

# Silver Spoons and Platinum Plans: How Childhood Environment Affects Adult Health Care Decisions

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Can socioeconomic status in childhood influence desire for health coverage in adulthood? We develop and test a model that yielded two sets of findings across five experiments. First, people who grew up poor were generally less interested in health coverage compared to those who grew up wealthy. This effect was independent of people's current level of socioeconomic status, emerged most strongly when adults were experiencing financial threat, and was mediated by differences in willingness to take risks between people from poor versus wealthy childhoods. Second, we show that this effect reverses when people are provided with base-rate information about disease. When information about the average likelihood of getting sick is made available, people who grew up poor were consistently more likely to seek health coverage than people who grew up wealthy. This effect was again strongest when people felt a sense of financial threat, and it was driven by people from poor versus wealthy childhoods differing in their perceptions of the likelihood of becoming sick. Overall, we show how, why, and when childhood socioeconomic status influences desire for health coverage.

*Keywords:* health insurance, childhood socioeconomic status, risk perception, risk propensity, financial threat

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**G**iven recent efforts to provide health insurance options to all US residents, why do millions of Americans still have no health insurance and millions more remain severely underinsured? One contributing reason is that some people might not be able to afford health insurance (Baicker, Congdon, and Mullainathan 2012; DeNavas-Walt, Proctor,

and Smith 2013). Yet studies show that health insurance is affordable to a large proportion of the uninsured (Bundorf and Pauly 2006; Levy and DeLeire 2008). This suggests that lack of money alone does not fully explain why millions of people choose to forgo health insurance.

Considerable research has examined factors that influence decisions about insurance. For example, insurance decisions can be influenced by framing effects (Johnson et al. 1993; Lichtenstein and Slovic 1971, 1973), the status quo bias (Samuelson and Zeckhauser 1988; Viscusi, Magat, and Huber 1987), information search costs (Schlesinger and von der Schulenberg 1991), affect (Hsee and Kunreuther 2000), and risk seeking (de Meza and Webb 2001; Petrolia, Landry, and Coble 2013). In this research, we propose that the decisions consumers make about health insurance are influenced by an underappreciated factor: their experiences as children.

We test how people's desire for health coverage is affected by their childhood socioeconomic status (SES). Extending recent findings on childhood environment and

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risk-taking behavior (Griskevicius et al. 2011b; Griskevicius et al. 2013), we find that lower SES in childhood is associated with a lower desire for health coverage. This effect is independent of people's current level of SES, emerged most strongly when adults were experiencing financial threat, and was driven by differences in willingness to take risks between people from poor versus wealthy childhoods.

Second, we find that the effect of childhood SES on desire for health coverage reverses under certain conditions. Specifically, when information about the average likelihood of getting sick (the base rate) is made available, people who grew up in low-SES environments become *more likely* to seek health coverage. This effect is, again, observed primarily when people feel threatened and is independent of their current level of resources. Furthermore, we find that providing base-rate information changes the psychological process driving people's decisions about health insurance. Salience of base rates leads the effect of childhood SES on desire for health coverage to be driven by health-risk perception—the extent to which childhood SES influenced people's perceptions of their chances of getting sick.

This research contributes to understanding consumer health judgment and decision making (Block and Keller 1995; Johnson et al. 1993; Raghuram and Menon 1998). We show that desire for medical coverage is impacted in specific ways by a person's childhood SES independent of their adult SES. Under conditions of financial stress, people from low-SES childhoods are generally less sensitive to risks and are therefore less interested in obtaining health insurance compared to people from high-SES childhoods. Importantly, we identify how this effect can be reversed. We show that people who grew up poor become *more motivated* to seek health coverage when a health message provides base-rate information about the average likelihood of being affected by a disease. This research is some of the first to show how childhood SES and the associated psychology of risk affect health insurance decisions. These findings also have important implications for the communication of health messages to low-SES audiences, whereby making small changes in health communication may substantially increase desire for health care.

## CONCEPTUAL OVERVIEW

We first discuss research on childhood SES and its consequences on adult decision making. Next, we examine factors that drive health insurance decisions, focusing on two important aspects of risk. We then tie these threads together, proposing that growing up poor can decrease or increase desire for health insurance compared to growing up wealthy, depending on the specific aspect of risk driving health insurance decisions.

## Childhood Socioeconomic Status

Childhood SES reflects the availability of resources in one's early-life environment (Bradley and Corwyn 2002; Ellis et al. 2009; Guo and Harris 2000). The level of resources present during childhood is a powerful predictor of health, education attainment, and well-being throughout people's lives (Brooks-Gunn and Duncan 1997; Duncan et al. 2002). For example, lower childhood SES, as reflected by lack of financial resources during childhood, is associated with poorer mental and physical health, lower academic achievement, and greater delinquent behavior (Brooks-Gunn and Duncan 1997; Miller et al. 2009). Given the vital role of childhood SES, there has been an increased interest in understanding how and why childhood SES influences adult behavior (Chen 2004; Griskevicius et al. 2011a, 2011b, 2013; Mittal and Griskevicius 2014; Mittal et al. 2015; Pampel, Krueger, and Denney 2010; Roux and Goldsmith 2014; Thompson, Hamilton, and Banerji 2014; White et al. 2013).

Why does childhood SES affect outcomes later in life? A developmental perspective highlights that childhood SES indicates not only differential access to financial resources, but it is also centrally linked to differential exposure to stress and instability in early life (Belsky, Schlomer, and Ellis 2011; Chen and Miller 2012; Ellis et al. 2009). Lower SES environments, for example, have a greater prevalence of fluctuating employment and inconsistent resource availability (Belsky, Steinberg, and Draper 1991; Brady and Matthews, 2002; Evans 2004; Jensen et al. 1983; Matheny et al. 1995; Troxel and Matthews 2004). Childhood SES, therefore, shapes adult behavior in part because of the nature of the differences in stress and unpredictability in high- versus low-SES childhood environments.

## Role of Current Financial Threat

Although there is an association between childhood SES and adult behavior, experiments with adults show that differences in behaviors between people who grew up poor versus wealthy are not always readily observable. Instead, childhood-rooted differences in behaviors tend to be most strongly evoked in adults in stressful contexts such as when people face financial threats (Griskevicius et al. 2011a, 2011b, 2013; Hill et al. 2013; Mittal and Griskevicius 2014; Mittal et al. 2015; Moss and Maner 2014).

Financial threat reflects the sense that resources are scarce and uncertain (Horton 2009; Marjanovic et al. 2013). Whereas many experimental studies find few behavioral differences between people who grew up poor versus wealthy *in the absence of current financial threat*, exposing people to financial threat evokes different behaviors rooted in their childhood environment (Griskevicius

et al. 2013; Mittal and Griskevicius 2014; Mittal et al. 2015). For example, after reading a news story that elicited a sense of financial threat by highlighting increasing economic instability, people who grew up poor took more risks and were more impulsive than those who grew up wealthy (Griskevicius et al. 2013; Mittal and Griskevicius 2014).

Why are tendencies associated with early-life environments more likely to be expressed in threatening contexts? Although precise reasons remain unknown, a leading possibility is the stress response system. Childhood environment plays a fundamental role in shaping the stress response system that governs how people respond to stress throughout their lives (Del Giudice, Ellis, and Shirtcliff 2011; McEwen 2012; Taylor 2010). Adverse childhood environments produce elevated levels of stress, thereby altering the stress response systems of children who develop in adverse versus nonadverse environments. For example, a stressful early-life environment alters how the body copes with the release of stress hormones such as cortisol when confronted with threats later in life (McEwen and Stellar 1993; Taylor et al. 2004). As a consequence, people from poor versus wealthy childhood backgrounds may behave differently when confronted with stressful situations in adulthood because their stress response systems have been calibrated differently in childhood.

## Risk and Health Insurance Decisions

Insurance is used primarily to hedge against the risk of an undesirable future event. To understand how childhood influences health insurance decisions, it is therefore useful to consider the psychology of risk (Kunreuther and Pauly 2006; Slovic 1987). Risk psychology includes two important aspects: risk propensity and risk perception.

*Risk propensity* reflects an individual's tendency to pursue or avoid risks (Sitkin and Pablo 1992). It captures a person's willingness to engage in risky behavior, which can be higher or lower depending on the situation (Sitkin and Pablo 1992). Risk propensity is associated with both increased willful risk taking and decreased precautionary behaviors, including buying insurance (Arrow 1971; de Meza and Webb 2001; Mossin 1968; Petrolia, Landry, and Coble 2013; Smith 1968). For example, higher risk propensity is related to risky behaviors such as unsafe sex, reckless driving, substance abuse, and smoking (Anderson and Mellor 2008; Hanoch, Johnson, and Wilke 2006; Lejuez et al. 2002). Individuals with a higher risk propensity are also less likely to take preventive actions such as getting regular physical checkups or mammogram screenings (Mechanic and Cleary 1980).

*Risk perception* reflects an individual's subjective judgment about the severity of a risk (Slovic 1987). It represents a person's perception of the probability of a negative event occurring (Menon, Raghurir, and Agrawal 2007).

Risk perception is important because people's perception of their own risk of getting a given disease often differs from the base rate of that disease in the general population (Lin, Lin, and Raghurir 2003; Perloff and Fetzer 1986; Raghurir and Menon 1998; Yan and Sengupta 2013). People who underestimate the likelihood of being affected by a disease are less likely to take preventive action (Raghurir and Menon 1998; Taylor and Brown 1988; Weinstein 1980). For example, individuals who perceive that they are less likely to get sick are less likely to insure against this risk (Camerer and Kunreuther 1989; Kunreuther 1996; Kunreuther and Pauly 2006; Rees and Wambach 2008; Spinnewijn 2013).

## Childhood SES and Health Insurance Decisions

Should people who grew up in low-SES environments desire more health insurance or should those who grew up in high-SES environments? We propose that childhood SES can serve to increase *or* decrease desire for health insurance depending on how the health insurance information is presented to the person. Specifically, we hypothesize that childhood SES will affect desire for insurance differently depending on whether base-rate information about the underlying health risk is present or absent when making choices about insurance.

When base-rate information is not present, we hypothesize that people's health insurance decisions will be driven by their risk propensity—their willingness to take risks. We know from prior work that childhood SES influences people's risk propensity (Griskevicius et al. 2011b; Griskevicius et al. 2013; Simpson et al. 2012). People who grew up in a high-SES environment are less likely to take risks compared to those who grew up in low-SES environments when facing financial threat (Griskevicius et al. 2013). Because buying insurance indicates a lower appetite for risk, we predict that when facing financial threat, people who grew up in high-SES conditions should be more interested in health insurance than people who grew up in low-SES conditions. Furthermore, we propose that this effect will be driven by risk propensity. Formally,

**H1:** Childhood SES should have a *positive* effect on desire for medical coverage, and this effect should manifest most strongly under conditions of financial threat.

**H2:** The effect of childhood SES on desire for medical coverage should be statistically mediated by willingness to take risks.

In contrast to hypotheses 1 and 2, we hypothesize that these effects should reverse when people's health insurance decisions are driven by *risk perception* rather than by risk propensity. When should health insurance decisions be driven by risk perceptions rather than risk propensity? We propose that health insurance decisions may be driven by risk perception when people are provided with base-rate

information about disease—the probability of getting a disease in the population (Keller, Lipkus, and Rimer 2002; Lin et al. 2003; Raghubir and Menon 1998). Exposure to base-rate information is more likely to lead people to consider their own likelihood of getting a disease, leading people to form subjective probability judgments about getting sick. Consequently, this may lead them to construe the health insurance decision differently.

Past research shows that when people make decisions about protecting themselves against a potential negative event, such as when buying insurance, they seldom base their decision on the probability of experiencing the negative event (Hogarth and Kunreuther 1995; Loewenstein et al. 2001). Rather, it is only when people are provided with probability figures about that event that they consider the probability more strongly in their decision. For example, when making a product warranty decision when the risk information on product failure was not present, only a small fraction of people mentioned the risk of failure as a basis for their decision (Hogarth and Kunreuther 1995). Instead, people typically provided reasons such as peace of mind and sleeping well at night—reasons indicating that their decision to seek warranty was related to risk propensity.

However, when information about the risk of product failure was explicitly provided, perceived likelihood of the risk was found to be the most important information that people considered when making a decision about purchasing a warranty (Hogarth and Kunreuther 1995; Loewenstein et al. 2001). When people make decisions about protective measures, the presence of explicit probabilistic information about the underlying risk is believed to “lead to a different framing of the problem” compared to when such information is absent (Hogarth and Kunreuther 1995, 26). In other words, providing people with information about baseline probabilities of a negative event may shift the process driving their insurance purchase decisions from risk propensity to risk perception.

We propose that there may be a difference in risk perception based on people’s childhood SES. People who grew up in low-SES conditions may perceive a higher likelihood that they will get sick compared to people who grew up in high-SES conditions. If so, people who grew up in low-SES environments may be *more* likely to seek health insurance compared to people who grew up in high-SES environments.

These predictions are derived from findings showing that higher childhood SES is related to more having more favorable evaluations of the self. For example, people from wealthier backgrounds perceive a greater sense of control compared to those from poorer backgrounds, with experimental work showing that the relation between childhood SES and sense of control emerges most strongly under stressful situations such as when facing financial threat (Mittal and Griskevicius 2014). Perceptions of control are

closely associated with how people view their own future. The lower a person’s sense of control, the more pessimistic they are about their own future (Harris 1996; McKenna 1993; Weinstein 1980). Furthermore, perceptions of control are also related to people’s estimates of personal risk. The lower a person’s sense of control, the greater their perception of personal risk (Helweg-Larsen and Shepperd 2001; Klein and Helweg-Larsen 2002). For example, people with lower sense of control believe that they have significantly higher likelihood of contracting AIDS and having a heart attack before the age of 40 (Hoorens and Buunk 1993). Taken together, these findings suggest that because people from poorer backgrounds have lower sense of control, they might also be more pessimistic about their health by believing that their likelihood of getting sick is much higher compared to people from wealthier backgrounds. That is, people who grew up poorer may have relatively higher perceptions of health risk, which might lead them to have an increased desire for health insurance as compared to people who grew up wealthier.

For example, if the base rate of a disease is 5%, meaning that 5% of people in the population are affected by the disease, people who grew up in low-SES conditions might believe that this disease is *more* likely to affect them. This increased risk perception might then motivate them to seek health coverage. After all, the more people believe they will be affected by a specific risk, the more motivated they should be to buy insurance against it.

We therefore predict that if base rates are made available, people who grew up in low-SES environments will be *more likely* to seek health coverage compared to people who grew up in high-SES environments. In such situations, the effect of childhood SES on desire for health coverage should be statistically mediated by differences in risk perception—the extent to which childhood SES leads people to have a higher or lower perception of their likelihood of getting sick. As earlier, these effects of childhood SES should be observed primarily when people feel financially threatened. Formally,

**H3:** When base rates for sickness are made salient, childhood SES should have a *negative* effect on desire for medical coverage, and this effect should be amplified by conditions of financial threat.

**H4:** When base rates for sickness are made salient, the effect of childhood SES on desire for medical coverage should be statistically mediated by perceptions of likelihood of getting sick.

Taken together, we propose that childhood SES should have an opposing effect on desire for health insurance depending on whether base rates are present. In the absence of base rates, we predict that health insurance decisions are driven by risk propensity. Thus we propose that people who grew up poor should have a *lower* desire for health insurance compared to people who grew up wealthy, and that

this effect will be strongest in conditions of financial threat. However, when base rates are made salient, we predict that the effect of childhood SES will be reversed because health insurance decisions should be driven by people's risk perceptions. Thus when base rates are present, people who grew up poor should have a *greater* desire for health insurance compared to those who grew up wealthy, and that this effect of childhood SES on desire for health coverage should be strongest in conditions of financial threat. We conducted five experiments to test these hypotheses.

## STUDY 1A

Study 1A tested how growing up wealthy versus poor affects people's desire for medical coverage in adulthood. We predicted that childhood SES should have a positive effect on desire for medical coverage, whereby higher resources in childhood should predict a greater desire for medical coverage. Consistent with hypothesis 1, we predicted that the effect of childhood environment should be amplified by conditions of financial threat.

### Method

*Participants and Study Design.* A total of 140 US respondents (53.6% female;  $M_{\text{age}} = 33.9$ ,  $SD = 12.6$ ) from an online subject pool participated in exchange for a small monetary payment. The study had two between-subjects experimental conditions: financial threat and control. In addition, childhood SES was measured via self-report.

*Financial Threat.* Participants were informed that the study was examining multiple things including getting people's feedback about the current state of the economy and their opinion on consumer services. As part of the financial threat manipulation, participants completed a writing task adapted from previous work (Fischhoff et al. 2003; Roux and Goldsmith 2014). Participants in the financial threat condition were asked to write about three indicators that suggest the economy is "becoming increasingly unpredictable and that resources such as jobs are becoming scarcer." Typical responses included noting that the national debt is increasing, mentioning the last recession, and noting fluctuations in the stock market. Those in the control condition were asked to list three indicators that suggest the economy is "neither getting better nor becoming worse." Typical participant responses included noting that inflation is low, the currency is stable, and lack of need for additional government spending.

*Medical Coverage.* The measure of desire for health insurance was adapted from previous work (Johnson et al. 1993; Slovic et al. 1977). Participants first imagined that they currently did not have health insurance. Next, they indicated their likelihood of buying health coverage.

Answers were recorded on a 101 point likelihood scale (0 = Not at all likely, 100 = Extremely likely).

*Childhood Resources.* To assess resource availability during childhood, we relied on a validated measure of childhood environment (Ross and Hill 2000; Ross and McDuff 2008). Specifically, we used the three item "money" subscale that captures resource availability in childhood. Participants reported the extent to which the following three items described their family when they were growing up: "We were never sure how we would pay my bills from month to month" (reverse coded), "My family always had enough money for food and the rent or mortgage payment," and "Some months we had plenty of money to spend; other months we were quite poor" (reverse coded). Each item was assessed on a 7 point scale (1 = Not at all; 7 = Extremely). The items were averaged into a *childhood resources* index ( $\alpha = .76$ ).

*Additional Variables.* In addition to measuring resources in childhood, we also assessed people's current level of resources. Participants indicated their agreement with three statements that were based on items used to measure childhood resources: "I have enough money to buy things I want," "I don't need to worry too much about paying my bills," and "I feel relatively wealthy these days." Responses were recorded on a 7 point scale (1 = Strongly Disagree; 7 = Strongly agree). The three items were averaged into a *current resources* index ( $\alpha = .90$ ).

### Results

*Manipulation Check.* To assess whether the financial threat manipulation was successful, all participants indicated the extent to which they agreed with two statements at the end of the study: "financial uncertainty is increasing" and "resources are becoming scarce." Responses were provided on a 7 point scale (1 = Strongly disagree; 7 = Strongly agree). The two items were highly correlated ( $r = .63$ ,  $p < .001$ ) and were averaged into a financial threat index.

Findings showed that participants in the financial threat condition reported significantly greater financial threat ( $M = 5.42$ ,  $SD = 1.18$ ) compared to the control condition ( $M = 4.48$ ,  $SD = 1.54$ ;  $t(138) = 4.01$ ,  $p < .001$ ). Thus the financial threat manipulation elicited a significantly stronger sense of financial threat compared to the control condition.

*Medical Coverage.* Using a general linear model (GLM) approach, experimental condition was entered as a categorical variable and childhood resources (or current resources) were entered as a centered, continuous variable. Desire for insurance served as the dependent variable.

We first examined the influence of current resources on desire for insurance. Results revealed no main effect of financial threat ( $p = .74$ ). As expected, however, there was a main effect of current resources. Having more resources in

adulthood was associated with a greater likelihood of buying insurance ( $F(1, 138) = 5.46, p = .021$ ). There was no interaction with current resources and financial threat ( $p = .78$ ).

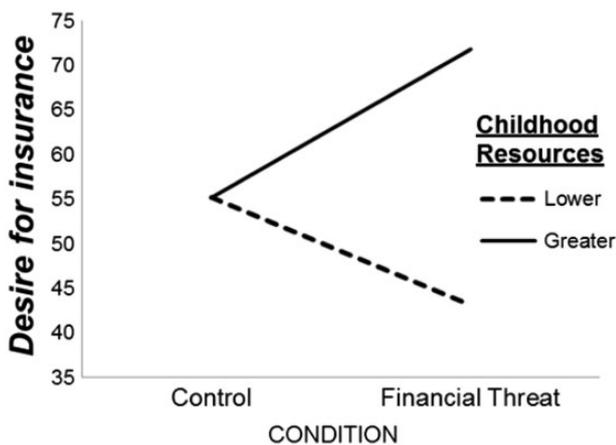
We next examined the effect of childhood resources. Once again, higher childhood resources were associated with a greater likelihood of insurance purchase ( $F(1, 138) = 7.32, p = .008$ ). Importantly and consistent with hypothesis 1, the main effect of childhood resources was qualified by a significant financial threat by childhood resources interaction ( $F(1, 136) = 4.45, p = .037$ ). This interaction effect remained even when controlling for current resources, as well as controlling for participants' age and gender ( $F(1, 133) = 5.57, p = .020$ ).

To test hypothesis 1, we examined the relation between childhood resources and desire for medical coverage in each of the two experimental conditions. As seen in figure 1, in the control condition, there was no relation between childhood resources and desire for medical coverage ( $\beta = .04, p = .71$ ). However, in the financial threat condition, people from wealthier backgrounds indicated a significantly greater desire for medical coverage ( $\beta = .39, p < .001$ ). Thus supporting hypothesis 1, childhood resources had a positive effect on desire for medical coverage, whereby this effect was amplified by conditions of financial threat.

*Additional Analyses.* We also conducted additional analyses by probing the interaction using spotlight analyses (Aiken and West 1991; Irwin and McClelland 2001).

FIGURE 1

EFFECT OF CHILDHOOD RESOURCES ON DESIRE FOR HEALTH INSURANCE IN CONTROL AND FINANCIAL THREAT CONDITIONS (STUDY 1A). GRAPHED MEANS REPRESENT 1 SD ABOVE AND BELOW THE MEAN OF CHILDHOOD RESOURCES



<sup>a</sup>Graphed means represent 1 SD above and below the mean of childhood resources.

Spotlight analyses tested the effect of financial threat for participants at 1 SD above and at 1 SD below the mean of childhood resources. Results showed that financial threat led people from poor childhoods (1 SD below the mean of childhood resources) to indicate lower desire for medical coverage in the threat condition compared to the control condition ( $t(133) = -1.40, p = .16$ ). In contrast, financial threat led individuals from wealthy childhoods (1 SD above the mean of childhood resources) to indicate a greater desire for medical coverage ( $t(133) = 1.94, p = .055$ ).

## Discussion

In summary, study 1A showed that childhood SES had a positive effect on desire for health coverage, whereby higher resources in childhood predicted a greater desire for health coverage. Consistent with our model, the effect of childhood environment on desire for health coverage was amplified by conditions of financial threat. It was precisely when adults experienced a financial threat that their childhood environment strongly predicted their desire for medical coverage in adulthood.

To show robustness of our effects, we replicated and extended findings from study 1A in a follow-up experiment ( $N = 184$ ). The experiment examined people's desire for health insurance when the currency of purchase was not money but time. That is, rather than buying health insurance by using money, people were asked how many hours per month they would be willing to volunteer to receive health insurance. Results showed that experiencing financial threat led people from wealthier backgrounds to volunteer more number of hours in exchange for health coverage as compared to those from poorer backgrounds. Thus despite using a nonfinancial cost for getting health coverage, the follow-up experiment replicated findings from study 1A by showing that individuals from wealthier backgrounds desire more health coverage in the face of financial threat compared to those from poorer backgrounds.

## STUDY 1B

Study 1B sought conceptually to replicate and extend the findings from study 1A. First, study 1B sought to rule out negative affect as a possible alternative explanation by comparing the effect of the financial threat condition to a control condition that elicited similar levels of negative affect. We predicted that the effect of childhood environment should be amplified by financial threat and not by negative affect in general.

Second, study 1B included measures of people's current health. Because individuals from disadvantaged backgrounds tend to have poorer health (Adler and Newman 2002; Cohen et al. 2010), we controlled for the influence of current health status on desire for health coverage.

Finally, study 1B examined the psychological mechanism for how childhood resources influence desire for medical coverage. Consistent with hypothesis 2, we predicted that the effect of childhood resources on desire for medical coverage should be statistically mediated by health-risk propensity. This means that financial threat should lead people from poor and wealthy childhoods to differ in their willingness to seek health coverage because the threat alters their willingness to engage in risky behavior.

## Method

*Participants and Study Design.* A total of 120 US respondents (60% female,  $M_{\text{age}} = 34.3$ ,  $SD = 11.9$ ) from an online subject pool participated in exchange for a small monetary payment. The study had two between-subjects experimental conditions: financial threat and control. In addition, childhood and current resources were measured using the same items as in study 1A.

*Financial Threat.* In the financial threat condition, participants once again listed three indicators of increasing threat in the economy. In the control condition, participants listed three unpleasant events that they had experienced in the past year. To ensure that both manipulations produced similar levels of negative affect, the manipulations were pretested with a separate sample of 100 participants (59% female,  $M_{\text{age}} = 35.2$ ,  $SD = 12.6$ ) drawn from the same population. Participants were randomly assigned to one of the two conditions. Then, to assess the level of affect elicited by the manipulations, participants completed the Positive and Negative Affect Schedule (Watson, Clark, and Tellegen 1988). Participants also indicated the level of financial threat elicited by the manipulations by responding to the same two manipulation check items as in study 1A.

Results on the pretest showed no difference in either negative affect ( $M_{\text{control}} = 14.01$  vs.  $M_{\text{threat}} = 14.25$ ,  $p = .65$ ) or positive affect ( $M_{\text{control}} = 24.02$  vs.  $M_{\text{threat}} = 26.00$ ,  $p = .28$ ) between the two experimental conditions. Participants in the financial threat condition also indicated feeling greater financial threat ( $M = 5.59$ ,  $SD = 1.20$ ) compared to participants in the control condition ( $M = 4.89$ ,  $SD = 1.08$ ;  $t(98) = 3.06$ ,  $p = .003$ ). Thus the financial threat condition elicited a significantly higher degree of financial threat compared to the control condition, but the two conditions did not differ in the level of affect they elicited.

*Medical Coverage.* To assess desire for medical coverage, participants indicated their willingness to pay (WTP) for a health insurance plan adapted from previous work (Hsee and Kunreuther 2000; Johnson et al. 1993). Specifically, participants responded to the following question: "Imagine that you do not currently have health insurance and are looking to buy a new policy. What is the

maximum you are willing to pay per month for a health insurance plan (in dollars)?" Responses were recorded on slider scale that ranged from \$0 to \$750. The end points were chosen so that the midpoint of the scale roughly corresponded to the average monthly premium of \$328 offered by the Affordable Care Act health exchanges (US Department of Health and Human Services 2013).

*Health-Risk Propensity.* To test for the hypothesized mediating mechanism, participants indicated their willingness to take risks related to health. To assess this construct, we relied on a validated six item scale for assessing "health and safety risk" (Blais and Weber 2006). Participants indicated their likelihood of engaging in six behaviors if they were to find themselves in that situation: "Drinking heavily at a social function," "Engaging in unprotected sex," "Driving a car without wearing a seat belt," "Riding a motorcycle without a helmet," "Sunbathing without sunscreen," and "Walking home alone at night in an unsafe area of town." All responses were provided on a 7 point scale anchored at 1 (Extremely unlikely) to 7 (Extremely likely). Scores on the six items were summed to create a *health-risk propensity index* ( $\alpha = .63$ ).

*Current Health.* To control for the effects of people's current health, we measured participants' current health using the two item health status scale (Moorman and Matulich 1993). Specifically, participants responded to the items: "Please rate your overall health," and "How serious have your health problems been (reverse coded)?" Responses were recorded on a 7 point scale (1 = Poor; 7 = Excellent). The two items were relatively highly correlated ( $r = .49$ ,  $p < .001$ ) and were averaged for the analyses.

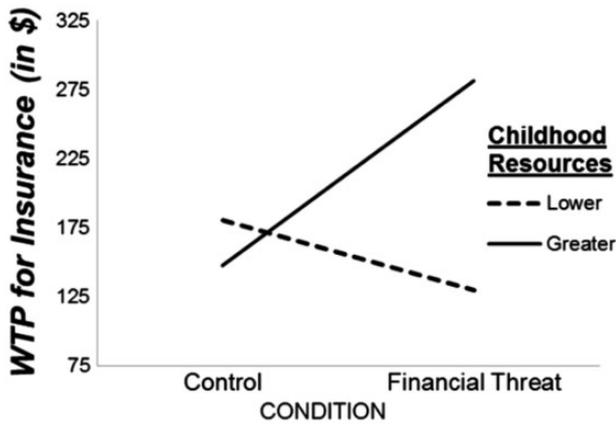
## Results

*Medical Coverage.* Results once again revealed no significant main effect of financial threat ( $p = .09$ ). We first examined the influence of current resources on desire for insurance. As expected, having more resources in adulthood was associated with a greater likelihood of buying insurance ( $F(1, 118) = 13.2$ ,  $p < .001$ ). However, there was no interaction with current resources and financial threat ( $p = .78$ ).

We next examined the effect of childhood resources. Consistent with the findings in study 1A, higher childhood resources were associated with higher WTP for health insurance ( $F(1, 118) = 6.97$ ,  $p = .010$ ). And again consistent with hypothesis 1, the main effect of childhood resources was qualified by a significant financial threat by childhood resources interaction ( $F(1, 116) = 14.44$ ,  $p < .001$ ). This interaction effect remained significant even when controlling for current resources, as well as controlling for participants' age, current health, and gender ( $F(1, 112) = 14.48$ ,  $p < .001$ ).

FIGURE 2

EFFECT OF CHILDHOOD RESOURCES ON WILLINGNESS TO PAY FOR A HEALTH INSURANCE PLAN IN CONTROL AND FINANCIAL THREAT CONDITIONS (STUDY 1B)



To test hypothesis 1, we examined the relation between childhood resources and desire for medical coverage in each of the two experimental conditions. As seen in figure 2, in the control condition, there was no relation between childhood resources and desire for medical coverage ( $\beta = -.14, p = .30$ ). However, in the financial threat condition, people from wealthier backgrounds indicated a significantly greater desire for medical coverage ( $\beta = .48, p < .001$ ). Thus supporting hypothesis 1, childhood resources had a positive effect on desire for medical coverage, whereby this effect was amplified by conditions of financial threat.

**Additional Analyses.** Spotlight analyses revealed that financial threat led people from poorer childhoods (1 SD below the mean of childhood resources) to indicate a lower WTP for a health insurance plan in the threat condition compared to the control condition ( $t(112) = -1.44, p = .15$ ). In contrast, financial threat led individuals from wealthier childhoods (1 SD above the mean of childhood resources) to indicate a higher WTP for a health insurance plan ( $t(112) = 4.05, p < .001$ ).

**Health-Risk Propensity.** We next tested how childhood resources and financial threat influenced health-risk propensity. A GLM analysis revealed no main effect of childhood resources ( $p = .33$ ) or financial threat ( $p = .60$ ). However, there was a significant financial threat by childhood resources interaction ( $F(1, 116) = 8.47, p = .004$ ). This interaction remained significant even when controlling for age, gender, health status, and current resources ( $F(1, 112) = 5.66, p = .019$ ). Additionally, current resources had neither a main effect ( $p = .28$ ) nor an interaction effect with financial threat ( $p = .75$ ) on risk propensity.

We next examined the pattern of effects for health-risk propensity. In the control condition, there was no relation between childhood resources and health-risk propensity ( $\beta = .17, p = .21$ ). However, in the financial threat condition, people from wealthier childhoods had a significantly lower health-risk propensity ( $\beta = -.39, p = .002$ ). Thus the pattern of effects for health-risk propensity mirrored the effects for WTP for health insurance. Spotlight analyses revealed that financial threat led people from poor childhoods (1 SD below the mean of childhood resources) to increase in their health-risk propensity ( $t(112) = 1.09, p = .28$ ). In contrast, financial threat led individuals from wealthy childhoods backgrounds (1 SD above the mean of childhood resources) to decrease in their health-risk propensity ( $t(112) = -2.34, p = .021$ ).

**Mediation Analysis.** We next tested whether the effect of childhood resources and financial threat on WTP for health insurance is statistically mediated by changes in health-risk propensity. Because this mediational effect should depend on childhood resources, the proper analysis is mediated moderation (Muller, Judd, and Yzerbyt 2005).

Using Hayes's (2013) macro and following the guidelines outlined in Zhao, Lynch, and Chen (2010), we conducted a bootstrap test of the indirect effect of childhood resources and financial threat on WTP for health insurance, via risk-taking propensity. A 5000 resample bootstrap showed support for this indirect effect,  $b = 10.25$ , 95% confidence interval [CI], 1.33–26.22. Because the CI does not include 0, this indicates that the effect of childhood resources and financial threat on WTP for health insurance was statistically mediated by health-risk propensity.

## Discussion

In summary, study 1B again showed that childhood resources had a positive effect on desire for health coverage, whereby higher resources in childhood predicted a greater WTP for a health insurance plan. Consistent with hypothesis 1, the effect of childhood environment on desire for medical coverage was again amplified by conditions of financial threat. Furthermore, because the financial threat and the control conditions were designed to elicit similar levels of affect, study 1B indicates that the effects are unlikely to be driven by affect alone.

Study 1B also tested a hypothesized psychological mechanism for how childhood SES influences desire for medical coverage. Consistent with hypothesis 2, study 1B found that the effect of childhood resources on desire for medical coverage was statistically mediated by health-risk propensity. This suggests that people from poorer versus wealthier childhoods have varying desires for health insurance under conditions of financial threat *because* they differ in their willingness to take risks.

## STUDY 2

Thus far we have shown that growing up poor is associated with reduced desire for medical coverage, especially in conditions of financial threat. Study 2 examined a condition when growing up poor might be associated with an *increased* desire for medical coverage. Based on our model, we hypothesized that childhood resources should have a very different effect on desire for health insurance when people are presented with base rates associated with getting sick. When the base rate is made salient, childhood resources should have an opposite effect on desire for medical coverage, whereby growing up poor should *increase* desire for medical coverage, especially in the face of financial threat. To test this possibility, study 2 included conditions when a base rate was absent and when a base rate was present.

We predict that the pattern of effects in the base-rate absent condition should be similar to the pattern observed in studies 1A and 1B. That is, we expect poorer childhood to be associated with a decreased desire for health insurance, especially under conditions of financial threat, when a base rate is absent. However, we expect this effect to be reversed in the base-rate present condition. We predict that when base rate is made salient, poorer childhood will be associated with an *increased* desire for health insurance, especially in conditions of financial threat.

## Method

**Participants and Study Design.** A total of 298 participants (55% female,  $M_{\text{age}} = 35.7$ ,  $SD = 12.3$ ) were recruited from an online subject pool in exchange for a small monetary amount. The study had a 2 (Condition: Financial Threat vs. Control)  $\times$  2 (Base Rate: Absent vs. Present) between-subjects design. Childhood and current resources were also measured as continuous variables.

**Procedure.** Participants were first randomly assigned to one of two between-subjects conditions: financial threat and control. We used the same experimental manipulations for financial threat and the control condition as in study 1A. Participants in the financial threat condition listed three indicators of increasing threat in the economy, whereas those in the control condition listed three indicators of economic stability.

Following the manipulation, participants were told that the researchers were interested in people's views on health insurance. They were then randomly assigned to either the base-rate absent or the base-rate present condition. In the base-rate absent condition, participants were asked to indicate their likelihood of buying health insurance using the same item as in study 1A. In the base-rate present condition, prior to assessing participants' likelihood of buying health insurance using the same item, participants were first shown the prevalence of a disease (the base rate) based

on established methods (Shoemaker and Kunreuther 1979; Slovic et al. 1977). Specifically, participants saw,

Below you will see the chances of getting a disease for the general population. Based on this, please indicate your willingness to buy insurance against it. Assume that your current health care policy, if any, doesn't cover these expenses.

Disease ###:

Chances of getting this disease: 5%

The specific risk probability of 5% was chosen because it corresponds to the midpoint of the range of probabilities examined in previous health insurance research (Slovic 1977). The disease was unnamed to minimize effects of prior experiences or knowledge (Slovic 1977; Yan and Sengupta 2013). After seeing the risk associated with the disease, participants indicated their likelihood of buying health insurance. As in study 1A, responses were recorded on a slider scale ranging from "0 = Not at all likely" to "100 = Extremely likely." Childhood and current resources were measured using the same measure as in studies 1A and 1B. Participants' current health status was also assessed using the same measure as in study 1B.

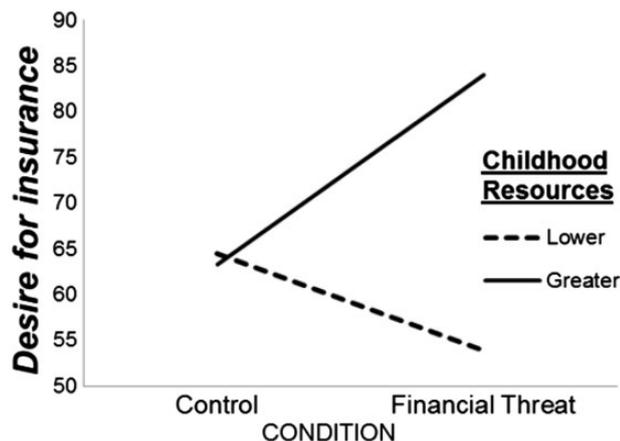
## Results

**Medical Coverage.** We first tested for a three-way interaction with condition (financial threat vs. control, between subjects), base rate (absent vs. present, between subjects), and childhood resources (continuous variable) as the predictors. Findings showed no main effects of childhood resources ( $p = .11$ ), current resources ( $p = .08$ ), or experimental condition ( $p = .49$ ). However, analysis did reveal the expected three-way interaction between condition, base-rate absent versus present condition, and childhood resources,  $F(1, 290) = 13.29$ ,  $p < .001$ . This means that financial threat and childhood resources had a significantly different effect when the base rate was present versus when the base rate was absent. The three-way interaction remained significant even after controlling for respondents' age, gender, current resources, and health status,  $F(1, 286) = 13.33$ ,  $p < .001$ .

To unpack the three-way interaction, we next analyzed the base-rate absent and base-rate present conditions separately. For the base-rate absent condition, findings mirrored those from studies 1A and 1B, revealing the predicted financial threat by childhood resources interaction,  $F(1, 146) = 8.45$ ,  $p = .004$  (figure 3). To test hypothesis 1, we examined the relation between childhood resources and desire for medical coverage in each of the two experimental conditions. Within the control condition, there was again no association between desire for health coverage and childhood resources ( $\beta = -.02$ ,  $p = .89$ ). However, there was a significant relation between desire for health coverage and childhood resources in the financial threat condition ( $\beta = .44$ ,  $p < .001$ ). The pattern suggests that

FIGURE 3

EFFECT OF CHILDHOOD RESOURCES ON DESIRE FOR HEALTH INSURANCE WHEN THE BASE RATE WAS ABSENT (STUDY 2)



individuals from wealthier backgrounds showed a greater desire for health coverage than those from poorer backgrounds in the financial threat condition.

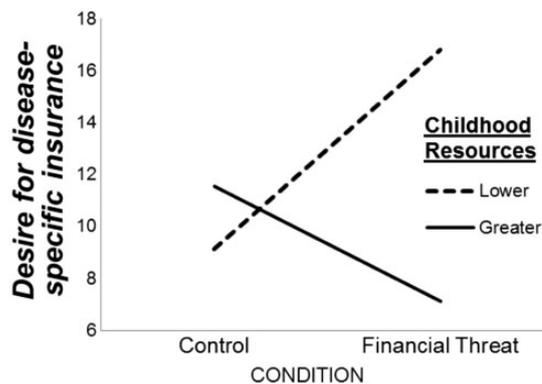
For the base-rate present condition, findings revealed a very different pattern of results. As predicted, there was a significant condition by childhood resources interaction,  $F(1, 144) = 4.85, p = .029$  (figure 4). To test hypothesis 3, we examined the relation between childhood resources and desire for medical coverage in each of the two experimental conditions. There was again no association between desire for health coverage and childhood resources in the control condition ( $\beta = .08, p = .48$ ). However, there was a significant relation between desire for health coverage and childhood resources in the financial threat condition ( $\beta = -.25, p = .030$ ), but this pattern was reversed from the base-rate absent condition. When the base rate was made salient, individuals from *poorer* backgrounds indicated a *greater* desire for health coverage than those from wealthier backgrounds in the financial threat condition.

**Additional Analyses.** For the case when base rates were absent, spotlight analyses showed that financial threat led people from relatively poorer childhoods (1 SD below the mean of childhood resources) to indicate *lower* desire for health coverage in the threat condition compared to the control condition, although this effect was not significant by conventional standards ( $t(146) = -1.39, p = .16$ ). In contrast, financial threat led individuals from relatively wealthier childhoods (1 SD above the mean of childhood resources) to indicate a significantly *greater* desire for health coverage ( $t(146) = 2.72, p = .007$ ).

For the case when base rates were present, spotlight analyses showed that financial threat led people from

FIGURE 4

EFFECT OF CHILDHOOD RESOURCES ON DESIRE FOR HEALTH INSURANCE WHEN THE BASE RATE WAS PRESENT (STUDY 2)



relatively poorer childhoods (1 SD below the mean of childhood resources) to indicate *greater* desire for health coverage in the threat condition compared to the control condition ( $t(144) = 1.97, p = .05$ ). In contrast, financial threat led individuals from relatively wealthier childhoods (1 SD above the mean of childhood resources) to indicate a somewhat lower desire for health coverage, although this effect was not significant by conventional standards ( $t(144) = -1.15, p = .25$ ).

## Discussion

In summary, study 2 showed that childhood environment has a different effect on people's desire for health insurance depending on whether base rates are absent or present. Consistent with findings from studies 1A and 1B, in absence of base rates, individuals from wealthier environments indicated a greater desire for health insurance when facing financial threat. However, when the base rate was made salient, those from poorer backgrounds indicated a greater desire for health insurance.

## STUDY 3

In study 2 we identified a condition when growing up poor is associated with *increased* desire for medical coverage. Specifically, when people saw base rates associated with a given disease, individuals from poorer childhoods indicated a greater desire for health insurance compared to those who grew up wealthier. Consistent with hypothesis 3, this effect emerged most strongly in the financial threat condition. In study 2, the reversal effect was tested using only one base rate (5%). Study 3 tested for possible boundary conditions of the effect by examining five different

base rates ranging from low to high: 0.2%, 1%, 5%, 10%, and 25%.

## Method

**Participants and Study Design.** A total of 131 participants (57% male,  $M_{\text{age}} = 32.6$ ,  $SD = 11.7$ ) were recruited from an online subject pool in exchange for a small monetary amount. The study had a 2 (Condition: Financial Threat vs. Control, between-subjects)  $\times$  5 (Base rates: 0.2%, 1%, 5%, 10%, 25%, within-subjects) mixed design. Childhood and current resources were continuous measures and assessed using the same items as in studies 1A, 1B, and 2.

**Procedure.** Participants were randomly assigned to one of two between-subjects conditions: financial threat and control. Experimental manipulations for financial threat and control conditions were identical to those used in studies 1A and 2. Participants in the financial threat condition listed three indicators of increasing threat in the economy, whereas those in the control condition listed three indicators of economic stability.

**Medical Coverage.** The goal of this study was to test people's desire for health insurance in response to a wider range of base rates. Participants therefore indicated the likelihood of buying health insurance for each of five diseases with base rates of 0.2%, 1%, 5%, 10%, and 25%, presented in a random order. The five base rates used are identical to those used in prior research that also intended to capture people's responses over a wide range of base rates (Slovic 1977). Participants indicated their likelihood of buying insurance against each of the five diseases on a slider scale ranging from "0 = Not at all likely" to "100 = Extremely likely." We also assessed participants' current health status as in previous studies.

## Results

**Medical Coverage.** We first tested for a three-way interaction with condition (financial threat vs. control), base rate (0.2%, 1%, 5%, 10%, 25%), and childhood resources. Results did not reveal a significant three-way interaction,  $F(1, 127) = 0.22$ ,  $p = .64$ . As seen in figure 5, the pattern of findings were relatively similar across the different base-rate conditions.

The key statistical analyses for each of the five base rates are reported in table 1. As seen in table 1, the predicted interaction with financial threat and childhood resources was obtained for all but one of the base rates, with 25% the only base rate that did not yield an interaction. Similarly, in the financial threat condition, growing up poor significantly increased desire for health insurance for all but one of the base rates, with 25% the only base rate that did not yield an effect.

Because the base-rate condition did not yield a significant interaction, for further analyses we averaged people's responses for the five different base rates to form a single desire for insurance index. Results using the composite index revealed no main effect of condition ( $p = .15$ ) or childhood resources ( $p = .21$ ). However, as predicted, we found a significant condition by childhood resources interaction,  $F(1, 127) = 5.28$ ,  $p = .023$ . This effect remained significant even after controlling for age, gender, current resources, and current health,  $F(1, 123) = 5.17$ ,  $p = .025$ . We also observed a significant main effect of current resources ( $p = .005$ ), showing that people with more resources now were more likely to seek health coverage. However, the current resources by financial threat interaction was not significant ( $p = .37$ ).

To test hypothesis 3, we next examined the pattern of effects within each experimental condition. In the control condition, there was no relation between childhood SES and likelihood of buying health insurance,  $\beta = .079$ ,  $p = .58$ . However, in the financial threat condition, people from poorer backgrounds were significantly more likely to get health coverage,  $\beta = -.29$ ,  $p = .016$ . This is consistent with our prediction and the pattern of effects found in study 2.

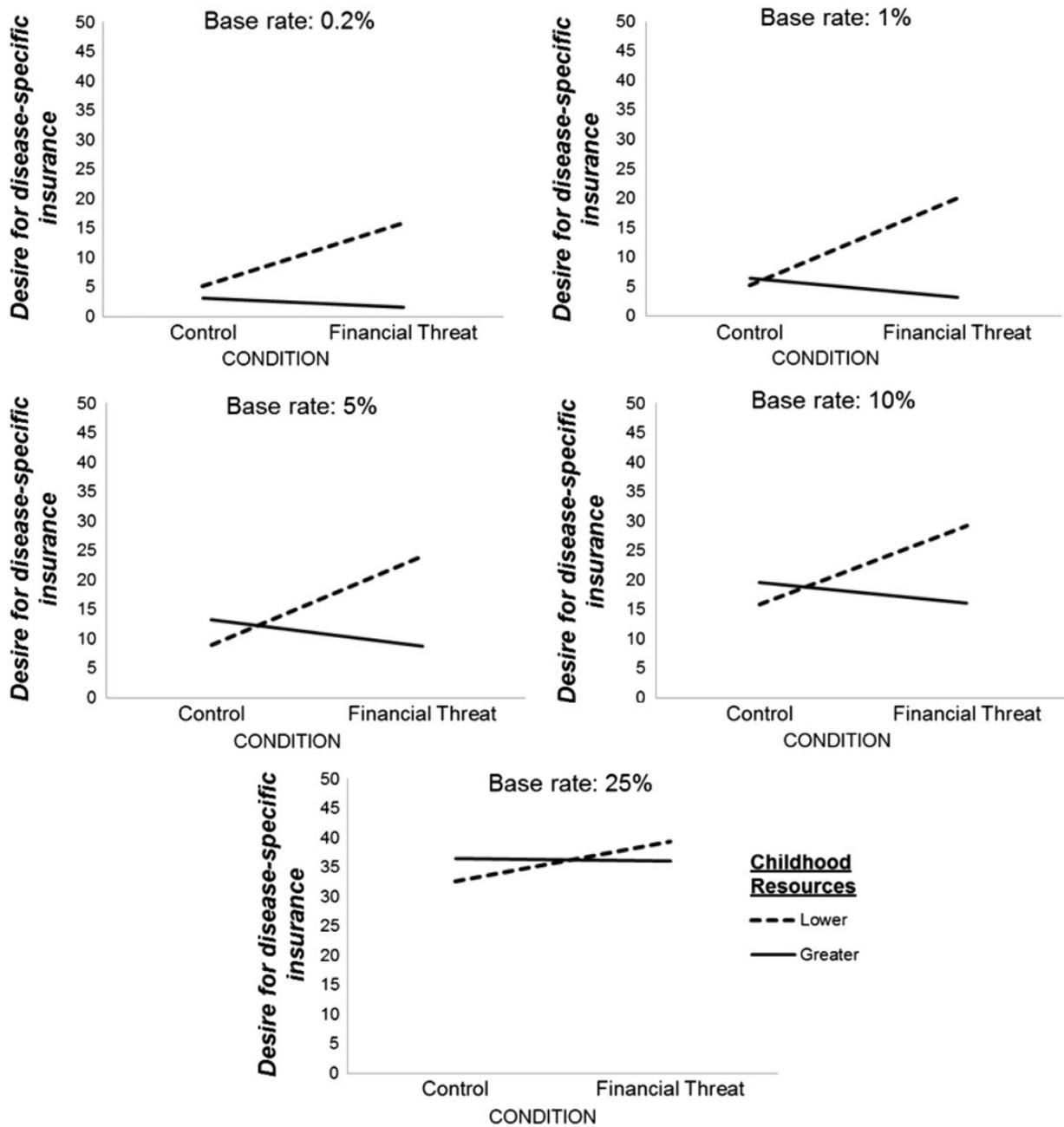
**Additional Analyses.** We conducted additional analyses to further explore the effect of condition by childhood resources interaction on the likelihood index. Spotlight analyses showed that financial threat led people from relatively poor childhoods (1 SD below the mean of childhood resources) to indicate a greater likelihood of getting medical coverage in the financial threat condition compared to the control condition,  $t(127) = 2.66$ ,  $p = .009$ . For individuals from relatively wealthy childhoods (1 SD above the mean of childhood resources), however, we did not observe a significant effect of financial threat on their likelihood of getting medical coverage  $t(127) = -.59$ ,  $p = .55$ .

## Discussion

In summary, study 3 tested for possible boundary conditions of the reversal effect by examining five different base rates ranging from low to high: 0.2%, 1%, 5%, 10%, and 25%. Results showed that the reversal effect occurred when based rates were lower: 0.2%, 1%, 5%, and 10%. However, the reversal effect was not obtained at the high base rate of 25%. Our results are consistent with prospect theory and numerous findings from the risk perception literature that show that people tend to overreact to smaller probability events compared to events with higher probability (Breakwell 2014; Kahneman and Tversky 1979; Sunstein and Zeckhauser 2011). This means that when base rates are sufficiently high, there is no difference among people from low and high-SES backgrounds on how they react to them.

FIGURE 5

EFFECT OF CHILDHOOD RESOURCES ON DESIRE FOR HEALTH INSURANCE AT DIFFERENT LEVELS OF BASE RATES (STUDY 3)



STUDY 4

Study 4 investigated the psychological mechanism for how childhood SES influences desire for health coverage when base rates are made salient. When people consider medical coverage in general, our model proposes that

childhood SES influences desire for medical coverage through risk preferences, as documented via mediational evidence in study 1B. However, when people consider medical coverage after seeing base-rate information about disease, our model proposes that childhood SES should influence desire for medical coverage through perceptions of

TABLE 1  
KEY STATISTICS FOR EACH OF THE FIVE BASE RATES USED IN STUDY 3

Base rate	Financial threat by childhood resources interaction	Relation between childhood resources and likelihood of buying insurance in each condition	
		Control	Financial threat
0.2%	$F(1, 127) = 6.20, p = .014$	$\beta = -.09, p = .448$	$\beta = -.38, p = .001$
1%	$F(1, 127) = 8.37, p = .004$	$\beta = .04, p = .731$	$\beta = -.37, p = .002$
5%	$F(1, 127) = 7.48, p = .007$	$\beta = .12, p = .342$	$\beta = -.32, p = .008$
10%	$F(1, 127) = 4.47, p = .037$	$\beta = .09, p = .703$	$\beta = -.26, p = .031$
25%	$F(1, 127) = 0.43, p = .511$	$\beta = .06, p = .606$	$\beta = -.05, p = .674$

how likely a person is to get sick. The more likely people perceive that they are to get sick, the more willing they should be to seek medical coverage. Study 4 thus tested for hypothesis 4. We predicted that when base rates for disease are made salient, the effect of childhood SES on desire for medical coverage should be statistically mediated by perceptions of the likelihood of getting sick.

In addition, study 4 also asked participants to indicate their level of resources by reporting their childhood and current household incomes, in addition to the measure used in all the previous studies. We expected that childhood income would be closely related to the validated measures of childhood resources used in previous studies.

## Method

**Participants and Study Design.** A total of 125 US respondents (52.8% female,  $M_{\text{age}} = 35.7, SD = 12.9$ ) from an online subject pool participated in exchange for a small monetary payment. The study had two between-subjects conditions: financial threat and control. Participants in the financial threat condition listed three indicators of increasing threat in the economy. Those in the control condition indicated three indicators that the economy is improving.

**Procedure.** The procedure and materials were similar to those used in study 3. After the manipulation, participants were informed that the base rate of a disease was 5% and were asked to indicate their likelihood of buying health insurance against it (“0 = Not at all likely” to “100 = Extremely likely.”)

**Health-Risk Perceptions.** In addition to indicating their likelihood of buying insurance against the disease (the dependent measure), participants also provided estimates of how likely they are to be affected by the disease. Following past work on health-risk perception (Raghubir and Menon 1998; Yan and Sengupta 2013), participants indicated their own perceived likelihood of being affected by this disease. Participants answered this question before they indicated their desire for insurance. Responses were recorded on a 101 point scale ranging from “0 = Not at all likely” to “100 = Extremely likely.”

**Childhood Resources.** In addition to assessing childhood and current resources via the same three items as in studies 1–3, participants also indicated their childhood family household income and their current household income (Griskevicius et al. 2011a, 2013; Mittal and Griskevicius 2014). For childhood household income, participants responded to “What was your household income when you were growing up?” Eight response options were provided: \$15,000 or less, \$15,001–\$25,000, \$25,001–\$35,000, \$35,001–\$50,000, \$50,001–\$75,000, \$75,001–\$100,000, \$100,001–\$150,000, and \$150,000 or more.

Median childhood household income was \$35,001–\$50,000. Overall, 20.8% of participants indicated a childhood household income less than \$25,000, and 14.4% indicated a childhood household income of more than \$100,000. There was a sizable correlation between the three item measure of childhood SES used in previous studies and the childhood income measure ( $r = .51, p < .001$ ). The two measures were thus standardized and averaged for subsequent analyses. (The pattern of results remains the same when each measure is used independently.)

Current household income was assessed by asking, “What is your current household income?” Participants were provided with the same response options as for childhood income. Median current household income was \$35,001–\$50,000. Overall, 29.6% of participants indicated having a current household income of less than \$25,000, and 9.6% indicated having a current household income of more than \$100,000. Childhood family income and current household income were only modestly correlated ( $r = .21$ ).

## Results

**Medical Coverage.** Results revealed no main effect of financial threat ( $p = .51$ ) or of childhood resources ( $p = .21$ ). However, consistent with hypothesis 3, findings revealed the expected financial threat by childhood resources interaction ( $F(1, 121) = 11.16, p = .001$ ). This interaction remained significant even when controlling for participants’ age, gender, health status, and level of current resources ( $F(1, 117) = 14.91, p < .001$ ). Furthermore, there

FIGURE 6

EFFECT OF CHILDHOOD RESOURCES ON DESIRE FOR HEALTH INSURANCE WHEN THE BASE RATE WAS PRESENT (STUDY 4)

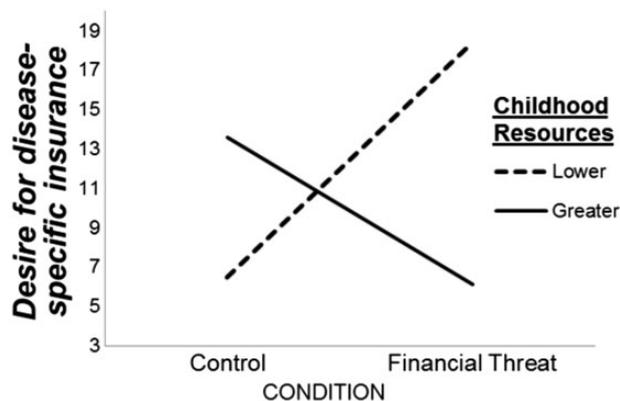
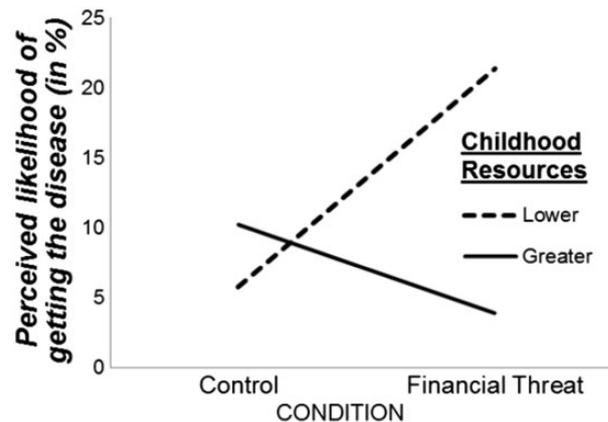


FIGURE 7

EFFECT OF CHILDHOOD RESOURCES ON PEOPLE'S PERCEPTIONS OF GETTING A DISEASE AT A BASE RATE OF 5% (STUDY 4)



was a marginally significant main effect of current resources ( $p = .07$ ), showing that those who had more resources now were more likely to seek health coverage. However, once again, there was no significant financial threat by current resources interaction ( $p = .69$ ).

To test hypothesis 3, we examined the relation between childhood resources and desire for medical coverage in each of the two experimental conditions. As seen in figure 6, in the control condition, there was no relation between childhood resources and desire for medical coverage ( $\beta = .19, p = .13$ ). However, in the financial threat condition, people from poorer backgrounds indicated a significantly *greater* desire for medical coverage ( $\beta = -.39, p < .001$ ). Thus replicating findings from studies 2 and 3 and supporting hypothesis 3, childhood resources had a negative effect on desire for medical coverage under conditions of financial threat.

*Additional Analyses for Medical Coverage.* Findings from spotlight analyses showed that financial threat led people from relatively poor childhoods (1 SD below the mean of childhood resources) to indicate *greater* desire for medical coverage in the financial threat condition compared to the control condition ( $t(121) = 2.96, p = .004$ ). In contrast, financial threat led individuals from relatively wealthy childhoods (1 SD above the mean of childhood resources) to indicate a *lower* desire for medical coverage ( $t(121) = -1.81, p = .07$ ).

*Health-Risk Perceptions.* For perceptions of getting sick, results revealed no main effect of condition ( $p > .2$ ). But findings did show a main effect of childhood resources ( $F(1, 123) = 6.17, p = .014$ ), whereby having more resources in childhood was associated with lower perceptions

of getting sick. As seen in figure 7, this main effect was qualified by a significant financial threat by childhood resources interaction ( $F(1, 121) = 20.8, p < .001$ ). This interaction remained significant even when controlling for participants' age, gender, health status, and level of current resources ( $F(1, 117) = 18.74, p < .001$ ). There was also a marginally significant main effect of current resources ( $p = .058$ ), but there was no interaction effect of current resources with financial threat ( $p = .87$ ).

Consistent with the findings for desire for health insurance, in the control condition there was no relation between childhood resources and perceptions being affected by the disease ( $\beta = 0.15, p = .26$ ). In the financial threat condition, however, participants from low-SES childhoods indicated a significantly greater likelihood of being affected by the disease ( $\beta = -.47, p < .001$ ).

*Additional Analyses for Health-Risk Perceptions.* As described in the Methods section, all participants were provided with a base rate indicating that 5% of people in the population are affected by a disease. We used spotlight analyses to examine people's exact perceptions of their likelihood of getting this disease in different conditions. Whereas people who grew up in high-SES environments (individuals at 1 SD above the mean of childhood resources) perceived having a 10.2% likelihood of getting the disease in the control condition, they perceived having only a 3.9% likelihood of getting the disease in the financial threat condition ( $t(121) = -1.52, p = .13$ ). In contrast, whereas people who grew up in low-SES environments (1 SD below the mean of childhood resources) perceived having a 5.7% likelihood of getting the disease in the control condition, they perceived having a 21.4% likelihood of

getting the disease in the financial threat condition ( $t(121) = 3.88, p < .001$ ).

*Mediation.* Figure 8 presents a visual depiction of the mediated moderation model. A 5000 resample bootstrap revealed an indirect effect of financial threat and childhood resources on desire for insurance via perceived risk,  $b = -10.4$ , 95% CI,  $-19.98$  to  $-4.03$ ]. Because the CI does not include 0, this indicates that the effect of financial threat on desire for insurance was statistically mediated by people’s perceived risk of getting the disease.

Discussion

In summary, study 4 replicated and extended the findings from studies 2 and 3. When people were presented with base rates about disease, people who grew up poor once again had a higher desire for medical coverage compared to people who grew up wealthy. Consistent with hypothesis 3, this effect was again strongest in conditions of financial threat.

In addition, study 4 provided evidence for the psychological mechanism driving this effect. Consistent with hypothesis 4, we found that when people considered health insurance after seeing base-rate information about disease, their desire for health coverage was driven by their perceptions of how likely they were to get the disease. Even though all people were provided with a base rate indicating that 5% of people in the population are affected by a

disease, people who grew up poor perceived that they are more likely to get this disease compared to those who grew up wealthy. Whereas people who grew up wealthy perceived only a 3.9% chance of getting this disease in conditions of financial threat, those who grew up poor perceived a 21.4% chance of getting the same disease. Mediational evidence suggested that providing people with base rates about disease led people from low-SES childhoods to seek health insurance because they perceived that they are more likely to get sick.

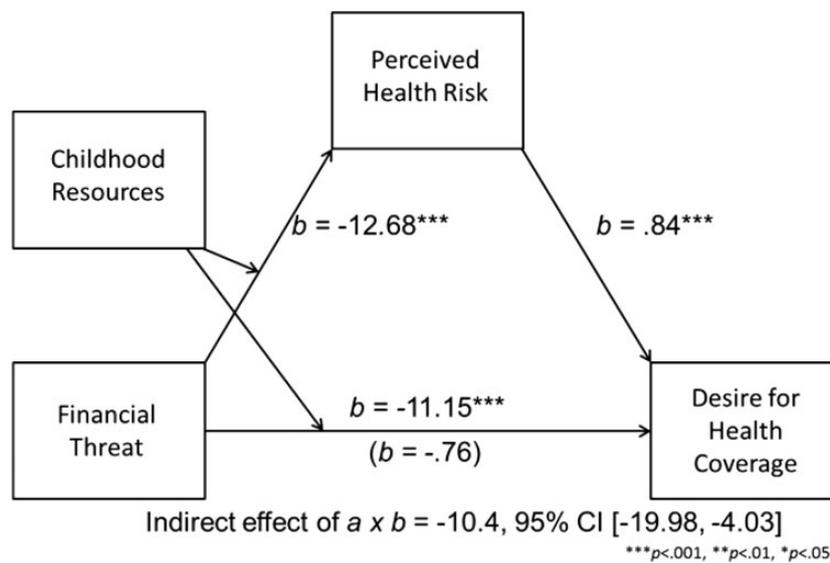
GENERAL DISCUSSION

A series of experiments revealed that growing up poor can decrease *or* increase desire for health coverage. People who grew up poor were generally less interested in seeking medical coverage compared to people who grew up wealthy. This effect was independent of people’s current ability to afford insurance and was strongest when adults felt a sense of current financial threat. In these conditions, childhood SES influenced adult desire for health care because people from wealthy childhoods were more risk averse than those from poorer childhoods, which led them to seek health insurance. In fact, willingness to engage in risky behavior statistically mediated the effect of childhood environment on desire for health insurance.

Although people who grew up poor were generally less interested in health insurance, we uncovered a condition

FIGURE 8

MEDIATED MODERATION MODEL SHOWING THAT THE EFFECT OF CHILDHOOD RESOURCES AND FINANCIAL THREAT ON DESIRE FOR HEALTH INSURANCE IS MEDIATED BY RISK PERCEPTION WHEN THE BASE RATE INFORMATION IS PRESENT (STUDY 4)



that reverses this effect: providing people with base-rate information about health risks. When information about the average likelihood of getting sick was made available, people who grew up poor had a *greater* desire for medical coverage compared to those who grew up wealthy. Once again, this effect was strongest in conditions of financial threat when people were stressed about their resources. The reason for the reversal effect stemmed from the fact that providing base rates changed the psychological mechanism driving how childhood SES influences health decisions. Instead of being driven by people's risk preferences, providing base rates led the effect to be driven by risk perceptions—people's perceptions of how likely they are to get sick. People who grew up poor perceived themselves as more likely to get sick compared to those who grew up wealthy, which statistically mediated their increased desire for health coverage.

### Contributions and Implications

This research makes several contributions to the consumer behavior literature. First, this research contributes to the consumer health judgment and decision-making literature (Block and Keller 1995; Hsee and Kunreuther 2000; Johnson et al. 1993). We show that desire for health insurance is impacted in specific ways by a person's childhood SES independent of their adult SES. Furthermore, we provide mediational evidence showing that childhood SES influences health care decisions via two different psychological mechanisms depending on whether base-rate information about the underlying health risk is salient.

Second, the current studies are the first to show that childhood SES influences health-risk perception. Risk perception plays a fundamental role in influencing health behavior (Brewer et al. 2007), yet surprisingly little is known about why people differ in their interpretation of the same risks (Barnett and Breakwell 2001). Our findings show that childhood experiences can shape how a person perceives a risk, leading some people to have higher estimates of their vulnerability to health risks (Menon, Kyung, and Agrawal 2009; Yan and Sengupta 2013).

Third, whereas prior work has primarily examined how childhood environment influences consumer behavior in children and adolescents (Chaplin, Hill, and John 2014; Chaplin and John 2007; Rindfleisch, Burroughs, and Denton 1997), we examine how childhood environment influences consumer behavior in adulthood, a topic of growing interest among consumer researchers (Connell, Brucks, and Nielsen 2014; Richins and Chaplin 2015). Our findings suggest that childhood environment shapes choices much later in life. We find that choices in adulthood are influenced specifically by people's childhood SES and not just their current SES. This suggests that the effects of childhood SES may be etched into our adult psychology, continuing to influence adult consumer decision making

regardless of one's socioeconomic situation later in life. These findings contribute to a growing literature on how consumer behavior is influenced by SES and resource scarcity (Laran and Salerno 2013; Roux and Goldsmith 2014; Sharma and Alter 2012; Thompson et al. 2014).

Finally, given that health coverage choices for Americans are, more than ever, in the hands of consumers, this research has implications for policymakers and communicators who seek to motivate people to seek medical coverage. Consistent with the notion that adverse childhoods are associated with poor choices in adulthood, we find that growing up poor generally leads people to shun health coverage in adulthood, even when they might be able to afford it. But the current research suggests that a small change in communicating health messages to people from poor backgrounds can motivate them to seek health coverage. When people from low-SES backgrounds are provided with probability figures (base rates) about the likelihood of getting sick under conditions of financial stress, they became more motivated to seek health coverage. Thus the current research suggests that communication related to health insurance might be more effective if the strategy is segmented by whether the audience grew up in high-SES versus low-SES conditions. Whereas higher-SES audiences should be more receptive to typical messages about purchasing health insurance, lower SES audiences should be more receptive to messages about purchasing health insurance when they are presented with base rates about getting sick.

### Limitations and Future Directions

A limitation of the current studies is that childhood environment was measured retrospectively. Although future research is needed, there are reasons to believe that prospective measures of childhood environment would yield the same pattern of results. Past studies have documented a strong link between adults' retrospectively reported childhood SES and their actual SES in childhood (Cohen et al. 2010; Duncan, Ziol-Guest, and Kalil 2010). Furthermore, studies in which researchers had access to both prospective and retrospective measures of childhood environment show the same pattern of findings regardless of the measure (Mittal et al. 2015).

We find that the effects of childhood environment on seeking health coverage emerged most strongly in conditions of financial threat. We focused on financial threats because of their ubiquity and consequentiality in consumer's lives (American Psychological Association 2015; Diener and Diener 2002; Minsky 1986). Financial threats are common in daily life, whereby the sense of financial stress can be triggered by economic recessions, fluctuations in the stock market, or any salience of financial concerns. While the current research focused on the effects of stressors stemming from financial threats, there are reasons

to believe that other types of stressors might generate similar effects. For example, past research suggests that threats about mortality also produce behavioral differences based on people's childhood SES (Griskevicius et al. 2011a). In fact, study 1B showed that the effect of childhood on desire for insurance is mediated by general risk propensity, not just financial risk propensity, which provides some grounds to believe that the stressor itself need not be a financial one. Future research is needed to better understand how other types of environmental stressors may interact with childhood environment to influence consumer behavior.

We find that when base rates were salient, financial threat lowered the desire to purchase insurance among those from wealthier backgrounds. Mediation evidence showed that this occurred because people from wealthier backgrounds believed they were less likely to get sick during conditions of financial threats. This suggests that people from wealthier backgrounds have optimistic beliefs in the presence of a stressor. The precise reasons for this effect are presently unclear. One possibility is that a privileged upbringing leads people to form optimistic expectations as a way to cope with stressors. For example, optimism has been found to be correlated with strategies people use to eliminate or reduce a stressor (Nes and Segerstrom 2006). Another possibility is that individuals from wealthier backgrounds tend to internalize threats and thus feel that they have greater agency over subsequent outcomes. Because threats can be perceived as either manageable or unmanageable, it is possible that people from wealthier backgrounds perceive threats to be more manageable, leading them to think that they have a greater influence on life outcomes. This tendency might lead them to form positive expectations about their life. Future research is poised to explore these possibilities.

To our knowledge, the current article is the first to show empirically that financial threat alters health insurance preferences. We show that this happens partly because individuals from poorer backgrounds have higher risk propensity compared to those from wealthier backgrounds in conditions of financial threat. Because risk propensity can influence risky behaviors in a variety of domains (Blais and Weber 2006; Nicholson et al. 2005), it is possible that the pattern we found may manifest itself in other domains besides health. For instance, future research might examine whether financial threat affects moral risk taking such as shoplifting or pirating a piece of software.

## Conclusion

Millions of children grow up in households with few resources. In the United States alone, 21% of children live below the poverty line and 44% are considered to live in low-income households (Jiang, Ekono, and Skinner 2016). Growing up with limited resources, as reflected in a child's level of SES, is known to influence physical,

socioemotional, and cognitive development (Link and Phelan 1995; Shonkoff et al. 2012). But childhood SES also has longer lasting effects, such as by shaping decisions in adulthood. While the current studies focused on how childhood environment influences health care decisions, our model has implications for consumer behaviors beyond health. A central contribution of the current research is that it shows that childhood environment can influence risk perceptions. The perception of risk plays an important role in many consumer behaviors ranging from investing in the stock market to giving out personal information online. The current research serves as a foundation for examining the many ways in which childhood environment can impact consumer behavior in adulthood.

## DATA COLLECTION INFORMATION

All the studies were programmed on Qualtrics and were conducted on Amazon's Mechanical Turk. Studies 1A, 1B, and 4 were conducted in the spring of 2015. Studies 2 and 3 were conducted during the summer and fall of 2015. The first author did the majority of data analyses under supervision from the second author. Data were discussed on multiple occasions by both authors.

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