How Shame in Poverty Relates to Status Consumption

Arnoud Plantinga & Seger M. Breugelmans

Tilburg University

Marcel Zeelenberg

Tilburg University & Vrije Universiteit Amsterdam

Date of this version: May 8, 2018

Author Note

Arnoud Plantinga, Seger M. Breugelmans, Department of Social Psychology/TIBER, Tilburg University. Marcel Zeelenberg, Department of Social Psychology/TIBER, Tilburg University & Department of Marketing VU Amsterdam

Correspondence can be addressed to Arnoud Plantinga, Department of Social Psychology, Tilburg University, Warandelaan 2, 5037 AB, Tilburg, the Netherlands. E-mail: a.plantinga@tilburguniversity.edu.

Data and materials for all studies are available online at https://osf.io/b95df/.

Abstract

Shame is associated with a threatened self-image and a decrease in status. We examined whether shame in poverty predicts interest in status and status products, as a potential means of restoring the self-image and regaining status. Three preregistered survey studies found that financial shame was highly prevalent in both U.S. and U.K. participants: 34.2% reported feeling at least somewhat ashamed of their financial situation. A structural equation model pointed to two separate effects of income on status consumption: a direct, positive effect, and an indirect, negative effect through financial shame, which increases the motivation to attain status.

Keywords: poverty, *shame*, *status*, *status consumption*

Shame in Poverty is Related to Status Consumption

All over the world, people in poverty report feeling ashamed (Walker et al., 2013). People experience shame when they or others feel they are incompetent or transgressed a moral boundary (De Hooge, Zeelenberg, & Breugelmans, 2010). This creates a threat to people's self-image, to which they can respond in two ways (see also Gausel, Vignoles, & Leach, 2015). If possible, people try to restore their self-image through approach behavior. Only when people believe restoring their self-image is not possible or too risky do they switch to protecting their self-image from further damage, by showing withdrawal behavior. We examined whether people deal with feelings of shame about their financial situation ("financial shame") by showing restore behavior in the form of status consumption. Surprisingly little is known about the behavioral consequences of financial shame. Most extant research is qualitative, and suggests several negative consequences such as attempts to keep up appearances, social withdrawal, and derogation of others (Walker et al., 2013).

We expect that financial shame is related to an interest in status, for two reasons. First, people might strive for status to compensate for their damaged reputation (Charles, Hurst, & Roussanov, 2009). Second, it can help to repair a threatened self-image (Isaksen & Roper, 2008). The idea that feeling ashamed increases interest in status products is supported by research showing that people whose self-image is threatened or who feel powerless are more interested in status products (Rucker & Galinsky, 2008, 2009; Sivanathan & Pettit, 2010). There is also evidence that even people with very little to spend consume status products. For example, poor people are willing to pay more for exactly the same product if the packaging has a well-known brand logo (Van Kempen, 2004) and extremely poor Indian farmers spend about 10% of their year income on festivals (Banerjee & Duflo, 2007).

Status consumption also has its downsides, especially for those on a tight budget. Each dollar spent on attaining status is not spent on other, perhaps more pressing needs (Banerjee & Duflo, 2007). Buying status products can contribute to the emergence of poverty traps (Moav &

Neeman, 2008). Furthermore, conspicuous consumption is associated with lower subjective well-being (Linssen, Van Kempen, & Kraaykamp, 2010). Finally, status consumption is risky, because what constitutes as a status good in one group might be frowned upon by other groups (Han, Nunes, & Drèze, 2010).

Current research

In this paper, we test whether people experience financial shame, and whether this leads to a stronger interest in status and status consumption (see Figure 1). We predicted[1] that people with lower incomes would be more likely to report financial shame than people with higher incomes, as it is more likely that they or others think they are financially incompetent. We expected that these feelings of shame would be associated with a stronger interest in status (*status orientation*) and, in turn, status consumption, for the reasons outlined above. We tested this prediction in three studies using Structural Equation Modeling (SEM), as this allows us to test the hypothesized relationships in one statistical model. In Study 2 we test the structural equation model from Study 1 with a newly constructed status consumption scale. In Study 3, we use the exact same materials and model as in Study 2, but in a U.K. sample. In addition, in all studies we tested the same structural equation models using a subjective measure of financial situation (*subjective wealth*) instead of income. Although objective and subjective wealth are related, previous research finds that the relation is only modest and that the two variables can have different effects (e.g., Gasiorowska, 2014).

---

[1] For Study 1 and Study 2, we did not preregister the specific structural equation models, but we did preregister the following hypothesis: "Shame for financial situation positively predicts status orientation and status consumption over and above effects of objective income and subjective income". For Study 3, we preregistered to use the exact same structural equation model as in Study 2. See https://osf.io/g4dpy/register/565fb3678c5e4a66b5582f67 and https://aspredicted.org/ra8hw.pdf

Method

Participants

We recruited U.S. participants via Amazon Mechanical Turk (Study 1: $N = 299$, 45.8% female, $M_{age} = 36.6$, $SD = 11.4$; Study 2: $N = 304$, 47.0% female, $M_{age} = 36.6$, $SD = 11.4$) and U.K. participants via Prolific Academic (Study 3: $N = 536$, 72.6% female, $M_{age} = 37.2$, $SD = 12.1$). For Study 1, we based sample size on Onderwater (2016), who found that status orientation and financial shame correlated $r(204) = .22$ ($\alpha = .05$; $1–\beta = .8$; $N_{min} = 253$). We used this correlation because it comes close to our research question, but also note that this sample size should give enough power for a structural equation model ($> .87$ with $df > 100$; MacCallum, Browne, & Sugawara, 1996). For Study 2, we used the correlation from Study 1 ($r(297) = .16$, $N_{min} = 301$). Finally, for Study 3, we simulated data based on the structural equation model for Study 2 (see Appendix C; $N_{min} = 530$).

Procedure

In Study 1, participants either first answered the questions about their financial situation and financial shame and then questions about status orientation and status consumption, or vice versa. In Studies 2 and 3, the order of these scales was fully randomized. In all studies, participants then answered questions about household income, the number of persons in their household, age and gender. *Subjective wealth* was measured with three questions (1–7 rating scales with different anchors, e.g., "How would you describe your current financial situation?", reliability[2]: $\omega_t > .89$; Gasiorowska, 2014). All other scales used a Likert format (1 = Strongly disagree, 7 = Strongly agree). For *financial shame,* we constructed a new 7-item scale ($\omega_t > .92$, all new scales are in Appendix A). *Status orientation* was measured using a new 5-item scale (e.g., "I think status is an important

---

[2] ω_t is a more accurate estimate of reliability than Cronbach's α, which makes assumptions that are often unrealistic, causing underestimation of reliability (McNeish, 2017). These values have the same interpretation as Cronbach's α. We report Cronbach's α for all scales in Appendix A).

indicator of how people are doing in life", $\omega_t > .82$). In Study 1, *status consumption* was

measured with a scale by Eastman, Goldsmith, and Flynn (1999), replacing the item "A

product is more valuable to me if it has some snob appeal" with "If I think about it, I spend

quite a lot of money on products that provide status", because we think the concept "snob

appeal" is not closely related to our notion of status consumption (5 items, $\omega_t = .92$). In

Studies 2 and 3, we used a new 6-item scale ($\omega_t > 0.82$, see Appendix A). All answers for this

scale were standardized. For the U.S. samples, we asked *household income* in brackets of

$10,000, with a highest category of $150,000 and above. For the U.K. sample, we multiplied

these numbers by 0.75 to get approximately the same numbers in pounds. Income was

estimated by taking the midpoint of every income bracket, except for the highest income

bracket, where we used a robust Pareto midpoint estimator (ca. $196,000 in the U.S. samples

and £156,000 in the U.K. sample; von Hippel, Scarpino, & Holas, 2016). In all analyses we

corrected for household size by using effective income: household income divided by the

square root of the number of people in the household (Buhmann & Rainwater, 1988)[3].

Results

For means, standard deviations, and correlations of the main variables see Table 1.

Order effects and missing values

In Study 1, scores on subjective wealth, financial shame, status orientation, and status

consumption did not depend on order (*p*-values ranging from .267 to .820, Cohen's *d* ranging

from -0.07 to 0.13). In Study 2, we regressed each of the scores on dummy variables for

position. Some of these order effects were significant but adding them to our SEM model did

not increase model fit (see Appendix B). Therefore, we did not take into account order effects

---

[3] We did not measure ethnicity, which might affect both income, status consumption, and shame. Future research is needed to test the effects of ethnicity and whether shame causally affects status consumption.

in any of the studies. As the number of missing values was small, we used list-wise deletion in all analyses.

Structural equation models

Analyses were conducted with the *lavaan* package, version 0.6-1.1189, for *R*, version 3.4.3 (R Core Team, 2016; Rosseel, 2012). We used the following target values for fit indices (Mueller & Hancock, 2008): SRMR ≤ 0.08, RMSEA ≤ .06, and CFI ≥ 0.95. The variables showed only modest skewness (< 1.9) and kurtosis (< 4.8); Mardia's test for multivariate kurtosis was significant in all studies ($z > 22.07$, $p < .001$). Therefore, we decided to use robust maximum likelihood estimation with the Satorra-Bentler statistic (Satorra & Bentler, 2001). We did not delete any outliers[4].

Measurement model. Following Mueller and Hancock's recommendations (2008) we started with a two-phase analysis, first focusing on the measurement model, and then adding a structural part. The measurement phase consisted of a series of confirmatory factor analyses (for details, see Appendix B). The variables *financial shame*, *status orientation*, and *status consumption* were modeled as latent variables with their respective scale items as indicators. For Study 1, fit for our first model was not acceptable. Based on inspection of the standardized residuals and modification indices, we decided to allow the residual variance to covary for items 2 and 7 of the financial shame scale, and for items 4 and 5 of the status orientation scale. Now, model fit was acceptable, *S-B correction* = 1.218, $\chi^2(114) = 217.94$, $p < .001$; SRMR = .042; RMSEA = .044, 90% CI [.032, .054]; CFI = .979; average variance extracted $> .62$ (AVE, $> .50$ recommended by Fornell & Larcker, 1981); maximal reliability $> .90$ (MR, $> .70$ recommended by Hancock & Mueller, 2001). For Study 2, we again allowed these covariances, but model fit was not yet acceptable. Therefore, we additionally

---

[4] The pattern of results was the same when we removed multivariate outliers (Filzmoser, Maronna, & Werner, 2008): 57 cases in Study 1, 69 in Study 2, and 109 in Study 3.

allowed the residual covariances of items 1 and 2 and items 3 and 4 of the new status consumption scale to covary, after which model fit was acceptable, *S-B correction* = 1.260, $\chi^2(112) = 256.20$, $p < .001$; SRMR = .042; RMSEA = .052, 90% CI [.042, .062]; CFI = .968; AVE > .53; MR > .87. We used the same specification for the measurement model of Study 3, for which model fit was also acceptable (but note that AVE was low), *S-B correction* = 1.148, $\chi^2(128) = 279.96$, $p < .001$; SRMR = .047; RMSEA = .041, 90% CI [.034, .048]; CFI = .976, AVE > .40, MR > .84. We used the same measurement models for the analyses with subjective wealth instead of effective income (see Appendix B).

   Structural model. For the structural model with effective income, we used the same specifications as for the final measurement model but added paths between the latent variables as in Figure 1. The model fit the data well, and all measurement indices met the pre-specified thresholds (see Table 2). The total effect of effective income on status consumption was not significant in Studies 1 and 2, but was significantly positive in Study 3, $\beta_1 = 0.034$, $\beta_2 = 0.106$, $\beta_3 = 0.098$. This suggests that participants with higher incomes were somewhat more interested in status consumption. However, the effect of income was composed of two different effects with opposite signs. In all SEM models, effective income had a small positive direct effect on status consumption, $\beta_1 = 0.090$, $\beta_2 = 0.152$, $\beta_3 = 0.139$. Income also affected status consumption negatively through shame and status orientation: Effective income was negatively related to financial shame, $\beta_1 = -0.380$, $\beta_2 = -0.414$, $\beta_3 = -0.320$, which was positively related to status orientation, $\beta_1 = 0.193$, $\beta_2 = 0.171$, $\beta_3 = 0.228$, which was, finally, positively related to status consumption $\beta_1 = 0.765$, $\beta_2 = 0.651$, $\beta_3 = 0.557$. The indirect effect of income via shame and status consumption was significantly negative, $\beta_1 = -0.056$, $\beta_2 = -0.046$, $\beta_3 = -0.041$.

   The pattern of results is the same when we replace effective income with subjective wealth in the structural equation model (see Table **3**), even though the correlations between

effective income and subjective wealth are not very high ($.40 < r < .52$). The total effect of subjective wealth on status consumption was only significant in Study 2 ($-0.02 < \beta < 0.13$). Again, in all studies there was a significant positive direct effect of subjective wealth on status consumption ($0.10 < \beta < 0.21$), and a negative indirect effect via shame and status orientation ($-0.12 < \beta < -0.07$). The effects of subjective wealth on shame were also all significant ($-0.82 < \beta < -0.68$), as were the effects of shame on status orientation ($0.15 < \beta < 0.24$) and the effects of status orientation on status consumption ($0.63 < \beta < 0.79$).

General Discussion

The results of three studies suggest that income has two opposite effects on status consumption. On the one hand, there is a positive direct effect of income on status consumption; a higher income allows for more opportunities to buy status products. On the other hand, income has a negative indirect effect on status consumption; people with lower incomes are more likely to feel ashamed of their financial situation, which is related to higher interest in status, which is finally related to more reported status consumption. In other words, when we take out the effect of income or subjective wealth, people who feel ashamed of their financial situation are more likely to be interested in status and status consumption.

Future research should test whether shame causally affects status consumption by, for example, manipulating financial shame and measuring actual status consumption instead of self-reported consumption. Importantly, the current data support two important ideas. First, the data are in line with the idea that poverty, through financial shame, may induce people to engage in status consumption. Second, direct comparisons of the level of status consumption between more and less wealthy people may not show this effect because of the two, opposite effects of income: more wealthy people may engage more in status consumption because they have more discretionary income, while less wealthy people may engage more in status

consumption because of financial shame. In other words, among different income groups

there may be different pathways towards status consumption.

References

Banerjee, A. V., & Duflo, E. (2007). The economic lives of the poor. *Journal of Economic Perspectives*, *21*, 141–167. https://doi.org/10.1257/jep.21.1.141

Buhmann, B., & Rainwater, L. (1988). Equivalence scales, well-being, inequality, and poverty: Sensitivity estimates across ten countries using the Luxembourg Income Study (LIS) database. *Review of Income and Wealth*, *34*, 115–142. https://doi.org/10.1111/j.1475-4991.1988.tb00564.x

Charles, K. K., Hurst, E., & Roussanov, N. (2009). Conspicuous consumption and race. *Quarterly Journal of Economics*, *124*, 425–467. https://doi.org/10.1162/qjec.2009.124.2.425

De Hooge, I. E., Zeelenberg, M., & Breugelmans, S. M. (2010). Restore and protect motivations following shame. *Cognition and Emotion*, *24*, 111–127. https://doi.org/10.1080/02699930802584466

Eastman, J. K., Goldsmith, R. E., & Flynn, L. R. (1999). Status consumption in consumer behavior: Scale development and validation. *Journal of Marketing Theory and Practice*, *7*, 41–52. https://doi.org/10.1080/10696679.1999.11501839

Filzmoser, P., Maronna, R., & Werner, M. (2008). Outlier identification in high dimensions. *Computational Statistics & Data Analysis*, *52*, 1694–1711. https://doi.org/10.1016/j.csda.2007.05.018

Fornell, C., & Larcker, D. F. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *Journal of Marketing Research*, *18*, 39–50.

Gasiorowska, A. (2014). The relationship between objective and subjective wealth is moderated by financial control and mediated by money anxiety. *Journal of Economic Psychology*, *43*, 64–74. https://doi.org/10.1016/j.joep.2014.04.007

Gausel, N., Vignoles, V. L., & Leach, C. W. (2015). Resolving the paradox of shame: Differentiating among specific appraisal-feeling combinations explains pro-social and self-defensive motivation. *Motivation and Emotion*, *40*, 118–139. https://doi.org/10.1007/s11031-015-9513-y

Han, Y. J., Nunes, J. C., & Drèze, X. (2010). Signaling status with luxury goods: The role of brand prominence. *Journal of Marketing*, *74*, 15–30.

Hancock, G. R., & Mueller, R. O. (2001). Rethinking construct reliability within latent variable systems. In R. Cudeck, S. du Toit, & D. Sörbom (Eds.), *Structural equation modeling: Present and future—A Festschrift in honor of Karl Jöreskog* (pp. 195–216). Lincolnwood, IL: Scientific Software International, Inc.

Isaksen, K. J., & Roper, S. (2008). The impact of branding on low-income adolescents: A vicious cycle? *Psychology and Marketing*, *25*, 1063–1087. https://doi.org/10.1002/mar.20254

Linssen, R., Van Kempen, L., & Kraaykamp, G. (2010). Subjective well-being in rural India: The curse of conspicuous consumption. *Social Indicators Research*, *101*, 57–72. https://doi.org/10.1007/s11205-010-9635-2

MacCallum, R. C., Browne, M. W., & Sugawara, H. M. (1996). Power analysis and determination of sample size for covariance structure modeling. *Psychological Methods*, *1*(2), 130–149. https://doi.org/10.1037/1082-989X.1.2.130

McNeish, D. (2017). Thanks coefficient alpha, we'll take it from here. *Psychological Methods*, Advance online publication. https://doi.org/10.1037/met0000144

Moav, O., & Neeman, Z. (2008). Conspicuous consumption, human capital, and poverty. *SSRN Working Paper No. 1140634*. https://doi.org/10.2139/ssrn.1140634

Mueller, R. O., & Hancock, G. R. (2008). Best practices in structural equation modeling. In J.

Osborne (Ed.), *Best practices in quantitative methods* (pp. 488–508). Thousand Oaks,

CA: Sage.

Onderwater, J. (2016). *The relationship between income and brand product consuming*

(Unpublished Bachelor's thesis). Tilburg University, Tilburg, The Netherlands.

R Core Team. (2016). *R: A language and environment for statistical computing*. Vienna,

Austria: R Foundation for Statistical Computing.

Rosseel, Y. (2012). lavaan: An R package for structural equation modeling. *Journal of*

Statistical Software, *48*, 1–36.

Rucker, D. D., & Galinsky, A. D. (2008). Desire to acquire: Powerlessness and compensatory

consumption. *Journal of Consumer Research*, *35*, 257–267.

https://doi.org/10.1086/588569

Rucker, D. D., & Galinsky, A. D. (2009). Conspicuous consumption versus utilitarian ideals:

How different levels of power shape consumer behavior. *Journal of Experimental*

Social Psychology, *45*, 549–555. https://doi.org/10.1016/j.jesp.2009.01.005

Satorra, A., & Bentler, P. M. (2001). A scaled difference chi-square test statistic for moment

structure analysis. *Psychometrika*, *66*, 507–514. https://doi.org/10.1007/BF02296192

Sivanathan, N., & Pettit, N. C. (2010). Protecting the self through consumption: Status goods

as affirmational commodities. *Journal of Experimental Social Psychology*, *46*, 564–

570. https://doi.org/10.1016/j.jesp.2010.01.006

Van Kempen, L. (2004). Are the poor willing to pay a premium for designer labels? A field

experiment in Bolivia. *Oxford Development Studies*, *32*, 205–224.

https://doi.org/10.1080/13600810410001699957

von Hippel, P. T., Scarpino, S. V., & Holas, I. (2016). Robust estimation of inequality from

    binned incomes. *Sociological Methodology*, *46*, 212–251.

    https://doi.org/10.1177/0081175015599807

Walker, R., Kyomuhendo, G. B., Chase, E., Choudhry, S., Gubrium, E. K., Nicola, J. Y., …

    Ming, Y. (2013). Poverty in global perspective: Is shame a common denominator?

    Journal of Social Policy, *42*, 215–233. https://doi.org/10.1017/S0047279412000979

Table 1

Pearson correlations, means, standard deviations, and ω_t Studies 1-3

Study	Variable (scale, reliability)	M (SD)	Status orientation	Status consumption	Subjective wealth	Effective income
1	Financial shame (1–7, ω_t = .93)	3.86 (1.53)	.163**	.035	-.750***	-.367***
	Status orientation (1–7, ω_t = .89)	3.97 (1.36)		.684***	-.044	-.032
	Status consumption (1–7, ω_t = .92)	2.88 (1.36)			.066	.064
	Subjective wealth (1–7, ω_t = .93)	3.97 (1.42)				.464***
	Effective income	$36,024 ($23,970)				
2	Financial shame (1–7, ω_t = .92)	3.76 (1.54)	.139*	.041	-.620***	-.394***
	Status orientation (1–7, ω_t = .89)	3.64 (1.46)		.604***	.173**	.095
	Status consumption (standardized, ω_t = .88)	-0.01 (0.79)			.307***	.177**
	Subjective wealth (1–7, ω_t = .92)	4.01 (1.40)				.521***
	Effective income	$34,776 ($23,518)				
3	Financial shame (1–7, ω_t = .93)	4.06 (1.58)	.218***	.083	-.682***	-.311***
	Status orientation (1–7, ω_t = .83)	3.79 (1.19)		.482***	.002	.064
	Status consumption (1–7, ω_t = .83)	0.00 (0.74)			.072	.119**
	Subjective wealth (1–7, ω_t = .90)	3.93 (1.35)				.400***
	Effective income	£20,345 (£13,396)				

Note: M = mean, *SD* = standard deviation. *: $p < .05$, **: $p < .01$, ***: $p < .001$. $N_1 = 299$, $N_2 = 304$, $N_3 = 536$.

Table 2

Parameter estimates and model fit for the structural equation models with effective income in Studies 1–3

Parameter	Study 1 (N = 299)				Study 2 (N = 304)				Study 3 (N = 536)			
	b (SE)	β	p	R^2	b (SE)	β	p	R^2	b (SE)	β	p	R^2
Income → status consumption	0.059 (0.025)	0.090	.020	.583	0.085 (0.030)	0.152	.003	.433	0.125 (0.044)	0.139	.005	.319
Income → shame	-0.173 (0.040)	-0.380	< .001	.145	-0.193 (0.030)	-0.414	< .001	.171	-0.252 (0.040)	-0.320	< .001	.102
Shame → status orientation	0.182 (0.065)	0.193	.004	.037	0.158 (0.064)	0.171	.011	.029	0.222 (0.052)	0.228	< .001	.052
Status orientation → status consumption	1.162 (0.134)	0.765	< .001	.583	0.852 (0.105)	0.651	< .001	.433	0.658 (0.077)	0.557	< .001	.319
Income → status consumption (via shame and status orientation)	-0.037 (0.015)	-0.056	.016		-0.026 (0.011)	-0.046	.014		-0.037 (0.010)	-0.041	< .001	
Income → status consumption (total)	0.022 (0.028)	0.034	.429		0.059 (0.032)	0.106	.055		0.089 (0.045)	0.098	.049	
Model fit	*S-B correction* = 1.184, $\chi^2(130)$ = 232.52, *p* < .001; SRMR = .043; RMSEA = .042, 90% CI [.030, .052]; CFI = .980				*S-B correction* = 1.213, $\chi^2(145)$ = 357.05, *p* < .001; SRMR = .065; RMSEA = .059, 90% CI [.050, .068]; CFI = .952				*S-B correction* = 1.146, $\chi^2(145)$ = 295.74, *p* < .001; SRMR = .049; RMSEA = .039, 90% CI [.032, .047]; CFI = .976			

Note: For each latent variable, the mean was fixed to 0 and the variance to 1.

Table 3

Parameter estimates and model fit for the structural equation models with subjective wealth in Studies 1–3

Parameter	Study 1 ($N = 299$)				Study 2 ($N = 304$)				Study 3 ($N = 536$)			
	b (*SE*)	β	p	R^2	b (*SE*)	β	p	R^2	b (*SE*)	β	p	R^2
Subj. wealth → status consumption	0.163 (0.072)	0.105	.024	.583	0.340 (0.096)	0.209	< .001	.621	0.146 (0.066)	0.114	.021	.387
Subj. wealth → shame	-1.416 (0.138)	-0.817	< .001	.667	-0.911 (0.105)	-0.673	< .001	.453	-1.188 (0.086)	-0.765	< .001	.585
Shame → status orientation	0.108 (0.041)	0.184	.006	.034	0.113 (0.053)	0.151	.023	.023	0.155 (0.035)	0.233	< .001	.054
Status orientation → status consumption	1.175 (0.130)	0.772	< .001	.583	1.255 (0.152)	0.781	< .001	.621	0.785 (0.094)	0.632	< .001	.387
Subj. wealth → status consumption (via shame and status orientation)	-0.180 (0.066)	-0.116	.006		-0.129 (0.057)	-0.079	.022		-0.144 (0.036)	-0.113	< .001	
Subj. wealth → status consumption (total)	-0.017 (0.092)	-0.011	.854		0.211 (0.102)	0.130	.029		0.002 (0.064)	0.001	.978	
Model fit	*S-B correction* = 1.209, $\chi^2(164) = 295.68$, $p < .001$; SRMR = .048; RMSEA = .041, 90% CI [.031, .050]; CFI = .980				*S-B correction* = 1.262, $\chi^2(162) = 385.65$, $p < .001$; SRMR = .083; RMSEA = .054, 90% CI [.046, .062]; CFI = .960				*S-B correction* = 1.154, $\chi^2(162) = 362.19$, $p < .001$; SRMR = .048; RMSEA = .042, 90% CI [.035, .048]; CFI = .974			

Note: For each latent variable, the mean was fixed to 0 and the variance to 1.
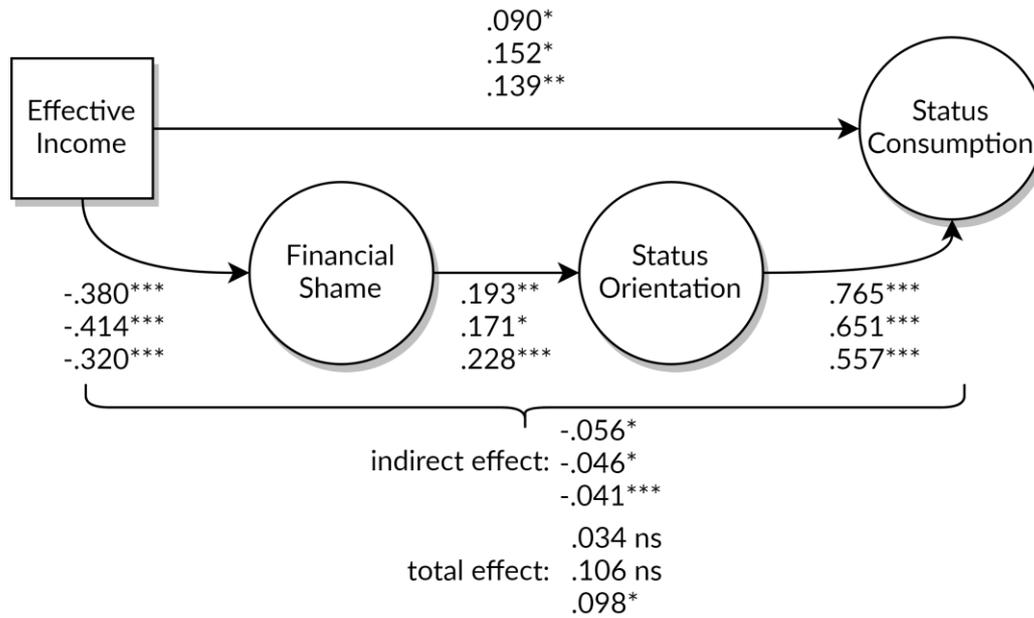
Figure 1: Standardized coefficients for the Structural Equation Models (top: Study 1, middle: Study 2, bottom: Study 3). The latent variables are indicated by their scale items. *Indirect effect* is the effect of effective income on status consumption via financial shame and status orientation, whereas *total effect* is the total effect of effective income on status consumption.

Appendix A

Scales used and Cronbach's alphas

Subjective wealth (α_1 = .92, α_2 = .92, α_3 = .89; Gasiorowska, 2014)

1. How would you describe your current financial situation?

2. How would you describe your ability to make ends meet?

3. Do you feel your income adequately fulfills your needs and wants?

Financial shame (α_1 = .93, α_2 = .92, α_3 = .92)

1. I'm ashamed of my financial situation

2. I prefer others not to know about my financial situation

3. I feel that others look down on me because of my financial situation

4. I feel bad about myself for not having a better financial situation

5. When I think about my financial situation, I feel as if I have failed

6. I want to avoid thinking about my financial situation

7. I try to hide my financial situation from the people around me

Status orientation (α_1 = .89, α_2 = .89, α_3 = .83)

1. I think status is an important indicator of how people are doing in life

2. I am willing to spend much time and effort to acquiring high status

3. I admire people who have a lot of prestige

4. I find it important that others hold me in high regard

5. I care about the reputation that I have in the eyes of others

Status consumption (α_1 = .88; Eastman et al., 1999)

1. I would buy a product just because it has status

2. I am interested in new products with status

3. I would pay more for a product if it had status

4. The status of a product is irrelevant to me

5. If I think about it, I spend quite a lot of money on products that provide status

Status consumption (new scale, α_2 = .88, α_3 = .83)

1. I buy products to impress others

2. When buying a product, it is important to consider what other people will think of it

3. I prefer to buy well-known brands, even though they are sometimes more expensive

4. I am willing to pay more for brand name products

5. In general, what is the maximum you'd be willing to pay extra for a brand name product compared to a similar non-brand product?

6. What percentage of your purchases are premium brands?

Appendix B

Measurement phases Study 1 and Study 2

Models with effective income

Study 1. We created a measurement model with a confirmatory factor analysis on the factors *financial shame*, *status orientation*, and *status consumption*, indicated by their respective scale items. The model fit did not yet meet our target values, *S-B correction* = 1.230, $\chi^2(116) = 328.52$, $p < .001$; SRMR = .047; RMSEA = .066, 90% CI [.057, .075]; CFI = .952. Inspection of the standardized residuals and the modification indices revealed that restrictions on the relationship between the second and seventh items of the financial shame scale, and on the fourth and fifth items of the status orientation scale were problematic. Inspection of the standardized residuals and modification indices showed there were three problematic scales: financial shame and status orientation scales. We decided to allow the residual variance of each of the pairs of problematic items to covary. The new model showed significantly improved fit, $\chi^2(2) = 57.40$, $p < .001$; Fit indices: *S-B correction* = 1.218, $\chi^2(114) = 217.94$, $p < .001$; SRMR = .042; RMSEA = .044, 90% CI [.032, .054]; CFI = .979; average variance extracted > .62 (> .50 recommended by Fornell & Larcker, 1981); maximal reliability > .90 (> .70 recommended by Hancock & Mueller, 2001).

Study 2. For the latent variables for financial shame and status orientation we used the same specification as in Study 1: Every scale item was an indicator for its latent variable, and we allowed the allowed the residual variance to covary for the second and seventh item of the financial shame scale and for the fourth and fifth item of the status orientation scale. As the latent variable for status consumption now used different indicators, we did investigate whether the measurement model for this variable was adequate. A first CFA showed poor model fit, *S-B correction* = 1.234, $\chi^2(130) = 540.43$, $p < .001$; SRMR = .065; RMSEA = .089, 90% CI [.081, .097]; CFI = .900. After inspection of the standardized residuals and

modification indices we found that the restrictions on relations between the first two items

and the third and fourth item of the status consumption scale were problematic. We decided

to allow the residual variances of these two pairs of items to covary. Model fit significantly

improved, $\chi^2(2) = 859.61$, $p < .001$, and fit was now adequate, *S-B correction* = 1.260,

$\chi^2(112) = 256.20$, $p < .001$; SRMR = .042; RMSEA = .052, 90% CI [.042, .062]; CFI = .968;

average variance extracted > .53; maximal reliability > .87.

Study 3. As specified in our preregistration for this Study, we did not make any

changes to the measurement model. Fit for the measurement model was good: *S-B correction*

= 1.148, $\chi^2(128) = 279.96$, $p < .001$; SRMR = .047; RMSEA = .041, 90% CI [.034, .048];

CFI = .976.

Models with subjective wealth

Study 1. We started with the same measurement model as we ended with in Study 1,

in which we allowed the residual variance to covary for items 2 and 7 of the financial shame

scale, and items 4 and 5 of the status orientation scale. In addition, we added a latent factor

for subjective wealth, indicated by all subjective wealth items. As the model fit well, *S-B*

correction = 1.210, $\chi^2(162) = 287.17$, $p < .001$; SRMR = .041; RMSEA = .039, 90% CI

[.029, .049]; CFI = .981, we did not make any further changes.

Study 2. In Study 2, we used the same measurement model, which again showed

good fit, *S-B correction* = 1.262, $\chi^2(162) = 385.65$, $p < .001$; SRMR = .083; RMSEA = .054,

90% CI [.046, .062]; CFI = .960.

Study 3. As for the model with effective income, we preregistered to not make any

changes to the measurement model for Study 3. Again, fit was good, *S-B correction* = 1.156,

$\chi^2(160) = 338.59$, $p < .001$; SRMR = .036; RMSEA = .039, 90% CI [.033, .046]; CFI = .977.

Order effects in Study 2

Because we found significant order effects for status orientation and status consumption in Study 2, we repeated the measurement phase and structural phase with order variables. Specifically, we added dummy variables for the position of the status orientation and status consumption scales, with first place as the reference category. The latent variables for status orientation and status consumption were regressed on these dummy variables. In the measurement phase, adding these dummy variables did not improve fit,; original model: S-B correction = 1.214, $\chi^2(145) = 357.36$, $p < .001$; SRMR = .068; RMSEA = .059, 90% CI [.050, .068]; CFI = .952; new model: *S-B correction* = 1.123, $\chi^2(253) = 482.83$, $p < .001$; SRMR = .064; RMSEA = .049, 90% CI [.041, .056]; CFI = .953. Model comparison also showed that fit did not improve, $\chi^2(108) = 125.44$, $p = .120$; Original model: AIC = 20,488, BIC = 20,650; new model: AIC = 22,156, BIC = 22,418.

Appendix C

Power analysis Study 3

To get a more accurate power analysis for Study 3, we used Study 2's data to simulate new datasets. With the *simsem* package, version 0.5-14.904, we simulated 1,000 datasets based on the data from Study 2 and analyzed them using the structural equation model with effective income as in Study 2. We tested various sample sizes, in steps of $N = 10$, until we achieved 95% power to detect all four structural paths in the model. At $N = 530$, power was .979 to detect the income → status consumption effect, > .999 for income → shame, .963 for shame → status orientation, and > .999 for status orientation → status consumption. Power for the structural equation model with subjective wealth was also high: > .999 for subjective wealth → status consumption, > .999 for subjective wealth → shame, .901 for shame → status orientation, and > .999 for status orientation → status consumption.

References

Fornell, C., & Larcker, D. F. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *Journal of Marketing Research*, *18*, 39–50.

Hancock, G. R., & Mueller, R. O. (2001). Rethinking construct reliability within latent variable systems. In R. Cudeck, S. du Toit, & D. Sörbom (Eds.), *Structural equation modeling: Present and future—A Festschrift in honor of Karl Jöreskog* (pp. 195–216). Lincolnwood, IL: Scientific Software International, Inc.