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Money Buys Happiness When Spending Fits Our Personality

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Abstract

In contrast to decades of research reporting surprisingly weak relationships between consumption and happiness, recent findings suggest that money can indeed increase happiness if it is spent the "right way" (e.g., on experiences or on other people). Drawing on the concept of psychological fit, we extend this research by arguing that individual differences play a central role in determining the "right" type of spending to increase well-being. In a field study using more than 76,000 bank-transaction records, we found that individuals spend more on products that match their personality, and that people whose purchases better match their personality report higher levels of life satisfaction. This effect of psychological fit on happiness was stronger than the effect of individuals' total income or the effect of their total spending. A follow-up study showed a causal effect: Personality-matched spending increased positive affect. In summary, when spending matches the buyer's personality, it appears that money can indeed buy happiness.

Keywords

happiness, consumption, self-congruity, psychological fit, Big Five personality

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Above a low baseline, money is reported to have a surprisingly weak relationship with overall well-being (Diener & Biswas-Diener, 2002; Kahneman & Deaton, 2010). However, some researchers have begun to question this conclusion, arguing that if money does not buy happiness, it is because people "probably aren't spending it right" (Dunn, Gilbert, & Wilson, 2011). These studies suggest that spending can indeed lead to increased well-being if it is directed at experiences rather than material goods (Carter & Gilovich, 2010; Howell & Hill, 2009; Van Boven & Gilovich, 2003), buying goods or services for other people as opposed to oneself (Dunn, Aknin, & Norton, 2013), and obtaining many small pleasures as opposed to a few large ones (Nelson & Meyvis, 2008).

However, recent research suggests that these relationships do not hold universally, as individual differences moderate at least some of them (Hill & Howell, 2014; Millar & Thomas, 2009; Zhang, Howell, Caprariello, & Guevarra, 2014). For example, while experiential purchases consistently result in greater happiness for experiential buyers, the effect is smaller or nonexistent for material buyers (Zhang et al., 2014). Similarly, spending more on other people does not increase happiness for buyers whose values do not emphasize a concern for others (Hill & Howell, 2014). These findings highlight the need to understand the effect of spending on happiness at the individual rather than the group level.

As the focus shifts away from identifying types of spending that increase people's happiness and toward finding types of spending that help increase an *individual's* happiness, psychological theory offers a valuable point of reference. Years of research show that people's preferences across a large variety of domains are driven by a relatively stable set of psychological characteristics: their personality (Ozer & Benet-Martínez, 2006). The Big Five model is the most widely accepted personality model (Goldberg, 1992; McCrae & John, 1992). It posits the five personality traits of openness to experience (artistic vs. conservative), conscientiousness (self-controlled vs. easygoing), extraversion (outgoing vs. reserved), agreeableness (compassionate vs.

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antagonistic), and neuroticism (emotionally unstable vs. stable).

Individuals have consistently been found to favor people and environments that match their personality traits, with those who experience better psychological fit also reporting higher levels of well-being and overall life satisfaction (Assouline & Meir, 1987; Carli, Ganley, & Piercy-Otay, 1991; Jokela, Bleidorn, Lamb, Gosling, & Rentfrow, 2015). This is because psychological fit helps individuals to act in line with their most fundamental needs and preferences as well as to express themselves in a way that maintains and enhances their self-concepts (Grubb & Grathwohl, 1967; Lecky, 1945; Levy, 1959). Surrounding oneself with like-minded artists or living in a culturally "hip" area full of bars and art galleries, for example, helps an artistic person act on his or her preferences and reinforces that person's self-concept of being a "creative and open-minded individual."

Consumer psychology and marketing research suggests that the theory of psychological fit can also be applied to consumption, as spending on products and services constitutes a form of self-expression. While some spending is essential to fulfill basic needs, such as food and shelter, discretionary spending beyond this baseline often reflects who people are as individuals. People buy products not only for what they can do but also for what they mean to them (Levy, 1959). Parts of this symbolic meaning are captured by psychological traits: Consumers associate and imbue products and brands with human personality characteristics (Aaker, 1997; Govers & Schoormans, 2005; Huang, Mitchell, & Rosenaum-Elliott, 2012). For example, people perceive *The Wall Street Journal* as competent, while they associate MTV with excitement (Aaker, 1997). Building on the notion of product and brand personality, numerous laboratory studies have shown that consumers indeed report more favorable attitudes, emotions, and behaviors toward brands and products that match their own personality characteristics, compared with brands and products that do not (Aaker, 1999; Govers & Schoormans, 2005; Sirgy, 1985). For example, extraverts may prefer spending that reinforces their preference for social activities (e.g., eating out with friends). As extraverts' momentary happiness is known to increase when they are engaged in activities with other people (Oerlemans & Bakker, 2014), such spending may also help regulate their immediate emotional states and long-term well-being.

In the present research, we proposed that spending provides the greatest increase in happiness and well-being when it is on goods and services that match consumers' personalities. We tested this proposition in two studies. Study 1 used transaction data from 625 United Kingdom (UK) customers of a multinational bank to test whether consumers spend more money on products that more closely match their personality (Hypothesis 1) and whether those consumers whose purchases better fit their personalities report higher levels of life satisfaction (Hypothesis 2). Study 2 tested the implied causality of Hypothesis 2 in a controlled experiment (N = 79) in which individuals were given vouchers to spend on products that either matched or mismatched their personality.

Study 1

Method

Participants and measures. The data set used in Study 1 was collected in collaboration with a UK-based multinational bank in late 2014. Customers of the bank (N = 150,000) were sent a survey link by e-mail asking them to take part in a study. No incentives were offered for taking part in the survey. The survey included the Big Five Inventory-10 (BFI-10) personality questionnaire, which is an established short measure of the Big Five model of personality (Rammstedt & John, 2007), as well as the Satisfaction With Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985).

As part of the survey, participants were asked to consent to their responses being matched with the personal transaction data held by the bank for research purposes. The records encompassed detailed data of all debit transactions from participants' checking accounts over a period of 6 months. Their purchases were automatically grouped by the bank into 112 categories. We excluded categories that did not allow for a meaningful interpretation (e.g., "unallocated" or "services other") or in which there were fewer than 500 transactions in order to reduce the sparsity of the transaction matrix and increase the reliability of results. Using the cutoff of 500 allowed us to reduce the number of categories to a manageable level so they could be rated on their perceived psychological traits, while at the same time retaining a sufficient level of product diversity. We further merged closely related categories (e.g., "medical charities," "children's charities," and "charities other" became "charities"),[1] which resulted in a total of 59 spending categories.

Of the 1,013 people who completed the study, 912 (51% female, 49% male; $\bar{x}$ (age) = 37.2 years, SD = 14.5) agreed to have their survey responses matched with their account records. For reasons of reliability, we included only participants (a) who had completed the full BFI-10 and SWLS; (b) for whom data on income, total spending, age, and gender were available; (c) who had indicated that the account was their main account; and (d) who had transactions for at least 10 of the 59 transaction categories. This left us with 625 participants and 76,863 transactions (63% of the original transactions).

Rating personality traits of spending categories. We recruited 100 workers from Amazon's Mechanical Turk to rate each spending category according to its association with the Big Five personality dimensions. Using the Ten-Item Personality Inventory (Gosling, Rentfrow, & Swann, 2003), we created a 7-point scale for each Big Five personality trait (e.g., for extraversion, the scale ranged from *quiet/reserved*, −3, to *extraverted/outgoing*, 3). For each participant, 30 categories were randomly selected from the pool of 59 categories. Raters received the following instructions:

> On the following pages we are going to show you a number of categories that people can spend their money on (e.g., travel or entertainment). We would like you to think of each category as if it were a person. This may sound unusual, but think of the set of human characteristics associated with each spending category. We're interested in finding out which personality traits or human characteristics come to your mind when you think of a particular spending category. There are no wrong or right answers. (adapted from Aaker, 1997)

Raters' responses were subsequently prompted by the question "If this 'spending category' were a person, how would it best be described?" Personality scores for each of the spending categories were aggregated across respondents, with scores larger than zero indicating products that seemed to be associated with high trait characteristics and scores lower than zero indicating products that seemed to be associated with low trait characteristics. For example, the average extraversion score for the category "books" was −0.82, which suggests that people perceive books to be associated with introversion. Table 1 displays the personality means for each of the 59 spending categories. Intraclass correlation coefficients ranged from .82 to .98, which indicates that interrater agreement was high across all categories.

Results

Hypothesis 1. To test whether consumers spend more money on products that more closely match their personality (Hypothesis 1), we first aggregated the transaction data across 6 months to calculate each participant's total spending in each spending category. In a second step, we *z*-standardized the raw personality scores of participants and products to calculate the relative position of each person and product on all of the Big Five personality traits. An extraversion *z* score of 1, for example, indicates that the participant or product is 1 standard deviation above the average participant or product extraversion score (see Figs. S1 and S2 in the Supplemental Material available online for the distributions of scores). Finally, we calculated the degree of similarity between the *z*-standardized personality scores of a participant *i* and that of a spending category *s* (the *product-participant match*) using euclidean distance, a common measure of similarity (Deza & Deza, 2009). To facilitate the interpretation of results, we subtracted the score from the mean so that higher scores on the matching variable would indicate a better match:

$$\text{product-participant match}_{i,s} = \text{mean} - \sqrt{\left(z(\text{O}_i) - z(\text{O}_s)\right)^2 + \ldots + \left(z(\text{N}_i) - z(\text{N}_s)\right)^2},$$

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

Given that there were multiple observations per participant, we used hierarchical linear modeling with random intercepts (Raudenbusch & Bryk, 2002) to establish the effect of product-participant match on the amount spent. To test the robustness of the effect, we also included control variables that have previously been shown to predict financial behavior and well-being (DeNeve & Cooper, 1998; Diener & Biswas-Diener, 2002): age, gender, income, and overall spending (Model 1), as well as participants' and products' Big Five personality traits (Model 2). All continuous variables were grand-mean centered before being submitted to the analysis. Table S1 in the Supplemental Material displays the zero-order correlations between predictors.

The results reported in Table 2 show that the match between a participant's personality and that of the spending category was a significant predictor of the amount spent. This indicates that, on average, participants spent more money on products that matched their personalities than on products that did not. For example, a participant with an extraversion score in the 84th percentile (1 *SD* above the mean) spent approximately £52 ($77) more each year on "pub nights" than a participant with an extraversion score in the 16th percentile (1 *SD* below the mean). Similarly, a participant with a conscientiousness score in the 84th percentile spent £124 ($183) more annually on "health and fitness" than a participant with a conscientiousness score in the 16th percentile. The effect remained significant even when we controlled for demographic variables (Model 1) and consumers' as well as products' personality (Model 2).

Hypothesis 2. To test whether participants with a better fit between their personalities and their overall purchases reported higher levels of life satisfaction (Hypothesis 2), we calculated the personality profile of a participant's shopping basket by averaging and standardizing the

Table 1. Mean Personality Ratings for Each of the 59 Spending Categories in Study 1

	Big Five trait				
Category	Openness	Conscientiousness	Extraversion	Agreeableness	Neuroticism
Accountants' fees	−1.81	2.02	−1.40	−0.68	−0.62
Advertising services	1.98	0.70	2.04	−0.04	0.34
Airports and duty-free shops	−0.50	0.96	0.34	−0.18	−0.02
Arts and crafts	2.51	0.20	1.05	1.71	−0.46
Bakers and confectioners	1.45	1.59	0.86	1.41	−0.80
Books	1.71	1.92	−0.82	1.53	−1.39
Cable and satellite TV	0.48	0.00	1.29	−0.17	0.14
Car rentals	−0.53	1.39	−0.06	0.31	−0.96
Caravans and camping	1.65	0.60	1.51	1.00	−0.64
Catalogue and bargain stores	−0.34	−0.27	0.35	0.54	−0.21
Charities	−0.35	1.65	0.10	2.31	−1.39
Cinemas	2.30	0.22	1.75	0.71	−0.02
Clothes	0.83	0.44	0.96	0.89	−0.44
Coffee shops	0.89	1.24	0.45	1.79	−1.23
Computers and technology	1.36	2.05	0.28	0.19	−1.00
Confectioners and tobacconists	0.75	0.21	0.77	0.42	−0.06
Days out and tourism	2.19	0.57	2.25	1.10	−0.28
Dental care	−1.25	1.79	−0.59	0.32	−0.59
Department stores	−0.30	1.28	0.70	0.57	−0.62
Digital	1.55	1.05	0.77	0.02	−0.45
Discount stores	−0.17	−0.42	0.32	0.28	0.19
DIY projects	2.22	1.37	1.20	0.98	−0.54
Eating out: pubs	1.35	−0.41	2.22	0.40	0.48
Eating out: restaurants	1.56	0.44	1.74	0.91	−0.39
Entertainment	2.67	−0.43	2.51	0.31	0.49
Family clothes	−0.28	0.43	0.00	1.16	−0.96
Florists	1.69	1.38	1.13	1.87	−0.98
Foreign travel	2.54	0.65	2.15	0.85	−0.11
Gambling	1.55	−2.08	2.33	−1.81	1.98
Gardening	0.59	1.75	−0.73	1.94	−1.59
Gift shops	0.83	0.94	0.55	1.74	−0.94
Hair and beauty	1.91	0.31	1.49	0.85	0.22
Hardware	−0.78	1.73	−0.61	0.04	−1.22
Health and fitness	0.32	2.22	1.29	1.00	−0.93
Health insurance	−1.61	1.52	−1.11	−0.16	−0.50
Home furnishing	0.63	1.48	0.17	1.38	−1.22
Home insurance	−2.05	2.40	−1.46	0.33	−1.48
Hotels	−0.16	1.69	0.31	1.55	−1.63
Information technology	0.93	1.36	0.33	0.15	−0.80
Jewelry	1.60	0.73	1.43	0.96	−0.61
Life insurance	−1.30	2.21	−1.02	1.11	−1.25
Mobile telephone	1.02	1.33	1.65	0.33	−0.13
Motor sports	1.34	0.09	2.32	−0.55	0.82
Music	2.61	0.12	2.33	0.94	0.15
Newsagents	−0.22	0.76	1.06	−0.29	0.12
Pets	1.14	0.08	2.04	1.98	0.24
Photography	2.33	0.69	1.44	1.09	−0.33
Residential mortgages	−2.10	1.98	−1.40	−0.48	−0.85
Shoe shops	0.40	1.19	0.43	0.58	−0.77

(continued)

Table 1. *(continued)*

	Big Five trait				
Category	Openness	Conscientiousness	Extraversion	Agreeableness	Neuroticism
Sports	1.44	1.30	2.24	−0.41	0.77
Stationery	−0.14	1.98	−0.78	1.51	−1.63
Subscriptions	−0.43	1.42	−0.26	0.44	−0.86
Supermarkets	−0.69	1.27	0.51	0.58	−0.73
Takeout food	0.84	−0.07	1.16	0.23	−0.19
Toys and hobbies	2.19	−0.90	1.94	0.78	−0.06
Traffic fines	−2.25	0.91	−0.58	−2.33	1.34
Travel	2.51	0.24	2.37	1.18	−0.20
TV license	−0.17	1.29	0.26	−0.33	−0.39
Unions and subscriptions	−1.04	1.26	0.42	−0.58	0.25

Note: Workers from Amazon's Mechanical Turk rated each spending category according to its association with the Big Five traits of openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism. Ratings were made on a 7-point scale from −3 to +3.

personality scores of all the spending categories for which the participant had made at least one purchase. On the basis of research showing that many small purchases can result in greater happiness than a few large ones (Dunn et al., 2011), we assigned an equal weight to all spending categories rather than weighting them by the amount spent. The personality of participants' shopping baskets therefore reflects the average personality profile of their overall spending, relative to that of the other participants in our sample. For example, if a participant purchased more products perceived to be extraverted (e.g., pubs or motor sports) or less products perceived to be introverted (e.g., gardening or health insurance), then his or her shopping-basket personality will be more extraverted. As with the product-participant match, we subsequently used euclidean distance (Deza &

Table 2. Results From Hierarchical Linear Models Predicting the Log-Transformed Amount Spent in Study 1

	Model 1			Model 2		
Predictor	*b*	95% CI	*t*	*b*	95% CI	*t*
Product-participant match	0.09***	[0.07, 0.12]	6.75	0.03*	[0.01, 0.06]	2.40
Income (log)	0.05	[−0.02, −0.10]	1.62	0.04	[−0.02, 0.10]	1.44
Total spending (log)	0.33***	[0.27, 0.40]	10.96	0.32***	[0.26, 0.38]	10.91
Gender	0.06	[−0.003, 0.12]	1.84	0.02	[−0.04, 0.09]	0.75
Age	0.01***	[0.003, 0.01]	4.50	0.004***	[0.002, 0.01]	3.51
Person						
Openness	—	—	—	0.01	[−0.02, −0.03]	0.49
Conscientiousness	—	—	—	0.02	[−0.01, 0.04]	1.05
Extraversion	—	—	—	−0.02	[−0.05, 0.01]	−1.46
Agreeableness	—	—	—	−0.02	[−0.05, 0.01]	−1.30
Neuroticism	—	—	—	−0.02	[−0.05, 0.01]	−1.08
Product						
Openness	—	—	—	−0.58***	[−0.62, −0.54]	−21.96
Conscientiousness	—	—	—	0.16***	[0.11, 0.22]	6.50
Extraversion	—	—	—	0.91***	[0.85, 0.98]	25.52
Agreeableness	—	—	—	−0.37***	[−0.44, −0.31]	−11.42
Neuroticism	—	—	—	−0.53***	[−0.63, −0.43]	−11.16

Note: The analyses were based on 11,279 observations from 625 participants. Pseudo R^2s were calculated to determine the correlation of fitted versus observed values. The pseudo R^2 for Model 1 was .06 and for Model 2 was .14. CI = confidence interval.
*$p < .05$. ***$p < .001$.

Deza, 2009) to establish the degree of similarity between the personality of a participant *i* and that of his or her shopping basket *b* (*basket-participant match*) and subtracted the score from the mean:

$$\text{basket-participant match}_{i,b} = \text{mean} - \sqrt{\left(z(\mathrm{O}_i) - z(\mathrm{O}_b)\right)^2 + \ldots + \left(z(\mathrm{N}_i) - z(\mathrm{N}_b)\right)^2}$$

In three multiple linear regression analyses, we regressed life satisfaction on the basket-participant match predictor. To be consistent with the previous analysis, we included age, gender, income, and overall spending (Model 1), and participants' as well as products' Big Five personality traits as controls (Model 2). We added the extremity of participants' personality scores (average of absolute Big Five scores) in Model 2 to control for the possibility that participants with more extreme—and thus less normative—personalities might report lower levels of life satisfaction. Table S2 in the Supplemental Material displays the zero-order correlations between predictors.

As hypothesized, the degree of fit between a participant's personality and that of his or her shopping basket was found to be a significant predictor of life satisfaction (see Table 3). Participants who bought products that more closely matched their personalities reported higher satisfaction with their lives, and this effect was stronger than that of total income or total spending. When adding basket personality to the model, we found that the effect of basket-participant match became marginal at an alpha level of .05 (p = .062).[2] This change in significance resulted from a slightly increased standard error of the coefficient estimate (indicated by the larger confidence intervals in Model 2 than in Model 1 for the basket-participant estimate; see Table 3), which might have been caused by the multicollinearity of the additional predictors. While a participant's extraversion and neuroticism levels were found to be significant predictors of life satisfaction, none of the basket-personality main effects reached significance. This indicates that there are no general purchase characteristics that predict a person's level of life satisfaction.

Study 2

Given the correlational nature of the data in Study 1, it is difficult to make causal claims. Although it seems intuitive that spending more money on products that match one's personality results in higher life satisfaction, higher life satisfaction could also result in people recognizing and acting on their needs more successfully. Focusing on the trait of extraversion, which is considered to be more informative in understanding and predicting individual's behavior than other traits (Williams, Munick, Saiz, &

Table 3. Results From Multiple Linear Regression Analyses Predicting Life Satisfaction in Study 1

	Model 1 (df = 618)			Model 2 (df = 607)		
Predictor	*b*	95% CI	*t*	*b*	95% CI	*t*
Basket-participant match	0.06*	[0.003, 0.12]	2.07	0.06	[–0.003, 0.13]	1.87
Income (log)	0.02	[–0.11, 0.15]	0.35	0.04	[–0.08, 0.17]	0.70
Total spending (log)	0.06	[–0.07, 0.20]	0.96	0.02	[–0.11, 0.15]	0.26
Gender	0.03	[–0.11, 0.17]	0.37	–0.02	[–0.17, 0.13]	–0.26
Age	–0.01*	[–0.01, 0.0002]	–2.07	–0.01*	[–0.01, 0.002]	–2.53
Person						
Openness	—	—	—	0.04	[–0.02, 0.10]	1.28
Conscientiousness	—	—	—	< –0.001	[–0.07, 0.07]	–0.01
Extraversion	—	—	—	0.09*	[0.02, 0.16]	2.39
Agreeableness	—	—	—	0.01	[–0.06, 0.07]	0.18
Neuroticism	—	—	—	–0.23***	[–0.30, –0.15]	–6.11
Extremity of personality	—	—	—	0.06	[–0.17, 0.28]	0.51
Product						
Openness	—	—	—	–0.12	[–0.25, 0.02]	–1.72
Conscientiousness	—	—	—	0.08	[–0.04, 0.20]	1.26
Extraversion	—	—	—	0.16	[–0.01, 0.33]	1.82
Agreeableness	—	—	—	0.10	[–0.05, 0.25]	1.36
Neuroticism	—	—	—	0.05	[–0.17, 0.26]	0.42

Note: N = 624 observations. The adjusted R^2 for Model 1 was .01 and for Model 2 was .11. CI = confidence interval.
*p < .05. ***p < .001.

FormyDuval, 1995), we ran a follow-up study to test our causal hypothesis.

Method

Participants. We used the pwr package in R (Champley, 2015) to establish the required sample size for general linear models with the following parameter specifications: 3 degrees of freedom in the numerator, a significance level (α) of .05, power ($1 - \beta$) of .80, and an effect size of .15 (which corresponds to a medium effect size as defined by Cohen, 1988). The recommended sample size was 76. Participants were recruited via university mailing lists. Students who registered their interest were invited to complete a prescreening test, which included the 50-item International Personality Item Pool (Goldberg, 1992). From the 142 respondents, we recruited the 79 individuals in the top and bottom thirds on the extraversion trait to form our extraverted group (n = 36) and introverted group (n = 43), respectively. The z score for the difference in extraversion level for the 79 participants was 1.90, $t(76) = 17.12$, $p < .001$. The average age was 20.65 years; 68% of participants were female, and 32% were male.

Measures and procedure. We randomly allocated £7 (~$10) vouchers for either a bookshop (introverted proxy) or a bar (extraverted proxy) to groups of introverted and extraverted participants, such that participants' personalities either matched or mismatched the personality of the product they were assigned. Participants were unaware of the different conditions: The initial invitation to participate in the study mentioned only "non-monetary compensation in the form of a voucher," and participants were asked not to discuss the study with anyone. The procedure was the same for all participants (see Fig. 1 for visual illustration). Before receiving any information about the study, they were asked to complete a baseline questionnaire (Time 1) that included a measure of affect based on the Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988) with the adjective "happy" added (see Dunn et al., 2013, for a similar approach). They subsequently received a voucher that they were required to spend within the next 2 days. Participants in the bookshop condition had to spend their voucher on a book, and participants in the bar condition had to spend it on an item that could be consumed in the bar.

Immediately after receiving the voucher, participants were asked to complete the second questionnaire (Time 2) with the same PANAS items. Afterward, they were told that there would be two more questionnaires to complete, one (Time 3) after they had cashed the voucher (on the spot at the bar or bookshop, where staff members had been briefed to hand out questionnaires) and another (Time 4) after spending at least 30 min at the bar or reading the book. All questionnaires included the same PANAS items. At Times 2, 3, and 4, the instructions asked participants to complete the questionnaire in consideration of the experience they had just had. Participants who completed all four questionnaires were paid £5 ($7.50). All 79 participants completed questionnaires at Times 1 and 2, 75 completed one at Time 3, and 74 completed one at Time 4 (notably, all dropouts were from mismatching conditions).

Results

The raw means and standard deviations of the four assessment points for each combination of participant personality and product personality are shown in Table S3 in the Supplemental Material. As we were interested in the overall effect of personality-matched spending, we averaged participants' scores across Times 2, 3, and 4 to form a composite happiness measure (overall happiness; see Table S4 and Fig. S5 in the Supplemental Material for

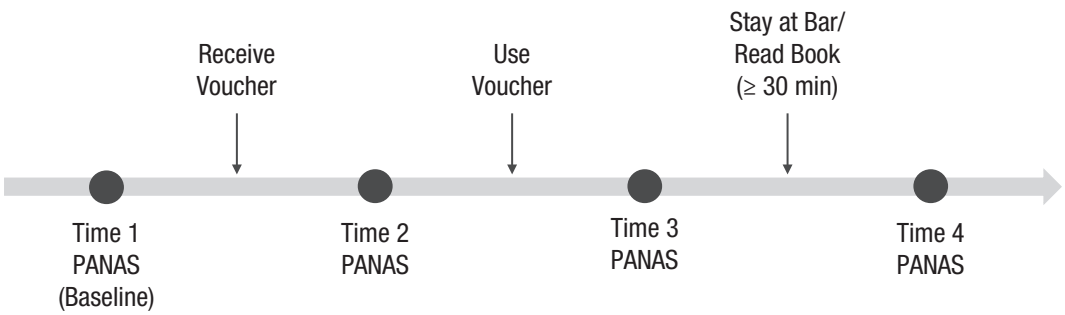

Fig. 1. Timeline for Study 2. Participants received a voucher for either a bookstore or a bar (depending on condition), and they were required to stay at the bar or read the book for at least 30 min. Participants completed the Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988) at each of four time points during the study.

Table 4. Results From the Multiple Linear Regression Predicting Overall Happiness in Study 2

Predictor	*b*	95% CI	*t*
Participant personality	−8.26*	[−14.76, −1.76]	−2.53
Product personality	−11.13***	[−17.49, −4.77]	−3.49
Participant Personality × Product Personality	5.89**	[1.79, 9.96]	2.86
Happiness at Time 1	0.82***	[0.68, 0.95]	12.19

Note: $N = 79$ ($df = 74$). Overall happiness was analyzed using participant personality (extraverted vs. introverted), product personality (extraverted vs. introverted), and their two-way interaction as predictors and happiness score at Time 1 as a covariate. CI = confidence interval.
*$p < .05$. **$p < .01$. ***$p < .001$.

individual results across the three time points). We submitted overall happiness to a linear regression model with participant personality (extraverted vs. introverted), product personality (extraverted vs. introverted), and their two-way interaction as predictors and happiness score at Time 1 as a covariate. The analysis revealed significant main effects of participant and product personality, as well as a significant interaction between participant and product personality (see Table 4), which indicates that personality-matched consumption indeed results in higher levels of happiness.

Figure 2 displays the results for the matching and mismatching conditions in comparison to the baseline assessment (Time 1). While participants' happiness in the matching conditions was significantly above the baseline across all happiness indicators, it remained mostly stable and even decreased in one of the mismatching conditions. This finding suggests that spending on products associated with personality traits that are opposite to people's own personality not only may fail to improve their well-being, but also could even be detrimental to it. The harmful effect of "misfit" is in line with previous research in occupational psychology, which shows that working in an environment with poor psychological fit leads to decreased levels of job satisfaction and increased levels of mental stress (Caplan & Harrison, 1993; Furnham & Schaeffer, 1984). The effects of psychological fit were found to be more pronounced for introverted than for extraverted participants. A possible explanation for this finding is that, compared with introverted people, extraverted people are more positive and optimistic in general (Costa & McCrae, 1980; Marshall, Wortman, Kusulas, Hervig, & Vickers, 1992), which in turn might lead them to consider themselves satisfied with most of the purchases they make. The significant main effects of product personality (overall preference for the book voucher) and participant personality (higher happiness ratings for introverted participants than for extraverted participants) can largely be explained by the two aforementioned interaction patterns: The main effect of product personality was a result of the fact that introverts showed a strong preference for the book voucher, whereas extraverts showed no preference for either product. Similarly, the main effect of participant personality stems from the comparatively large increase in happiness for introverts in the matching book-voucher condition.

Discussion

In line with previous research on the link between psychological fit and well-being (Assouline & Meir, 1987; Carli et al., 1991; Jokela et al., 2015), our results show that individuals' happiness can be increased through the consumption of products that match their psychological characteristics. People spend more money on products that match their personality than on products that do not (Hypothesis 1). Assuming that people intend to buy products that increase their happiness, this finding provides a

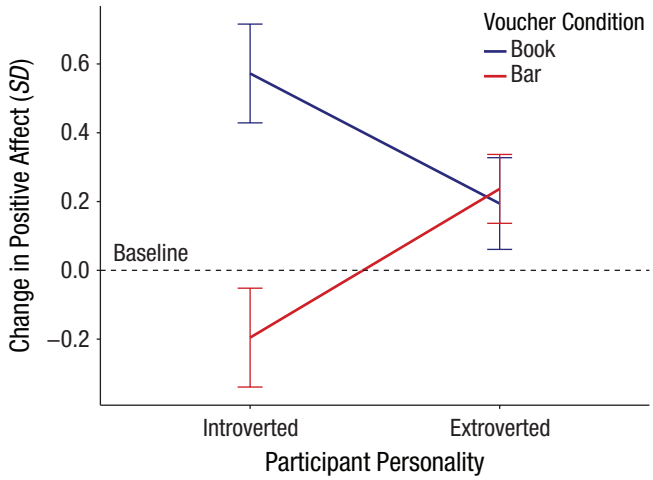

Fig. 2. Results from Study 2: change in participants' positive affect as a function of their personality and the type of voucher they were assigned. Change in positive affect was calculated by subtracting happiness at Time 1 (baseline) from the average of happiness at Times 2 through 4. This change is displayed in Time 1 (baseline assessment) standard-deviation units. Error bars show ±1 *SEM*.

first indication that personality-matched purchases are related to increased life satisfaction. However, because research shows that people often fail to predict the affective outcomes of their consumption decisions accurately (Wilson & Gilbert, 2005), we further supported this hypothesis by showing that people whose purchases better fit their personality indeed report higher levels of life satisfaction (Hypothesis 2). The results of the experimental study suggest that this effect is causal: Personality-matched spending increases happiness. To confirm that this effect was indeed driven by psychological fit rather than by potentially confounding attributes of the two specific purchases (book and bar), future research should replicate our findings using different products.

Our findings contribute to the academic discourse and existing psychological literature in two ways. First, they support recent studies showing that money can indeed increase happiness if it is spent "right." However, by focusing on an individual's rather than on everybody's happiness, our approach provides the opportunity to better understand the underlying mechanisms of when and why spending leads to increased happiness. For example, while previous research suggests that spending money on experiences results in greater happiness than spending money on products (Carter & Gilovich, 2010; Van Boven & Gilovich, 2003), the results of our experimental study suggest a more nuanced picture. Introverted participants reported higher levels of happiness when they received the material good (book) rather than the experience (bar visit). This might be explained by the social interaction commonly linked to experiential spending (Caprariello & Reis, 2013). While extraverted people enjoy social experiences, introverted people might benefit more from material goods or experiences that they can consume on their own. However, given that the book purchase contains both material and experiential aspects (owning and reading the book), future research should replicate this finding more directly. Second, our findings support the literature on self-congruity (Sirgy, 1985). While previous research approximated spending with self-reported purchase intention or history (Aaker, 1999; Huang et al., 2012; Sirgy, 1985), we extracted spending directly from transaction records. In doing so, we were able to overcome the limitations of self-report measures and produce robust results with high external validity.

The difference between the correlational and experimental designs of Studies 1 and 2 makes it necessary to distinguish between descriptive and prescriptive conclusions, respectively. Given the lack of a causal effect, the results of Study 1 should not be taken as the basis for advising people on how to spend their money. Indeed, while the fit between consumers' personalities and that of their shopping baskets significantly predicts their life satisfaction overall, it seems unlikely that introverts would experience the greatest increase in life satisfaction by intentionally spending more on accountant fees or home insurance (products with the lowest extraversion level). However, it is possible that psychological fit acts as a buffer for dissatisfaction when people are forced to spend money on products that are not inherently satisfaction inducing. For example, an introvert might be less negatively affected than an extravert when required to spend money on accountants' fees, thereby driving the overall relationship between psychological fit and life satisfaction. The results of Study 2, however, are causal and can therefore serve as the basis for advising people on how to make spending an aid to the pursuit of a happy life. When people have a choice between two products of similar valence, they should choose the one that best fits their own psychological characteristics.

Our findings have implications that reach far beyond the academic discourse. Prescriptive insights into which products are most likely to increase an individual's happiness, for example, could be used in personalized recommendation systems (e.g., Amazon's "People who bought *X* also bought *Y*"). While such personalization systems are generally profit driven and often perceived by consumers as a manipulative method for companies to increase revenue, our results suggest that personalization systems could also benefit consumers. In the digital environment in particular, where consumers can be overwhelmed by choice (Schwartz & Ward, 2004), retailers may benefit their customers by guiding them toward fitting products. For example, highly agreeable customers could be matched to products that best fulfil their desire to help other people, such as opportunities to donate to charity. Highly conscientious individuals, on the other hand, could be given the opportunity to exercise their self-discipline through fitness products.

Our results raise new questions that should be addressed by future research: Why are some people better at buying fitting products than others? And what are the mechanisms by which psychological fit increases life satisfaction? Although our results suggest that consumers attempt to allocate greater resources to products that match their personality than to products that do not, there were considerable differences in the extent to which consumers' overall expenditure matched their personalities. Follow-up studies should investigate the underlying causes for these differences. For example, individual differences in the tendency for self-reflection and the awareness of one's personal needs (Trapnell & Campbell, 1999) could make some people more successful than others at identifying fitting products. However, the differences could also be driven by factors external to the individual. People with low income, for example, have less money available for discretionary purchases,

and other people might allocate a large proportion of their resources to family members rather than to themselves. Unveiling such mechanisms would improve understanding of when and why personality-matched spending results in increased happiness and satisfaction. Furthermore, future research should investigate the two aforementioned pathways through which psychological fit could affect well-being: as a facilitator of satisfaction or a buffer against dissatisfaction. Much as psychological fit can prevent and reduce stress in the workplace (Furnham & Schaeffer, 1984), it might also help people "cope" with involuntary purchases (e.g., when discretionary spending is restricted because of low income). Distinguishing between the two mechanisms might provide valuable insights into the long-term consequences of personality-matched consumption on psychological and mental well-being.

Taken together, the results suggest that for each individual, there are optimal and suboptimal ways to allocate spending: Purchases that make one person happy might not do so for another. Finding the right products to maintain and enhance one's preferred lifestyle could turn out to be as important to well-being as finding the right job, the right neighborhood, or even the right friends and partners. As the science of happiness becomes more sophisticated, psychology may begin to provide more personalized advice on how to find happiness through consumption.

Action Editor

Leaf Van Boven served as action editor for this article.

Author Contributions

S. C. Matz developed the study concept. All authors contributed to the study design. Testing and data collection were performed by S. C. Matz and J. J. Gladstone. S. C. Matz analyzed and interpreted the data under the supervision of D. Stillwell. S. C. Matz and J. J. Gladstone drafted the manuscript, and D. Stillwell provided critical revisions. All authors approved the final version of the manuscript for submission.

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Declaration of Conflicting Interests

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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Supplemental Material

Additional supporting information can be found at http://pss.sagepub.com/content/by/supplemental-data

Notes

1. The Supplemental Material available online details a replication of the analyses of Studies 1 and 2 with discretionary spending only. Because there were no significant differences between models, we report the results from the full data set here.
2. When analyzing discretionary spending only, the effect of basket-participant match remained significant in Model 2 (see Table S7 in the Supplemental Material).

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