

## Money May Buy Happiness, but Often So Little That It Doesn't Matter

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Whether money buys happiness or not is a question of enduring individual and societal interest that has justifiably attracted considerable attention from researchers across the social sciences (Clark, Frijters, & Shields, 2008; Kahneman & Deaton, 2010). Consistently, research points toward a weak relationship between money and happiness (Lucas & Dyrenforth, 2006), which has led many researchers to conclude that people will have to go beyond focusing on money in order to improve their lives (Diener & Seligman, 2004). However, one interesting research stream suggests that the weak relationship between money and happiness arises because people do not spend their money wisely (Dunn, Gilbert, & Wilson, 2011). The implication is that more money would translate into greater happiness if people spent it “right”; for example, on experiences rather than possessions (Van Boven & Gilovich, 2003) or on other people rather than themselves (Dunn, Aknin, & Norton, 2008).

In line with this interesting and influential research stream, Matz, Gladstone, and Stillwell (2016) drew on a rich data set of more than 76,000 bank transactions ( $N = 625$  bank customers recruited from 150,000 invited to participate) to examine whether individuals who spend on goods that match their personality are more satisfied than those who do not. They then followed up with a study showing that students ( $N = 79$ ) randomly assigned to spend a voucher at an establishment in line with their personality had higher levels of happiness than those assigned to spend the voucher at a location opposite to their personality. Their finding is important in that it further highlights the potential role of personality in moderating the influence of income and spending on well-being (Boyce, Wood, & Ferguson, 2016; Soto & Luhmann, 2013). However, the extent to which Matz et al. (2016) provided evidence that spending more money can buy

happiness if it is spent “right,” as implied by the article, is overstated.

In Study 1, Matz et al. showed that people spent more money on personality-matched products (see their Table 2) and that such people have marginally higher life satisfaction (see their Table 3). However, it is impossible to link the two analyses because the second stage did not include the actual amount spent on personality-matched products. It therefore cannot be inferred that if money is spent “right,” there would be a stronger relationship between levels of consumption and well-being or that the findings offer a “contrast to decades of research reporting surprisingly weak relationships between consumption and happiness” (Matz et al., 2016, p. 715). To evaluate whether support existed for this key idea, it would have been necessary to examine whether the relationship between total spending and life satisfaction was moderated by the strength of the match between the buyers’ personalities and their purchases. Crucially, Matz et al. did not do this.

Instead, the authors pointed to potential gains in life satisfaction associated with personality-matched purchases irrespective of the amount spent. To show this, the authors calculated the difference between the personality  $z$  scores of the participant ( $i$ ) and  $z$  scores of the personality profile of the participant’s shopping basket ( $b$ ). They then rescaled this measure so that higher scores indicated a greater match between a participant’s personality and his or her basket personality:

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basket-participant match<sub>*i,b*</sub> =

$$\text{mean} - \sqrt{(z(O_i) - z(O_b))^2 + \dots + (z(N_i) - z(N_b))^2},$$

where O and N refer to openness to experience and neuroticism, respectively.

However, it is not clear whether this somewhat complex matching variable captures meaningful variation in personality-matched purchasing. For example, participant and basket personality scores appear to have been very weakly correlated (average  $r = .05$ , as shown in Table S2 in Matz et al.'s Supplemental Material available online), which suggests that few people tend to make purchases that closely match their personality. This led us to speculate that the only statistically significant link between personality-matched spending and life satisfaction presented in Matz et al.'s article (Model 1, Table 3) could have been driven by participant personality, which is known to relate to well-being (Diener & Lucas, 1999).

Although we do not have access to the sensitive banking data used by Matz et al., we could generate a basket-participant match variable for which participant and basket personality scores were similarly uncorrelated. We did this by matching randomly generated personality profiles for a participant's shopping basket to real personality data from participants in the English Longitudinal Study of Ageing (ELSA). We randomly selected a sample of equivalent size ( $N = 625$ ) to Matz et al.'s sample out of a possible 7,990 ELSA participants who answered all questions on life satisfaction, personality, and household income in Wave 5. We then used Matz et al.'s formula to calculate the basket-participant match. We repeated our randomization procedure 1,000 times for both the partial sample and the full sample from ELSA to gauge the likelihood of detecting a spurious effect where one would not be expected. The results of our analyses are shown in Table 1. We observed that greater basket-participant match more positively predicted life satisfaction ( $\beta = 0.11$ ), as in the findings of Matz et al. (Model 1, Table 3). We found statistical significance ( $p < .05$ ) in 80.3% of our replications and 100% of replications when the full ELSA sample was used. While this analysis does not disprove the results of Matz et al., it highlights that it is difficult to precisely gauge what the matching variable used in the study was assessing, given that a similar pattern of results can be found when personality scores for purchases are randomly generated.

Nevertheless, even if the results are taken at face value, they appear to show that attempting to spend one's way to happiness would "buy" so little well-being as to be largely irrelevant to people's lives. Standardized effect sizes were not provided, yet the  $R^2$  values in Matz et al.'s

**Table 1.** Average Results From 1,000 Random Repetitions of the Multiple Linear Regression Analyses Predicting Life Satisfaction

Predictor	$\beta$
Basket-participant match	0.11* (0.04)
Household income (log)	0.25* (0.06)
Gender	-0.05 (0.08)
Age	0.00 (0.00)

Note: The basket-participant match was significant in 80.3% of random draws in the partial sample ( $N = 625$ ), whereas it was significant in 100% of random draws in the full sample ( $N = 7,990$ ). Standard errors are given in parentheses.

\* $p < .01$ .

Table 3 suggest that the extent to which an individual spends in line with his or her personality explains less than 1% of the variance in life satisfaction. Income typically explains at best 4% (Lucas & Dyrenforth, 2006) and given that consumption expenditures are as important to life satisfaction as income (Headey, Muffels, & Wooden, 2008), Matz et al.'s results do not support the implication that the relationship is of meaningful magnitude. Thus, although money may buy happiness through consumption, the conclusion should be, unless clearly demonstrated otherwise, that it buys so little it does not matter.

In contrast to this work, other research has identified several areas in which money may matter to well-being. For example, income can help alleviate the psychological distress from poverty (Weich & Lewis, 1998) and indebtedness (Gathergood, 2012). Further, low income rank appears to adversely influence well-being (Boyce, Brown, & Moore, 2010), as does losing income (Boyce, Wood, Banks, Clark, & Brown, 2013), particularly for people who value economic outcomes greatly (Boyce et al., 2016). However, even the magnitude of these robust effects tends to be dwarfed by the importance (as indexed by standardized effect sizes) of other factors, such as relationships (Powdthavee, 2008), stable employment (McKee-Ryan, Song, Wanberg, & Kinicki, 2005), and mental and physical health (Layard, Clark, Cornaglia, Powdthavee, & Vernoit, 2014). Personality itself, irrespective of any interactive effect, has long been regarded as one of the strongest predictors of happiness (Diener & Lucas, 1999). Indeed, Matz et al. showed in their Table 3 that the main effects of neuroticism and extraversion are both far more important than any other variable in the study.

Given that Matz et al. showed the relative unimportance of consumption in providing people with greater happiness, regardless of how one's money is spent, a concern arises when it is implied that a consumption-based society can be a key route to greater happiness for all. Materialism is associated with less happiness (Dittmar, Bond, Hurst, & Kasser, 2014), and there is a danger that

if academics encourage people to pursue consumption with the hope of obtaining greater happiness, then individuals and policy makers may sacrifice pursuing other things that are more important to happiness than consumption.

### Action Editor

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### Author Contributions

All of the authors developed the idea and arguments behind the manuscript. C. J. Boyce and M. Daly drafted the manuscript, carried out the analysis, and revised the manuscript with critical input from H. O. Hounkpatin and A. M. Wood. All authors approved the final version of the manuscript for submission.

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The authors declared that they had no conflicts of interest with respect to their authorship or the publication of this article.

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