The Rainbow and the Pot of Gold: Consumers’ Beliefs about Economic Mobility, Economic Striving and Financial Risk Taking

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Contribution Statement

Consumers’ beliefs and experiences about economic mobility could potentially impact their perceptions about society’s economic reality and its financial outlooks. Despite the importance of perceived economic mobility, it has received scant attention in marketing and consumer research. Extant economic research has largely focused on understanding the effect of relative economic mobility on issues surrounding welfare policies and subjective wellbeing using proxy measures (Fischer 2009). This research contributes to current understanding by developing a direct measure of perceived economic mobility from the consumers’ perspective and investigating its role in influencing financial goals and financial risk taking. In so doing, we introduce a heretofore unexplored concept—perceived economic mobility, as a key construct in influencing consumer financial wellbeing.

Abstract

This research conceptualizes and develops the Perceived Economic Mobility Scale (PEMS), which measures the degree to which individuals perceive a society as mobile in the way that it allows people to move up the economic ladder in relative standing. A series of six studies provided evidence that PEMS possesses a replicable unidimensional factor structure, reasonable internal consistency, nomological and discriminant validity, known-group validity, and predictive validity. Following that, two empirical studies revealed that PEMS predicts financial risk-taking such that people take more financial risks when they perceive society as economically mobile.
Economic mobility, or the ability of individuals to move up the economic ladder, is a fundamental value in the United States, one that defines the American Dream. But what happens when that belief is no longer supported by economic reality? Recent polls show that people are becoming increasingly pessimistic about their chances of achieving the American Dream feeling that they are being shut out from the nation’s prosperity (Cillizza 2014; Economic Mobility Project 2009/2011). It is not surprising that economic mobility will be a defining theme for the upcoming presidential campaign in 2016 (Rucker and Balz 2015). Echoing this sentiment in her speech at the New America Foundation, Hillary Clinton said: “Americans are finding it harder than ever to get their footing in our changing economy. The dream of upward mobility that made this country a model for the world feels further and further out of reach.” (May 2014).

Since World War II, the U.S. has enjoyed great economic growth and prosperity. Each generation achieves a higher standard of living than the prior generation, showing a high level of *absolute* mobility (Bengali and Daly 2013). More recently, however, cross-national studies have repeatedly shown that the U.S. appears to fall short on *relative* economic mobility, such that people are stuck in the same sphere without changing their relative standing in society. For example, in the U.S., 42% of men born into the bottom fifth end up in the same place, while only 8% of men at the bottom rose to the top fifth. Compared to other European countries such as Denmark and Sweden, where only 25 to 28% of men born in the bottom fifth remain in the same place and about 11 to 14% of men rose up to the top fifth, the U.S. shows a higher amount of stickiness between generations (Jäntti et al. 2006). Such low relative mobility in a country that prides itself as a classless society has been attracting a lot of attention in academia. However, most of the attention has been given to measuring mobility (Aaberge, Mogstad, and Peragine 2011), and comparing the mobility rates of various groups in different societies (Chetty et al.)
Corak 2013). Surprisingly, little attention has been paid to understanding how it influences consumers’ behaviors and lives at an individual level. We believe it is due to the absence of a sound instrument to assess subjective perception of economic mobility. Thus, we propose a scale to measure perceived economic mobility focusing on relative mobility.

There are several important reasons why a scale that measures subjective perception about economic mobility is needed even if objective measures of economic mobility already exist in the literature. First, objective measures of economic mobility do not necessarily reflect actual perception. In Fischer’s (2009) study, for example, one’s perception about mobility (that was measured by proxy questions) does not correlate with one’s actual economic mobility level. Subjective perception can vary by religious orientation, political attitude, national ethos, personal experiences in addition to the actual level of mobility in society. As Miller (1960) advocated: “It is erroneous to posit interchangeabilities among and between the objective and subjective dimensions of mobility…” (p. 16), the psychology of social mobility is different from the objective rates of mobility. Thus, perceived and actual mobility in society are not necessarily one and the same.

Second, joint use of objective and subjective measures is more helpful in getting a complete picture. Objective measures are incomplete by themselves, since they are derived from a few measurable aspects (e.g., correlation of father’s and children’s incomes). In contrast, subjective indicator assesses people’s overall judgment about mobility and captures how people are experiencing it. While policy makers need to know about the actual state of affairs, they also need to know about the subjective reality as perceived by their constituents, since social policy can never be limited to mere material matters (Veenhoven 2002).
Finally, within the same society, individuals from different socioeconomic or ideological segments are likely to experience different levels of perceived economic mobility (Miller 1960), with different implications on their adaptive behaviors. For example, people from different socioeconomic segments in the same society have shown different opinions on income inequality and preferences on welfare policies (Norton and Ariely 2011). Hence, understanding perceived economic mobility could be a key factor in accounting for such differences and could offer important insights for policy makers in addressing conflicting issues between different segments in society.

Although researchers have begun to investigate perceived economic mobility recently (Bjørnskov et al. 2013; Fischer 2009), our understanding is currently limited due to the following reasons. First, extant research is largely based on proxy questions that do not measure perceived economic mobility directly. Examples include questions on the importance of hard work (“for getting ahead, how important is hard work?” in General Social Survey), poverty attribution (“poor people are poor because of laziness and lack of will power” in World Value Survey), and political preference (Liberal vs. Conservative in the General Social Survey). Although these questions bear some relevance to the concept of perceived economic mobility, such single-item measures are prone to psychometric problems such as content and construct validity, internal consistency, and test-retest reliability (Hinkin 1995). Furthermore, the unwieldy formats of these proxy measures have meant limited usefulness for consumer research. Second, most research largely stemmed from economics, focusing on issues surrounding income distribution and subjective wellbeing, and such research lacks insights on how perceived economic mobility alters consumer behavior and decision making. Hence, inquiries from other domains are particularly needed, especially those rooted in marketing and consumer research.
We aim to achieve three objectives in this research. First, we develop a multi-item scale of perceived economic mobility (PEMS) and demonstrate its psychometric properties. Second, we explore the role of perceived economic mobility in motivating consumers’ economic striving in terms of financial aspirations and work orientation. Finally, we show how such economic expectations influence consumers’ risk taking behaviors, thus demonstrating the motivating benefit of perceived economic mobility toward future success and goal commitments (Laurin, Fitzsimons, and Kay 2011; Molden and Dweck 2006). In the next sections, we first provide a conceptualization of PEMS and consumers’ lay theories that underlie this model. This is followed by six studies where we develop and evaluate the validity of the scale.

**CONCEPTUALIZATION OF PEMS**

The Perceived Economic Mobility Scale (PEMS) assesses individual perception about the extent to which society allows people to move up or down the economic ladder in relative standing. People perceiving high economic mobility may believe that they are able to move up the economic ladder regardless of the circumstance of birth, while people perceiving low economic mobility may believe that it is hard to change the economic status to which they are born into. We draw from people’s naïve or “lay” theories about the social world to provide the conceptual framework of PEMS (Molden and Dweck 2006). Just as people have a lay notion of rationality, the notion of using reason rather than feelings to guide decisions (Hsee et al. 2015), we propose that people also have a lay notion of how economic status can be attained in society. The PEMS thus assesses people’s interpretations of their achievement prospects and financial outcomes in the society that they live in.

The literature on the social-cognitive ideology of personal striving suggests that people structure and interact with the world differently on the basis of the meaning they assign to events
in their social and physical environments (Jost et al. 2003). People’s lay theories help them find meaning in their own and others’ social actions across a wide variety of circumstances (Langer 1972): life is fair (Lerner 1980); the system is just (Jost and Banaji 1994); and prosperity is the reward of hard work and frugality (Mirels and Garrett 1971). The meanings that people construct between cause and effect can in turn dramatically alter basic psychological processes such as self-regulation (Laurin et al. 2011) and social perception (Jost and Banaji 1994). People’s lay theories thus appear to serve as core assumptions that create a larger system of allied social beliefs, actions, and goals.

**Just-world Belief, System Justification, and Protestant Work Ethics**

There are several lay theories that are well known and related to perceived economic mobility: just-world belief, system justification, and Protestant work ethics. They generally serve a similar ideological function, namely, to legitimize the existing social arrangements (Jost et al. 2003). Lerner’s (1980) just-world theory is one of the most influential lay theory in social cognition; which proposes that people have a need to believe that their social system is one in which people get what they deserve and deserve what they get. Consequently, when people cannot reconcile economic reality from the perceived fairness of society, they will restore *psychological justice* by altering their perception of the situation (“poor people do not try as hard”) so that society appears fair. There is a great deal of evidence to suggest that many people view the world as a just place, where a person’s merit and his fate are closely aligned, such that we tend to blame the victims of poverty in our society for not working harder to overcome their adversity (Rubin and Peplau 1975).

System justification theory emerges out of people’s fundamental need to believe in the institutions, organizations and norms (i.e. “system”) within which that they function, how they
make sense of the world in which they live and exist (Jost and Banaji 1994). This is because they are dependent on the “system” and are motivated to believe that the “system” is fair, just, and legitimate (Jost et al. 1994). Since people are unable to leave the system, despite its shortcomings, they are left to defend and justify it, thus supporting the status quo. System justification theory is similar to just-world belief in that the former could lead members of disadvantaged groups to judge their social systems as fair and legitimate, despite the fact that these systems contribute to their disadvantage; while the latter attribute members of disadvantaged group for being responsible for their own predicament.

While just-world belief and system justification might be correlated with PEMS, we do not see PEMS as driven by the need for coping with the harsh realities of the world. Rather, PEMS is one’s subjective reality that is heavily shaped by one’s experiences (e.g., income change) and the objective mobility of the society in which one lives. Furthermore, while just-world belief and system justification mostly focus on the assessment of current outcomes (i.e., how fair they are), it is only a subset of PEMS, which also captures one’s expectation about the future. PEMS assesses how strongly we believe that current actions (e.g., hard work, motivation as opposed to circumstance of birth) could determine future outcomes, and in turn, strongly predicts one’s perceived probability of success in the future. Lastly, while just-world belief and system justification broadly capture one’s belief about morality and justice, PEMS narrowly focuses on economic matters.

Originating in Weber’s work (1930/1992), the Protestant work ethics has been defined as a dispositional variable characterized by a belief in the importance of hard work and frugality which acts as a defense against sloth, sensuality, sexual temptation and religious doubt (Mirels and Garrett 1971). Similar to Protestant work ethics, PEMS also emphasizes the importance of
hard work. However, PEMS focuses on the causal belief or perception that hard work leads to material success, whereas Protestant work ethics emphasizes hard work as its own moral reward regardless of the material consequences.

**Lay Theories on Social Mobility**

There are also several lay theories linking different types of relative mobility in societies to other social outcomes: job mobility and fixed world belief (Chen, Chiu, and Chan 2009), relational mobility and generalized trust (Yuki et al. 2007), and residential mobility to personal versus collective self-concept (Oishi, Lun, and Sherman 2007). Similar to PEMS, these concepts of mobility also focus on how the socioecological environment comes to shape our lay notions of career and relationship success as well as our definitions of self. For example, Chen et al. (2009) show that relative job mobility in society serves as a structural factor that constrains entry into social positions and reinforces the importance of individual role identities for success and as such, engenders beliefs in a fixed world (that favors role conformance rather than independence). Relational mobility refers to the amount of opportunities individuals have in a social context to select new relationship partners when necessary. It has been shown that differences in societal levels of relational mobility influences the levels of generalized trust, which is reflected in job turnover rates, divorce rates, and number of acquaintances in a geographic region (Yuki et al. 2007). Similarly, research on the effect of residential mobility shows that personal identity (as defined by traits, skills, and abilities) is more important for frequent movers’ self-definition; while the collective self (as defined by group membership and social background) is more important to non-movers, which also determines duties and obligations in friendship (Oishi 2010).
Collectively, these lay theories serve important roles in linking individual’s lived experiences to their subsequent behaviors ranging from economic striving (e.g., PEMS in next section), job switching (job mobility), divorce and remarriage (relational mobility), or friendship strategies (residential mobility). The overarching motivations for constructing these meaning systems may well be our universal needs for prediction and control, and the mechanisms by which such meaning systems operate may reflect our universal cognitive and affective processes. Empirical research in the relationship between lay theories and meaning systems thus allow us to integrate individual perceptions to interpretations of self and social phenomena. For example, Laurin et al. (2011) find that belief in societal fairness offers self-regulatory benefits for members of socially disadvantaged groups, allowing them to more confidently commit to long-term goals, despite the disparate economic outcomes that they face, as compared to the advantaged group in society. This is especially true if members of disadvantaged group strive for a change in social status that is only possible if society is fair enough to permit such upward mobility. They find that both chronic and experimentally induced fairness beliefs can lead to an increased motivation to pursue important long-term goals such as academic success and career achievement.

PEMS AND CONSUMER BEHAVIORS

Economic Striving

In their study on adolescents’ theories about economic inequality, Flanagan et al. (2014) find that adolescents give credit to the wealthy for working hard (31%), and less so to one’s birth and background (11%). The prevalence of such lay theories about economic mobility is consistent with findings for the general public especially in the U.S. In a survey of 27 countries, Americans showed stronger faith that they will receive economic rewards for individual effort, intelligence, and skills, despite what the objective evidence shows (Isaacs, Sawhill, and Haskins
Furthermore, more than 90% of Americans agree that hard work is either "very important" or "one of the most important" factor that determines one’s economic success (Lasky 2011).

Such a linkage between economic success and individual action has a strong impact on how willing and interested they are in engaging in financial success goals (Bandura 1986; Dweck, Chiu, and Hong 1995). Specifically, when a goal (e.g., financial success) is believed to be attainable by their own actions, the motivation level rises (Bagozzi and Dholakia 1999; Brehm and Self 1989) and people feel more confident about their future outcomes (Weinstein 1980). Thus, people’s perception about the extent to which they can move up the economic ladder is likely to influence their motivation to achieve financial success, and in turn, economic striving.

**Financial Risk Taking**

PEMS could also lead to greater financial risk taking such that people with higher PEMS may interpret the same environmental cues about a decision more positively, thus taking on greater risks. Research on risk taking shows that people differ on risk taking behavior because they differ on the expectation of gains and losses (Krueger and Dickson 1994; Weber and Milliman 1997), and the expectation is determined by one’s perceived controllability (Langer 1975; Weinstein 1980). If social ranks and status are seen as malleable in society, one can feel a greater sense of control over one’s own actions in determining economic outcomes, as one links economic success to individual action (Isaacs et al. 2008). Thus, people with high PEMS may feel confident about overcoming economic obstacles through their abilities or hard work and believe that their efforts could pay off in the end.
A greater sense of confidence that individual actions can bring about a positive outcome increases one’s proclivity to risk, even for a task that one has no real control. In an experimental study, Krueger and Dickson (1994) show that subjects who received positive feedback about prior decision tasks also saw more opportunities in subsequent unrelated gambling tasks and took more risks in the gambles. Therefore, we propose that high PEMS could lead one to take more risks. However, their risk preference will be confined to the economic domain, since PEMS may capture consumers’ confidence about economic matters only.

The research reported in the remainder of this article relates to the development and validation of PEMS, and the exploration of the relationship between PEMS and financial risk taking. In Study 1, we first describe the procedures used to generate and refine items. Study 2 finalizes eight items for PEMS and examines model fit, scale reliability, and nomological validity. Study 3 establishes construct validity using known-group validation. Studies 4 and 5 offer evidence of PEMS’s discriminant and predictive validity, by showing that PEMS predicts motivation for financial achievement and work orientation beyond other potentially related scales. Lastly, Studies 6A and 6B explore the relationship between PEMS and risk preferences, and examine the underlying mechanism in this relationship.

**STUDY 1: ITEM GENERATION AND REFINEMENT**

Study 1 involves item generation and refinement. In order to generate the initial pool of items for PEMS, two sources of information were employed: a review of relevant literature and writing task of 217 adult samples recruited from Amazon Mechanical Turk (60% females, average age 31 with range 18-66, median household income range $40,000 to $49,999). Research shows that U.S. workers in the Amazon Mechanical Turk are more representative of
the general population than traditional convenience samples (Buhrmester, Kwang, and Gosling 2011), and is reliable for consumer research (Goodman, Cryder, and Cheema 2013).

The writing task was conducted by asking individuals to list reasons in support or against the sentence “In America, anyone can achieve financial success regardless of the circumstances of birth.” Recurrent themes that emerged among the responses along with concepts reviewed in the literature were used in creating the initial pool of 43 scale items (See Appendix A). Next, these items were evaluated by three faculty members and two doctoral students in related disciplines, following scale development guidelines (Netemeyer, Bearden, and Sharma 2003). Each judge was presented with a written definition of PEMS, and evaluated the representativeness, specificity, and clarity of each item. Based on the feedback, we deleted 17 items and refined the remaining items. This process resulted in a set of 26 items for further analysis.

Next, we conducted a pilot study for additional refinement of the items. One hundred and twenty four adult respondents who are currently living in the U.S. (65% female, average age 32 with range 18-64, median household income range $40,000 to $49,999) were recruited from Amazon Mechanical Turk. The items were presented to the participants in random order and participants indicated how strongly they agree or disagree with each item using a 7-point scale (1 = strongly disagree, 7 = strongly agree). We conducted principal component exploratory factor analysis with Promax rotation and items that did not load .40 or more on any meaningful factor were removed (Netemeyer et al. 2003). Additional items were removed when their item-to-total correlation is no greater than .50 (Netemeyer, Boles, and McMurrian 1996; Tian, Bearden, and Hunter 2001), or when the average inter-item correlation is no greater than .30 (Robinson, Shaver, and Wrightsman 1991). Based on these criteria, seven more items were eliminated.
STUDY 2: ITEM FINALIZATION AND NOMOLOGICAL VALIDITY

Study 2 was conducted with three objectives in mind. First, we sought to finalize items for PEMS and evaluate its goodness of fit. Second, we established the scale’s consistency by examining its test-retest reliability. Third, we tested if PEMS is susceptible to social desirability bias. Our last goal was to establish the nomological validity of PEMS by observing the association of PEMS with personal mobility experience and belief about income distribution.

We recruited 318 U.S.-based respondents from Amazon Mechanical Turk (53% females, average age 32 with range 18-68, median household income range $40,000 to $49,999). Participants completed a survey that included the 19 retained items, which were presented in random order with a 7-point scale, and other measures needed in the current study: personal mobility experience, estimated and ideal income distribution of the U.S., social desirability, political attitude and demographic information (age, gender, and household income). Measures are explained in greater detail when we discuss the results. After three weeks, the 318 respondents who completed the first baseline survey were invited to participate in the second survey in order to examine test-retest reliability. A total of 224 individuals (55% females, average age 33 with range 18-68, median household income range $40,000 to $49,999) completed the second survey that included the 19 potential items of PEMS.

Scale Finalization and Confirmatory Factor Analysis

The baseline survey generated data for scale finalization. Principal component exploratory factor analysis with Promax rotation was conducted with responses on the 19 items. Again, 11 items were removed based on the same criteria as in Study 1 (pilot study). This resulted in a reduced set of 8 items under a single factor. The confirmatory model showed a good fit with the data as indicated by goodness-of-fit measures ($\chi^2 (20) = 79.40; \text{NFI} = .96, \text{EIF} = .97$,
CFI = .97, SRMR = .05). Each indicator’s t-value exceeded 5.00, and the coefficient alpha of the final eight items was .88. Given these results, it is reasonable to conclude that a single factor model fits well. Therefore, we averaged scale responses for each participant as a measure of their location on PEMS (out of a possible range of 1 – 7). Table 1 lists the final eight items of PEMS, factor loadings, mean values, standard deviations, coefficient alphas, and fit indices from Study 2, 3, 4, 5 and 6A/B.

We assessed how PEMS scores are related to the demographic characteristics of respondents. While PEMS score was not correlated with household income ($r = .02, p = .71$) or age ($r = -.05, p = .41$), we found that PEMS score differs by gender: males showed higher scores on PEMS than females (0 = male, 1 = female; $r = -.17, p < .01$), which is not surprising given that males tend to be more optimistic about their ability to influence their own economic outcomes than females (Jacobsen et al. 2014). We also examined the relationship of PEMS and political attitude (1 = extremely liberal, 7 = extremely conservative; $M = 3.41, SD = 1.43$), and found that politically conservative people are more likely to show higher score on PEMS ($r = .45, p < .001$). Given that the core ideology of conservatism stresses justification of inequality and resistance to change (Jost et al. 1994), it is not surprising that conservatives score higher on PEMS.

Next, we tested the vulnerability of PEMS to a social desirability bias. Although we found a positive correlation between PEMS and the social desirability scale (Crowne and Marlowe 1960), the magnitude of the correlation was small and it was only marginally significant ($r = .10, p = .08$). Lastly, we compared responses provided by participants at the two time points in order to assess its test-retest reliability. Results revealed that PEMS had a three-week retest correlation of .87 ($p < .001$), providing support for the stability of the newly developed scale.
### TABLE 1

CONFIRMATORY FACTOR ANALYSIS ITEM LOADINGS AND MODEL FIT

<table>
<thead>
<tr>
<th>Study 2 (wave1)</th>
<th>Study 2 (wave2)</th>
<th>Study 3</th>
<th>Study 4</th>
<th>Study 5</th>
<th>Study 6A</th>
<th>Study 6B</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. A child's chances of achieving financial success are tied to the income of his or her parent. *</td>
<td>.42</td>
<td>.60</td>
<td>.39</td>
<td>.47</td>
<td>.50</td>
<td>.41</td>
</tr>
<tr>
<td>2. It is highly possible to achieve great wealth regardless of the circumstances of birth.</td>
<td>.76</td>
<td>.78</td>
<td>.45</td>
<td>.76</td>
<td>.63</td>
<td>.70</td>
</tr>
<tr>
<td>3. &quot;Hard work equals success&quot; describes the way society works.</td>
<td>.72</td>
<td>.83</td>
<td>.46</td>
<td>.82</td>
<td>.67</td>
<td>.62</td>
</tr>
<tr>
<td>4. There are plenty of opportunities for anyone to go as far as he/she wants.</td>
<td>.87</td>
<td>.87</td>
<td>.80</td>
<td>.92</td>
<td>.89</td>
<td>.78</td>
</tr>
<tr>
<td>5. Everyone has a fair chance at moving up the economic ladder.</td>
<td>.78</td>
<td>.86</td>
<td>.89</td>
<td>.84</td>
<td>.78</td>
<td>.73</td>
</tr>
<tr>
<td>6. Society provides enough opportunities to get ahead for those who are motivated.</td>
<td>.85</td>
<td>.83</td>
<td>.66</td>
<td>.89</td>
<td>.89</td>
<td>.73</td>
</tr>
<tr>
<td>7. Starting in poverty puts one at a distinct disadvantage in life. *</td>
<td>.41</td>
<td>.55</td>
<td>.37</td>
<td>.44</td>
<td>.46</td>
<td>.42</td>
</tr>
<tr>
<td>8. For the most part, people can be educated as much as they want.</td>
<td>.67</td>
<td>.73</td>
<td>.57</td>
<td>.79</td>
<td>.65</td>
<td>.67</td>
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</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>3.85</td>
<td>3.87</td>
<td>4.36</td>
<td>4.03</td>
<td>4.09</td>
<td>4.13</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>1.17</td>
<td>1.18</td>
<td>1.02</td>
<td>1.31</td>
<td>1.14</td>
<td>1.04</td>
</tr>
<tr>
<td>Coefficient α of PEMS</td>
<td>.88</td>
<td>.92</td>
<td>.80</td>
<td>.91</td>
<td>.88</td>
<td>.84</td>
</tr>
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<th>Study 6B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chi-square (df=20)</td>
<td>79.40</td>
<td>65.06</td>
<td>46.58</td>
<td>46.68</td>
<td>72.09</td>
<td>29.75</td>
</tr>
<tr>
<td>NFI</td>
<td>.96</td>
<td>.97</td>
<td>.90</td>
<td>.97</td>
<td>.95</td>
<td>.96</td>
</tr>
<tr>
<td>IFI</td>
<td>.97</td>
<td>.98</td>
<td>.92</td>
<td>.98</td>
<td>.96</td>
<td>.99</td>
</tr>
<tr>
<td>CFI</td>
<td>.97</td>
<td>.98</td>
<td>.92</td>
<td>.98</td>
<td>.96</td>
<td>.99</td>
</tr>
<tr>
<td>SRMR</td>
<td>.05</td>
<td>.04</td>
<td>.08</td>
<td>.04</td>
<td>.06</td>
<td>.05</td>
</tr>
</tbody>
</table>

*Reverse scored items

**NOTE.**—All loadings estimated were statistically unequal to zero (p < .05).
Nomological Validity

*Personal mobility experience.* We expected people who have experienced intergenerational mobility or income change to show higher scores on PEMS, since personal experience plays a critical role in shaping one’s perception about economic mobility. Intergenerational mobility was assessed by asking participants to evaluate their current economic standing (relative to others) as compared to their parents at the age they are now (1 = much lower, 2 = somewhat lower, 3 = about the same, 4 = somewhat higher, 5 = much higher; $M = 2.99$, $SD = 1.26$). We compared PEMS score between participants who experienced higher/similar/lower economic standing than their parents (PEMS higher = 4.13, PEMS same = 3.62, PEMS lower = 3.68). Participants with higher economic standing than parents showed significantly higher scores on PEMS than participants with the same ($p < .01$) or lower economic standing ($p < .01$). PEMS scores did not significantly differ between participants with lower economic standing and same economic standing as parents ($p = .90$).

Next, participants indicated their income change in the past 5 years (1=has decreased very much, 2= has decreased somewhat, 3=has stayed the same, 4=has increased very much somewhat, 5= has increased very much; $M = 2.23$, $SD = 1.09$). We again compared PEMS scores between participants whose income has increased/stayed the same/decreased (PEMS increased = 4.06, PEMS same = 3.70, PEMS decreased = 3.62). PEMS scores were significantly higher for participants with positive income change than for participants with no change ($p < .05$) or negative change ($p < .05$). However, PEMS scores were not significantly different between participants with negative change and participants with no change ($p = .88$). This pattern of results revealed that PEMS is influenced by personal mobility experiences, but only by upward mobility (vs. downward mobility). People tend to attribute good outcomes to one's self (i.e., an
internal or dispositional cause) and bad outcomes to external or situational causes (Miller and Ross 1975). Therefore, people will attribute their experience of upward mobility to their actions, while they will attribute their experience of downward mobility to external factors such as economic recession or low mobility. Given that PEMS captures one’s perceived connectedness of economic outcomes and individual actions, people who have experienced upward (downward) mobility would be likely to show higher (lower) PEMS score.

Belief about income distribution. Next, we observed the relationship between PEMS and one’s belief about income distribution. Previous research shows that people’s estimation of income distribution vary substantially from each other (Norton and Ariely 2011) and a key factor that influences individual perception on income distribution is perceived economic mobility. Belief in a fair system and openness to opportunities leads people to underestimate the degree of income inequality (Alesina, Di Tella, and MacCulloch 2004). Furthermore, people perceiving high (vs. low) economic mobility are more likely to accept wide income gaps, since high perceived economic mobility legitimizes income inequality (Alesina and La Ferrara 2005; Piketty 1995) and results in brighter outlook for both their own and their children’s future income (Benabou and Ok 1998). Therefore, we expected to see people with high (vs. low) scores on PEMS to estimate national income distribution more equally and favor income inequality.

Participants’ estimated and ideal income distribution in the U.S. was assessed by adapting questions from Norton and Ariely (2011). Participants indicated what percent of income they thought was earned by each of the five quintiles in the U.S. (i.e., estimated income distribution) and what percent of income each of the quintiles ideally should hold (i.e., ideal income distribution). In a pre-analysis check, responses of twenty six participants were removed, since they did not understand these questions correctly by indicating income earned by the top 20% as
less than 20%. Figure 1 presents the actual income distribution in the U.S. (Census Bureau 2013), participants’ overall estimate of that distribution, and their ideal distribution. It also presents these estimates broken down by two levels of PEMS score using a median split.

**FIGURE 1**

**ACTUAL, ESTIMATED, AND IDEAL INCOME DISTRIBUTION IN THE U.S., STUDY 2**

<table>
<thead>
<tr>
<th>Actual (Census Bureau)</th>
<th>Estimated (n = 292)</th>
<th>Estimated (PEMS ≥ 3.85, n = 155)</th>
<th>Estimated (PEMS &lt; 3.85, n = 137)</th>
</tr>
</thead>
<tbody>
<tr>
<td>top 20%</td>
<td>51</td>
<td>53.67</td>
<td>48.83</td>
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<tr>
<td>2nd 20%</td>
<td>23</td>
<td>16.41</td>
<td>16.95</td>
</tr>
<tr>
<td>Middle 20%</td>
<td>14.4</td>
<td>13.37</td>
<td>15.35</td>
</tr>
<tr>
<td>4th 20%</td>
<td>8.4</td>
<td>9.4</td>
<td>10.42</td>
</tr>
<tr>
<td>Bottom 20%</td>
<td>1.2</td>
<td>7.14</td>
<td>8.44</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ideal (n = 292)</th>
<th>Ideal (PEMS ≥ 3.85, n = 155)</th>
<th>Ideal (PEMS &lt; 3.85, n = 137)</th>
</tr>
</thead>
<tbody>
<tr>
<td>top 20%</td>
<td>28.01</td>
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<tr>
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<td>21.39</td>
</tr>
<tr>
<td>4th 20%</td>
<td>15.81</td>
<td>14.9</td>
</tr>
<tr>
<td>Bottom 20%</td>
<td>12.69</td>
<td>11.46</td>
</tr>
<tr>
<td>top 20%</td>
<td>25.51</td>
<td>25.51</td>
</tr>
<tr>
<td>2nd 20%</td>
<td>21.85</td>
<td>21.85</td>
</tr>
<tr>
<td>Middle 20%</td>
<td>21.74</td>
<td>21.74</td>
</tr>
<tr>
<td>4th 20%</td>
<td>16.83</td>
<td>16.83</td>
</tr>
<tr>
<td>Bottom 20%</td>
<td>14.07</td>
<td>14.07</td>
</tr>
</tbody>
</table>

As predicted, people with high scores on PEMS estimated the income distribution to be more equal. As compared to people with low scores on PEMS, they estimated that the top 20% makes less income ($p < .001$) and the bottom 20% makes more income ($p < .05$). In terms of ideal distribution, people with high (vs. low) scores on PEMS were more likely to favor unequal distribution, although their ideal income distribution were more equally distributed than their perceived distribution or the actual distribution in the U.S. as reported by the Census Bureau.

Compared to people with low scores on PEMS, they reported that the top 20% should make more income ($p < .01$) and the bottom 20% should make less income ($p < .005$). Study 2 provides support for the nomological validity of PEMS, showing it is closely associated to one’s personal mobility experience, one’s belief about income distribution and support for redistribution policies. These results explain why people in the same society could have different perceptions about economic mobility and hold different perspectives on income inequality issues.
STUDY 3: KNOWN-GROUP EVALUATION

Next, we employed a known-group validation strategy to evaluate PEMS’s construct validity. When naturally existing groups meaningfully differ on a scale in question, a known-group validation test is appropriate (Cronbach and Meehl 1955). Thus, in Study 3, we collected PEMS scores from Asian immigrants in the U.S. and compared the scores to those of the respondents who participated in Study 2. There are perhaps no greater believers in the American Dream than immigrants, who often leave behind everything to build new lives in the U.S. They believe that it provides superior opportunities of upward mobility as compared to those of their home countries (Wampler, Chavez, and Pedraza 2009). In particular, Asian immigrants have achieved huge educational and occupational achievement and upward mobility in the U.S. (Reeves and Venator 2014), thus they tend to be optimistic about their chances of one day achieving the American Dream (Cohen-Marks and Stout 2011). Therefore, we expected Asian immigrants to show higher score on PEMS than the general population in the U.S.

We collected PEMS score from first-generation Asian immigrants using convenience sampling. One hundred and nine responses were collected (93% Koreans, 6% Chinese, 68% females, average age 34 with range 18-55, median household income range $30,000 to $39,999) from a church \((n = 34)\) and a language program \((n = 37)\) in a large Midwestern city and from a website that Korean immigrants visit (Missycoupon.com, \(n = 38\)). They all participated in the study voluntarily. Their average length of stay in the U.S. was 8.5 years. Twenty seven respondents have U.S. citizenship, twenty three people hold green cards, and the others are visa-holders. Different resident status \((p = .25)\) or data collection source \((p = .16)\) did not make a significant difference in PEMS scores. For participants who are not fluent in English, we also developed a Korean language questionnaire using back translation (Brislin 1970) with two
independent translators who are fluent in both Korean and English. Participants chose a language they were more comfortable with. Seventy seven participants responded to the Korean version while thirty two responded to the English version. Different language versions did not result in significant differences in PEMS scores \((p = .21)\).

Consistent with our expectation, the mean for the 8-item PEMS was markedly higher for the Asian immigrants \((M = 4.36, SD = 1.02)\) than for the general population in Study 2 \((M = 3.87, SD = 1.18, p < .01)\). When we included covariates (age, gender and household income), the difference became more pronounced \((p < .001)\). In addition, we compared the PEMS scores of the Asian immigrants to the scores gained from the rest of our studies (studies 4, 5, 6A, and 6B). Again, it was significantly higher than scores of Study 4 \((p < .05; \text{with covariates } p < .001)\), Study 5 \((p < .05; \text{with covariates } p < .05)\), Study 6A \((p < .08; \text{with covariates } p < .001)\), and Study 6B \((p < .005; \text{with covariates } p < .001)\). This known group test provides additional evidence for PEMS’s construct validity.

**STUDY 4: DISCRIMINANT AND PREDICTIVE VALIDITY OF PEMS**

Studies 4 and 5 sought to establish discriminant and predictive validity of PEMS. As we discussed earlier, PEMS captures one’s perceived control over economic matters leading to optimistic expectation about future economic outcomes (Weinstein 1980), stronger motivation and commitment to the financial success (Bandura 1993). Thus, we expected that PEMS would predict financial aspiration, expected future economic standing and work orientation beyond the other related constructs. Considering the length of the surveys, Studies 4 and 5 tested different subsets of related scales.

In Study 4, we recruited 207 participants (57% females, average age = 33 years, age range 19 - 72 years, median household income in the range of $40,000-49,999) from Amazon
Mechanical Turk. Participants completed a survey containing questions on financial aspiration (Kasser and Ryan 1996), expected economic status on a revised MacArthur scale of subjective social status (Goodman et al. 2001), and work and family orientation scale (Helmreich and Spence 1978; 1 = strongly disagree, 7 = strongly agree) that consists of three dimensions: work orientation that captures the desire to do one's best in whatever one undertakes, mastery that captures persistence in accomplishing difficult tasks, and competitiveness that is concerned with enjoying challenging situations. These questions are presented in Appendix B. After a filler task, participants completed measures of PEMS, just-world belief (Lipkus 1991), system justification (Kay and Jost 2003), and Protestant work ethics (Mirels and Garrett 1971) on a 7-point scale (1 = strongly disagree, 7 = strongly agree). Individual scores were averaged to form an index of each scale. Gender, age, and household income were also measured. Gender (0 = male, 1 = female; \( r = -.20, p <.01 \)) and household income (\( r = .17, p <.05 \)) were correlated with PEMS, while age was not correlated with PEMS.

### TABLE 2

DESCRIPTIVE STATISTICS AND CORRELATION OF THE VARIABLES, STUDY 4

<table>
<thead>
<tr>
<th></th>
<th>1</th>
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<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
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<td>5. Financial aspiration</td>
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<td>.13</td>
<td>.15*</td>
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<tr>
<td>6. Expected economic standing</td>
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<td>.28**</td>
<td>.18**</td>
<td>.24**</td>
<td>.46**</td>
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<td>.24**</td>
<td>.28**</td>
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<td>8. Mastery of WOFO</td>
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<td>.14*</td>
<td>.07</td>
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<td>.32**</td>
<td>.30**</td>
<td>.53**</td>
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<td></td>
</tr>
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<td>9. Competitiveness of WOFO</td>
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<td>.13†</td>
<td>.22**</td>
<td>.44**</td>
<td>.40**</td>
<td>.31**</td>
<td>.30**</td>
<td>.32**</td>
<td></td>
</tr>
</tbody>
</table>

\( M \) | 4.03 | 4.73 | 3.97 | 4.28 | 3.11 | 6.01 | 5.60 | 4.34 | 4.44 |

\( SD \) | 1.31 | 1.13 | 1.27 | .74  | .89  | 1.81 | 1.06 | .92  | 1.38 |

Coefficient \( \alpha \) | .91  | .93  | .89  | .83  | .73  | \( ns \) | .92  | .76  | .88  |

NOTE.—** \( p < .01 \), * \( p < .05 \), † \( p < 0.1 \)

PEMS: Perceived Economic Mobility Scale; WOFO: Work and Family Orientation
First, we assessed the correlational relationship between PEMS and other related measures that are potentially related. As shown in Table 2, PEMS was positively correlated with just-world belief, system justification, and Protestant work ethic, which is not surprising given that they serve a similar ideological function. In order to test the discriminant validity of PEMS from these constructs, we conducted a confirmatory factor analysis of PEMS and these three scales. Specifically, we tested whether a model in which PEMS and each of these three scales were allowed to covary, fits the data better than a unidimensional model that assumes perfect correlation between the two factors (Anderson and Gerbing 1988). As expected, PEMS is distinct from just-world belief ($\chi^2_d (1) = 21.15$), system justification ($\chi^2_d (1) = 23.40$), and Protestant work ethics ($\chi^2_d (1) = 22.08$). A more rigorous test of discriminant validity was also applied in which the average variance extracted (AVE) for each construct was evaluated (Fornell and Larcker 1981). None of the squared correlations exceeded the AVE values (AVE PEMS = .60, AVE just-world belief = .63, AVE system justification = .54, AVE Protestant work ethics = .38) indicating that PEMS is distinct from these three constructs.

Next, we examined if PEMS adds unique variance beyond that explained by these related scales. A series of hierarchical regression analyses were conducted for each of the outcome variables. In each hierarchical regression, just-world belief, system justification, and Protestant work ethics scales were entered in the first block, and PEMS was entered in the second (Table 3). All independent variables were mean-centered, and gender, age, and household income were included as covariates. Results showed that PEMS significantly predicts financial aspiration, expected economic standing, and three subscales of work and family orientation over and above the three related constructs. People with high scores on PEMS had stronger aspiration for financial success and expected higher economic status in the future. Furthermore, they were
more strongly motivated to work hard and persist in difficult and challenging work. Although Protestant work ethics, system justification, and just-world belief were all significant to varying degrees in step 1, PEMS still accounted for an additional 2-5% of variance in step 2. Study 4 thus provides support for the discriminant and predictive validity of PEMS, showing it is able to predict motivation for financial achievement beyond other potentially related constructs.

**TABLE 3**

<table>
<thead>
<tr>
<th>HIERARCHICAL LINEAR REGRESSIONS, STUDY 4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>step</strong></td>
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<tr>
<td></td>
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<tr>
<td>Financial aspiration</td>
</tr>
<tr>
<td>Expected economic standing</td>
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<tr>
<td>Work orientation of WOFO</td>
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<tr>
<td></td>
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<tr>
<td>Mastery of WOFO</td>
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<td></td>
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<tr>
<td>Competitiveness of WOFO</td>
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</tbody>
</table>

Note.—** p < 0.01, * p < 0.05, † p < 0.1

JWB: Just-world belief; SJ: System Justification; PWE: Protestant Work Ethics; PEMS: Perceived Economic Mobility Scale; WOFO: Work and Family Orientation

**STUDY 5: DISCRIMINANT AND PREDICTIVE VALIDITY OF PEMS**

Study 5 sought to provide additional evidence for the discriminant validity of PEMS by comparing PEMS to other personality constructs: optimism, self-efficacy, and economic locus of control. Optimism, which refers to one’s tendency to believe that one will generally experience good vs. bad outcomes in life (Scheier, Carver, and Bridges 1994), might correlate with PEMS since optimistic individuals may see more opportunities in life for them to get ahead. Self-efficacy may be closely associated with PEMS, in that perceiving high economic mobility can affect one’s confidence to cope with difficult demands in life. Perceiving high economic mobility
is also expected to result in high internal locus of control over economic outcomes. Thus, it would be important to see if PEMS could add unique explanatory power on the motivation for financial achievement and work orientation beyond these measures.

A total of 207 U.S. resident adults (60% females, average age= 34 years, age range 18-71 years, median household income range $50,000 to $59,999) were recruited from Amazon Mechanical Turk. Participants completed a survey that included the same set of questions on financial aspiration, expected future economic standing and work orientation as in Study 4. Participants also responded to PEMS, optimism scale (Scheier et al. 1994), self-efficacy scale (Schwarzer and Jerusalem 1995), internal and chance subscales of the economic locus of control (Furnham 1986), and demographic questions (age, gender, and household income). All of the scales were measured on a 7-point scale (1 = strongly disagree, 7 = strongly agree), and individual responses were averaged to form an index of each scale. In the current study, none of the demographic measures was correlated with PEMS. Table 4 presents the descriptive statistics and zero-order correlation between these measures.
### TABLE 4

DESCRIPTIVE STATISTICS AND CORRELATION WITH PEMS, STUDY 5

<table>
<thead>
<tr>
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<th>2</th>
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<td>7. Expected economic standing</td>
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<tr>
<td>9. Mastery of WOFO</td>
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<td>.19**</td>
<td>.41**</td>
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<tr>
<td>( M )</td>
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<td>5.28</td>
<td>5.22</td>
<td>3.04</td>
<td>3.15</td>
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<td>.79</td>
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Note.— ** \( p < 0.01 \), * \( p < 0.05 \), † \( p < 0.1 \)
PEMS: Perceived Economic Mobility Scale; ELOC: Economic Locus Of Control; WOFO: Work and Family Orientation
As shown in Table 4, PEMS was significantly correlated with optimism, self-efficacy, internal and chance subscale of economic locus of control. The chi-square difference test (Anderson and Gerbing 1988) supports the discriminant validity of PEMS from optimism ($\chi^2_{d}(1) = 39.41$), self-efficacy ($\chi^2_{d}(1) = 33.03$), internal ($\chi^2_{d}(1) = 41.60$) and chance subscale of economic locus of control ($\chi^2_{d}(1) = 68.91$). Furthermore, none of the squared correlations exceeded the AVE values ($\text{AVE}_{\text{PEMS}} = .53$, $\text{AVE}_{\text{optimism}} = .59$, $\text{AVE}_{\text{self-efficacy}} = .59$, $\text{AVE}_{\text{internal ELOC}} = .43$, $\text{AVE}_{\text{chance ELOC}} = .28$) (Fornell and Larcker 1981). Using the same hierarchical regression approach as Study 4, we found that PEMS significantly predicts financial aspiration, expected economic standing, and work and family orientation over and above other related personality traits (Table 5). Although PEMS was not the most powerful predictor, PEMS added unique variance beyond other related personality traits. Therefore, Study 4 and 5 provide evidence of PEMS’s usefulness in predicting motivation for financial achievement and work orientation beyond that predicted by existing ideology or personality measures.

**TABLE 5**

<table>
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<tr>
<th>step</th>
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<th>Self-efficacy</th>
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<th>Chance ELOC</th>
<th>PEMS</th>
<th>$R^2$</th>
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<tr>
<td></td>
<td>2</td>
<td>-.04</td>
<td>.36**</td>
<td>.01</td>
<td>-.15*</td>
<td>.16*</td>
<td>.26</td>
</tr>
<tr>
<td>Mastery of WOFO</td>
<td>1</td>
<td>.04</td>
<td>.29**</td>
<td>.16*</td>
<td>.08</td>
<td></td>
<td>.20</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>.03</td>
<td>.31**</td>
<td>.08</td>
<td>.13†</td>
<td>.19*</td>
<td>.24</td>
</tr>
<tr>
<td>Competitiveness of WOFO</td>
<td>1</td>
<td>-.04</td>
<td>.05</td>
<td>.29**</td>
<td>.12</td>
<td></td>
<td>.14</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>-.06</td>
<td>.06</td>
<td>.21*</td>
<td>.16*</td>
<td>.20*</td>
<td>.17</td>
</tr>
</tbody>
</table>

Note.– ** $p < 0.01$, * $p < 0.05$, † $p < 0.1$

PEMS: Perceived Economic Mobility Scale; ELOC: Economic Locus Of Control; WOFO: Work and Family Orientation
STUDY 6: PEMS AND FINANCIAL RISK TAKING

The evidence presented thus far suggests that PEMS is reliable, distinct from related constructs, and predictive of motivation for financial achievement. The next step is to show the usefulness of PEMS in predicting consumer behaviors. In Study 6, we explore if PEMS positively predicts risk taking in the financial domain (Study 6A), and if the effect of PEMS on financial risk taking is driven by the expectation of positive outcomes (Study 6B).

Study 6A

Method. One hundred and fifty four undergraduate students at a large Midwestern university (67% females, mean age = 20.3 years with range 18-28, median household income range $100,000 to 119,999) participated in the current study in exchange for partial course credit. Participants completed a questionnaire which included risk taking tasks, PEMS, and demographic information (age, gender, household income). Household income (r = .19, p < .05) was significantly correlated with PEMS. Risk taking tasks were adapted from Hsee and Weber (1999, see Study 2). The questions tested risk taking in three contexts: investment, essay, and medicine. In the investment context, participants were asked to imagine that they had some savings and to decide whether to buy a stock with a variable return rate or to put the money in a saving account with a fixed return rate. In the essay context, they decided whether to write a term paper on a conservative topic or on a provocative topic. In the medicine context, they chose between medicines with either a specified effectiveness or a probabilistic effectiveness. Three contexts were presented in random order. They made three choices in each context, and the number of risky choices constituted the dependent variable (i.e., risk taking index) that ranges from 0 indicating most risk-averse to 3 indicating most risk-taking (investment: \( M = 1.19, SD = .76 \); essay: \( M = 1.44, SD = .70 \); medicine: \( M = 1.19, SD = .64 \)).
Results. In order to test whether the different contexts interacted with PEMS, we submitted participants’ risk taking index to a 2 (PEMS by median split: high, low) × 3 (context: investment, essay, and medicine) mixed-model ANOVA with repeated measures on contexts. In support of our prediction, there was a significant interaction effect of context and PEMS \[F(2, 152) = 4.24, p < .05\]. While there was no main effect of PEMS \[F(2, 152) = 1.49, p = .22\], there was a main effect of context \[F(2, 152) = 8.05, p < .001\] such that participants displayed a stronger risk preference for the essay than medicine or investment. Deconstructing the interaction by context revealed, for choices regarding investment, people with high (vs. low) PEMS scores were more likely to prefer risky options. However, these two groups did not show significant differences in choices in the other two contexts. Table 6 reports the mean and standard deviation (in parentheses) of risk taking index of these two groups. The results remained the same when we added age, gender, and household income as covariates: there was a significant interaction between context and PEMS \[F(2, 149) = 6.79, p < .05\] and a significant difference between low PEMS and high PEMS participants only in the investment context \[F(1, 149) = 4.51, p < .05\].

**TABLE 6**

<table>
<thead>
<tr>
<th>Context</th>
<th>Mean (standard deviation)</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Participants with high PEMS scores (PEMS ≥ 4.13, n = 75)</td>
<td>Participants with low PEMS scores (PEMS &lt; 4.13, n = 79)</td>
</tr>
<tr>
<td>Investment</td>
<td>1.33 (.81)</td>
<td>1.05 (.68)</td>
</tr>
<tr>
<td>Essay</td>
<td>1.37 (.67)</td>
<td>1.49 (.73)</td>
</tr>
<tr>
<td>Medicine</td>
<td>1.25 (.66)</td>
<td>1.13 (.63)</td>
</tr>
</tbody>
</table>

Discussion. Results revealed that PEMS positively predicts risk taking in the financial domain, but not in the other domains. Although domain-specific risk preference found in Study
6A is consistent with our theorization that people perceiving high economic mobility are likely to have high expectations about economic outcomes, Study 6A did not offer direct evidence that the effect is driven by the expectation about the outcomes other than a general inclination toward risk-taking. Thus, in Study 6B, we directly measured participants’ expectations about outcomes and personality trait (i.e., risk orientation). We expected to see people with high (vs. low) PEMS scores to assign higher probabilities to positive outcomes, and in turn, take more financial risks.

**Study 6B**

*Method.* One hundred and eight U.S.-based adults in Amazon Mechanical Turk participated in the study (60% females, mean age = 34 years with range 19-69, median income range $50,000 to 59,999). Participants completed a questionnaire which included a risk taking choice that was adopted from He et al. (2008), expectation about positive outcome, risk orientation scale that was developed as a personality trait (Rohrmann 2002; See appendix C; coefficient $\alpha$ of risk propensity subscale = .71, coefficient $\alpha$ of cautiousness subscale = .70), PEMS, and demographic questions (age, gender, household income). None of the demographic measures was correlated with PEMS.

Participants were given two investment options: a bank account that offered a guaranteed return of 4% vs. a stock-based mutual fund that offered returns that vary between $+16\%$ and $-2\%$. Participants’ willingness to invest their money in the stock-based mutual fund (0 = I would definitely not invest in the stock fund, 10 = I would definitely invest in the stock fund; $M = 4.44$, $SD = 2.88$) constituted the dependent variable (i.e., financial risk taking). To assess their expectation about the outcomes, we asked participants to report their perceived chance of getting a higher return than 4% via the stock-based mutual fund (0 = pretty low chance, 10 = pretty good chance; $M = 4.21$, $SD = 2.32$). After some filler tasks, all participants responded to a
questionnaire which included PEMS (1 = strongly disagree, 7 = strongly agree), risk orientation scale (1 = not at all like me, 5 = just like me; risk propensity subscale: $M = 3.40$, $SD = .58$; cautiousness subscale: $M = 3.33$, $SD = .48$), and demographic measures (gender, age, household income).

**Results.** In order to test our main prediction, we regressed financial risk taking on mean-centered PEMS and covariates (age, gender, household income). As expected, PEMS had a positive effect on financial risk taking ($\beta = .55$, $t = 2.31$, $p < .05$). Next, we examined if expectation about the outcomes mediates the effect of PEMS on financial risk taking. To test this mediation, we ran a series of regression analyses. First, the expectation significantly predicted financial risk taking ($\beta = .83$, $t = 9.30$, $p < .001$). Second, PEMS also significantly predicted expectation ($\beta = .55$, $t = 2.84$, $p < .01$). Third, when we regressed financial risk taking on PEMS and expectation, the effect of PEMS became insignificant ($\beta = .10$, $t = .55$, $p = .59$), while expectation was still significant ($\beta = .81$, $t = 8.76$, $p < .001$). Bootstrapping analyses (Hayes 2013) with 5,000 resamples also supported the mediating role of expectation on the relationship between PEMS and financial risk taking (95% CI = .1819 to .7794). Lastly, we examined if risk orientation (i.e., personality trait) mediates the relationship between PEMS and financial risk taking. Both the risk propensity and cautiousness subscales were not correlated with PEMS scores (risk propensity: $r = .12$, $p = .21$, cautiousness: $r = .005$, $p = .96$) or financial risk taking (risk propensity: $r = .15$, $p = .12$, cautiousness: $r = .07$, $p = .49$), implying that risk orientation did not account for the effect of PEMS on financial risk-taking decision in this study.

**Discussion.** In Study 6B, participants with high scores on PEMS preferred the risky option in investment because they expected to get higher returns when they invested in the stock-based mutual fund. Thus, study 6B supports our prediction that PEMS positively predicts
financial risk taking because participants are optimistic about the outcomes, not because they are chronically inclined to pursue risky options.

**GENERAL DISCUSSION**

**Findings and Contribution**

In this research, our central objectives were to conceptualize and develop a scale that captures individual perception about economic mobility, and to understand its role in economic striving and financial risk taking. We developed the PEMS and thoroughly examined its psychometric properties. Results showed that PEMS has a replicable unidimensional factor structure, reasonable internal consistency, nomological and discriminant validity, known-group validity, and predictive validity. All of these results demonstrate that PEMS is a robust and psychometrically sound measure in accordance with well-established scale development standards (Netemeyer et al. 2003). Besides desirable measurement properties, PEMS has also been shown to be empirically useful for understanding consumer behavior surrounding financial goal and financial risk taking.

This research makes several contributions. First, we believe that the conceptualization and development of this scale would draw more scholarly attention and promote research on related topics. Income inequality has been on the rise since the 1970s (Piketty 2014), and it has become an increasingly popular research topic. It has been shown to be a key factor that reduces consumer wellbeing (Dynan and Ravina 2007) and increases social problems (Wilkinson and Pickett 2007). However, what consumers really care about seems to be economic mobility rather than economic outcome itself. A poll conducted by the PEW Charitable Trusts in 2009 shows that more than 70% of Americans consider ensuring fair opportunity as more important than reducing inequality. Furthermore, a series of research reveals that optimistic perception about
economic mobility actually reduces the detrimental impact of income inequality on subjective wellbeing (Bjørnskov et al. 2013; Fischer 2009). Despite the importance of perceived economic mobility, the concept of perceived economic mobility has not been well explored in prior research, nor has there been a sound measure of it. In this research, we developed and tested a psychometrically sound and valid scale to assess individual differences in perception about economic mobility, in the hope of promoting this emergent topic among consumer researchers and extending our understanding of how our view of economic mobility affects consumer behavior and decision making.

Secondly, past research on goal pursuits has largely focused on individually based psychological processes and mechanisms, such as self-efficacy (Bandura 1986), self-regulatory strength (Muraven, Tice, and Baumeister 1998), the ability to delay gratification (Mischel, Shoda, and Rodriguez 1989), and chronic individual differences in self-control (Tangney, Baumeister, and Boone 2004) have all been shown to be successful in self-regulation toward goal achievements. The current study in PEMS, similar to justice beliefs (Laurin et al. 2011), contributes to the growing efforts to understand how the broader social environment, such as beliefs about the economic structures, could also impact individual motivation and goal achievement. Hence, we propose that people’s perceived economic mobility reflects their specific interpretations of their achievement prospects and outcomes, which could have significant impact on their persistence and performance toward long-term goals such as future economic success (Molden and Dweck 2006).

Third, the present work also holds practical implications for consumer welfare. For legislators, regulators, and policy makers, understanding the circumstances that contribute to consumers’ financial wellbeing is critical in formulating behavioral interventions and economic
policies. In this regard, the finding that optimistic perception about economic mobility promotes motivation to succeed offers novel insights. Given that Americans are becoming more pessimistic about their perceived chances of moving up in America than before (Cillizza 2014), public campaigns aimed at increasing perceived economic mobility are likely to motivate consumers to pursue financial goals, in turn, promote their financial wellbeing. They may be able to help consumers feel hopeful by making such Horatio Alger stories more available and accessible.

**Future Research**

This research introduces the construct of perceived economic mobility for future consumer research. While the current research has focused on the implications of PEMS on economic striving and financial risk taking, other contexts exist in which PEMS could be further explored. For instance, individual difference in PEMS might alter self-control or delay of gratification (Mischel et al. 1989). Given that economic mobility affects one’s perceived chance to achieve financial success in the future, people with high PEMS might be motivated to exert greater self-control in a buying situation. However, the opposite is also possible. Perceiving high economic mobility can lead to optimistic expectation about one’s future income, leading one to indulge in reckless spending (Modigliani 1966). Since both directions seem plausible, finding a potential moderator that bridges such a gap would seem promising. Materialism (Richins and Dawson 1992) or achievement motivation (Atkinson 1974) could have an important influence in the interplay between perceived economic mobility and one’s self-control.

Future research should also examine the effects of perceived economic mobility on coping strategies in the face of financial difficulties. It is well established that poorer households spend more on conspicuous consumption, since they experience higher levels of status anxiety
(Moav and Neeman 2012). However, perceived economic mobility can function as a moderator that mitigates poorer households’ status seeking, in that current low status would be less likely to threaten self-worth for people who believe in their chances of moving up. This prediction is consistent with Dweck’s model about implicit theory (Dweck et al. 1995) that people holding a malleable mindset are motivated to change their current situation by cultivating their traits while people holding a fixed mindset would feel worried about their visible status and tend to rely on defensive strategies in the face of difficulty.

Differences in perceived economic mobility could also play a role in one’s subjective wellbeing. As discussed earlier, past research has shown that perceived economic mobility influences how income inequality is experienced and affects subjective wellbeing. Perceived economic mobility may work jointly with other constructs as well. One’s current economic status could be the first possibility. It makes intuitive sense that high perceived economic mobility could strengthen subjective wellbeing of people from middle or low economic status since they sense higher controllability of their current status (Frey and Stutzer 2005) and expect higher status in the future (Taylor and Brown 1988). However, with respect to people from high economic status, whether or not high perceived economic mobility increases one’s sense of wellbeing is unclear. While they might feel happier when perceiving high economic mobility, since they can expect even higher status in the future, it is also plausible that high perceived economic mobility could increase their stress, because it also means that their ranks could be reversed (Sapolsky 2005). Another possible variable that can interact with PEMS is age. For young people who have a long life ahead of them, high perceived economic mobility may signal enough chances to get ahead. However, for old people who already went through most of their life, high perceived economic mobility could mean that their efforts to succeed were not enough
especially when they have not achieved high economic status in their lives. Thus, how perceived economic mobility would affect the sense of wellbeing of different individuals in different situations would offer another promising avenue for future research.

Research on the influence of economic mobility on consumer behavior is in its infancy. In recent years, there have been important works investigating income inequality and consumption behaviors (Christen and Morgan 2005; Ordbayeva and Chandon 2011), but to our knowledge, there has been no study that focuses on economic mobility in marketing and consumer research. Understanding how individual perception about economic mobility affects consumption or marketing phenomena will yield important insights for research and applications. In sum, we hope that this paper will motivate future research in this area and promote economic mobility as a way to enhance the quality of life for all.
APPENDIX A
INITIAL LIST OF ITEMS

SET 1: Intergenerational elasticity

1. A child's chances of achieving financial success are tied to the income of his or her parent. (R)
2. Anyone can start at the bottom and end up on top with hard work.
3. People often end up in the same economic status they were born into. (R)
4. If one starts off disadvantaged, it is a lot harder to succeed. (R)
5. It is common for someone to grow up rich and end up very poor.
6. It is highly possible to achieve great wealth regardless of the circumstances of birth.
7. It is highly possible for someone to rise above the circumstances of their birth.
8. Many people from low income families end up more successful than their parents were if they put in the effort.
9. People who start poor face many obstacles to achieve success. (R)
10. People often have no choice but to stay in the same economic status they were born into. (R)
11. People who are born poor almost always stay poor for the rest of their lives. (R)
12. Poor kids have little chance of escaping poverty. (R)
13. There are many people who came from nothing and are now wealthy.
14. Where one starts determines the difficulty of getting to something better. (R)
15. Where one starts does not determine where he/she will finish.
16. Starting in poverty puts one at a distinct disadvantage in life. (R)

SET 2: Success by hard work

17. "Work hard, you will prosper" describes the way society works.
18. Anyone can become anything in society, if they devote enough time on it.
19. Anyone who works hard can succeed and live a comfortable life.
20. Anyone can succeed if they are motivated and committed enough.
21. The effort that a person puts forth is always fairly compensated.
22. Working hard is the best way to ensure the potential for success.
23. Maybe it's not their fault, but most poor people were brought up without drive or ambition.
24. Society provides enough opportunity to get ahead for those who are motivated.
25. One's income is dictated by the efforts dedicated.
26. Hard work and ambition are rewarded with success.
27. “Hard work equals success” describes the way society works.

SET 3: Availability of opportunities

28. Society offers enough chances to chase one's dreams.
29. Everyone has fair chance at moving up the economic ladder.
30. For the most part, people can be educated as much as they want.
31. In the society today, children from all races growing up today have adequate opportunities to
be successful.
32. One's starting point and access to improvement are limited by their current economic circumstances. (R)
33. Opportunities to get ahead are available equally to all people.
34. Regardless of where one begins, the same opportunities are available to everyone in society.
35. The poor do not have access to the same educational opportunities that the wealthy do. (R)
36. There are plenty of opportunities to be had for those who are willing to seek them out.
37. There are plenty of opportunities for anyone to go as far as he/she wants.
38. We are all given equal opportunities to grow and prosper regardless of our gender or race.
39. Where one starts does dictate how many resources are available for them to use in order to become successful. (R)

SET4: Others

40. Knowing the right people or the right places gets one ahead faster and better than hard work. (R)
41. There is still considerable racial and sexual discrimination against equal opportunities. (R)
42. Today's economy gives advantages to the rich and it's difficult for average people to get ahead. (R)
43. Inequality continues to exist because the rich and powerful take most of the benefits. (R)
APPENDIX B
DEPENDENT MEASURES USED, STUDIES 4 and 5

1. Financial aspiration

This set of questions asks you about the future. Rate each item how important it is to you.

You will have a lot of expensive possessions.
You will have a job that pays well.
You will have a job with high social status.
You will be financially successful.

1 = not at all, 2 = a little, 3 = so/so, 4 = pretty important, 5 = very important

2. Current and expected economic standing

Think of the ladder as representing where people stand in the United States. The people at the top of the ladder are those who are the richest, whereas the people at the bottom of the ladder are those who are the poorest. Think about yourself after 10 years from now. Where would you put yourself on this ladder?

3. Income change over the past 5 years

What has happened to your relative economic standing in this country during the past 5 years?

Has gotten much better
Has gotten somewhat better
About the same
Has gotten somewhat worse
Has gotten much worse
4. Work and family orientation (Helmreich and Spence 1978)

Please read each statement and indicate your level of agreement or disagreement with the statements.

**Work**
- It is important to me to do my work as well as I can even if it isn't popular with my coworkers.
- I find satisfaction in working as well as I can.
- There is satisfaction in a job well done.
- I find satisfaction in exceeding my previous performance even if I don’t outperform others.
- I like to work hard.
- Part of my enjoyment in doing things is improving my past performance.

**Mastery**
- I would rather do something at which I feel confident and relaxed than something which is challenging and difficult.
- When a group I belong to plans an activity, I would rather direct it myself than just help out and have someone else organize it.
- I would rather learn easy, fun games than difficult, thought games.
- If I am not good at something, I would rather keep struggling to master it than move on to something I may be good at.
- Once I undertake a task, I persist.
- I prefer to work in situations that require a high level of skill.
- I more often attempt tasks that I am not sure I can do than tasks that I believe I can do.
- I like to be busy all the time.

**Competitiveness**
- I enjoy working in situations involving competition with others.
- It is important to me to perform better than others on a task.
- I feel that winning is important in both work and games.
- It annoys me when other people perform better than I do.
- I try harder when I am in competition with other people.

1 = strongly disagree, 7 = strongly agree
APPENDIX C
RISK ORIENTATION SCALE (Rohrmann 2002), STUDY 6B

Please read each statement and indicate your level of agreement or disagreement with the statements.

I'm quite cautious when I make plans and when I act on them. C
I follow the motto, 'nothing ventured, nothing gained.' P
I've not much sympathy for adventurous decisions. C
If a task seems interesting I'll choose to do it even if I'm not sure whether I'll manage it. P
I don't like to put something at stake; I would rather be on the safe side. C
Even when I know that my chances are limited I try my luck. P
In my work I only set small goals so that I can achieve them without difficulty. C
I express my opinion even if most people have opposite views. P
My decisions are always made carefully and accurately. C
I would like to act in my boss's job some time so as to demonstrate my competence, despite of the risk of making mistakes. P
I tend to imagine the unfavorable outcomes of my actions. C
Success makes me take higher risks. P

P: Risk Propensity subscale
C: Cautiousness subscale

1 = not at all like me, 5 = just like me
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