

Out of Control: The Interplay of Subjective Poverty and Income on Spending

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Abstract

Consumers' spending decisions are shaped not only by their objective financial resources but also by their subjective perceptions of wealth. This research investigates the interplay between subjective poverty (e.g., feeling financially constrained) and income in driving spending. Across five studies including real-world spending data from a U.K. financial management app, longitudinal surveys from Kenya and the United States, and controlled experiments, the authors reveal that subjective poverty increases spending among higher-income consumers but decreases spending among lower-income consumers. That is, wealthy consumers who feel financially poor tend to spend more, whereas poorer consumers who feel financially constrained tend to reduce their spending. Drawing on compensatory control theory, the authors demonstrate that subjective poverty threatens individuals' sense of personal control over life, but people cope with this diminished sense of control differently based on their available resources. Higher-income individuals engage in compensatory consumption to restore control, while lower-income individuals adopt different strategies, including reduced spending. This research advances the understanding of how psychological and material dimensions of wealth interact to shape consumer behavior.

Keywords

poverty, income, consumption, financial decision-making, sense of control

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A hedge fund manager earning \$2 million annually browses luxury penthouses on her phone. Despite her substantial income, she feels a gnawing financial inadequacy comparing herself to her billionaire clients, a sentiment that drives her toward ever-increasing consumption levels. Meanwhile, a mid-career professor earning \$85,000 experiences similar feelings of financial constraint as he reviews his retirement portfolio, yet he responds by cutting discretionary spending. These contrasting reactions to subjective financial poverty—where one individual spends more while another spends less—reveal a fundamental puzzle in consumer behavior: How do income and subjective perceptions of poverty interact to shape spending decisions?

This question has become increasingly critical as digital technology transforms how people evaluate their financial situation. Social media and financial apps now provide unprecedented visibility into others' wealth and consumption levels, creating an endless stream of upward social comparisons (Bellezza 2023). Combined with rising wealth inequality (Piketty and Saez 2006), these forces have made subjective assessments of financial situations more complex and consequential. Recent surveys reveal that even individuals at the top of the wealth distribution frequently report feeling financially inadequate (Dickler 2023), while some with

modest means maintain a sense of financial security despite objective constraints (Tully, Hershfield, and Meyvis 2015).

Drawing on compensatory control theory (Kay et al. 2008), we propose that subjective poverty triggers fundamentally different behavioral responses depending on one's income. Specifically, we argue that feeling financially poor, despite having substantial resources, diminishes one's sense of control, driving wealthy individuals to consume more. Conversely, those with fewer resources respond to subjective poverty through managing scarcity directly and spending less. This framework helps explain why identical perceptions of financial poverty can produce opposing behavioral responses across the income spectrum.

This work advances consumer research in three main ways. First, we demonstrate how income systematically moderates the relationship between subjective poverty and spending—a crucial interaction overlooked by previous research examining

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subjective poverty and income in isolation. Second, we identify sense of control over life as the psychological mechanism linking subjective poverty to spending patterns. Third, we show that subjective poverty increases consumption among the affluent while decreasing it among those with fewer resources, challenging traditional assumptions about how financial constraints influence spending decisions.

Conceptual Foundations

The Divergence Between Subjective Poverty and Income

While income refers to the money received, often on a regular basis, for work or through investments, subjective poverty reflects a psychological state of financial constraint, regardless of actual economic circumstances (Haushofer and Salicath 2023). The relationship between subjective poverty and income is generally negative (Karlsson et al. 2004, 2005); however, this association is often surprisingly weak (Johnson and Krueger 2006; Netemeyer et al. 2018). Notably, subjective poverty does not always reflect objective abundance or lack of money (Tully, Hershfield, and Meyvis 2015). For example, a millionaire might experience frequent financial anxieties, whereas someone earning minimum wage might feel financially secure. A CNBC survey highlighted this by reporting that 31% of millionaires in the United States do not consider themselves wealthy, with a mere 8% identifying as affluent (Dickler 2023).

Several factors drive these mismatches between actual income and perceived poverty. Social comparison processes, for instance, play a central role: People infer their own financial standing by comparing themselves not only to friends and neighbors (Haisley, Mostafa, and Loewenstein 2008; Sharma and Alter 2012) but also to celebrities and influencers, whose luxurious lifestyles are often highly curated on social media. While consumers once worried about keeping up with their neighbors, they now compare themselves to the global elite (Bellezza 2023; Bellezza and Keinan 2014). In addition, individual aspirations shape perceptions of poverty: High aspirations can make adequate resources seem insufficient, while modest goals can make the same resources appear ample (Karlsson et al. 2004, 2005). The structure of one's wealth, particularly the balance between assets and debt, also influences perceived financial well-being, in that people who have more debt or face more financial instability may feel poorer, even if they have the same net worth as others (Sussman and Shafir 2012). Finally, mounting inequality magnifies each of these effects, as greater socioeconomic gaps heighten the salience of who "has more" and who "has less" (Piketty and Saez 2006; Sanchez-Rodriguez et al. 2019; Walasek and Brown 2015). Together, these dynamics underscore that understanding consumers' financial decisions requires attention not just to what they earn or own but also to how they perceive and interpret those resources (Hill 2001).

The Puzzle of Subjective Poverty and Spending

Research examining how wealth shapes consumer behavior has developed along two largely separate streams. The first focuses

on income and its role in consumption. This work generally assumes a straightforward relationship: Greater resources enable higher spending while constraints reduce it (Paiella 2009). Studies in this tradition demonstrate how income shocks affect purchasing patterns (Johnson, Parker, and Souleles 2006) and how wealth buffers against financial setbacks (Gorbachev 2011). This research provides valuable insights into how material resources shape consumption but often overlooks psychological factors.

A parallel stream examines subjective perceptions of financial wealth. This work shows how feeling poor can influence consumption independent of objective resources. Traditional models suggest that subjective poverty decreases spending through heightened price sensitivity (Karlsson et al. 2005) and greater attention to trade-offs and opportunity costs (Spiller 2011). However, other research reveals complexities in this relationship. Studies on compensatory consumption show that feeling deficient in some domain can actually increase spending on goods that symbolically address the perceived inadequacy (Goor, Keinan, and Ordabayeva 2020; Mandel, Petrova, and Cialdini 2006; Rucker and Galinsky 2008). This suggests that subjective poverty might sometimes increase, rather than decrease, consumption.

Most studies so far consider subjective poverty and income independently, with income frequently relegated to a background variable to be controlled for (for a discussion, see Yoon and Kim [2018]). This approach overlooks potentially crucial interactions, such as how subjective perceptions might influence spending differently depending on available financial resources. Our research addresses this gap by integrating insights from compensatory control theory, self-regulation research, and work on financial decision-making to examine the interaction of subjective poverty and income on spending.

Out of Control: Divergent Responses to Subjective Poverty Across Income Levels

Building on established research indicating that self-perceptions of limited resources and lower social rank are linked to a diminished sense of personal control (Kraus, Piff, and Keltner 2009; Lachman and Weaver 1998a, 1998b), we propose that subjective poverty reduces individuals' sense of control over their lives. Sense of control is the belief that one's actions and choices can influence the outcomes of one's life, rather than being determined by fate, circumstances, or other people (Inesi et al. 2011). Those with a heightened sense of control feel accountable for their destiny, while those with a low sense of control attribute their life events to external circumstances (Hernandez et al. 2022; Nießen et al. 2022). Individuals who perceive themselves as wealthy tend to experience a heightened agency, believing they are responsible for their life outcomes and capable of shaping their own path (Johnson and Krueger 2006; Kraus, Piff, and Keltner 2009). Conversely, individuals who perceive themselves as financially poor tend to feel less in control of their lives, believing they face

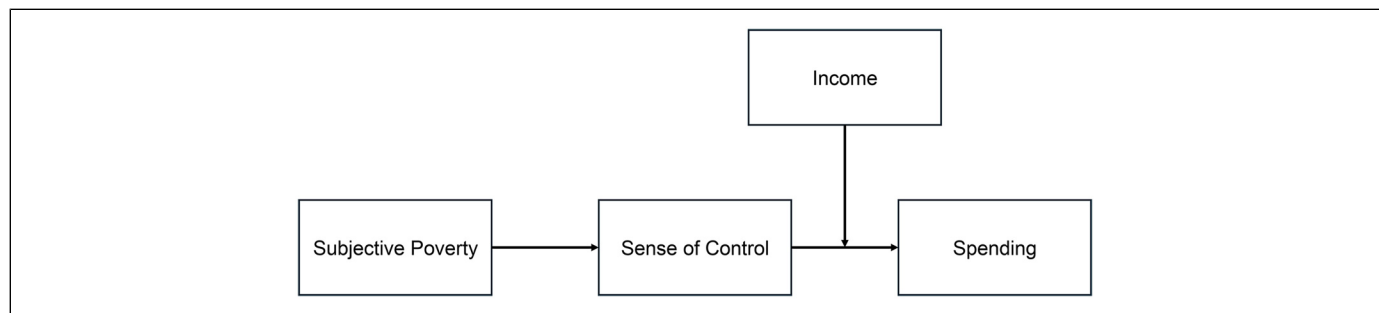


Figure 1. Conceptual Framework.

greater constraints and uncertainties while relying more on external forces, such as fate or powerful others (Piff et al. 2010).

We propose that subjective poverty reduces sense of control, triggering distinct coping strategies depending on objective financial standing. For individuals at the lower end of the income spectrum, subjective perceptions of poverty often reflect genuine financial constraints. Faced with limited or uncertain resources, these individuals may feel poor and experience a diminished sense of control, prompting coping strategies aimed at mitigating immediate deficits (Cannon, Goldsmith, and Roux 2019). Such strategies can include reducing discretionary spending (Karlsson et al. 2004), becoming more sensitive to prices, and prioritizing saving and financial planning (Lynch et al. 2010). These behaviors are consistent with research showing that resource scarcity narrows attention to pressing needs and encourages a more cautious, trade-off-oriented mindset (Mullainathan and Shafir 2013; Shah, Mullainathan, and Shafir 2012). For lower-income individuals who feel poor, cutting back on spending becomes a rational way to manage a diminished sense of control: It reflects heightened vigilance about opportunity costs and trade-offs (Hamilton et al. 2019; Spiller 2011), rather than allocating scarce resources to potentially futile efforts at compensation.

In contrast, for higher-income individuals, subjective poverty poses more of an identity threat than a material constraint. Despite having substantial financial resources, feeling financially constrained creates dissonance with their self-concept as secure and affluent individuals (Sharma and Alter 2012), prompting efforts to cope with this threat. One strategy is compensatory consumption, or the use of spending to reinforce threatened aspects of the self (Mandel, Petrova, and Cialdini 2006; Rucker and Galinsky 2008). This suggests that feeling financially constrained might sometimes increase rather than decrease spending if consumption serves a compensatory purpose. This compensatory response aligns with compensatory control theory, which suggests that when individuals experience a diminished sense of control, they engage in behaviors such as product acquisition and increased spending to restore it (Kay et al. 2008; Landau, Kay, and Whitson 2015). Spending, in this context, serves as a means of reasserting agency over one's environment (Chen, Lee, and Yap 2017). For high-status individuals, financial security functions as a cornerstone of identity, making them particularly

vulnerable to threats that undermine their perceived economic standing. When such threats occur, these individuals often respond by reinforcing or enhancing their social position through conspicuous consumption that visibly signals their status to others (Kim and Gal 2014; Sivanathan and Pettit 2010). Accordingly, we predict that compensatory spending among the affluent will be especially pronounced for status-related purchases, as these products more effectively reinforce self-worth and financial security than general consumption.

Hypotheses and Conceptual Framework

Together, these predictions suggest that the experience of subjective poverty does not produce a uniform effect on consumer spending. We propose that subjective poverty interacts with income to shape spending behaviors in distinct ways. Higher-income individuals are expected to respond to subjective poverty by increasing spending, particularly on status-signaling goods, as a means of restoring a sense of control. In contrast, lower-income individuals are likely to reduce spending in response to subjective poverty, prioritizing financial stability over discretionary consumption. We formalize these predictions in two hypotheses:

H₁: The effect of subjective poverty on spending is moderated by income, such that feeling subjectively poor increases spending at higher income levels but decreases spending at lower income levels.

H₂: The interaction between subjective poverty and income (H₁) is mediated by sense of control, with reduced sense of control leading to increased spending among higher-income individuals but leading to decreased spending among lower-income individuals.

Figure 1 illustrates our conceptual model. In this framework, subjective poverty initially reduces one's sense of control. The subsequent effect on spending is then moderated by income: Among higher-income individuals, a diminished sense of control triggers compensatory spending; among lower-income individuals, the same loss of control results in reduced spending. This framework elucidates why identical subjective financial perceptions can lead to divergent behavioral outcomes based on objective economic circumstances.

Table 1. Overview of Studies.

Study	N	Main Contribution	Tests
1	2,026	Demonstrates interaction between subjective poverty and income on real-world spending	H ₁
2	300 (N _{obs} = 3,709)	Examines interaction in a developing economy with within-household analyses over 17 months	H ₁
3	2,515 (t ₁) 2,589 (t ₂)	Two-wave panel study incorporating sense of control measures	H ₁ , H ₂
4	993	Experimental manipulation of sense of control	H ₁ , H ₂
5	1,237	Experimental manipulation of subjective poverty	H ₁ , H ₂
WA A	716	Replicating main findings using real customer transaction data	H ₁
WA B	768	Survey incorporating diverse measures of wealth	H ₁

Overview of Studies

To investigate how subjective poverty and income jointly shape spending behavior, we conducted five primary studies that blend real-world financial records, large-scale survey data, and experimental manipulations. Table 1 summarizes each study's methodology, sample characteristics, and unique contributions. Replication code and publicly available data for our studies are provided on the OSF page (<https://osf.io/xm7b4/>).

Study 1 examines actual spending behavior using transaction data from a British financial management app. By linking self-reported subjective poverty perceptions to bank-recorded expenditures, this study provides initial evidence of the interaction between subjective poverty and income in real-world financial decision-making. Study 2 extends this investigation to a longitudinal context by analyzing financial diary data from Kenya. Tracking household spending over 17 months, this study allows for a within-household analysis of how fluctuations in subjective poverty and income shape financial behavior over time. The longitudinal design accounts for time-invariant individual differences. Study 3 employs a two-wave panel survey in the United States to assess how subjective poverty and income interact to predict spending, and to demonstrate the mediating role of sense of control. By incorporating repeated measures, this study provides additional temporal insights into the analyses. Study 4 demonstrates mediation by manipulating participants' sense of control over life circumstances to establish a causal link between sense of control and spending (Spencer, Zanna, and Fong 2005). Lastly, Study 5 experimentally manipulates subjective poverty by exposing participants to different reference groups and further documents the mediating role of sense of control.

Beyond the primary studies, two additional robustness checks corroborate these findings. A replication study using real transaction data from a large retail bank confirms that the observed effects generalize to another dataset (Web Appendix A). Another replication study (Web Appendix B) surveys

consumers using diverse wealth measures, demonstrating that the results hold across different operationalizations of financial resources. These supplementary analyses bolster confidence in the reliability and external validity of our conclusions.

Study 1: Field Evidence from Money Management App Data

In Study 1, we assessed the interaction of subjective poverty perceptions with actual spending and income data, gathered through a money management app. This study measures the influence of customers' subjective poverty (collected via an in-app survey) on the relationship between their bank-recorded income and expenditures, with an additional focus on whether spending patterns vary depending on the status of the brands purchased.

Method

Partnering with a British money management app, we compiled a data set of daily debit and credit transactions from users' various bank accounts, covering one year up to May 2017. Following the data collection period, we invited app users via email to complete a survey in June 2017, offering them a chance to win a tablet computer in exchange for their participation. Those who took the survey consented to have their responses linked with their transaction data for research purposes. Using nine survey items, we gauged respondents' subjective poverty perceptions and matched these with their bank data. Of the 2,133 people who consented and completed the study, we had complete data for 2,026 ($M_{\text{age}} = 38.26$ years, $SD = 11.81$). We did not directly measure gender but inferred it from the first names of the account users using a names database, which provided gender for about half the cases (13% female, 42% male, 45% unknown). The data set included approximately 2.2 million transactions, averaging 1,270 transactions per respondent over the study period. We apply consistent data transformation procedures across studies, as outlined in Web Appendix C.

Total spending. We aggregated all consumer purchases and withdrawals from respondents' bank accounts over the year prior to the survey. From this total, we deducted transactions classified as "savings" or "investments" and excluded business expenses, transfers, and any spending that was not tagged by the application. In this and all subsequent studies, to mitigate the impact of extreme outliers, we winsorized spending data, capping it at the 99th and 1st percentiles. After winsorization, the average spending over the study period was £33,828.21 ($SD = £36,677.68$, $Mdn = £22,628.83$). Owing to the positive skew of our spending data, we applied a logarithmic transformation (base e) to satisfy linear modeling assumptions.

Spending on high- and low-status brands. The app's automatic system categorized transactions across 595 brands (e.g., Tesco, British Airways, Starbucks). We conducted a separate

study with 209 participants to assess the perceived status of these brands. From their ratings, we identified 82 high-status brands (+1 SD in perceived status), such as Louis Vuitton, Selfridges, and Apple, and 72 low-status brands (−1 SD in perceived status), such as Poundland, McDonald's, and Greggs. A complete list of brands and additional details are available in Web Appendix D. We computed total spending on these brands for each respondent (high-status spending: $M = £3,410.61$, $SD = £6,809.33$; low-status spending: $M = £826.33$, $SD = £1,060.94$) and, similar to overall spending, winsorized and log-transformed these figures for analysis.

Income. We defined income as the total amount credited to users' accounts during the 12 months preceding the survey. To limit the influence of extreme values, we winsorized the distribution; all of the following descriptive statistics refer to this winsorized measure ($M = £28,217.29$, $SD = £34,691.00$, $Mdn = £17,251.46$).¹ For analyses, income was rescaled to units of £1,000 to facilitate interpretation.

Subjective poverty. Participants rated their agreement with nine items on a seven-point scale (1 = "strongly disagree," and 7 = "strongly agree") to capture their subjective poverty. Five of these items came from the Financial Well-Being Scale (Consumer Financial Protection Bureau 2015): "Because of my money situation, I feel like I will never have the things I want in life," "I am just getting by financially," "I am concerned that the money I have or will save won't last," "I have money left over at the end of the month" (reverse coded), and "My finances control my life." In addition, we measured two indicators of financial distress (adapted from Prawitz et al. [2006]): "I often lose sleep worrying about my finances" and "I am confident in my ability to handle an unexpected expenditure up to £500" (reverse coded). Lastly, we included direct assessments of wealth ("I feel wealthy right now") and comparative evaluations ("Compared with the average person in the U.K., I am well-off"), both reverse-coded.

Exploratory factor analysis using principal factor extraction confirmed that all items loaded strongly on one factor (loadings ranged from .55 to .79, $Mdn = .67$). The first eigenvalue (3.92) substantially exceeded the second (.38). We created a reliable composite score by averaging all items ($\alpha = .87$; $M = 3.85$, $SD = .51$), with higher values indicating higher subjective poverty, and z-scored the resulting measure for analysis. Notably, this subjective poverty measure revealed meaningful variation even among high-income respondents: 35% of participants in the highest-income quartile scored above the sample median on subjective poverty. This finding supports our

theoretical premise that income alone does not determine whether individuals perceive themselves as financially constrained.

Results

To examine how subjective poverty interacts with income in shaping spending, we conducted an ordinary least squares (OLS) regression analysis controlling for age and gender. As expected, income exhibited a positive association with total spending ($b = .02$, $t(2,021) = 30.9$, $p < .001$), confirming that higher-income individuals tend to spend more. Conversely, subjective poverty had a significant negative effect, such that individuals who felt financially constrained reported lower spending overall ($b = -.23$, $t(2,021) = -9.30$, $p < .001$). Importantly, the predicted interaction between subjective poverty and income was significant ($b_{\text{interaction}} = .004$, $t(2,019) = 5.41$, $p < .001$; without controls, $b_{\text{interaction}} = .004$, $t(2,022) = 5.76$, $p < .001$), indicating that the effect of feeling financially constrained on spending behavior differs depending on income level.

Figure 2 illustrates the results of the interaction across the studies. Panel A plots how subjective poverty's effect on spending shifts with changes in income in Study 1. Among higher-income individuals, feeling subjectively poorer was associated with increased spending, whereas among lower-income individuals, feeling subjectively poorer was associated with decreased spending. This crossover pattern is consistent with our first hypothesis, that subjective poverty can either motivate compensatory spending among higher-income individuals or constrain consumption for lower-income individuals.

Johnson–Neyman analysis reveals that the effect of subjective poverty on spending is significantly negative for incomes up to approximately £39,000 (approximately US\$50,000), becomes nonsignificant at intermediate income levels, and turns significantly positive once income exceeds about £72,000 (approximately US\$93,000). We provide additional analyses and tests of robustness of these results in Web Appendix D.

High- and low-status spending. To gain deeper insight into the observed interaction effects, we conducted a more granular analysis by examining spending patterns across high- and low-status brands separately. We employed seemingly unrelated regression (SUR), a technique that estimates multiple equations simultaneously while accounting for potential correlations in the error terms across equations. This approach is more efficient than running separate regressions when outcomes may be related, as is likely the case with different categories of consumer spending. Each model controlled for spending on the alternative brand category to isolate unique effects on each distinct spending type. For spending on high-status brands, we replicated the interaction result for total spending ($b_{\text{interaction}} = .004$, $z = 2.51$, $p = .012$). By contrast, for spending on low-status brands, the interaction between subjective poverty and income was weaker and not significant ($b_{\text{interaction}} = .002$, $z = 1.24$, $p = .215$). These differential effects across brand types provide suggestive evidence that the interaction effect on

¹ We found in this sample that average income was lower than average spending (£28,200 vs. £33,800), contrary to all other studies and replications where income exceeded spending. This discrepancy may reflect credit usage, uncaptured income sources (cash transactions, household transfers), or differential app accuracy in identifying spending versus income transactions (see Web Appendix D for details).

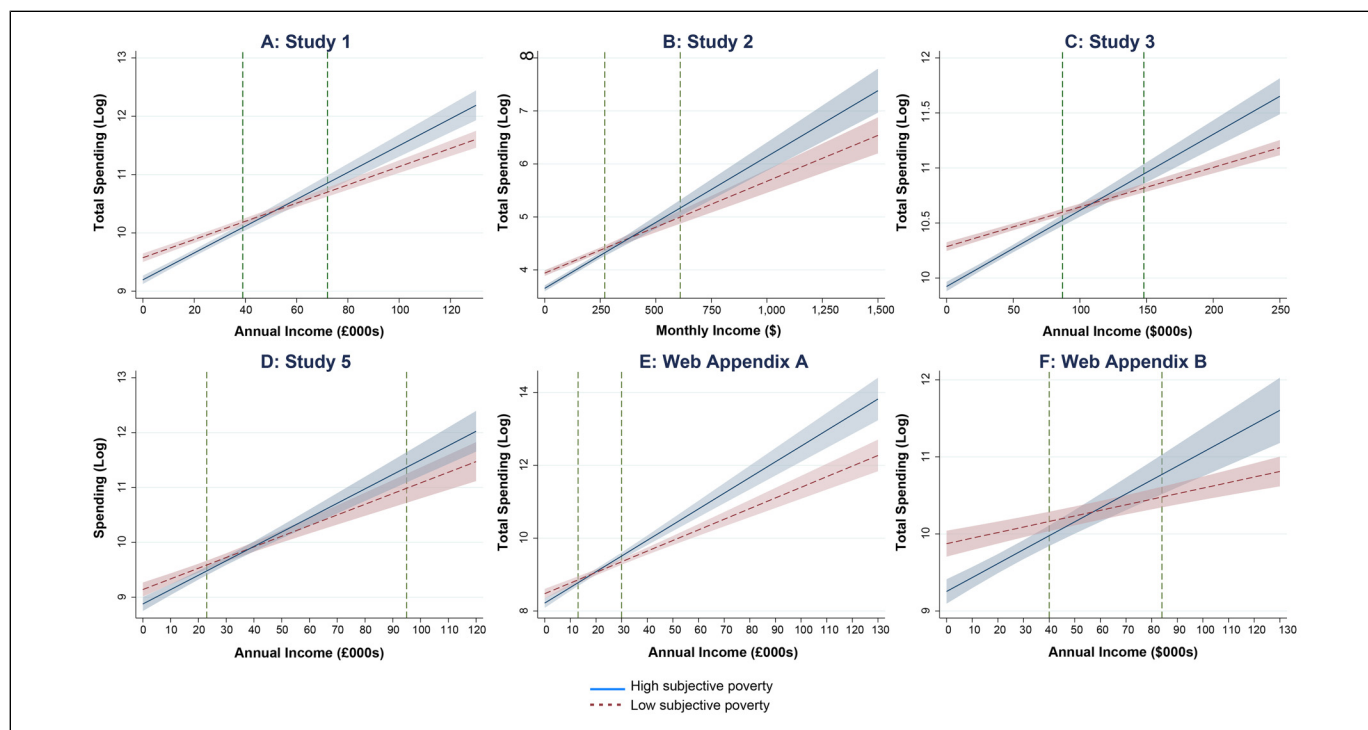


Figure 2. Income Moderates the Effect of Subjective Poverty on Spending.

Note. All panels show model-predicted log spending across income levels. Panels A–C and E–F: Lines represent subjective poverty at ± 1 SD from the mean (solid = high subjective poverty; dashed = low subjective poverty). Panel D (Study 5): Lines represent experimental manipulation of subjective poverty (high vs. low conditions). Shaded areas indicate 95% confidence intervals. Vertical dashed lines mark Johnson–Neyman points where the effect becomes significant.

overall spending may be driven primarily by variations in high-status consumption rather than by changes in spending on lower-status brands.

Discussion

Study 1 provides empirical support for our hypothesis that the relationship between subjective poverty and spending behavior differs across levels of income. The findings reveal that subjective poverty interacts with income in shaping consumption patterns: Higher-income individuals who feel financially constrained tend to report higher spending, whereas lower-income individuals who feel subjectively poor report lower expenditures. The tendency for wealthy consumers to spend more when feeling subjectively poor suggests they may be engaging in coping strategies enabled by their substantial resources. Conversely, the decreased spending among lower-income individuals who feel poor is consistent with a more prudent response given their resource constraints.

The concentration of these effects in high-status consumption provides additional support for our theoretical model. When wealthy individuals feel subjectively poor, they specifically increase spending on luxury and premium brands rather than increasing consumption uniformly. This targeted pattern suggests that status-signaling purchases may serve as a compensatory mechanism (Rucker and Galinsky 2008), potentially helping wealthy individuals restore a sense of control that appears threatened when their subjective feelings of financial inadequacy conflict with their affluence.

The study's strength lies in its use of objective financial data from actual bank transactions, providing high ecological validity and avoiding common method bias inherent in self-reported spending measures. However, Study 1 also has limitations, including the limited number of covariates, the possible selection bias of using a money management app, and the cross-sectional design of the data. We address some of them in the following studies by incorporating longitudinal and experimental designs.

Additional Cross-Sectional Evidence

To further assess the robustness of our findings across different contexts and measurement approaches, we conducted two supplementary studies that provide convergent evidence for our hypothesized effects. The first study, detailed in Web Appendix A, analyzed spending records from a retail bank's customers, allowing us to replicate the findings from Study 1 while incorporating additional control variables, such as employment and relationship status. As in Study 1, we linked objective financial data with survey responses measuring subjective poverty, enabling a direct examination of how perceived financial constraints interact with income to shape spending behavior.

The second supplementary study, described in Web Appendix B, adopted a fully self-report approach using an online survey. Here, in addition to income, we assessed wealth more comprehensively, incorporating multiple financial

indicators such as savings, assets, and debt levels. Results from both supplementary studies replicated the interaction between subjective poverty and income, producing statistically significant effects that remained robust after controlling for relevant covariates. Furthermore, the interaction patterns observed in these studies visually align closely with our primary findings, as depicted in Panels E and F of Figure 2.

Study 2: Longitudinal Evidence from Household Diaries in Kenya

Study 1 established the interaction between subjective poverty and income using cross-sectional data from relatively affluent U.K. consumers. Study 2 extends this investigation to determine whether similar patterns emerge within a population where even “wealthy” households have limited resources by global standards, allowing us to examine if these effects operate on relative rather than absolute wealth scales.

Method

We analyzed data from the Kenya Financial Diaries project (Zollmann 2014), which tracked the complete financial transactions of 300 households over 17 months (2012–2013). Participating households recorded all financial transactions biweekly through tablet-based surveys, generating over 400,000 timestamped records. The sample’s urban–rural split (31% urban, 69% rural) matched Kenya’s 2009 census distribution. The participants were predominantly low-income, with 95% living on less than \$5 per day. Financial transactions were recorded at the household level, and heads of households provided a subjective assessment of their economic standing. We used “household months” as the analytical unit, accruing 3,709 unique observations, and standardized financial amounts into U.S. dollars from Kenyan shillings, using the period’s average exchange rate (US\$1 = 85 Ksh).

Income. Household income was aggregated monthly ($M = \$141.72$, $SD = \$240.28$, $Mdn = \$71.97$). While these values are lower than in our other studies, they represent substantial economic stratification within this context, with the highest-earning households earning approximately 18 times more than the lowest-earning households. This income disparity translates into significant differences in spending capacity within the local economy, where the purchasing power of \$300–\$400 monthly income allows households to afford discretionary purchases, services, and status goods that remain inaccessible to those earning \$20–\$30 monthly. Following our methodology, we winsorized this variable to reduce the influence of outliers.

Subjective poverty. Subjective poverty was measured through biweekly interviews with household heads, asking “How have you been doing economically since I saw you last?” on a scale from 1 (“very badly”) to 5 (“very well”). Responses

were reverse-scored such that higher values indicated greater subjective poverty ($M = 2.75$, $SD = .81$). This repeated-measurement design generated a fully longitudinal dataset in which both income and subjective poverty varied within households over time, enabling us to examine how month-to-month fluctuations in income interact with concurrent changes in subjective poverty to predict spending patterns.

Total spending. Total household expenditures were summed monthly ($M = \$94.46$, $SD = \$128.17$). As in previous studies, spending data were winsorized and log-transformed.

Results

We employed household fixed-effects regression models to examine how within-household changes in subjective poverty and income relate to spending patterns over time. This methodological approach offers several advantages for causal inference by exploiting longitudinal variation within the same households, thereby controlling for all time-invariant household characteristics, including stable demographic composition, persistent financial attitudes, and unobserved heterogeneity that could confound cross-sectional analyses (Wooldridge 2010). The appropriateness of the fixed-effects specification over random effects was confirmed through a Hausman test ($\chi^2 = 86.53$, $p < .001$), indicating systematic differences between households that necessitate the more conservative fixed-effects approach.

Table 2 presents three nested models examining the relationship between monthly household spending and within-household fluctuations in both income and subjective poverty. Model 1 establishes that increases in household income are strongly associated with higher spending ($b = 1.97$, $t(3,069) = 19.10$, $p < .001$), as expected. Model 2 demonstrates that heightened subjective poverty corresponds to reduced spending ($b = -.15$, $t(2,777) = -6.54$, $p < .001$), independent of income changes.

Most critically, Model 3 reveals a significant interaction between subjective poverty and income ($b = .47$, $t(2,691) = 4.53$, $p < .001$), indicating that the relationship between subjective poverty and spending fundamentally depends on household income levels. This interaction effect remains robust to the inclusion of month-specific fixed effects that account for temporal shocks affecting all households uniformly ($b = .33$, $t(2,677) = 3.47$, $p = .001$; see Web Appendix E). These within-household analyses provide strong evidence that changes in subjective poverty predict spending differently across the income distribution, even when examining the same households over time.

To further illustrate this interaction effect, Figure 2, Panel B, presents the Johnson–Neyman transition points, identifying the income thresholds where subjective poverty shifts from reducing to increasing spending. These transition points occur at \$270 and \$610 per month, suggesting that lower-income households respond to subjective poverty by cutting expenses, whereas relatively higher-income households increase spending in response to feeling poor.

Table 2. Fixed-Effects Regression Models Predicting Within-Household Changes in Monthly Spending.

	Model 1			Model 2			Model 3		
	b	t	95% CI	b	t	95% CI	b	t	95% CI
Income	1.97***	19.10	[1.77, 2.18]	—	—	—	.83**	2.93	[.27, 1.38]
Subjective poverty	—	—	—	-.15***	-6.54	[-.19, -.10]	-.17***	-7.40	[-.22, -.13]
Income × subjective poverty	—	—	—	—	—	—	.47***	4.53	[.26, .67]
Household fixed effects		Yes			Yes			Yes	
R ²		.26			.01			.27	
Obs.		3,368			3,076			2,992	
N		298			298			298	

* $p \leq .05$.** $p \leq .01$.*** $p \leq .001$.

Notes: All models employ household fixed-effects regression to examine within-household variation over time. Models with month-specific fixed effects and alternative specifications are presented in Web Appendix E.

Discussion

Our longitudinal study of Kenyan households demonstrates that the interaction between subjective poverty and income emerges even in developing world contexts. Despite most households earning less than US\$5 per day, our 17-month within-household analysis revealed that fluctuations in subjective poverty and income continue to shape spending. Specifically, when feeling subjectively poor, households with relatively higher income within this context exhibit increased spending, whereas those with lower incomes tend to reduce spending.

The Johnson–Neyman analysis identified the crossover point at \$270 monthly income, that is approximately 3.7 times the sample’s median income of \$71.97. At this threshold, households shift from decreased to increased spending in response to subjective poverty. A household earning \$270 monthly would have sufficient discretionary income for status-signaling purchases inaccessible to those earning below median income (Banerjee and Duflo 2007; Zollmann 2014). For example, higher-income households in our sample could afford occasional purchases of consumer electronics, better clothing, or social expenditures that might serve as compensatory responses to feelings of subjective poverty. This finding is consistent with our overall argument that income provides the necessary resources for compensatory consumption. In environments where the absolute income levels are modest, such as in Kenya, the lower cost of goods and services allows households that are better off locally to channel additional resources into spending when they experience feelings of financial poverty. This pattern aligns with research showing that even in developing economies, consumers with sufficient resources engage in conspicuous consumption when feeling economically disadvantaged (Jaikumar, Ramendra, and Sarin 2018).

The strength of our within-household design lies in its ability to control for stable, time-invariant household characteristics, thus isolating the impact of month-to-month variations in subjective poverty and income on spending. Our fixed-effects approach accounts for unobserved factors like education, family composition, and financial attitudes that might otherwise

confound between-household comparisons. By replicating the interaction effect in a markedly different economic setting, Study 2 reinforces our theoretical framework linking subjective poverty, income, and spending. These results not only extend the generalizability of our findings beyond Western populations but also underscore that the capacity for compensatory spending is contingent on having sufficient resources, even in contexts where income levels are lower in absolute terms.

Study 3: Panel Evidence from National Survey Data

Studies 1 and 2 established that subjective poverty has opposing effects on spending across income levels in both developed and developing economies. Study 3 examines the psychological mechanism underlying these effects by analyzing two waves of data from older adults in the Health and Retirement Study (HRS), a large-scale U.S. national survey.

This study advances our understanding in three important ways. First, by focusing on older adults, we address whether our effects persist in a population with more stable incomes and established financial behaviors, helping rule out explanations based on future income expectations. Second, the study’s two-wave design allows us to test whether subjective poverty predicts changes in spending over time while controlling for baseline expenditure levels. Third, and most importantly, the psychological measures in this dataset enable us to directly test our hypothesis about sense of control as a key mechanism linking subjective poverty to spending.

If our theoretical framework is correct, we should find that sense of control mediates the relationship between subjective poverty and spending, with the direction of this mediated effect contingent on income. Such evidence would help explain the divergent responses we have observed: Wealthy individuals increase spending when feeling poor—using consumption to restore a threatened sense of control—while those with fewer resources respond to the same control threat by reducing spending.

Method

This study used data from the HRS, a biennial longitudinal survey of older adults in the United States that includes detailed financial and psychological measures. The HRS administers a psychosocial questionnaire measuring subjective poverty to a randomly selected 50% of core panelists every two years. We constructed our sample from respondents who completed the questionnaire in either 2008–2012 or 2010–2014, yielding two cohorts with baseline (t_1) and follow-up (t_2) measurements. The baseline sample comprised 2,947 respondents with available spending data. Of these, 2,498 had complete data on all study variables (64% female; $M_{\text{age}} = 70.51$ years, $SD = 9.57$; 72.4% retired; 88.4% with children). At follow-up, 2,564 respondents provided complete data (64% female; $M_{\text{age}} = 68.89$ years, $SD = 10.34$; 70.1% retired; 87.1% with children). To preserve statistical power while accounting for item-level missingness, we employed pairwise deletion in our analyses, resulting in varying sample sizes across different statistical tests based on data availability for specific variables.

Total spending. We measured total household expenditure using the Consumption and Activities Mail Survey, which tracks spending across 30+ categories over 12 months. Average household spending increased from t_1 ($M = \$39,718$, $SD = \$26,161$) to t_2 ($M = \$43,535$, $SD = \$31,218$). As in previous studies, we winsorized and log-transformed these values.

Subjective poverty. Subjective poverty was measured with two items: “How difficult is it for (you/your family) to meet monthly payments on (your/your family’s) bills?” (1 = “not at all difficult,” and 5 = “completely difficult”) and “How satisfied are you with your present financial situation?” (1 = “not at all satisfied,” and 5 = “completely satisfied”; reverse coded). The two items showed acceptable item-level correlations ($r_{2008} = .66$, $r_{2010} = .68$, $r_{2012} = .66$, $r_{2014} = .63$). We computed the means (t_1 : $M = 2.75$, $SD = .98$; t_2 : $M = 2.64$, $SD = 1.00$) and standardized the scores of the two items, with higher scores indicating greater subjective poverty.

Income. We measured household income using the RAND Income and Wealth Imputation file (Bugliari et al. 2023), which aggregates multiple income streams including wages, Social Security payments, pensions, and property income. We winsorized income across the years to give an income level for each time point (t_1 : $M = \$56,526$, $SD = \$58,664$; t_2 : $M = \$61,895$, $SD = \$66,782$) and divided the amounts by 1,000 for easier interpretation.

Sense of control. We used the ten-item sense of control scale by Lachman and Weaver (1998a, 1998b), which consists of two five-item subscales: perceived mastery (e.g., “I can do just about anything I really set my mind to”) and perceived constraints (e.g., “I often feel helpless in dealing with the problems of life”; 1 = “strongly disagree,” and 6 = “strongly agree”). To compute the overall sense of control score, we first calculated

the mean score for each subscale separately. We then created the composite sense of control measure by subtracting the perceived constraints score from the perceived mastery score, with higher values indicating greater overall sense of control.

Results

Our analysis proceeded in two stages. First, we examined cross-sectional associations between subjective poverty, income, and spending at baseline (t_1) and follow-up (t_2). Consistent with previous findings, we found significant interactions between subjective poverty and income in predicting spending at both time points (Table 3, Model 1: t_1 : $b_{\text{interaction}} = .001$, $t(2,506) = 6.29$, $p < .001$; Model 2: t_2 : $b_{\text{interaction}} = .001$, $t(2,580) = 6.14$, $p < .001$). Figure 2, Panel C, illustrates this relationship at baseline, with Johnson–Neyman regions of significance indicating differential effects for households earning below approximately \$85,000 and above \$150,000.

Second, we employed a lagged dependent variable model that predicted future spending (t_2) from baseline measures while controlling for initial spending levels (t_1) to establish temporal precedence and rule out reverse causality. This approach, which accounts for spending stability over time, provides a more conservative test of whether the interaction between subjective poverty and income exerts a prospective effect on spending behavior. Given natural attrition, this analysis was limited to those who took part in both survey waves. The results affirm the persistence of the proposed relationship: The interaction between subjective poverty and income significantly predicts future spending even after we adjust for initial spending levels (Table 3, Model 3: $b_{\text{interaction}} = .001$, $t(1,809) = 2.63$, $p = .009$). Sensitivity analyses confirmed that these findings were robust to the exclusion of covariates, suggesting that the observed relationships are not artifacts of confounding variables.

Mediation. We employed structural equation modeling (SEM) in Stata to examine the mediating role of sense of control in the relationship between subjective poverty and spending at Time 1. As expected, subjective poverty was negatively related to sense of control ($b = -.65$, $SE = .037$, $t(2,595) = -17.83$, $p < .001$), and sense of control significantly mediated the effect of subjective poverty on spending (indirect effect = $-.031$, 95% CI = $[-.040, -.021]$).

We next extended the SEM analysis to test our hypothesis that income moderates this mediation pathway, implementing a conditional process model (equivalent to Hayes’s Model 14; Hayes 2017) with 5,000 bootstrap replications to obtain robust confidence intervals. The model simultaneously estimated the effects of subjective poverty and income on spending, both directly and through sense of control, while incorporating the interaction between sense of control and income. This interaction term was significant ($b_{\text{interaction}} = -.102$, $SE = .014$, $z = -7.13$, $p < .001$), and the index of moderated mediation confirmed that the indirect effect through sense of control varies systematically with income (index = $.033$, 95% CI = $[.019, .047]$).

Table 3. Cross-Sectional and Longitudinal Regression Models Predicting Spending.

	Spending t_1 Model 1				Spending t_2 Model 2				Spending t_2 Model 3			
	b	t	95% CI		b	t	95% CI		b	t	95% CI	
t_1 spending	—	—	—	—	—	—	—	—	.66***	32.6	[.62, .70]	
t_1 income (\$1,000)	.007***	27.6	[.006, .007]		—	—	—		.002***	8.12	[.002, .003]	
t_1 subjective poverty	-.15***	-9.78	[-.18, -.12]		—	—	—		-.073***	-4.69	[-.10, -.043]	
t_1 income $\times$ t_1 subjective poverty	.001***	6.29	[.001, .002]		—	—	—		.001**	2.63	[.000, .002]	
t_2 income (\$1,000)	—	—	—	—	.006***	26.4	[.005, .006]		—	—	—	—
t_2 subjective poverty	—	—	—	—	-.16***	-10.3	[-.19, -.13]		—	—	—	—
t_2 income $\times$ t_2 subjective poverty	—	—	—	—	.001***	6.14	[.001, .002]		—	—	—	—
Age	-.009***	-6.77	[-.011, -.006]		-.005***	-3.54	[-.008, -.002]		-.002†	-1.75	[-.005, .001]	
Female	-.042†	-1.88	[-.086, .002]		-.054*	-2.21	[-.10, -.006]		-.022	-.98	[-.07, .022]	
Has children	.15***	4.48	[.084, .21]		.15***	4.26	[.08, .21]		.088**	2.69	[.024, .15]	
Retired	.11***	3.92	[.053, .16]		.010	.35	[-.05, .07]		-.008	-.31	[-.061, .044]	
Wave 2010–2014 ^a	.053*	2.48	[.011, .094]		.012	.51	[-.033, .056]		-.003	-.16	[-.045, .038]	
Intercept	10.5***	103	[10.3, 10.7]		10.4***	101	[10.2, 10.6]		3.57***	15.1	[3.11, 4.04]	
R ²		.356				.333				.588		
N		2,515				2,589				1,819		

† $p < .1$.* $p \leq .05$.** $p \leq .01$.*** $p \leq .001$.^aReference category is Wave 2008–2012.

Notes: All models use OLS regression. Models 1 and 2 test concurrent associations at baseline (t_1) and follow-up (t_2), respectively. Model 3 tests prospective associations by predicting t_2 spending from t_1 predictors while controlling for t_1 spending (lagged dependent variable model). Control variables in Models 1 and 2 are measured concurrently with the outcome; in Model 3, controls are measured at baseline. The reduced sample size in Model 3 reflects participants completing both survey waves. Additional modeling approaches in Web Appendix F.

Examination of conditional indirect effects at different income levels revealed a pattern consistent with our theory. At low income (-1 SD), the indirect effect of sense of control was negative and significant ($-.038$, 95% CI = $[-.051, -.025]$), suggesting that subjective poverty decreased sense of control, and because lower control in lower-income individuals is associated with spending less, the overall result is a reduction in spending. At medium levels of income (mean), the indirect effect of sense of control was not significant ($-.005$, 95% CI = $[-.013, .004]$). Finally, at high levels of income ($+1$ SD), the indirect effect of sense of control was positive and significant ($.029$, 95% CI = $[.011, .046]$).

Discussion

Study 3 examined the relationship between subjective poverty, income, and spending in a nationally representative sample of older U.S. adults. The findings provide support for our hypothesized interaction effect across multiple analytical approaches. First, the interaction between subjective poverty and income was associated with spending in both cross-sectional analyses at baseline and follow-up. Second, this interaction remained significant in longitudinal analyses predicting future spending while controlling for baseline spending levels, suggesting temporal stability in these relationships. Third, our moderated mediation analysis identified sense of control as a mediating

variable, with the direction and magnitude of this mediation pathway varying systematically by income level.

These findings are consistent with the theoretical proposition that financial resources shape how individuals respond to threats to personal control. The data suggest that when experiencing diminished control associated with subjective poverty, lower-income individuals may engage in spending restraint—potentially reflecting conservative financial management strategies under conditions of resource scarcity. In contrast, higher-income individuals experiencing similar reductions in control show increased spending, which may represent attempts to utilize consumption as a means of addressing psychological threats. However, given the correlational nature of these data, alternative explanations cannot be ruled out. These findings set the stage for subsequent experimental studies that directly manipulate sense of control (Study 4) and subjective poverty (Study 5).

Study 4: Experimental Test of Sense of Control as a Mechanism

The findings from Study 3 suggest that sense of control mediates the relationship between subjective poverty and spending, with this mediation effect varying across income levels. Study 4 builds on these findings by experimentally manipulating sense of control to directly test whether reduced perceptions of

control cause higher-income individuals, in particular, to increase spending intentions. If reducing sense of control leads to increased spending for those with greater income, it would strengthen our argument that compensatory spending serves a psychological function, restoring control in response to feeling poor.

Pilot Study

Before the main experiment, we first conducted a pilot study ($N = 503$; 43.9% female; $M_{\text{age}} = 38.9$ years) on Prolific Academic to gauge whether wealthier individuals indeed use spending as a coping mechanism when experiencing low sense of control, as hypothesized. Respondents read, "When things feel a little out of control and your life seems determined by external forces, how likely are you to engage in the following activities to restore a sense of control over life?" and chose from a randomized list of 12 items including three items measuring spending (e.g., "Buying myself treats that make me feel good"), three items measuring saving (e.g., "Cutting back on non-essential spending"), and six items tapping into various coping strategies unrelated to spending (e.g., "Drawing up an action plan and following it") to diminish demand effects. We computed a spending index by summing the three spending items and subtracting the three saving items. Consistent with our hypothesis, income was positively correlated with spending as a means of restoring control ($r = .112$, $p = .012$), suggesting that higher-income individuals are more likely to increase spending to restore a sense of control over life. This preliminary finding strengthens the conceptual foundation for our main experiment by demonstrating that the proposed income-based differences in coping with control threats are reflected in individuals' explicit spending intentions.

Method

We recruited 993 U.S. adults (48.9% female; $M_{\text{age}} = 43.6$ years, $SD = 14.87$) from Prolific Academic for an experiment examining the effect of sense of control on spending behavior. Our target sample size of 1,000 participants was determined a priori to provide adequate power for detecting medium effect sizes. Respondents were randomly assigned to one of two conditions (high or low sense of control) between subjects.

Participants first completed an autobiographical recall task adapted from Fisher and Johnston (1996) and Hernandez et al. (2022). Specifically, those in the high- [low-] sense-of-control condition read: "Recent surveys suggest that 70% of what happens in one's life is determined by forces within [out of] their control. In other words, 30% [70%] of our life is fate. Please briefly describe in the space provided below at least two recent things that happened to you that were determined by forces within [beyond] your control. Please include what happened (when, where, why, and who was involved), what was the outcome, and who or what was responsible for what happened." Participants wrote an average of 69.40 words. Although those in the low-sense-of-control condition wrote somewhat more than those in the high-sense-of-control condition ($M_{\text{high control}} = 66.78$, $SD = 47.09$ vs. $M_{\text{low control}} = 71.95$, $SD = 51.63$),

this difference was not statistically significant ($t(991) = -1.65$, $p = .100$). To check the effectiveness of the manipulation, we measured sense of control using the following question: "How would you rate the amount of control you have over your life overall these days?" (0 = "no control at all," and 10 = "complete control"; Lachman and Weaver 1998a, 1998b).

Next, participants completed a spending task adapted from Griskevicius et al. (2007). They imagined a scenario in which they considered purchasing five high-status items ("Imagine that you are considering buying a few new things. We would like to know how much money you would consider spending on each type of purchase."): a new watch, a dinner, a new cell phone, a holiday, and a new car. For each item, they indicated their willingness to spend using a 12-point scale, where each point corresponded to a specific dollar amount. The spending ranges varied across categories (e.g., watch: \$0–\$275+; car: \$0–\$55,000+), with uniform scale increments for each category. Because dollar anchors differed across items in both range and step size, we used the raw 12-point responses as commensurate indicators of willingness to spend. We averaged these responses to create an index and applied a logarithmic transformation to improve normality and maintain comparability with previous studies.

We measured subjective poverty using five items from Study 1: "I am just getting by financially," "I am concerned that the money I have or will save won't last," "I have money left over at the end of the month" (reverse coded), "My finances control my life," and "I often lose sleep worrying about my finances." Responses were standardized and averaged, with higher values indicating greater subjective poverty ($\alpha = .84$). To control for potential ordering effects, we counterbalanced the placement of subjective poverty questions: Half of the participants completed them before the manipulation and spending task, while half completed them afterward.

Finally, we measured self-reported personal income. Participants selected their income bracket from seven categories (\$1,000–\$15,000 to \$90,000+), then specified their exact income using a slider scale. As in prior studies, we winsorized the income distribution and converted it into units of \$1,000 ($M = \53.25, $SD = \$44.49$).

Results

Manipulation check. The manipulation check confirmed that our sense-of-control manipulation was effective. Participants in the high-sense-of-control condition reported significantly greater control ($M = 6.61$, $SD = 2.24$) than those in the low-sense-of-control condition ($M = 5.47$, $SD = 2.52$; $t(991) = 7.47$, $p < .001$).

Main effects and interaction. Consistent with previous studies, an OLS regression showed that higher income was associated with increased spending ($b = .008$, $t(991) = 15.85$, $p < .001$), and subjective poverty was negatively related to spending ($b = -.202$, $t(991) = -8.74$, $p < .001$). Importantly, the anticipated interaction between subjective poverty and income on spending was significant ($b_{\text{interaction}} = .001$, $t(989) = 2.57$, $p = .010$), replicating previous

findings. This interaction remained robust ($p = .012$) when controlling for order effects.

Experimental test of sense of control. Unlike Study 3, which treated sense of control as a mediator, Study 4 experimentally manipulated this variable, requiring a different analytical approach (Spencer, Zanna, and Fong 2005). Rather than testing mediation, we examined how experimentally induced differences in sense of control moderated the relationship between subjective poverty, income, and spending. Accordingly, we estimated a three-way interaction model including experimental condition (coded as 1 = high sense of control, 0 = low sense of control), subjective poverty, and income. Because higher-order interactions can inflate leverage and sensitivity to outliers, we used robust standard errors for conservative inference.

The three-way interaction was significant ($b_{\text{interaction}} = -.002$, $t(985) = -2.16$, $p = .031$). Figure 3 illustrates this three-way interaction through a floodlight analysis comparing the two experimental conditions. In the low-sense-of-control condition (left panel), we observed the predicted crossover pattern. Among participants with low incomes, subjective poverty substantially reduced spending (approximately $-.25$ at \$0). This negative effect diminished as income increased, reaching zero around \$100,000, then reversed to become positive at higher incomes (reaching approximately $+.20$ at \$200,000). This pattern aligns with our theoretical framework: When sense of control is experimentally diminished, subjective poverty triggers income-dependent spending responses.

The high-sense-of-control condition (right panel) revealed a markedly different pattern. The effect of subjective poverty on spending remained near zero across all income levels, showing only minor fluctuations. Moreover, confidence intervals consistently included zero throughout the income range, indicating that subjective poverty had no reliable effect on spending when participants experienced high sense of control.

These results demonstrate that sense of control is necessary for the divergent spending patterns we observe. When participants' sense of control was experimentally increased, the interaction between subjective poverty and income effectively disappeared: Higher-income individuals no longer increased spending in response to subjective poverty. This pattern held when controlling for order effects ($p = .036$).

Discussion

Study 4 employed an experimental design to examine whether sense of control functions as a causal mechanism in the relationship between subjective poverty, income, and spending. The manipulation of control allowed us to test whether altering this psychological state would modify the previously observed interaction between subjective poverty and income in predicting consumption patterns. The results revealed that the experimental manipulation of control moderated the relationship between subjective poverty and spending in theoretically predicted ways. In the low-sense-of-control condition, we replicated the crossover interaction pattern observed in Studies 1–

3: Among participants reporting higher subjective poverty, those with higher incomes reported greater intended spending, whereas those with lower incomes reported reduced spending. This replication under controlled experimental conditions strengthens confidence in the robustness of this interaction pattern.

A key finding emerged from the high-sense-of-control condition, where the interaction between subjective poverty and income was no longer statistically significant. When participants were induced to experience a heightened sense of control, subjective poverty showed no differential association with spending across income levels. This pattern suggests that the divergent spending responses previously observed may depend on the presence of diminished control. The absence of the interaction between subjective poverty and income in the high-sense-of-control condition suggests that sense of control serves as a necessary condition for the emergence of income-contingent spending responses to subjective poverty.

Study 5: Experimental Manipulation of Subjective Poverty

The primary objective of Study 5 was to experimentally manipulate subjective poverty, thereby strengthening the causal claims underlying our conceptualization. While previous studies relied on naturally occurring variations in subjective poverty, this study directly induced feelings of financial inadequacy or adequacy by asking participants to compare their incomes to different reference groups representing global economic disparities. Specifically, participants benchmarked their income against average earnings in countries that differed markedly in economic wealth. This approach was inspired by popular online platforms (e.g., World Income Comparator, How Rich Am I?), which contextualize personal earnings within global wealth distributions to highlight disparities; for instance, according to one of these tools, an annual income of \$33,000 places an individual within the top 3.9% of global earners.

Drawing from previous research demonstrating that subjective financial perceptions can be manipulated through strategic social comparisons (Anderson et al. 2012; Piff et al. 2010), we applied this logic to explicitly test how induced subjective poverty influences spending across different income levels. Study 5 thus serves as a direct experimental test of our main hypotheses, clarifying whether heightened subjective poverty triggers divergent spending responses depending on income. Additionally, the study further tests the role of sense of control as the psychological mediator driving these effects, offering additional support for our overall moderated mediation model and enhancing the robustness of our conclusions.

Method

We conducted an online experiment with 1,275 U.K. residents recruited through Prolific Academic. After excluding participants with missing data on key variables, the final sample comprised 1,237 individuals (59.3% female; $M_{\text{age}} = 40.1$ years, SD

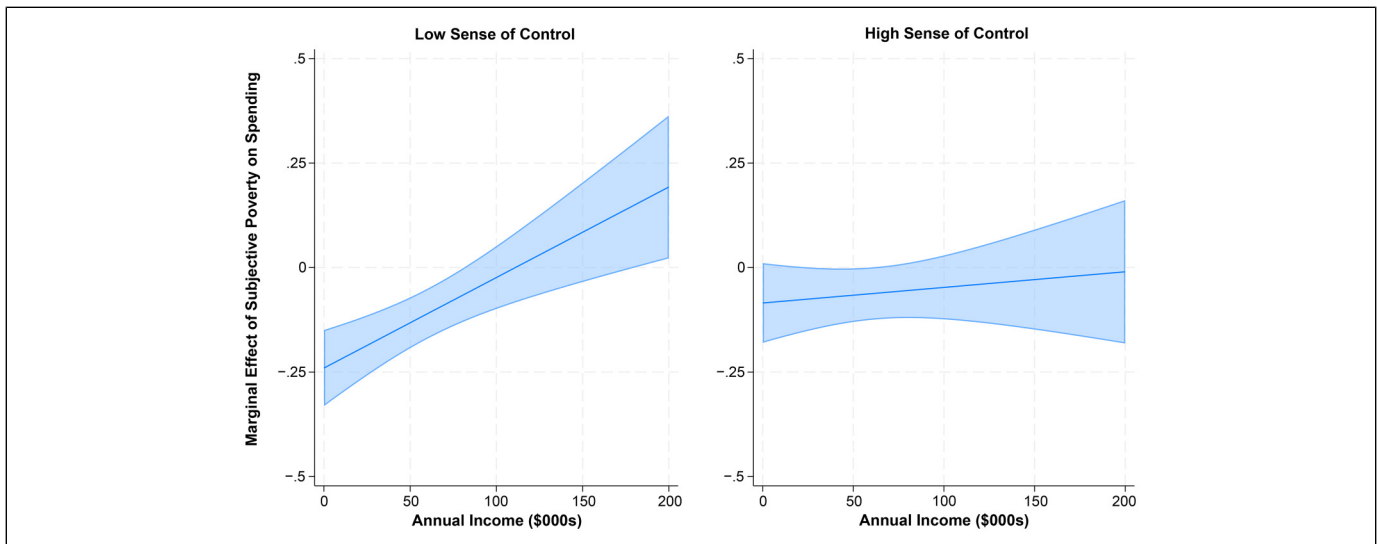


Figure 3. Interaction Between Subjective Poverty and Income in the High- and Low-Sense-of-Control Conditions.

Notes: Floodlight analysis. The two panels represent the high- (right) and low- (left) sense-of-control conditions. The solid line in each panel, accompanied by a 95% CI shade, depicts the effect of subjective poverty on spending.

= 13.2). Participants were randomly assigned to one of two between-subjects conditions (subjectively poor vs. subjectively rich) designed to manipulate subjective poverty through income comparisons with different reference populations.

Subjective poverty manipulation. The study began with an income self-assessment task. Participants selected their annual income from seven brackets, ranging from £1,000 to over £35,000 (£1,000–£10,000, £10,000–£15,000, £15,000–£20,000, £20,000–£25,000, £25,000–£30,000, £30,000–£35,000, £35,000 or more). This self-reported income served as the basis for personalized feedback in the subsequent manipulation.

The experimental manipulation employed social comparison to alter perceptions of financial standing while holding income constant. Participants received graphical feedback depicting their position within an income distribution, with the reference population varying by condition. In the subjectively poor condition, participants received feedback comparing their income to the distribution in a high-income country (Switzerland, though the country name was not disclosed). The feedback emphasized their position in the lower portion of this distribution. For instance, participants earning £15,000–£20,000 were informed they ranked in the bottom 14% of the reference population, with the accompanying text stating “86% of the population is richer than you” (Figure 4, bottom panel).

In the subjectively rich condition, participants received feedback comparing their income to the distribution in a low-income country (Somalia, though the country name was not disclosed). The same £15,000–£20,000 income was presented as placing participants in the top .1% of this country’s distribution, with feedback indicating that “99.9% of the population is poorer than you” (Figure 4, top panel).

All feedback was based on 2022 data from the World Income Comparator (<https://wid.world/income-comparator/>),

ensuring accurate relative positioning while creating dramatically different subjective experiences of the same income levels. To ensure active processing of the manipulation, participants were asked to manually input the percentage of the population richer or poorer than themselves based on the provided feedback.

Pretest. To ensure the effectiveness of the subjective poverty manipulation, we ran a pretest with an independent sample of British participants ($N=1,003$; 63.4% female; $M_{age}=41.4$ years) recruited on Prolific Academic. Participants were randomly assigned to the same two conditions (subjectively rich vs. subjectively poor) described previously. We assessed subjective poverty using multiple measures: three subjective poverty items from the previous studies, a subjective status ladder adapted specifically for perceptions of poverty (Singh-Manoux, Adler, and Marmot 2003), and participants’ perceived wealth percentile relative to the broader population (OECD Income Comparator). The pretest confirmed the manipulation’s effectiveness across all measures. For example, participants placed themselves higher on the ladder in the subjectively rich condition ($M=5.35$, $SD=1.65$) than in the subjectively poor condition ($M=4.53$, $SD=1.67$; $t(1,001)=7.77$, $p<.001$). The means in both conditions were significantly different from the midpoint (both $p<.001$). Furthermore, the condition effect remained significant after controlling for actual income ($F(1, 999)=38.8$, $p<.001$), and the interaction between the condition and income was not significant ($F(1, 999)=2.36$, $p=.124$), indicating that the manipulation successfully influenced subjective poverty independently of income levels. This pretest is fully reported in Web Appendix G.

Measures. We assessed sense of control using the same single-item measure from Study 4: “How would you rate the amount



The per adult income of your household is
£ 1 250 per month

You are in
the **top 0.1 %**



99.9% of the population is **poorer** than you

Please write below what percentage of the population is POORER than you in this poor country.



The per adult income of your household is
£ 1 250 per month

You are in
the **bottom 14 %**



14% of the population is **poorer** than you

86% of the population is **richer** than you

Please write below what percentage of the population is RICHER than you in this rich country.

Figure 4. Experimental Manipulation of Subjective Poverty Through Income Comparison.

Notes: Example feedback displays for participants reporting annual income between £15,000 and £20,000. The top panel shows the subjectively rich condition where participants' income is positioned at the 99.9th percentile of a low-income reference population. The bottom panel shows the subjectively poor condition where the same income is positioned at the 14th percentile of a high-income reference population.

of control you have over your life overall these days?" (0 = "no control at all," and 10 = "complete control"). We measured spending as the total amount respondents planned to spend over the coming year: "Try to think carefully about your expenses, how much do you think you will spend over the

next 12 months? That is, what is the total amount you will spend over the year (not including anything you save or invest for the future)." This forward-looking measure provides a comprehensive assessment of anticipated consumption patterns across all spending categories. On average, respondents

indicated planned annual spending of £22,825.97 ($SD = £20,977.81$). Following the analytical approach of the previous studies, we log-transformed spending values to address positive skewness and improve model fit.

As in Study 4, we implemented a two-stage measurement approach for income. After participants selected their income bracket in the initial assessment, they provided an exact income estimate within that range using a continuous slider scale. For example, participants who selected the £10,000–£15,000 bracket specified their precise income on a slider ranging from £10,000 to £15,000. This continuous income variable was winsorized to reduce the influence of extreme values and divided by 1,000 to facilitate interpretation ($M = 25.66$, $SD = 19.98$).

Results

We conducted an OLS regression analysis to test whether the experimental manipulation of subjective poverty interacted with participants' income to predict spending intentions. The subjective poverty manipulation was effect-coded ($-1 =$ subjectively rich, $+1 =$ subjectively poor) to facilitate interpretation of main effects.

As expected, the main effect of the subjective poverty manipulation was negative and significant ($b = -.13$, $t(1,233) = -2.85$, $p = .004$), indicating that participants in the subjectively poor condition reported lower overall spending intentions. Income showed a positive association with spending ($b = .023$, $t(1,233) = 16.35$, $p < .001$), confirming that higher-income participants planned greater expenditures. Critically, the interaction between the manipulation and income was significant ($b = .003$, $t(1,233) = 2.41$, $p = .016$), indicating that the effect of induced subjective poverty on spending varied across income levels. As illustrated in Figure 2, Panel D, the manipulation produced divergent effects: among lower-income participants, the subjectively poor condition reduced spending intentions relative to the subjectively rich condition, whereas among higher-income participants, this pattern attenuated and showed signs of reversal. This interaction replicates the pattern observed in the correlational studies using experimental manipulation of subjective poverty.

We employed SEM in Stata to test whether sense of control mediates the relationship between the subjective poverty manipulation and spending intentions. As expected, the subjective poverty manipulation diminished sense of control ($b = -.81$, $SE = .13$, $z = -6.44$, $p < .001$), and sense of control significantly mediated the manipulation's effect on spending (indirect effect $= -.060$, 95% $CI = [-.087, -.032]$).

We extended the SEM to a conditional process model (equivalent to Hayes's Model 14; Hayes 2017) estimated with 5,000 bootstrap replications. To align the model with the proportional nature of our income comparison (top .1% vs. bottom 14%), we analyzed income on the log scale.² The model simultaneously estimated the effects of the subjective poverty manipulation and log income on

spending, both directly and through sense of control, while incorporating the interaction between sense of control and income. As expected, the interaction term between sense of control and income was significant ($b_{\text{interaction}} = -.030$, $SE = .007$, $z = -4.36$, $p < .001$). The index of moderated mediation was also significant (index $= .025$, 95% $CI = [.006, .052]$), indicating that the mediating effect of sense of control varies across income levels.

Discussion

Study 5 supports our central hypothesis by experimentally manipulating subjective poverty. The results confirm our predicted crossover interaction: higher-income participants induced to feel poor increased their spending intentions, while lower-income participants reduced theirs. This experimental approach establishes the direction from subjective poverty to spending. The moderated mediation analysis reveals that experimentally induced subjective poverty diminished participants' sense of control, which then triggered income-dependent responses: Reduced spending among lower-income participants and increased spending among higher-income participants. This confirms our theoretical framework that subjective poverty threatens one's sense of control, but the behavioral response to this threat depends on available financial resources.

General Discussion

Across five studies combining real-world transaction data, longitudinal surveys, and experimental manipulations, we demonstrate that subjective poverty triggers fundamentally different spending responses depending on one's income. While individuals with lower income reduce discretionary spending when feeling subjectively poor, those with higher income increase their spending. This pattern reveals how psychological and material dimensions of poverty interact to shape consumer behavior in ways not previously recognized in the literature.

Theoretical Implications

These findings offer several important theoretical contributions. First, we challenge the traditional assumption that subjective poverty uniformly decreases spending. Prior research largely suggested that feeling financially constrained leads to reduced consumption through increased price sensitivity and opportunity cost considerations (Karlsson et al. 2005; Spiller 2011). Our findings reveal a more nuanced reality: Subjective poverty's effect on spending systematically varies with income. While those with limited resources do reduce spending when feeling poor, the affluent actually increase their consumption. This insight helps reconcile seemingly contradictory findings in the literature about how financial constraints affect spending. Rather than seeking a universal effect, researchers should consider how objective circumstances moderate subjective influences on consumption.

Second, we extend compensatory control theory by demonstrating that compensatory responses depend critically on

² Results are robust to using income in levels rather than logs; all focal effects remain statistically significant.

available resources. While existing theory establishes that people engage in compensatory behaviors when personal control is threatened (Kay et al. 2008; Landau, Kay, and Whitson 2015), it has not addressed how resource availability constrains or redirects these responses. Our findings reveal that income influences not only the intensity but also the nature of compensatory behaviors. Specifically, affluent individuals engage in compensatory consumption to symbolically restore their sense of control, whereas lower-income individuals protect remaining resources. By identifying income as a crucial moderator, our research expands compensatory control theory by incorporating constraints posed by financial circumstances.

Third, we identify sense of control as the psychological mechanism underlying these divergent responses. Through both mediational and experimental evidence, we show that subjective poverty threatens sense of control, but people cope with this threat differently depending on their resources. Higher-income individuals employ compensatory consumption and use spending as a means to symbolically restore diminished control. In contrast, lower-income individuals adopt financial strategies that minimize further threats to control. This pattern extends theories of compensatory consumption (Rucker and Galinsky 2008) by demonstrating that the availability of material resources determines how threatened control results in different behavioral responses.

Our findings integrate with research on subjective resource perceptions and consumer behavior. While Griskevicius et al. (2013) demonstrated childhood environment effects on spending responses to uncertainty, and Mittal and Griskevicius (2014) identified childhood socioeconomic status as moderating control perceptions during financial stress, we establish current income as a critical moderator of reactions to subjective poverty. These complementary perspectives reveal how financial decision-making is shaped by both developmental history and present resource availability.

Managerial Implications

Our research reveals that subjective poverty's influence on consumer spending varies significantly across income levels, offering important insights for marketing practitioners, financial service providers, and policymakers.

Traditional customer segmentation based on income, assets, or geographic indicators may not fully capture the role of subjective financial perceptions in consumption decisions. We find that individuals with comparable income display markedly different purchasing behaviors based on their perceived financial inadequacy. This suggests financial institutions should integrate both objective financial metrics and psychological perceptions into their segmentation frameworks. Recent advances in behavioral prediction from transaction data (Gladstone, Matz, and Lemaire 2019) could help firms identify subjective poverty states through patterns such as increased balance checking, comparison shopping behaviors, or changes in purchase timing.

The mediating role of sense of control in our model points toward differentiated intervention strategies across income segments. For affluent clients experiencing subjective poverty,

financial advisors could implement non-consumption-based control restoration approaches, such as enhanced portfolio personalization, increased decision-making touchpoints, or financial planning instruments that reinforce individual agency. Our experimental findings (Study 4) demonstrate that providing alternative control restoration pathways can diminish the connection between subjective poverty and elevated spending among higher-income individuals.

Moreover, the interaction between subjective poverty and income has implications for marketing message design and timing. Our finding that wealthy consumers increase spending on high-status goods when experiencing subjective poverty suggests that luxury brands might consider messaging that emphasizes control and self-determination rather than traditional aspiration-based appeals. This approach may be relevant given that subjective poverty among the affluent often stems from upward social comparisons (Bellezza 2023). Our longitudinal evidence (Studies 2 and 3) indicates that subjective poverty varies within individuals over time, suggesting that marketing effectiveness could be influenced by timing relative to trigger events such as market fluctuations, social events, or life transitions. For brands targeting lower-income demographics, our findings indicate diminished promotional effectiveness during subjective poverty periods due to consumption restriction tendencies. These organizations might prioritize messaging centered on value propositions and financial progress narratives that directly address economic security concerns.

In addition, our findings may inform regulatory frameworks and social welfare design. Current consumer protection regulations often mandate disclosure of comparative information to facilitate financial decision-making. However, our results suggest such comparisons may trigger subjective poverty among higher-income consumers, potentially associated with increased spending. Regulators might consider whether disclosure requirements should vary by income level or whether consumers should have options regarding comparative information exposure.

Limitations and Future Research Directions

While our research advances understanding of how subjective poverty and income interact to shape spending, several limitations suggest promising directions for future research. First, our reliance on observational data limits our ability to draw firm causal conclusions about the role of income.³ Wealth is closely interconnected with various factors, including education, occupational status, health, and social networks, making it challenging to disentangle its independent effects on consumption. While our findings indicate robust associations between income and spending patterns, future research utilizing experimental designs or longitudinal data could more

³ While we cannot establish causality from observational data alone, we conducted extensive robustness checks to ensure our analytical approach appropriately captures the relationships in the data (see Web Appendix H for tests of linear model assumptions and alternative specifications).

convincingly isolate whether income itself, or closely related factors, drive observed differences in spending. Experimental manipulations or natural experiments, such as sudden windfalls or economic shocks, could offer particularly valuable avenues for clarifying causality. For instance, studies by Imbens, Rubin, and Sacerdote (2001) and Kuhn et al. (2011) analyzed the consumption of lottery winners. Approaches like these could substantially advance understanding of how unexpected wealth changes affect subjective perceptions and consumer choices.

Second, while income is an accessible and widely used measure, it fails to fully capture the complexity and multidimensional nature of overall wealth, including assets, property ownership, durable goods, access to credit, and debt obligations. Future studies incorporating broader measures of wealth could provide richer insights into how different financial dimensions interactively shape subjective perceptions and spending. Life cycle events such as retirement or homeowner-ship transitions represent promising contexts for exploring dynamic relationships between wealth accumulation, subjective perceptions, and spending.

Third, future research could explore additional moderators and boundary conditions of the relationships identified. One particularly intriguing distinction relates to the nature of income: whether it is actively earned through individual work (i.e., achieved wealth) or more passively received via interests or capital gains from one's heritage (i.e., ascribed wealth; Foladare 1969). Different pathways to wealth accumulation may profoundly shape subjective perceptions and subsequent spending behaviors. On one hand, individuals who receive income through personal effort and perseverance might experience a lower sense of subjective poverty (i.e., feel financially more secure) stemming from feelings of accomplishment and personal control. Conversely, inheritors of wealth who receive income as interest from heritage often have robust family support networks, creating a sense of security and subjective wealth independent of personal achievement. Investigating how these distinct sources of income influence subjective perceptions, psychological experiences, and spending represents a valuable direction for further inquiry.

Fourth, additional nuances tied specifically to consumption patterns warrant further exploration. While our research has highlighted differential spending patterns on high- versus low-status brands, numerous other product categories and consumption contexts remain underexplored. Future studies could investigate whether subjective poverty and income influence spending differently for material goods versus experiential purchases (Carter and Gilovich 2012; Tully, Hershfield, and Meyvis 2015), hedonic versus utilitarian products (Dhar and Wertenbroch 2000), or spending on oneself versus others (Dunn, Aknin, and Norton 2008). Examining such distinctions would yield deeper theoretical and practical insights into how subjective poverty and income jointly shape consumption across diverse contexts.

In conclusion, our findings illustrate that subjective perceptions of poverty, shaped by an individual's sense of control,

interact with income to influence consumption patterns in systematic ways. This research contributes to a more nuanced understanding of financial decision-making by demonstrating that psychological experiences of financial constraint can at times override material realities, with important implications for consumer behavior, market dynamics, and financial well-being.

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Data Availability

The code for Study 1 is available on the Open Science Framework (OSF). The data that support the findings of Study 1 are not available due to a confidentiality agreement; however, the data were shared with the Data Editor on the Harvard Dataverse platform. Interested researchers may contact the authors to discuss the possibility of accessing the data, subject to approval from the data provider. The data that support Studies 2 and 3 are publicly available. The links to the datasets and analysis codes are available on OSF. The data and analysis codes that support the findings of Studies 4 and 5 are publicly available on OSF.

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