constituting the distinctive achievements of human groups, including their embodiments in artifacts; the essential core of culture consists of traditional (i.e., historically derived and selected) ideas and especially their attached values" (Kroeber & Kluckhohn, 1952, p. 35). Cultures are broadly characterized as individualistic or collectivistic based on an individual's sense of self relative to others (Triandis, 1995). Those residing in individualistic cultures generally define self as being distinct from others (i.e., independent self-construal) while those residing in collectivistic cultures tend to define self in relation to others (i.e., interdependent self-construal (Markus & Kitayama, 1991)). While the definition of happiness as a positive emotion is consistent across cultures, the determinants and expressions of happiness tend to differ (Lu & Gilmour, 2004). Western cultures tend to be individualistic, exhibiting independent self-construal, while Eastern cultures tend to be collectivistic with a tendency toward interdependent self-construal (Markus & Kitayama, 1991). Those residing in Western cultures tend to pursue mastery over their environment with personal development and individual achievement as a primary source of happiness. For example, individuals residing in individualistic societies (e.g., Canada, Europe, Australia, New Zealand, United States, etc.) often strive for increased material well-being as a source of happiness (Ahuvia, 2001; Veenhoven, 1999). Those residing in Eastern cultures, on the other hand, tend to value fulfillment of role obligations, harmony in one's community, and the maintenance of relationships as sources of happiness (Adrianson, 2019; Lu & Gilmour, 2004). For example, individuals residing in more collectivistic cultures tend to find happiness in honoring elders and parents (Triandis et al., 1990) rather than focusing on career advancement, notoriety, or wealth (Adrianson, 2019). Culture also shapes probability judgments, causal attributions, and levels of confidence (Segall et al., 1990; Weber & Hsee, 1999; Wright & Phillips, 1980).

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Despite these differences, there has been little study of similarities and dissimilarities in financial well-being between Western and Eastern cultures (Ngamaba et al., 2020). As noted by Segall et al. (1990) and Cole (1998), before Western models of well-being can or should be adopted broadly worldwide, it behooves researchers and policy makers to test cross-cultural assumptions. Cole summarized the situation this way: "So long as one does not evaluate the psychological process case studies, it is impossible to know whether such processes are universal or specific to particular cultural circumstances" (1998, p. 2). Therefore, it is appropriate to question and test whether Western notions of financial well-being apply in Eastern cultures. The question, however, has not been fully addressed to date.

3 | HYPOTHESIS DEVELOPMENT

This study extends the cushion hypothesis beyond risk taking and financial management behavior to examine whether residing in a collectivistic culture cushions an individual's objective financial situation in the form of experiencing material hardship, as well as their assessment of financial well-being, against a potential loss resulting from a willingness to take financial risk. In the context of this study, material hardship can be thought of as an extreme negative financial outcome in which an individual is not able to afford or consume even the basic necessities of life (e.g., food, housing, or medical care (Nelson, 2012)). In the United States, material hardship has been shown to have a negative effect on one's financial situation and, by association, financial well-being (Mayer & Jencks, 1989). The cushion hypothesis suggests that individuals who live in places where collectivistic systems are the norm are somewhat protected from the potential negative effects associated with taking financial risks that could result in material hardship (Reeskens & Vandecasteele, 2017). As a result, those from a collectivistic culture should exhibit a higher tolerance for risk knowing that their interdependence with others provides a safety net to prevent falling into material hardship. Thus, they should be less likely to experience material hardship as a result of their willingness to risk. From this perspective, we expect to find that the relationship between willingness to take financial risk and the experience of material hardship is weaker among those residing in collectivistic cultures. Thus,

> **Hypothesis 1.** *The relationship between an individual's willingness to take financial risk and their experience of material hardship* (*i.e., objective financial situation*) *will be weaker if the individual resides in a collectivistic* versus *an individualistic culture*.

A willingness to take financial risk might also be associated with an individual's level of financial well-being. This relationship might be direct or indirect through the influence of willingness to take risk on the individual's objective financial situation. The extant literature suggests that greater uncertainty regarding one's current and future situation should be associated with lower levels of well-being (Joo & Grable, 2004; Prawitz et al., 2006). Thus, there is likely to be a direct relationship between a willingness to take financial risk and financial well-being. In addition, financial well-being represents an individual's subjective assessment of their objective financial situation (Brüggen et al., 2017; Netemeyer et al., 2018). In the case of this study, material hardship would be one possible consideration in the assessment of financial well-being. To the extent that a willingness to take financial risk is associated with an individual's experience of financial hardship, as shown in Figure 1, there should also be an indirect effect of a

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willingness to take risk on financial well-being through the impact of risk taking on the experience of material hardship. In this regard,

> **Hypothesis 2.** *The relationship between willingness to take financial risk and financial well-being (as EFFS and CMMS) will be mediated by the experience of material hardship.*

The cushion hypothesis suggests that individuals from collectivistic cultures should be more likely to acknowledge the presence of a cushion in their assessment of well-being. It is possible that being from a collectivistic culture could alter the relevance of risk taking on an individual's assessment of financial well-being and, therefore, moderate the direct relationship between a willingness to take financial risk and financial well-being. Individuals residing in a collectivistic society may expect their social network to cushion most, if not all, negative outcomes associated with risk taking and, therefore, discount the effect of risk taking in their assessment of financial well-being. In comparison, individuals residing in individualistic societies may not, on average, expect such a cushion and, therefore, weight their willingness to take financial risks more heavily in their assessment of financial well-being. This perception might reflect the expectation of little or no cushion. Thus, if a cushion exists, we expect a weaker association between a willingness to take financial risk and financial well-being for people from collectivistic versus individualistic cultures. As such,

> **Hypothesis 2A.** *The relationship between an individual's willingness to take financial risk and their financial well-being* (*as EFFS and CMMS*) *will be weaker if the individual resides in a collectivistic versus individualistic culture.*

The expectation of a cushion may also moderate the association between an individual's objective experience (i.e., material hardship) and financial well-being. The cushion hypothesis

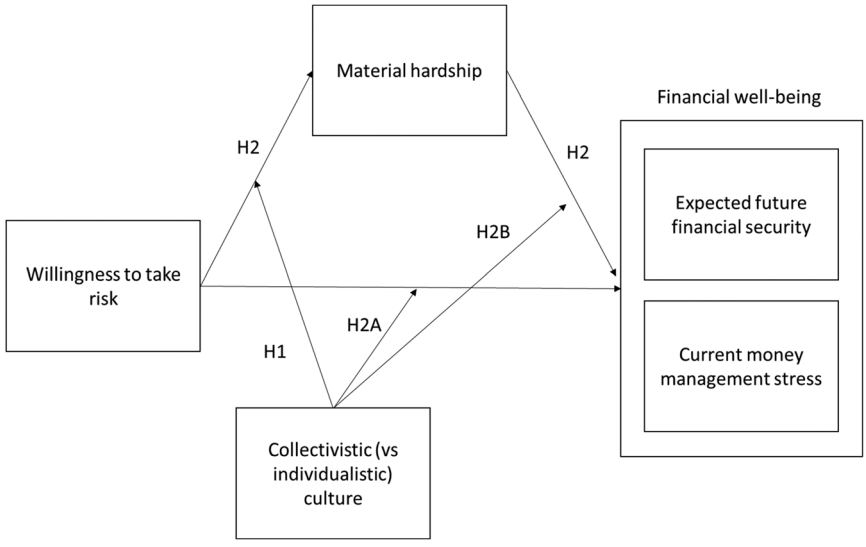

FIGURE 1 Conceptual framework: The moderated mediation of the relationship between willingness to risk and financial well-being

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suggests that individuals residing in collectivistic societies expect to receive greater support from their social network and social policies when experiencing material hardship compared to individuals residing in individualistic societies (Triandis, 1989; Weber & Hsee, 1998). Even if they experience material hardship, they will tend to report higher levels of financial well-being than a person residing in an individualistic society who experiences material hardship. Thus, the impact of material hardship on an individual's assessment of their financial well-being should be weaker for someone in a collectivistic culture than in an individualistic culture where less cushion for objective financial experience exists. Thus,

> **Hypothesis 2B.** *The relationship between experiencing material hardship and financial well-being* (*as EFFS and CMMS*) *will be weaker if the individual resides in a collectivistic* versus *individualistic culture*.

4 | METHODOLOGY

4.1 | The geographical setting

The settings for this study are Taiwan and South Korea (i.e., two of the Four Asian Tigers, with the other two being Hong Kong and Singapore). Taiwan and South Korea witnessed striking economic growth from 1961 to 1996 (Inoguchi & Shin, 2009). During this period, economic expansion occurred more rapidly than in any other world region, achieving greater modernization at a faster rate than the West in the eighteenth century (Dalton & Shin, 2006). In the Global Economic Forum Competitiveness Report for 2018–2019, Taiwan was ranked as the 12th most competitive out of 140 economies. South Korea was ranked 13th most competitive. These modern economic systems have produced advancements in the objective life circumstances of resident households. For example, in 2009, 95% of households in the Taiwan had access to public utilities and digital media (Yao et al., 2009), whereas 90% of South Koreans had Internet access. In 2018, South Korea was ranked first worldwide in terms of smartphone ownership and Internet use (Poushter et al., 2018).

Table 1 summarizes key facts about South Korea and Taiwan from the World Factbook. It is important to note that South Korea and Taiwan are small compared to the United States. South Korea and Taiwan tend to have slightly older populations. The savings rate in South Korea and Taiwan is roughly double that of the United States. Taiwan stands out in having just 1.5% of the population below the poverty line compared to 14.4% for South Korea and 15.1% for the United States.

South Korea and Taiwan are collectivistic cultures influenced by Confucianism (Inoguchi et al., 2007; Inoguchi & Shin, 2009). As an ideology, Confucianism values family loyalty, respect for status and hierarchy, self-cultivation, and a concern for social harmony (Eckert et al., 1990). In Taiwan, this tradition translates into prioritization of physical health, having a safe and comfortable home, achieving success at work including a high income, and family (Yao et al., 2009). In South Korea, quality of material life, emotional stability, and humility are prioritized in the pursuit of happiness (Ha & Kim, 2013; Park, 2009). South Koreans tend to believe that the achievement of happiness comes from luck or blessing more so than individual efforts (Oishi et al., 2013).

While South Korea and Taiwan are influenced by Confucianism, each stands out in important economic and political aspects. South Korea and Taiwan represent third-wave democracies

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TABLE 1 Comparison of country profiles

	South Korea	Taiwan	United States
Population	51,418,097	23,545,963	329,256,465
Modal age group	25 to 54 years	25 to 54 years	25 to 54 years
Median age	42.3 years	41.3 years	38.2 years
Life expectancy	82.5 years	80.4 years	80.1 years
GDP (purchasing power parity)	$2.04 Trillion	$1.19 Trillion	$19.49 Trillion
GDP per capita	31,846	55,078	65,298
National saving rate (% of GDP)	36.6%	34.9%	18.9%
Unemployment rate	3.7%	3.8%	4.4%
Population below poverty line	14.4%	1.5%	15.1%
Taxes as percent of GDP	23%	16%	17%
Inflation rate	1.9%	1.1%	2.1%

Source: *The World Factbook*. (2019). Washington: CIA.

(Inoguchi & Shin, 2009). According to the 2019 World Press Freedom Index (Reporters without Borders, 2019), South Korea (41st place) and Taiwan (42nd place) are first and second place in Asia in terms of press freedom, ranking ahead of Japan (67th place) and Singapore (151st place). This combination of Confucian ideology and democracy makes South Korea and Taiwan unique settings in which to study the concept of financial well-being in an Asian context primarily because those residing in South Korea and Taiwan provide a relatively homogenous group to which to make comparisons to those residing in more individualistically oriented countries such as the United States.

4.2 | Data and sample characteristics

Data for this study were collected through an online survey conducted in South Korea, Taiwan, and the United States during the Fall of 2019 using panel members of Survey Sampling International (now Dynata).[3] The survey was translated into the dominant language for each setting by a native speaker and piloted with a convenience sample to identify any challenges associated with interpretation.

A total of 400 surveys in South Korea, 372 in Taiwan, and 522 in the United States were completed. Table 2 describes the demographic characteristics of each sample. On average, the Asian study sample was roughly 2–4 years younger than the overall population for each country. In South Korea, the median age of the sample was 40 years compared to 42.3 years for the population. In Taiwan, the median age of the sample was 37 years compared to 41.3 years for the population. In the United States, the median sample age was 41 years compared to 38.2 years for the population. In terms of education, the sample characteristics and the population data were fairly aligned with only the South Korean sample reporting a higher prevalence of college degrees than the population (58% in the sample versus 34% in the population). For Taiwan (43% in the sample versus 46% in the population) and the United States (38% in the sample and 36% in the population), the sample and population percentages were more similar. Income and income distribution were also similar for all three study settings. For the analysis,

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TABLE 2 Sample characteristics

Characteristic	Asia	South Korea	Taiwan	United States
Female (vs. Male)	48%	50%	46%	61%
Average age in years	40.9	43.1	38.5	42.3
Median age in years	38	40	37	41
Income				
Level 1	12%	10%	15%	15%
Level 2	16%	11%	22%	12%
Level 3	18%	14%	23%	11%
Level 4	17%	19%	15%	13%
Level 5	18%	22%	13%	18%
Level 6	10%	15%	5%	10%
Level 7	4%	5%	3%	11%
Level 8	3%	4%	2%	8%
Education				
Less than high school	1%	1%	2%	4%
High school/equivalent	17%	16%	18%	23%
Some college	18%	12%	24%	22%
Professional Certificate (Associate's degree)	3%	2%	3%	13%
University (Bachelor's)	49%	59%	40%	25%
Graduate School	12%	10%	14%	13%

Note: Income levels in Korea are 1 = Less than 15,000,000 won; 2 = At least 15,000,000 won but less than 25,000,000 won; 3 = At least 25,000,000 won but less than 35,000,000 won; 4 = At least 35,000,000 won but less than 50,000,000 won; 5 = At least 50,000,000 won but less than 75,000,000 won; 6 = At least 75,000,000 won but less than 100,000,000 won; 7 = At least 100,000,000 won but less than 150,000,000 won; 8 = 150,000,000 won or more. Income levels in Taiwan are 1 = Less than TWD $470,700; 2 = At least TWD$470,700 but less than TWD$784,500; 3 = At least TWD$784,500 but less than TWD$1,098,300; 4 = At least TWD$1,098,300 but less than TWD$1,569,000; 5 = At least TWD$1,569,000 but less than TWD$2,353,500; 6 = At least TWD$2,353,500 but less than TWD$3,138,000; 7 = At least TWD$3,138,000 but less than TWD$4,707,000; 8 = TWD $4,707,000 or more. Income levels in the United States are 1 = Less than $15,000; 2 = $15,000 to $24,999; 3 = $25,000 to $34,999; 4 = $35,000 to $49,999; 5 = $50,000 to $74,999; 6 = $75,000 to $99,999; 7 = $100,000 to $149,999; 8 = $150,000 or more.

data from South Korea and Taiwan were combined to reflect Asia with the creation of a binary variable where 1 represented that a participant was from the South Korean or Taiwanese sample and 0 represented that the participant was from the United States sample. Missing data for all variables of interest was less than 5% across survey questions and respondents, which meets recommended threshold standards (Tabachnick et al., 2007).

4.3 | Measures

The primary variable of interest in this study was financial well-being measured as CMMS and EFFS. These constructs, representing the present and future dimensions of financial well-being, were measured by two five-item scales as originally developed by Netemeyer et al. (2018). EFFS was reflected in an individual's response to the following items: (a) *I am becoming financially*

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secure; (b) *I am securing my financial future*; (c) *I will achieve the financial goals that I have set for myself*; (d) *I have saved (or will be able to save) enough money to last me to the end of my life*; and (e) *I will be financially secure until the end of my life*. Five-level Likert-type response categories were provided with 1 = strongly disagree and 5 = strongly agree. CMMS, the present dimension, was reflected in an individual's response to the following items: (a) *Because of my money situation, I feel I will never have the things I want in life*; (b) *I am behind with my finances*; (c) *My finances control my life*; (d) *Whenever I feel in control of my finances, something happens that sets me back*; and (e) *I am unable to enjoy life because I obsess too much about money*. Similarly, five-level Likert-type response categories were provided with 1 = strongly disagree and 5 = strongly agree. The scales were calculated by summing each respondent's answers to each set of items. The resulting measures ranged from a low of five to a high of 25.

The primary independent variables were willingness to take financial risk and the number of material hardships experienced in the past 12 months. Willingness to take financial risk was assessed by adopting the following single-item measure from the Survey of Consumer Finances: *Which of the statements on this page comes closest to the amount of financial risk that you are willing to take when you save or make investments?* Response options included: (a) *Take substantial financial risk expecting to earn substantial returns*; (b) *Take above average financial risks expecting to earn above average returns*; (c) *Take average financial risks expecting to earn average returns*; and (d) *Not willing to take any financial risk*. Scores ranged from a low of 1 (not willing) to a high of 4 (willing to take substantial risk). There is support in the literature for treating an ordinal variable as a continuous variable even when the categories are not evenly spaced as, in practice, there is rarely a difference between model results treating the variable as categorical or continuous (Long & Jeremy, 2006; Pasta, 2009). Nonetheless, a BIC test was performed on a base model of the relationship between willingness to take financial risk and financial well-being as EFFS and CMMS that revealed no difference in the continuous and categorical models (Raftery, 1995). As a result, the parsimonious option was taken and willingness to take financial risk was treated as a continuous independent variable in the analysis.

The number of material hardships was measured by asking each respondent whether they had experienced any of the following in the past 12 months: (a) *We worried whether our food would run out before we got money to buy more*; (b) *The food that we bought just did not last and we did not have money to get more*; (c) *We could not afford to eat balanced meals*; (d) *There has been a time when we could not afford a place to stay*; (e) *There was at least one time when I or someone in my household needed to see a doctor or go to the hospital but did not go because we could not afford it*; and/or (f) *I or someone in my household stopped taking a medication or took less than directed due to the costs*. The variable was constructed as a count of the number of hardships experienced. Scores ranged from a low of 0 to a high of 6. As a robustness check, a binary indicator of the presence of any hardship (coded as 1 when the number of material hardships was greater than zero and 0 when no material hardships were reported) was also explored with no substantive differences in model results. As a result, the number of hardships experienced was used in the analysis.

Control variables included age, sex, education, and income. Age was calculated by subtracting each respondent's year of birth from 2019 (the year the data were collected). Sex was identified by asking a respondent whether they self-identified as male or female. A binary variable was coded as follows: 1 = female and 0 = male. Income was collected as eight categories which reflected the distributions of income for South Korea, Taiwan, and the United States. Given how the income categories were constructed across the countries, income was coded as 1 through 8 for use as a control variable in the model.

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TABLE 3 Descriptive statistics and factor loadings for expected future financial security and current money management stress

	Asia			United States	
Variable	**Mean**	**SD**	**Factor loading[a]**	**Mean**	**SD**
Expected future financial security					
I am becoming financially secure.	3.299	1.013	0.844	3.397	1.218
I am securing my financial future.	3.532	1.033	0.714	3.414	1.215
I will achieve the financial goals that I have set for myself.	3.620	0.950	0.804	3.531	1.200
I have saved (or will be able to save) enough money to last me to the end of my life.	3.105	1.123	0.808	3.123	1.350
I will be financially secure until the end of my life.	3.198	1.070	0.855	3.169	1.338
Expected Future Financial Security Sum Score	16.755	4.180		16.632	5.621
Current money management stress					
Because of my money situation, I feel I will never have the things I want in life.	2.966	1.024		3.165	1.323
I am behind with my finances.	3.095	1.067		2.899	1.324
My finances control my life.	3.304	1.009		3.103	1.266
Whenever I feel in control of my finances, something happens that sets me back.	3.123	0.981		3.163	1.281
I am unable to enjoy life because I obsess too much about money.	2.778	1.087		2.847	1.313
Current Money Management Stress Sum Score	15.267	4.172		15.176	5.364e

[a]Factor loadings obtained using principal components analysis with direct oblimin rotation.

TABLE 4 Descriptive statistics and *t*-tests for variables of interest

	Asia		United States		*T*-tests	
Variable	**Mean**	**SD**	**Mean**	**SD.**	***T*-statistic**	***p***
Expected future financial security	16.755	4.180	16.632	5.621	0.451	0.652
Current money management stress	15.632	4.172	15.176	5.364	0.341	0.733
Willingness to take financial risk	2.335	0.918	2.176	1.042	2.897	0.004
Number of material hardships	0.481	0.853	0.674	1.013	−3.714	<0.001

Note: Significance testing was accomplished using independent sample *T*-tests.

4.4 | Analysis

SPSS Version 27 was used for all descriptive and bivariate analyses. The Netemeyer et al. (2018) financial well-being scale was examined for Asian respondents using confirmatory factor analyses (CFA) with MPlus Version 8 and then exploratory factor analysis (EFA) using SPSS Version 27. Hypotheses 1 and 2 were assessed using the Hayes Process Macro Model 1 and

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4, respectively, in SPSS Version 27. Hypotheses 2A and 2B were assessed using the Hayes PROCESS Macro Conditional Process Model 15 in SPSS Version 27.

5 | RESULTS

5.1 | The financial well-being construct

First, steps were taken to confirm that the EFFS and CMMS scales developed in the United States fit an Asian context through CFA using MPlus.[4] The sample exceeded the minimum sample size suggested by Wolf et al. (2013). CMMS showed reasonable fit with the Asian data ($X^2_{(5)} = 25.238$, RMSEA = 0.072, CFI = 0.988, TLI = 0.977, SRMR = 0.018).[5] EFFS showed weaker fit ($X^2_{(5)} = 183.954$, RMSEA = 0.215, CFI = 0.906, TLI = 0.811, SRMR = 0.054). Given these inconsistent results, we followed the example of Seo et al. (2019) and conducted an EFA for EFFS with the Asian data using a principal components analysis with a direct oblimin rotation. Two factors, EFFS and CMMS, were extracted, which explained 66.1% of the variance. All Eigenvalues were above 1.0 (Kaiser, 1960). All factor loadings were greater than 0.60 (Bagozzi & Yi, 1988). Cronbach's Alpha for EFFS was 0.863 for Asia and 0.933 for the United States. Cronbach's Alpha for CMMS was 0.866 for Asia and 0.882 for the United States. Based on these findings, we followed the sum strategy of Netemeyer et al. (2018) when creating the EFFS and CMMS variables for Asia and the United States. Table 3 contains the means and standard deviations for the EFFS and CMMS items as well as the factor loadings for EFFS in Asia.

TABLE 5 Moderating effect of collectivistic culture in the relationship between willingness to take financial risk and number of material hardship experiences (Model 1)

	Number of Material Hardship Experiences		
Variable	***B***	**SE**	***p***
Main effects			
WTR	0.105	0.038	0.006
Asia	−0.164	0.054	0.002
Interaction terms			
WTR × Asia	0.062	0.052	0.235
Control variables			
Female (vs. Male)	0.075	0.051	0.146
Age in years	−0.001	0.001	0.251
University/Graduate degree	−0.245	0.055	<0.001
Income	−0.033	0.014	0.018
Constant	0.137	0.062	
R^2	0.058		
F	11.322		
p value	<0.001		

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TABLE 6 Number of material hardship experiences as a mediator of the relationship between willingness to take financial risk and financial well-being (Model 4)

	Number of Material Hardships			Expected Future Financial Security			Current Money Management Stress		
Variable	***B***	**SE**	***p***	**B**	**SE**	***p***	***B***	**SE**	***p***
Main effects									
WTR	0.132	0.027	<0.001	1.221	0.133	<0.001	0.447	0.125	<0.001
Number material hardships				−0.685	0.138	<0.001	1.717	0.130	<0.001
Control variables									
Female (vs. Male)	0.092	0.051	0.072	−0.400	0.254	0.116	−0.307	0.240	0.200
Age in years	−0.001	0.001	0.302	−0.012	0.004	0.010	−0.010	0.004	0.020
University/Graduate degree	−0.291	0.053	<0.001	0.101	0.267	0.706	−0.529	0.252	0.036
Income	−0.024	0.014	0.081	0.467	0.067	<0.001	−0.439	0.063	<0.001
Constant	0.494	0.093		13.111	0.467		15.841	0.440	
R^2	0.050			0.140			0.195		
F	13.597			34.873			51.917		
p value	<0.001			<0.001			<0.001		
Direct effect (p value)				1.221 (<0.001)			0.447 (<0.001)		
Indirect effect (BootLLCI/ BootULCI)				−0.090 (−0.142/ −0.040)			0.226 (0.121/0.320)		

5.2 | Variables of interest

Table 4 shows the means and standard deviations for the EFFS and CMMS variables and the other variables of interest for Asia and the United States. An independent-samples t test revealed no significant differences in EFFS ($t = 0.451$; $p = 0.652$) or CMMS ($t = 0.341$; $p = 0.733$) between the Asian and the U.S. respondents. Willingness to take financial risks, however, was found to be significantly higher among Asians compared to those residing in the United States ($t = 2.897$, $p = 0.004$). Those residing in Asia reported experiencing significantly lower levels of material hardship compared to those residing in the United States ($t = -3.714$, $p < 0.001$).

5.3 | Willingness to take financial risk and the experience of material hardship

A test of the first hypothesis was undertaken to determine whether the relationship between willingness to take financial risk and the experience of material hardship as a reflection of objective financial situation depended on whether the individual was in a collectivistic versus individualistic culture. The results of this model are presented in Table 5.

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TABLE 7 Conditional process model of the moderating effect of collectivistic culture on the relationships between willingness to take financial risk, experience of material hardship, and financial well-being (as expected future financial security and current money management stress)—Model 15

	Number of material hardships			Expected future financial security			Current money management stress		
Variable	***B***	**SE**	***p***	***B***	**SE**	***p***	***B***	**SE**	***p***
Main effects									
WTR	0.132	0.038	0.006	1.495	0.191	<0.001	0.327	0.181	0.072
Asia				−0.158	0.268	0.555	0.274	0.255	0.281
Number material hardships				−1.379	0.197	<0.001	2.004	0.188	<0.001
Interaction terms									
WTR × Asia				−0.502	0.257	0.051	0.203	0.245	0.406
Hardship × Asia				1.348	0.274	<0.001	−0.538	0.261	0.039
Control variables									
Female (vs. Male)	0.092	0.051	0.072	−0.333	0.254	0.190	−0.313	0.241	0.195
Age in years	−0.001	0.001	0.302	−0.012	0.004	0.010	−0.010	0.004	0.020
University/Graduate degree	−0.291	0.053	< 0.001	0.190	0.275	0.489	−0.622	0.261	0.017
Income	−0.024	0.014	0.081	0.406	0.069	<0.001	−0.403	0.066	<0.001
Constant	0.494	0.093		15.833	0.415		17.526	0.394	
R^2	0.050			0.157			0.198		
F	13.597			26.575			35.296		
p value	<0.001			<0.001			<0.001		
Index of moderated mediation				0.177			−0.071		
BootLLCI/ BootULCI				0.071/0.297			−0.148/−0.002		

Respondents with a greater willingness to take financial risk were more likely to have experienced material hardship ($B = 0.105$, $p < 0.001$). Residing in Asia was associated with fewer experiences of material hardship ($B = -0.164$, $p = 0.002$). The relationship between willingness to take financial risk and material hardship was not significantly different between Asia and the United States ($B = 0.062$, $p = 0.235$). Thus, Hypothesis 1 was not supported. The relationship between willingness to take financial risk and the experience of material hardship, an indicator of objective financial situation, was not weaker in Asia as compared to the United States.

5.4 | Willingness to take financial risk and financial well-being

The relationship between willingness to take financial risk and financial well-being, as well as the role of number of material hardship experienced as a mediator of this relationship (Hypothesis 2) was explored for the full sample using the Hayes PROCESS Macro Model 4. The

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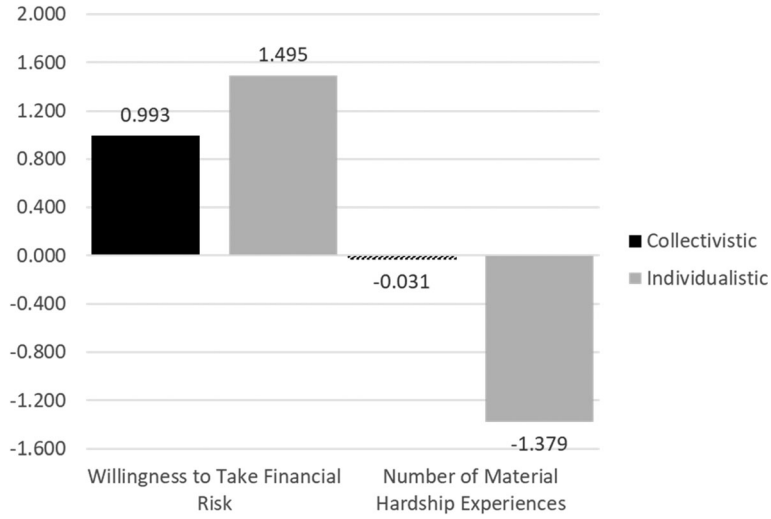

FIGURE 2 Conditional effect of willingness to take financial risk and number of material hardship experiences on expected future financial security in collectivistic versus individualistic cultures. The bars depict the coefficients for collectivistic and individualistic cultures based on the main effects and interactions. Solid bars indicate significance at $p < 0.05$. Patterned bars indicate non-significance at $p = 0.05$

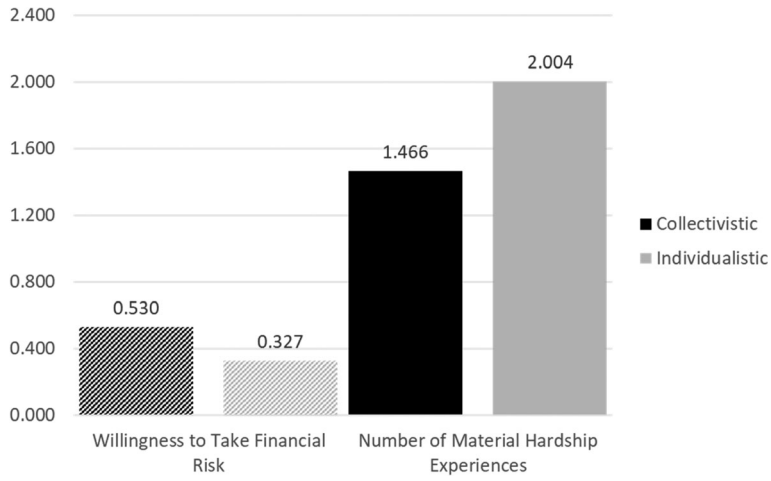

FIGURE 3 Conditional effect of willingness to take financial risk and number of material hardship experiences on current money management stress in collectivistic versus individualistic cultures. The bars depict the coefficients for collectivistic and individualistic cultures based on the main effects and interactions. Solid bars indicate significance at $p < 0.05$. Patterned bars indicate non-significance at $p = 0.05$

results of this model for EFFS and CMMS are presented in Table 6. The first panel shows the relationship between willingness to take risk and material hardship. The second and third panels contain the mediation models for EFFS and CMMS. For EFFS, the total effect (1.131, $p < 0.001$) and direct effect (1.221, $p < 0.001$) of willingness to take financial risk were both significant, as was the indirect effect through number of material hardship experiences (−0.090, BootLLCI = −0.145, BootULCI = −0.041). For CMMS, the total effect (0.673, $p < 0.001$) and

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direct effect (0.447, $p < 0.001$) of willingness to take financial risk were both significant, as was the indirect effect through number of material hardship experiences (0.226, BootLLCI = 0.120, BootULCI = 0.317). Thus, Hypothesis 2 was supported. The relationship between willingness to take financial risk and financial well-being as EFFS and CMMS was partially explained by the number of material hardships that an individual experiences.

Tests of Hypotheses 2A and 2B were undertaken to examine whether the mediation model was moderated by a respondent's cultural context. The results of the Hayes PROCESS Macro Model 15 are presented in Table 7. Again, the first panel shows the relationship between willingness to take risk and material hardship. The second and third panels contain the mediation models for EFFS and CMMS.

The relationship between willingness to take financial risk and EFFS was positive and significant ($B = 1.495$, $p < 0.001$). The interaction between willingness to take financial risk and being in a collectivistic culture was negative ($B = -0.502$, $p = 0.051$). The relationship between number of material hardship experiences and EFFS was negative and significant ($B = -1.379$, $p < 0.001$). The interaction between number of material hardship experiences and being in a collectivistic culture was positive and significant ($B = 1.348$, $p < 0.001$). Probing the conditional effects of willingness to take financial risk and number of material hardship expectations revealed significant differences for Asian versus U.S. respondents. As shown in Figure 2, a willingness to take financial risk and the experience of material hardship had weaker effects on EFFS in Asia than in the United States.

The relationship between willingness to take financial risk and CMMS was not significant ($B = 0.327$, $p = 0.072$). The interaction between willingness to take financial risk and being in a collectivistic culture was also not significant ($B = 0.203$, $p = 0.406$). The relationship between number of material hardship experiences and EFFS was positive and significant ($B = 2.004$, $p < 0.001$). The interaction between number of material hardship experiences and residing in Asia was negative and significant ($B = -0.538$, $p = 0.039$). As depicted in Figure 3, probing the conditional effects of number of material hardship expectations revealed significant differences for Asia versus the United States with a weaker effect on CMMS in Asia than in the United States. Thus, Hypothesis 2A was supported for EFFS but not CMMS, while Hypothesis 2B was supported for EFFS and CMMS.

Tables A1, A2, A3, A4 and A5 present these results for South Korea and Taiwan separately. The results are largely supported with two exceptions. The interaction between a willingness to take financial risk and residing in Asia in the EFFS model was significant in South Korea but not in Taiwan. The interaction between material hardship and residing in Asia in the CMMS model was significant in South Korea but not in Taiwan. In Taiwan, the significant interaction was between material hardship and residing in Asia in the EFFS model.

6 | DISCUSSION

This study examined cultural differences in the role of willingness to take financial risk in relation to experiencing material hardship and the assessment of financial well-being. Extending the cushion hypothesis (Hsee & Weber, 1999) beyond risk taking and financial behavior, we proposed that a willingness to take financial risk would have weaker associations with the experience of material hardship and level of financial well-being for those from a collectivistic culture (e.g., Asia) than those from an individualistic culture (e.g., the United States). In other words, it was thought that when there are other supports in an individual's situation, the uncertainty of a risky outcome

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would have a weaker relationship with the actual experience of material hardship and/or would play less of a role in the individual's assessment of their financial well-being as EFFS or CMMS. If true, these weaker relationships would be due to the cushion that exists in collectivistic cultures. In addition, we proposed that a cushion effect would manifest as a weaker role of material hardship in an individual's assessment of financial well-being. The study was premised on the following assumptions: (a) individuals who are willing to take greater financial risk experience greater uncertainty in their outcomes, which may be positive or negative; and (b) the experience of material hardship in the form of food, housing, and/or medical is a direct measure of financial difficulty that may or may not be due to risk taking and is always negative.

Consistent with previous research on the cushion hypothesis (Fan & Xiao, 2006; Hsee & Weber, 1999), residing in Asia versus the United States was associated with a greater willingness to take financial risk. It was also noted that Asian respondents reported a lower number of material hardship experiences. In addition, we determined that the existing measures of EFFS and CMMS developed in the United States fit the Asian context (Netemeyer et al., 2018). However, our primary interest was how the relationships between willingness to take risk and material hardship and financial well-being differ for individuals in Asia versus individuals in the United States.

Our first hypothesis considered whether the relationship between willingness to take financial risk and the experience of material hardship as an indicator of struggle in an individual's objective financial situation depended on whether they were in a collectivistic versus individualistic culture. We found that willingness to take financial risk was associated with greater material hardship in both contexts with no evidence that the relationship was weaker in Asia versus the United States. Thus, Hypothesis 1 was not supported. This finding suggests that people who are willing to take greater financial risk in collectivistic versus individualistic cultures are not less likely to experience material hardship. In other words, there may not be a soft landing in terms of negative objective risk-taking outcomes (e.g., inability to afford basic necessities) in collectivistic cultures.

Hypotheses 2, 2A, and 2B examined whether material hardship mediated the relationship between willingness to risk and financial well-being and whether residing in a collectivistic versus individualistic culture moderated this mediation. Hypothesis 2 examined whether the relationship between a willingness to take financial risk and financial well-being was mediated by the experience of material hardship (i.e., objective financial situation). Material hardship mediated the relationship between willingness to take financial risks and financial well-being (as EFFS and CMMS). Thus, a greater willingness to take financial risk was found to be associated with financial well-being at least partially because of its association with the experience of material hardship. This hypothesis was supported. With Hypothesis 2A, we explored whether the relationship between a willingness to take financial risk and an individual's assessment of their financial well-being would be different in Asia compared to the United States. Hypothesis 2A was supported for EFFS but not CMMS. While willingness to take financial risk was significantly associated with financial well-being, the relationship was significantly different between Asia and the United States for an individual's expectations for financial security in the future but not for their money management stress in the present. Thus, being in a collectivistic culture with its hypothesized cushion was found to have no effect on the role of an individual's willingness to take financial risk in their assessment of CMMS, but residing in a collectivist society did influence the relationship between a willingness to take financial risk and expectations for the future.

Hypothesis 2B examined whether the relationship between the experience of material hardship and financial well-being depends on whether the individual was in a collectivistic or individualistic culture. Related to the cushion hypothesis, material hardship exhibited a

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significantly weaker association with an individual's assessment of their financial well-being as CMMS and EFFS in Asia than it did in the United States. The real or perceived cushion present in a collectivistic culture tends to soften the effect of material hardship on an individual's expectations for their future financial security and their money management stress in the present. In other words, an individual's assessment of financial well-being does not suffer as much from the experience of material hardship in Asia as it does in the United States.

Findings from the models estimated separately for South Korea and Taiwan suggest, however, that there are important cultural differences within Asia related to the cushion hypothesis. These models suggest that the cushion might be more prevalent in South Korea than in Taiwan. In Taiwan, evidence of the cushion seems to be present only for expectations of future financial security whereas in South Korea there is evidence of a cushion for financial stress in the present as well.

Together, these results suggest that the cushion hypothesis (Hsee & Weber, 1999) can be extended beyond the examination of financial risk tolerance and financial behavior to support the understanding of the roles of risk and hardship in an individual's assessment of their financial well-being. When a cushion is present, as with a more collectivistic culture, the impact of risk and hardship on the individual's sense of financial well-being seems to be lessened, especially for EFFS. When a cushion is not present, risk and hardship seem to have a more negative effect on financial well-being. Interestingly, there was no evidence of a cushion when considering more objective outcomes such as material hardship. These findings represent important cultural differences in the process by which an individual determines their financial well-being and may offer useful cross-cultural lessons.

6.1 | Implications

Findings from this study have important research, program, and policy implications. One implication based on our assessment of EFFS and CMMS as well-being measures is that financial well-being, as conceptualized as a Western construct, likely applies in an Eastern context. As such, measures of financial well-being developed in the West appear to be valid and robust when applied in Asia. Cross-cultural financial well-being research should consider these measures in other cultural settings. From a policy perspective, financial well-being in the form of EFFS and CMMS might serve as useful proxies across and within country indicators for how people feel they are doing financially.

In addition, this paper highlights the need to understand the process by which individuals assess their financial well-being and the factors (e.g., cultural differences) that influence that process. Future research should continue to illuminate this process. From a program perspective, the findings suggest that there are contextual factors that might influence the assessment of financial well-being in unexpected ways. Given the importance of how a person feels they are doing financially as a component of their overall well-being, programs might be developed to train people in a more intentional assessment process.

Finally, and most directly, our findings suggest the value of cross-cultural assessment of environmental impacts on financial well-being. How an individual feels they are doing and their expectations for how they are likely to be doing in the future have important implications for their motivation to improve their financial situation. Future research should examine how an individual's assessment of financial well-being influences their prospective behavior and objective financial situation. While measures of well-being may be similar across cultures, the factors that are considered when determining financial well-being depend somewhat on

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cultural context. When an individual's context contains higher levels of social support, factors such as material hardship seem to matter less in their assessment of financial well-being. However, for those residing in a more individualistic society, a lack of cushion appears to have a more negative effect on financial well-being when risk-taking activities turn out badly or when material hardships emerge. Policy makers should keep these different scenarios in mind when designing policies to build financial well-being in their cultural setting.

7 | LIMITATIONS AND DIRECTIONS FOR FUTURE RESEARCH

As with all exploratory studies, this research suffers from a few limitations. For example, the analyses used cross-sectional data, which means that it was not possible to make causal inferences. In this regard, future research is needed to examine the possibility of endogeneity effects between and among risk tolerance, financial hardship, and financial well-being. It is possible that those who exhibit higher levels of well-being are more likely to take risk and experience fewer hardships. Future studies will need to examine the direction of these relationships through longitudinal or experimental methods. Additionally, this study did not include the financial narrative work conducted to define financial well-being in the United States (CFPB, 2015) and, therefore, does not redefine financial well-being in an Asian context. As noted earlier, South Korea and Taiwan are somewhat unique settings in their combination of Confucian ideology and democracy. We cannot comment on how the findings from this study will generalize to other Asian populations that live outside of this unique combination of circumstances. Future studies should explore differences in the presence of a cushion for populations within Asia as well as explanations for variations observed. Future studies should also explore the differences between countries (e.g., between South Korea and Taiwan). Lastly, this study considered culture using an indicator for country of residence at the time of the study and not whether a respondent exhibited independent or interdependent self-construal. Future studies should examine whether the findings hold when measuring self-construal rather than cultural context.

8 | CONCLUSION

Findings from this study suggest that the cushion hypothesis extends beyond risk taking and financial behavior to offers a unique insight into the process by which an individual assesses their financial well-being and the ways in which this assessment differs among those residing in the United States and Asia. While the cushion present in a collectivistic culture may not soften the association of a willingness to take financial risk and objective outcomes (such as the experience of material hardship), it does appear to influence the association between willingness to risk and an individual's assessment of their financial well-being, especially their expectations for future financial security.

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ENDNOTES

[1] As financial well-being is inherently a subjective construct, we do not refer to it as "subjective financial well-being." Adding the modifier "subjective" implies that there is another type of financial well-being. Recent conceptualizations (Brüggen et al., 2017; Netemeyer et al., 2018) confirm that there is not a financial well-being that is not subjective.

[2] While some studies have examined independent and interdependent self-construal at an individual level, the focus of this study is on the cultural setting of the individual.

[3] Survey Sampling International was the same panel company supplying participants for the Consumer Financial Protection Bureau's 2015 report and several of the Netemeyer et al. (2018) studies. More information can be found at dynata.com.

[4] This step was limited to the Asian samples because the scales were normed using U.S. samples.

[5] RMSEA = root mean square error of approximation; CFI = comparative fit index; TLI = Tucker-Lewis Fit Index; SRMR = standardized root mean square residual.

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APPENDIX

TABLE A1 Difference between number of material hardship experiences and binary indicator of material hardship experience in the analysis of the moderating effect of collectivistic culture in the relationship between willingness to take financial risk and material hardship experiences (Model 1)

	Number of material hardship experiences			Binary indicator of material hardship experience		
Variable	***B***	**SE**	***p***	**Coeff.**	**SE**	***p***
Main effects						
WTR	0.105	0.038	0.006	0.514	0.093	<0.001
Asia	−0.164	0.054	0.002	−0.593	0.1304	<0.001
Interaction terms						
WTR × Asia	0.062	0.052	0.235	−0.029	0.126	0.820
Control variables						
Female (vs. Male)	0.075	0.051	0.146	0.041	0.124	0.739
Age in years	−0.001	0.001	0.251	−0.004	0.004	0.324
University/Graduate degree	−0.245	0.055	<0.001	−0.483	0.132	<0.001
Income	−0.033	0.014	0.018	−0.123	0.034	<0.001
Constant	0.137	0.062		0.685	0.244	
R^2/Pseudo-R^2	0.058			0.118		
F/ModelLL	11.322			116.934		
p value	<0.001			<0.001		

TABLE A2 Descriptive statistics and *T*-tests for variables of interest in South Korea and in Taiwan

	South Korea		United States		*T*-tests	
Variable	**Mean**	**SD**	**Mean**	**SD**	***T*-statistic**	***p***
Expected future financial security	16.110	4.160	16.632	5.621	−1.621	0.105
Current money management stress	15.127	3.868	15.176	5.364	−0.160	0.873
Willingness to take financial risk	2.265	0.971	2.176	1.042	1.320	0.187
Number of material hardships	0.600	0.960	0.674	1.013	−1.129	0.259
	Taiwan		**United States**		***T*-tests**	
Variable	**Mean**	**SD**	**Mean**	**SD**	***T*-statistic**	***p***
Expected future financial security	17.449	4.095	16.632	5.621	2.513	0.012
Current money management stress	15.417	4.476	15.176	5.364	0.728	0.467
Willingness to take financial risk	2.411	0.853	2.176	1.042	3.699	<0.001
Number of material hardships	0.352	0.698	0.674	1.013	−5.302	<0.001

Note: Significance testing was accomplished using independent sample *t*-tests.

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TABLE A3 Moderating effect of collectivistic culture in the relationship between willingness to take financial risk and number of material hardship experiences (Model 1) for South Korea and Taiwan versus the United States

	Number of material hardship experiences for South Korea versus United States			Number of material hardship experiences for Taiwan versus United States		
Variable	***B***	**SE**	***p***	***B***	**SE**	***p***
Main effects						
WTR	0.115	0.041	0.006	0.104	0.037	0.006
Asia	−0.001	0.068	0.990	−0.410	0.063	<0.001
Interaction terms						
WTR × Asia	0.054	0.064	0.400	0.125	0.063	0.048
Control variables						
Female (vs. Male)	0.090	0.066	0.173	0.127	0.059	0.030
Age in years	−0.001	0.001	0.330	−0.008	0.002	<0.001
University/Graduate degree	−0.256	0.072	<0.001	−0.229	0.062	<0.001
Income	−0.054	0.017	0.002	−0.076	0.016	<0.001
Constant	0.990	0.100		1.352	0.116	
R^2	0.057			0.132		
F	7.928			19.288		
p value	<0.001			<0.001		

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TABLE A4 Conditional process model of the moderating effect of collectivistic culture on the relationships between willingness to take financial risk, experience of material hardship, and financial well-being (as expected future financial security and current money management stress)—Model 15 for South Korea versus the United States

	Number of material hardships			Expected future financial security			Current money management stress		
Variable	***B***	**SE**	***p***	***B***	**SE**	***p***	***B***	**SE**	***p***
Main effects									
WTR	0.136	0.032	<0.001	1.516	0.199	<0.001	0.333	0.184	0.070
South Korea				−0.765	0.326	0.019	0.152	0.300	0.612
Number material hardships				−1.380	0.207	<0.001	2.004	0.190	<0.001
Interaction terms									
WTR × Asia				−0.739	0.310	0.017	0.080	0.286	0.780
Hardship × Asia				1.545	0.320	<0.001	−0.753	0.294	0.011
Control variables									
Female (vs. Male)	0.090	0.066	0.172	0.077	0.317	0.808	−0.403	0.291	0.167
Age in years	−0.001	0.001	0.362	−0.011	0.005	0.017	−0.008	0.004	0.061
University/Graduate degree	−0.256	0.068	<0.001	0.190	0.275	0.489	−0.571	0.317	0.072
Income	−0.054	0.017	<0.001	0.408	0.344	0.173	−0.427	0.076	<0.001
Constant	0.348	0.095		15.266	0.484		17.746	0.446	
R^2	0.057			0.172			0.217		
F	10.973			21.072			28.014		
p value	<0.001			<0.001			<0.001		
Index of moderated mediation				0.211			−0.103		
BootLLCI/BootULCI				0.078/0.368			−0.205/−0.018		

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TABLE A5 Conditional process model of the moderating effect of collectivistic culture on the relationships between willingness to take financial risk, experience of material hardship, and financial well-being (as expected future financial security and current money management stress)—Model 15 for Taiwan versus the United States

	Number of material hardships			Expected future financial security			Current money management stress		
Variable	***B***	**SE**	***p***	***B***	**SE**	***p***	***B***	**SE**	***p***
Main effects									
WTR	0.121	0.032	<0.001	1.484	0.202	<0.001	0.211	0.194	0.279
Taiwan				0.574	0.348	0.100	0.208	0.335	0.534
Number material hardships				−1.374	0.209	<0.001	1.877	0.200	<0.001
Interaction terms									
WTR × Asia				−0.371	0.347	0.286	0.409	0.333	0.220
Hardship × Asia				1.419	0.406	<0.001	−0.003	0.390	0.993
Control variables									
Female (vs. Male)	0.175	0.059	0.003	−0.476	0.318	0.135	−0.279	0.305	0.362
Age in years	−0.006	0.002	0.003	−0.012	0.012	0.302	−0.052	0.011	<0.001
University/Graduate degree	−0.316	0.062	<0.001	0.166	0.339	0.624	−0.588	0.326	0.071
Income	−0.047	0.015	0.002	0.404	0.086	<0.001	−0.415	0.083	<0.001
Constant	0.487	0.107		15.987	0.643		19.317	0.618	
R^2	0.088			0.182			0.232		
F	17.116			21.123			29.664		
p value	<0.001			<0.001			<0.001		
Index of moderated mediation				0.172			0.000		
BootLLCI/BootULCI				0.057/0.319			−0.078/0.090		

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