

# Good Credit and the Good Life: Credit Scores Predict Subjective Well-Being

Joe J. Gladstone  
Ashley Whillans

Working Paper 18-112



# Good Credit and the Good Life: Credit Scores Predict Subjective Well-Being

Joe J. Gladstone  
UCL School of Management

Ashley Whillans  
Harvard Business School

**Working Paper 18-112**

Copyright © 2018 by Joe J. Gladstone and Ashley Whillans

Working papers are in draft form. This working paper is distributed for purposes of comment and discussion only. It may not be reproduced without permission of the copyright holder. Copies of working papers are available from the author.

GOOD CREDIT AND THE GOOD LIFE:  
CREDIT SCORES PREDICT SUBJECTIVE WELL-BEING

Joe J. Gladstone

UCL School of Management

Ashley Whillans

Harvard Business School

### Abstract

Can money buy happiness? To examine this question, research in economics, psychology, and sociology has focused almost exclusively on examining the associations between *income*, *spending* or *wealth* and subjective well-being. Moving beyond this research, we provide the first empirical evidence that *credit scores* uniquely predict happiness. Across two samples, from the United Kingdom ( $N=615$ ) and the United States ( $N=768$ ), credit scores predicted life satisfaction even after controlling for a range of financial covariates, including income, spending, savings, debt, and home-ownership. Respondents with higher credit scores felt more optimistic about their future, promoting happiness. Further, the relationship between credit scores and wellbeing was moderated by participants' prior awareness of their score. Together, these results suggest that creditworthiness can plausibly increase well-being, either directly or indirectly, meaning that interventions to improve creditworthiness could improve consumer welfare.

**Keywords:** well-being | credit scores | consumer finance | emotions

Modern economies run on credit. From securing a mortgage for a first home, to simply opening a cellphone contract, most people are reliant on access to credit. Creditworthiness is defined by a person's credit score; a computationally derived metric of their financial decisions over time. While credit scores have traditionally enabled consumers to take on debt, their use has expanded into diverse settings, including insurance eligibility (Brockett & Golden, 2007), and even recruitment (Bernerth, Taylor, Walker, & Whitman, 2012). And yet, despite the growing role of credit in modern life, it remains unknown whether having 'good credit' is associated with greater subjective well-being.

Understanding the relationship between credit scores and well-being contributes to the ongoing debate over whether money (or the lack of it) influences happiness. Research to date has focused almost exclusively on the role of income and wealth, demonstrating that those with higher incomes and greater wealth are, on average, more satisfied with their lives (Headey, Muffels, & Wooden, 2008; Stevenson & Wolfers, 2013). However, income and wealth are not the only, nor necessarily the best, indicators of an individual's financial circumstances: how a person *uses their money* may be just as strong a determinant of happiness as the total *amount of money* they have. For example, credit scores capture the extent to which long-term interests (e.g., budgeting to pay bills on time) are valued over short-term desires (e.g., impulse purchases leading to missed credit card payments). And because credit scores are not directly calculated based on a person's income, savings or spending<sup>1</sup>, this suggests credit scores may also indirectly measure important psychological characteristics, such as conscientiousness, which is known to be correlated with both credit scores (Bernerth, Taylor, Walker, & Whitman, 2012) and well-being (Hayes & Joseph, 2003).

---

<sup>1</sup> Credit scores are calculated using a variety of factors recorded on an individual's credit file, including their history of repayments, their current amount of debt, and the length of time the individual has used credit (Thomas, Crook, & Edelman, 2017).

In this research, we investigate whether credit scores are significantly correlated with well-being, and compare the strength of this association to a range of financial characteristics, including income, spending and savings. We also consider the psychological mechanisms through which credit scores could shape well-being. For example, credit allows people to achieve major milestones in life, as well as providing a buffer against financial shocks and uncertainty. On the basis that optimism, resilience and control are all known to predict well-being (Gallo & Matthews, 2003; Scheier & Carver, 1992), we test for three plausible explanations for why higher credit scores might shape well-being: (i) higher credit scores increase optimism about one's financial future, (ii) higher credit scores increase a sense of resilience, allowing one to capably handle economic shocks and reducing worry and anxiety, and (iii) higher credit scores increase perceived control. Finally, we also test if awareness of one's creditworthiness moderates the relationship between credit-score and wellbeing.

### Study 1

#### Method

**Participants.** In Study 1, we recruited participants from a large national bank in the United Kingdom. Participants were recruited by e-mail to complete a survey about financial attitudes and behaviors, which included a measure of life satisfaction. Of those who responded, 623 had their credit score with the bank and agreed to have their responses linked to their account data from the previous 12 months. We had full data for a final sample of 621 participants (331 female, 290 male;  $M_{\text{age}} = 35.9$  years [range = 18-75],  $SD = 14.8$ ).

#### Measures.

**Credit score.** The bank provided a record of participant's credit scores (range = 535-762,  $M = 646.88$ , median = 643,  $SD = 42.65$ ). Credit scores are derived from credit files which are shared across financial institutions, meaning our measure captures behaviors that were not

recorded by the bank directly—such as missed utility bills, or late credit card payments — including behavior over previous years (Meier & Sprenger, 2012).

***Life satisfaction.*** Life satisfaction was assessed with the 5-item Satisfaction with Life Scale (Diener, Emmons, Larsen, & Griffin, 1985), a widely-used measure of global life evaluation. Each item was completed on a 5-point Likert scale and answers to the five items were averaged (range = 1-5,  $M = 3.19$ , median = 3.2,  $SD = .87$ ). The scale had good internal reliability in this sample ( $\alpha = .86$ ).

***Income.*** Income was the bank-reported monthly average of credits to participants' checking accounts (range = £19.42-18,539.41,  $M = £1,960.11$ , median = £1,559.75,  $SD = 1,697.46$ ).

***Total spending.*** Spending was the bank-reported monthly average of debits leaving participants' checking accounts (range = £10.85-5,822.71,  $M = £1,155.23$ , median = £946.53,  $SD = 895.48$ ).

***Total savings.*** Total savings was the monthly average of participants' savings account balances as reported by the bank on the first day of each month (range = £0.08 –78,648.75,  $M = £4,751.96$ , median = £1,006.08,  $SD = 9,812.12$ ).

***Total investments.*** Participants reported the total value of their investments, excluding pension plans, at the time of the survey (range = £0-750,000,  $M = £5,399.67$ , median = 0,  $SD = 38,793.63$ ).

***Total debt.*** Participants reported their total outstanding debt from personal loans and credit cards, excluding mortgages and business loans, at the time of the survey (range = £0-100,000,  $M = £2,141.67$ , median = 0,  $SD = 7,208.63$ ).

***Home ownership.*** An indicator variable was created representing whether participants owned their home or not. This was self-reported in the survey ( $n = 156$ , 25.1% homeowners).

**Conscientiousness.** We measured personality with the BFI-10 personality measure (Rammstedt & John, 2007). To examine conscientiousness, participants rated the extent to which two descriptors – “tends to be lazy” and “does a thorough job” – applied to them on a 5-point scale. The two items were positively correlated ( $r(619) = .23, p < 0.001$ ). After reverse-coding the laziness item, the two items were combined these items to form a composite.

**Demographics.** Following previous studies examining money and life satisfaction (e.g., Whillans et al., 2017) we include a number of standard explanatory variables in our analysis. As well as gender, we include both age and age-squared, based on the U-shaped relationship between life satisfaction and age documented in countries worldwide (Blanchflower & Oswald, 2008). We include self-reported employment status as four dummy variables (unemployed = 9.34%, student = 8.86%, retired = 7.73%, employed = 74.07%). We also include whether the participant was in a committed romantic relationship (58.3%).

## Results

**Credit Scores and Life Satisfaction.** Zero-order correlations are provided in Table S1. Credit scores were significantly and positively related to life satisfaction ( $r(621) = 0.14, p < .001$ ). In an OLS linear regression model, after controlling for demographics and financial variables (Table 1), the relationship between life satisfaction and credit scores weakened but remained significant ( $\beta = .10, t(609) = 2.02, p = .043$ ). VIF statistics range from 1.04-2.92<sup>2</sup>, suggesting collinearity is not a problem when we entered all predictors simultaneously in the models.

To demonstrate that credit scores are not simply a proxy for a conscientious personality, we also tested whether credit scores continue to be associated with life satisfaction after controlling for trait conscientiousness. The semipartial correlation of credit scores and life satisfaction ( $r_{\text{semipartial}} = 0.14, p < .001$ ), which represents the correlation after

---

<sup>2</sup> As expected, age and age<sup>2</sup> were the exception; with VIF statistics of 60.3 and 67.2, respectively.

removing the shared variance between credit scores and conscientiousness, is comparable in magnitude, but slightly greater than, the semipartial correlation between conscientiousness and life satisfaction ( $r_{\text{semipartial}} = .12, p = .003$ ).

Table 1

*Results of OLS Linear Regression Models for Credit Score, Financial Variables and Demographics Predicting Satisfaction with Life in Studies 1 and 2.*

Predictor	Study 1					Study 2				
	$\beta$	<i>b</i>	<i>t</i>	95%CI( <i>b</i> )		$\beta$	<i>b</i>	<i>t</i>	95%CI( <i>b</i> )	
Credit Score	0.10*	.01	2.02	0.0003	0.02	0.14***	.003	3.76	0.001	0.004
<u>Financial</u>										
Income	0.12*	.31	2.38	0.06	0.58	0.10*	.003	2.22	0.0004	0.006
Total Savings	0.04	.002	0.97	-0.002	.004	0.04	.0009	1.53	-0.0003	0.002
Investments	0.05	.005	1.29	-0.003	.01	0.02	.0002	0.52	-0.001	0.01
Total Spending	0.0005	.0002	0.01	-0.05	.05	0.12**	.006	2.74	.002	0.01
Total Debt	-0.02	-.009	-0.29	-0.07	.05	-0.04	-.001	-0.90	-.004	0.001
Homeowner	0.07	.69	1.46	-.24	1.62	0.13**	.41	3.35	.65	.17
<u>Demographics</u>										
Age	-0.67*	-.20	-2.47	-.36	-.04	-0.32	-.05	-1.57	-.11	.01
Age <sup>2</sup>	0.55*	.002	2.00	.00004	.004	0.16	.0003	0.78	-.0004	0.001
Male	-0.04	-.32	-0.90	-1.01	.38	0.02	.08	0.77	-.11	0.27
In relationship	0.11*	.91	2.43	.17	1.65	0.25***	.21	6.55	.15	0.28
<u>Employment</u>										
Unemployed	-0.12**	-1.78	-3.03	-2.93	-.63	-0.06†	-.36	-1.78	-.73	0.02
Retired	0.01	.09	0.10	-1.70	1.89	0.06†	.37	1.86	-.02	0.77
Student	0.09*	1.37	2.40	.25	2.49	0.05	.46	1.18	-.31	1.22
Intercept	-	12.68	3.86	6.23	19.14	-	3.79	10.07	3.05	4.53
N			621					767		
R <sup>2</sup>			.10					.22		

Note. †  $p < .01$ , \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ . Standardized ( $\beta$ ) and unstandardized (*b*) coefficients reported. Confidence intervals calculated using and robust standard errors. Financial variables are measured in units of 1000 (£/\$). Financial variables are measured differently in studies 1 and 2 (see Method sections). The reference category for the employment dummy variables was employed (either full or part time).

These results provide initial support for the hypothesis that credit scores are uniquely associated with higher satisfaction with life, and that the strength of this association is comparable to, or even stronger than, other financial characteristics more commonly studied in relation to subjective wellbeing.

## Study 2

We sought to replicate the results of Study 1 using a new sample and additional measures of wellbeing, as well as to examine the psychological mechanisms by which credit scores could shape subjective well-being.

## Method

**Participants and procedure.** We collected data from the United States using Prolific, an online survey platform. As part of the study, participants were directed to a separate commercial website, and asked to provide details (e.g., their address and social security number) to access their credit score<sup>3</sup>. We required participants to have resided in the US for at least 3 years to be eligible for the study. This was designed to ensure participants would have a reliable credit score that could be accessed through the website during the study. In total, we collected data from 813 participants, in exchange for \$2.07 USD. Sample size was determined by a power analysis based on the results of Study 1 (see supplementary materials).

After retrieving their credit score, participants were asked to provide a screen-shot of the webpage and upload an image of this into the survey. Detailed instructions were provided. After the study, a trained research assistant inspected each uploaded image to ensure it was accurate. Only participants who had a verified credit score image were included in our analysis. This left us with a final sample of 767 participants (94.3%) with verified credit score information and for whom we had full information on all study variables (49% female,  $M_{age} = 34.81$  years [range = 18-77],  $SD = 10.55$ ).

---

<sup>3</sup> The website is a popular free resource; with over 75 million US residents having checked their credit score on the website since launch.

**Measures.**

**Credit score.** Participants visited a website providing users with free access to their credit scores. We recorded their credit scores using a screen-shot of this page uploaded by participants (range = 351-849,  $M = 687.50$ , median = 714,  $SD = 102.09$ ).

**Subjective well-being.** We collected multiple measures of subjective well-being, using both affective and cognitive measures. As in Study 1, life satisfaction was assessed with the 5-item Satisfaction with Life Scale. This was measured on a 7-point scale with responses averaged together (range = 1-7,  $M = 4.29$ , median = 4.6,  $SD = 1.56$ ). The scale had excellent internal reliability in this sample ( $\alpha = .93$ ). We also used an additional measure of subjective well-being: "Taking all things together, how happy would you say you are?" (0 = Not at all, 10 = Extremely happy;  $M = 7.35$ ,  $SD = 2.19$ ). We added this question because it is a brief yet well-validated measure used extensively in large-scale survey research.

Positive and negative affect over the previous four weeks was measured through a revised Scale of Positive and Negative Experience. Participants were asked to report how often they had felt: "Enjoyment", "Happiness", "Worry", "Angry", "Sadness" and "Stress" on a 6-point scale. After reverse-scoring negative affect items we summed the six items together (range = 6-36,  $M = 23.10$ , median = 24.0,  $SD = 6.36$ ,  $\alpha = .85$ ). In line with previous research using these measures (Dunn, Aknin, & Norton, 2008), we standardized and averaged all three of these measures to create a composite measure of wellbeing ( $\alpha = 0.88$ ).

**Income.** Income was self-reported by participants' (range = \$0-700,000,  $M = \$40,594.63$ , median = \$30,000,  $SD = \$48,354.29$ ).

**Total spending.** Total spending was self-reported by participants' (range = \$0-500,000,  $M = \$34,916$ , median = \$29,000,  $SD = \$32,613$ ).

**Total savings.** Total savings was self-reported by participants' (range = \$0-1,300,000,  $M = \$19,796.96$ , median = \$2000,  $SD = \$73,794.12$ ).

**Total investments.** Participants reported the total value of their investments, excluding pension plans, at the time of the survey (range = \$0-1,300,000,  $M = \$54,399.67$ , median = \$1000,  $SD = \$153,793.63$ ).

**Total debt.** Participants reported their total outstanding debt, excluding mortgages, at the time of the survey (range = \$0-750,000,  $M = \$24,399.67$ , median = \$5000,  $SD = \$38,793.63$ ).

**Home ownership.** An indicator variable was created representing whether participants owned their home or not. This was self-reported in the survey ( $n = 237$ ; 38.15% homeowners).

**Awareness of credit score.** While credit scores are accessible—taking our participants less than five minutes on average to retrieve them—not everyone is aware of their credit score. For example, in a recent survey of working adults living in the US, more than 30% of respondents reported not knowing their credit score (Hoyt, 2017). Thus, before participants were asked to login and provide their credit score, we asked participants how confident they were in estimating their credit score. They answered on a scale from 1 = low confidence to 7 = high confidence (range = 1-7,  $M = 5.71$ , median = 6,  $SD = 1.47$ ). We expected that for those who were more confident, and thus more aware of their score, we would find a stronger association between credit scores and well-being.

**Demographics.** We used the same demographic variables as in Study 1: age and age<sup>2</sup>, gender, relationship status (40%), and their employment status (unemployed = 9.34%, student = 8.86%, retired = 7.73%, employed = 74.07%).

**Financial Optimism.** Financial optimism was measured with one item from the Gallup World Poll asking participants to respond to the following question: “Looking 10 years in the future, what do you expect your financial situation will be like at that time?” Answers were on a scale from 0 = Worst possible financial situation, to 11 = Best possible financial situation. (range = 1-10,  $M = 8.04$ , median = 8,  $SD = 2.09$ ).

**Locus of Control.** A 6-item measure was used to assess participants' locus of control (Lumpkin, 1985), with participants rating the extent to which they agreed with statements such as "What happens to me is my own doing", on a scale from 1 = Strongly Disagree to 5 = Strongly Agree (range = 1-5,  $M = 3.24$ , median = 3.16,  $SD = .66$ ,  $\alpha = .71$ ).

**Resilience.** The Brief Resilience Scale (BRS; Smith et al., 2008) was used to assess participants' resilience. Participants rated the extent to which they agreed with six statements (e.g., "I tend to bounce back quickly after hard times") on a scale from 1 = Strongly Disagree to 5 = Strongly Agree (range = 1-5,  $M = 3.28$ , median = 3.33,  $SD = .91$ ,  $\alpha = .91$ ).

## Results

**Credit Scores and Subjective Well-being.** Zero-order correlations are provided in Table S2. Credit scores were significantly correlated with each individual measure of well-being (satisfaction with life,  $r(765) = .26$ ,  $p < .001$ ; positive feelings,  $r(765) = .18$ ,  $p < .001$ ; overall happiness,  $r(765) = .19$ ,  $p < .001$ ). These results suggest credit scores are positively associated with evaluative as well as emotional measures of subjective well-being. Credit scores were also significantly correlated with the combined well-being measure (composite measure,  $r(765) = .23$ ,  $p < .001$ ).

Consistent with the results of Study 1, an OLS linear regression model revealed that credit scores were significantly positively related to life satisfaction ( $\beta = .26$ ,  $t(765) = 7.50$ ,  $p < .001$ ). A 1-SD increase in credit-score was associated with an average increase of 2.04 points (6.8%) in life satisfaction. Controlling for demographics and financial variables (see Table 1), credit score remained a significant predictor ( $\beta = .14$ ,  $t(753) = 3.76$ ,  $p < .001$ ). As well as credit scores, significant predictors of life satisfaction in the model include income, spending, home-ownership and relationship status.

**Financial Optimism, Resilience and Locus of Control.** Why are higher credit scores associated with greater subjective well-being? There are several possible routes through which

credit scores could shape happiness. While cross-sectional data limits our ability to make causal inferences, we tested whether the association between credit scores and well-being was statistically mediated through (a) financial optimism, (b) resilience, or (c) locus of control.

Zero-order correlations show that each mediator was significantly positively correlated with subjective wellbeing (financial optimism,  $r(765) = .26, p < .001$ ; resilience,  $r(765) = .18, p < .001$ ; locus of control,  $r(765) = .19, p < .001$ ), but only financial optimism was significantly correlated with credit scores (financial optimism,  $r(765) = .18, p < .001$ ; resilience,  $r(765) = .05, p = .157$ ; locus of control,  $r(765) = -.01, p < .879$ ).

We tested whether the three variables mediated the relationship between credit scores and composite wellbeing by utilizing the PROCESS Multiple Mediation Model 4 (Hayes, 2012). We included financial (income, savings, debt) and demographic (age, age<sup>2</sup>, gender and relationship status) variables as controls. All indirect effects were subjected to bootstrap analyses with 10,000 bootstrap samples and a 95% confidence interval. Our results suggest that financial optimism about the future (*indirect effect* = 0.02 (0.01), 95%CI [0.001, 0.04]) mediates the composite measure of subjective well-being. In contrast, there was no support for mediation through increased resilience (*indirect effect* = -0.001 (0.01), 95%CI [-0.03, 0.03]) or locus of control (*indirect effect* = -0.003 (0.01), 95%CI [-0.01, 0.01]). The results therefore suggest that those with higher credit scores are more optimistic about their financial futures, and this partially explains the association between credit scores and subjective well-being.

**Moderation by Credit Score Awareness.** One way through which credit scores might influence well-being is by changing how a person feels about their financial situation. As described earlier, many individuals do not know their credit score. Therefore, if credit scores directly influence subjective well-being, it is plausible to expect the effect to be stronger in those who are aware of their creditworthiness.

In the survey, the well-being questions were asked before credit scores were obtained by participants, so the well-being scores could not have been influenced directly by a person receiving their credit score information from the website. In an OLS linear regression, with all controls included, awareness and credit scores interact in predicting overall subjective well-being ( $\beta = .11$ ,  $t(753) = 2.85$ ,  $p = .005$ ), with a strong positive relationship between credit scores and wellbeing for those who knew their credit score, and a relatively flat relationship for those who did not know their credit score. The regression model and figure plotting the interaction effect are provided in Table S3 and Figure S4 of the online supplementary materials.

### **General Discussion**

Across two studies, we find that creditworthiness predicts well-being, and the strength of this association was comparable in strength to the effect of income, and greater than the effects of savings and debt. This small-to-medium effect is consistent with research examining financial and psychological variables and life satisfaction (DeNeve & Cooper, 1998).

We consider the psychological mechanisms which might underlie this relationship, finding that people with higher credit scores – controlling for overall financial circumstances – are more optimistic about their future finances, partially explaining why higher credit shapes happiness. While this research cannot establish a causal relationship, the breadth of variables measured allowed us to control for a large number of potential confounds, including a conscientious personality. Furthermore, our finding that a respondent's awareness of their credit score moderated the relationship with well-being provides further support to a causal relationship between the two variables.

Our findings have implications for the study and promotion of well-being. While many individuals believe that increasing their income or total wealth would improve their

happiness (Donnelly, Zheng, Haisley & Norton, 2018), they may benefit to a greater extent by engaging in behaviors that improve their creditworthiness. Similarly, policy interventions which influence credit scores, such as legislation dictating the length of time negative behaviors remain on a credit report, may also have a broader impact on well-being. Indeed, differences in consumer credit policy may explain the stronger association we find in the US as compared to the UK. Future research should examine these relationships using longitudinal designs. Together, our results suggest that creditworthiness may plausibly influence well-being, either directly or indirectly, meaning that interventions to improve creditworthiness could improve consumer welfare.

### References

- Bernerth, J. B., Taylor, S. G., Walker, H. J., & Whitman, D. S. (2012). An empirical investigation of dispositional antecedents and performance-related outcomes of credit scores. *Journal of Applied Psychology, 97*(2), 469.
- Blanchflower, D. G., & Oswald, A. J. (2008). Is well-being U-shaped over the life cycle? *Social science & medicine, 66*(8), 1733-1749.
- Brockett, P. L., & Golden, L. L. (2007). Biological and psychobehavioral correlates of credit scores and automobile insurance losses: Toward an explication of why credit scoring works. *Journal of Risk and Insurance, 74*(1), 23-63.
- DeNeve, K.M., & Cooper, H. (1998). The happy personality: A meta-analysis of 137 personality traits and subjective well-being. *Psychological bulletin, 124*(2), 197.
- Diener, E. D., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of personality assessment, 49*(1), 71-75.
- Donnelly, G. E., Zheng, T., Haisley, E., & Norton, M. I. (2018). The Amount and Source of Millionaires' Wealth (Moderately) Predict Their Happiness. *Personality and Social Psychology Bulletin, 0146167217744766*.
- Dunn, E. W., Aknin, L. B., & Norton, M. I. (2008). Spending money on others promotes happiness. *Science, 319*(5870), 1687-1688.
- Gallo, L. C., & Matthews, K. A. (2003). Understanding the association between socioeconomic status and physical health: do negative emotions play a role?. *Psychological bulletin, 129*(1), 10.
- Hayes, A. F. (2012). PROCESS: A versatile computational tool for observed variable mediation, moderation, and conditional process modeling.
- Hayes, N., & Joseph, S. (2003). Big 5 correlates of three measures of subjective well-being. *Personality and Individual differences, 34*(4), 723-727.

- Headey, B., Muffels, R., & Wooden, M. (2008). Money does not buy happiness: Or does it? A reassessment based on the combined effects of wealth, income and consumption. *Social Indicators Research*, 87(1), 65-82.
- Hoyt, J. (2018, April 18). Many Americans Don't Know Their Credit Score. Retrieved April 29, 2018, from <https://www.moneytips.com/many-americans-do-not-know-their-credit-score/921>
- Lumpkin, J. R. (1985). Validity of a brief locus of control scale for survey research. *Psychological Reports*, 57(2), 655-659.
- Matz, S. C., Gladstone, J. J., & Stillwell, D. (2016). Money buys happiness when spending fits our personality. *Psychological science*, 27(5), 715-725.
- Rammstedt, B., & John, O. P. (2007). Measuring personality in one minute or less: A 10-item short version of the Big Five Inventory in English and German. *Journal of research in Personality*, 41(1), 203-212.
- Scheier, M. F., & Carver, C. S. (1992). Effects of optimism on psychological and physical well-being: Theoretical overview and empirical update. *Cognitive therapy and research*, 16(2), 201-228.
- Smith, B. W., Dalen, J., Wiggins, K., Tooley, E., Christopher, P., & Bernard, J. (2008). The brief resilience scale: assessing the ability to bounce back. *International journal of behavioral medicine*, 15(3), 194-200.
- Stevenson, B., & Wolfers, J. (2013). Subjective well-being and income: Is there any evidence of satiation? *American Economic Review*, 103(3), 598-604.
- Thomas, L., Crook, J., & Edelman, D. (2017). *Credit scoring and its applications* (Vol. 2). Siam.
- Whillans, A. V., Dunn, E. W., Smeets, P., Bекkers, R., & Norton, M. I. (2017). Buying time promotes happiness. *Proceedings of the National Academy of Sciences*, 201706541.

## Supplementary Online Materials

### Power analyses

In Study 1, there was no a priori power analysis, as we aimed to collect as large a sample as possible given the constraints of the research partner. In Study 2, we used a power analysis to inform the collection of data. Using the zero-order correlation coefficient ( $r$ ) as the effect size measure from Study 1 ( $r = 1.55$ ), we calculated that to have .99 power to detect this size of an effect at alpha of .05, we would require a sample size of 755. We therefore aimed to collect a sample size of 800, anticipating some participants may need to be removed from our analysis due to missing data.

### Ethical approval

Study 1 used secondary data from a UK bank, the analysis of this data has previously been granted ethical approval for its use (IRB15-018). Study 2 was primary data collected by the study authors from an online panel. Ethical approval was granted by Harvard College of Arts and Science (IRB17-1670) before data collection began.

### Data Usage

Variables in the dataset reported in Study 1 –but excluding the measure of credit scores –have previously been used to investigate the relationship between spending, personality and life satisfaction (e.g., Matz, Gladstone & Stillwell, 2016).

Table S1

*Means, Standard Deviations, and Correlations for variables used in Study 1 (N= 612)*

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11
1. SWL	3.19	.88	1.00										
2. Credit Score	646.88	42.65	0.15***	1.00									
3. Monthly Income	1,868.74	1641.30	0.14***	0.29***	1.00								
4. Total savings	39,375.53	104843.30	0.10*	0.37***	0.18***	1.00							
5. Investments	5,943.97	40598.55	0.07†	0.11**	0.04	0.20***	1.00						
6. Total Spending	12,939.19	10834.70	0.13**	0.43***	0.70***	0.20***	0.09*	1.00					
7. Total debt	2,141.79	7208.18	0.00	0.02	0.11**	-0.07†	0.02	0.17***	1.00				
8. Homeowner	0.25	0.43	0.12**	0.45***	0.25***	0.24***	0.21***	0.35***	0.11**	1.00			
9. Age	35.86	14.58	-0.01	0.41***	0.25***	0.31***	0.13**	0.28***	0.04	0.43***	1.00		
10. Male	0.47	0.50	-0.06	0.05	0.02	0.06	0.05	0.01	0.00	0.05	0.13**	1.00	
11. In relationship	0.51	0.50	0.10*	0.15***	0.20***	0.04	0.05	0.25***	0.10*	0.23***	0.21***	-0.01	1.00

Table S2  
*Means, Standard Deviations, and Correlations for variables used in Study 2 (N= 768)*

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Composite	.003	0.90	1													
2. SWL	4.29	1.57	0.9***	1												
3. Positive Feelings	-4.90	6.36	0.86***	0.61***	1											
4. Happiness	7.35	2.21	0.94***	0.82***	0.71***	1										
5. Credit Score	179.76	87.75	0.23***	0.26***	0.18***	0.19***	1									
6. Income	40,541.78	48354.94	0.25***	0.25***	0.19***	0.23***	0.3***	1								
7. Total savings	19,796.62	73921.79	0.16***	0.15***	0.14***	0.13***	0.22***	0.27***	1							
8. Investments	54,402.94	153749.00	0.18***	0.18***	0.16***	0.13***	0.32***	0.3***	0.41***	1						
9. Total Spending	34,881.81	32636.67	0.24***	0.28***	0.13***	0.22***	0.23***	0.42***	0.16***	0.22***	1					
10. Total debt	24,148.81	52237.75	0.01	0.01	0	0.02	-0.01	0.08*	0	-0.06	0.16***	1				
11. Homeowner	1.38	0.49	0.26***	0.27***	0.18***	0.25***	0.24***	0.27***	0.17***	0.28***	0.34***	0	1			
12. Age	17.78	10.52	0.07+	0	0.12***	0.06	-0.02	0.09**	0.1**	0.22***	0.13***	-0.06	-0.31***	1		
13. Male	1.52	0.52	-0.05	0.02	-0.13***	-0.02	-0.1	-0.16***	-0.1**	-0.05	-0.01	-0.03	0.02	0.02	1	
14. In relationship	3.50	1.87	0.27***	0.29***	0.16***	0.29***	0.04	0.14***	0.07*	0.18***	0.29***	0.08*	-0.36***	0.37***	0.14***	1

Table S3

*OLS Regression Predicting Composite Wellbeing. The model shows that awareness of credit scores moderates the effect of credit score on wellbeing.*

Predictor	Wellbeing				
	$\beta$	<i>b</i>	<i>t</i>	95%CI( <i>b</i> )	
Credit Score	0.11†	0.001	2.65	0.0003	0.002
Credit Awareness	-0.13	-0.113	-1.58	-0.25	0.03
Credit Score x Awareness	0.23**	0.001	3.1	0.0004	0.002
<u>Financial</u>					
Income	0.10**	0.002	2.85	0.0006	0.003
Total Savings	0.04	0.0005	1.34	-0.0002	0.001
Investments	0.00	0.00002	0.11	-0.0004	0.0004
Total Spending	0.07†	0.002	1.93	-0.00003	0.004
Total Debt	-0.04	-0.001	-0.89	-0.002	0.0007
Homeowner	0.11**	0.205	2.91	0.07	0.34
<u>Demographics</u>					
Age	-0.19	-0.016	-0.95	-0.05	0.02
Age <sup>2</sup>	0.11	0.0001	0.56	-0.0003	0.001
Male	-0.04	-0.065	-1.13	-0.18	0.05
In relationship	0.23***	0.111	5.7	0.07	0.15
<u>Employment</u>					
Unemployed	-0.08†	-0.23	-1.94	-0.47	0.003
Retired	0.03	0.10	0.92	-0.12	0.33
Student	0.03	0.17	0.69	-0.32	0.66
Intercept	-	-0.77	-5.13	-1.06	-0.48
N			768		
R <sup>2</sup>			.19		



Figure S4. Awareness of credit scores moderates the relationship between credit scores and wellbeing. Awareness of credit score plotted as  $\pm 1$  SD on confidence the participant knew their credit score.