



## When what one has is enough: Mindfulness, financial desire discrepancy, and subjective well-being

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### ABSTRACT

Research has associated financial desire discrepancies (the gap between current and desired states) with poorer subjective well-being (SWB). Because acquiring more wealth appears ineffective in decreasing financial desire discrepancies, we examined whether a theoretically meaningful psychological factor, termed mindfulness, would close the aspiration gap by “wanting what one has,” and thereby enhance SWB. Study 1 revealed that mindfulness was associated with a smaller financial desire discrepancy, which helped explain a positive association between mindfulness and SWB in undergraduates. Two further studies with working adults showed that these results occurred independently of financial status and changes therein. A final, quasi-experimental study with mindfulness trainees extended these findings. Reasons why mindfulness may help to promote the perception of having “enough” are discussed.

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### 1. Introduction

Substantial empirical effort has been devoted to understanding the role of desire in the experience of happiness, or subjective well-being (SWB). Desire is a fundamental quality of human nature, and the literature clearly shows that when people are moving toward, or attain their desires, SWB tends to increase (e.g., Carver & Scheier, 1998). Conversely, when people feel a discrepancy or gap between what they have and what they want, they report lower SWB (Michalos, 1985, 1991).

Michalos' (1985) *multiple discrepancies theory* explains these results by proposing that happiness is inversely related to perceived discrepancies between what one has and various standards, including what one wants (desire discrepancy), the best one had in the past (past comparison discrepancy), and what relevant others have (social comparison discrepancy). Michalos (1985) found that measures of these discrepancies together explained considerable variance in happiness and satisfaction measures (49% and 53%, respectively). Of the major types of standards Michalos described, desire-related standards have been most strongly related to SWB (Lance, Mallard, & Michalos, 1995; Michalos, 1985; Solberg, Diener, Wirtz, Lucas, & Oishi, 2002). The prominence of desire related discrepancies in the prediction of SWB is also consistent with *evaluation theory* (Diener & Biswas-Diener, 2002; Diener & Lucas, 2000), which argues that desires and goals are chronically salient standards that are particularly likely to influence SWB.

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Desire for material wealth and possessions has been a major focus of research, especially as ever-increasing numbers of people around the world have been encouraged to participate in consumer culture and to desire wealth and the material goods and services that wealth provides (Diener & Oishi, 2000; Kasser & Kanner, 2004). The frequent promotion of high standards of wealth and consumption through advertising, media, governmental messages, and other sources may lead people to experience discrepancies between what they have financially and what they want, fostering decrements in subjective well-being. Research indeed suggests that wealth-related desire discrepancies are quite large relative to other major life domains (Solberg, Diener, & Robinson, 2004), and that wealth discrepancies relate negatively to subjective well-being (Solberg et al., 2002).

Given the important role of this “aspiration gap” (Schor, 1999) in SWB, the question arises as to how it can be reduced. The path encouraged by consumer culture and some forms of capitalism is to “get what one wants,” or meet one's standards by obtaining (more) money and wealth (Kasser, Cohn, Kanner, & Ryan, 2007). Yet the available evidence casts doubt on the efficacy of this path, insofar as narrowing one's financial aspiration gap by obtaining more money does little to enhance SWB for most people except the very poor. National surveys in the US generally show a modest

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relation between income and SWB at a single point in time, with correlations in the .10–.24 range (Diener, Sandvik, Seidlitz, & Diener, 1993; Easterlin, 2001b; Lucas, Clark, Georgellis, & Diener, 2004). Further, Diener and Biswas-Diener (2002) concluded that individual-level increases in income have no consistent or long-term effect on SWB. For example, in an analysis of data from four birth cohorts, Easterlin (2001a) showed that increases in income over the life span were not accompanied by improvements in SWB.

A second path to reducing financial discrepancies, then, is to “want what one has” by holding more modest standards (Diener & Oishi, 2000; Myers, 2000; Solberg et al., 2002) and being content that what one has is “enough.” For centuries, philosophers, spiritual teachers, and other scholars have advocated the curbing of desire as a means of enhancing well-being. To date, however, we are aware of only one study that has examined how reducing financial desires might improve SWB: Solberg et al. (2002) presented evidence suggesting that individuals who have more reasonable income desires are more satisfied than those whose desires cannot be fulfilled by their incomes. However, Solberg et al.’s (2002) research was based on hypothetical wealth and material goods scenarios, and in addition the question as to *how* individuals can obtain more reasonable desires was not addressed.

The present investigation examined whether the capacity called *mindfulness* might promote more modest wealth-related desires. Mindfulness refers to a state of receptive attention to present events and experience. While mindfulness varies from moment to moment within a person, considerable evidence also shows stable individual differences in mindfulness, such that those higher in trait mindfulness are more frequently attentive to and aware of their inner experience and behavior, and are more able or willing to perceive internal and external realities openly and without distortion (Brown & Ryan, 2003). Mindfulness is non-deliberative in nature, and unlike “self-awareness” and other forms of reflexive consciousness it concerns simple observation without analyzing, comparing or otherwise evaluating events and experience (e.g., Brown, Ryan, & Creswell, 2007). Instead, mindfulness concerns a non-interference with experience, by allowing inputs to enter awareness in a simple noticing of what is taking place.

Burch (2000) and Rosenberg (2004) suggest several reasons why mindfulness should promote a moderation of desire in general and of wealth-related desires in particular. First, because mindfulness involves being attentive to present-moment experience, it may encourage a savoring of experience, and thereby reduce desires for external pleasures that depend on money and material goods. In fact, Brown and Kasser (2005) showed that mindfulness was related to less emphasis on materialistic values such as wealth, image, and popularity and greater emphasis on intrinsic aspirations (i.e., relationships, community involvement, and personal development) that do not require major material inputs. Second, mindfulness may reduce the susceptibility to consumerist messages, as well as reduce the willingness to seek wealth and other extrinsic ends as a means to self-fulfillment, because the receptive attention to internal states promoted by mindfulness may facilitate attunement to deeper needs and desires. Indeed, mindfulness has been associated with engaging in behavior that is more volitional and self-endorsed rather than behavior that is mobilized by external pressures and conditioning (Brown & Ryan, 2003; Levesque & Brown, 2007). Finally, mindfulness may conduce to a greater acceptance of self and one’s circumstances (e.g., Baer, 2003; Kabat-Zinn, 1994), which may be reflected in a perception that what one has is sufficient.

### 1.1. The present research

Four studies investigated whether dispositional mindfulness promotes smaller wealth-related desire discrepancies, and

whether this path from mindfulness to smaller financial desire discrepancies is associated with higher SWB. In Study 1 we hypothesized that persons higher in trait mindfulness would report both higher SWB and smaller financial desire discrepancies. Second, we hypothesized that lower financial desire discrepancies would be related to higher SWB. Following Michalos (1985), we also tested whether this relation would be stronger than the relations of past and social comparison financial discrepancies to SWB. Third, we hypothesized a significant path leading from trait mindfulness to desire discrepancy to SWB. Notably, because finances represent only one domain of life that mindfulness may beneficially influence, we expected that financial desire discrepancies would only partially mediate the relation between mindfulness and SWB. In Studies 2 and 3, we tested our three hypotheses in American working-age adults using a community sample (Study 2) and a national sample (Study 3). Moreover, we obtained multiple indicators of personal and household financial status, and changes therein, to test whether the associations between mindfulness, financial desire discrepancies, and SWB exist independently of financial standing. Finally, Study 4 used a quasi-experimental design to test if training-related increases in mindfulness were associated with financial desire discrepancy declines and SWB increases, again after controlling for financial status.

## 2. Study 1

### 2.1. Method

#### 2.1.1. Participants

Participants were 221 British undergraduates (172 women, 49 men) who received course credit for participation. The average age was 20.11 years ( $SD = 2.58$ ). Most ( $n = 181$ , 81.9%) were Caucasian, 21 were Indian (9.5%), and the rest self-identified as members of other racial groups.

#### 2.1.2. Procedures and measures

The entire sample completed a battery of self-report measures in a single 1-h session. Among other measures the following assessments were collected for the present study.

#### 2.1.3. Mindfulness

The Mindful Attention Awareness Scale (MAAS; Brown & Ryan, 2003) is a 15-item trait measure assessing the frequency of open attention to and awareness of internal states and external events in the present. Because the items reflect absence of mindfulness, in which higher numbers indicate less endorsement, higher scores on the 0–6 scale (*almost always* to *almost never*) indicate higher mindfulness. Items include, “I find myself preoccupied with the future or the past;” “It seems I am “running on automatic without much awareness of what I’m doing;” “I find myself doing things without paying attention;” “I could be experiencing some emotion and not be conscious of it until some time later;” and “I find myself listening to someone with one ear, doing something else at the same time.” As these items help to illustrate, the MAAS excludes motivational, attitudinal, or well-being concepts that in the present context precluded conceptual or operational overlap with desire discrepancies and subjective well-being. The MAAS has demonstrated reliability and validity in numerous studies (see Brown, Ryan et al., 2007). In this sample, Cronbach’s alpha was .96.

#### 2.1.4. Financial desire, past comparison, and social comparison discrepancies

Two items representing each of these discrepancies were used (Michalos, 1985). To assess desire discrepancy, participants were asked: (1) “Consider your present financial situation in relation to

your wants or goals for yourself. How well does your financial situation right now approach what you want?"; responses were made on a 1–7 scale (*not at all to matches or is better than what I want*); and (2) "Considering your present financial situation, how acceptable to you is the gap between what you have right now and what you want?"; a 1–8 scale followed, with anchors at 1 (*not at all acceptable*), 4 (*fairly acceptable*), 7 (*very acceptable*), and 8 (*there is no gap between what I have and what I want*). These scores were reversed so that higher values reflected larger desire discrepancy.

The two items assessing past comparison financial discrepancy were: (1) "Consider your present financial situation in relation to what it was 3 years ago. How does your financial situation right now compare to what it was 3 years ago?"; responses were again made on a 1–7 scale (*much worse to much better*); and (2) "Considering your present financial situation, how acceptable to you is the gap between what you have right now and what you had 3 years ago?"; a 1–8 scale followed (*not at all acceptable to there is no gap between what I have and what I had before*). Scores were reversed so that higher values reflected a larger past comparison discrepancy.

To assess social comparison financial discrepancy, participants were asked: (1) "Consider your present financial situation in relation to the financial situation of others. How does your financial situation right now compare to the average person your age?"; a 1–7 response scale was used (*much worse to much better*); (2) "Considering your present financial situation, how acceptable to you is the gap between what you have right now and what the average person your age has?"; a 1–8 scale followed (*not at all acceptable to there is no gap between what I have and what others have*). Scores were reversed so that higher values reflected a larger social comparison discrepancy.

The two items representing each discrepancy domain were highly correlated with each other:  $r = .66$  (desire),  $r = .65$  (past comparison), and  $r = .55$  (social comparison), all  $ps < .0001$ . Thus, the two scores for each domain were averaged to form domain scores for further analyses.

### 2.1.5. Subjective well-being

Affective state and life satisfaction are the primary components of SWB (Diener, 1984). Affective state was assessed using the 20-item Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988). An affect balance score was computed by subtracting negative ( $\alpha = .88$ ) from positive affect ( $\alpha = .88$ ) after zero-centering each. Life satisfaction was measured with the 15-item Temporal Satisfaction with Life Scale (TSWLS; Pavot, Diener, & Suh, 1998), which assesses past, present, and expected future life satisfaction (5 items each); these were averaged to form an overall score ( $\alpha = .91$ ). Affect balance and life satisfaction were highly correlated ( $r = .59$ ,  $p < .0001$ ); thus, all analyses used an overall SWB score for each person calculated from the mean of the affect balance and life satisfaction scores (cf., Sheldon, Ryan, Deci, & Kasser, 2004).

## 2.2. Results

Descriptive statistics for, and correlations between, the key study variables are shown in Table 1. Higher mindfulness was related to smaller financial discrepancies of all three types – desire, past comparison, and social comparison. All three types of discrepancies were correlated with SWB, such that individuals with smaller discrepancies had higher SWB. Also, higher mindfulness was related to higher SWB, as in past research (Brown & Kasser, 2005; Brown & Ryan, 2003). No sex differences were found on the dependent variables of interest to this study, so was not considered further.

To determine which of the three discrepancy types was most strongly related to SWB, we performed a standard ordinary least

squares multiple regression after first grand mean-centering each discrepancy score type. The regression model was significant,  $F(3, 220) = 7.13$ ,  $p < .0001$ ,  $R^2 = .09$ . Of the three discrepancy types, only desire discrepancy was significantly related to SWB,  $\beta = .19$ ,  $p < .05$ . As such, we proceeded to test our hypotheses involving desire discrepancy.

The correlations reported in Table 1 indicate that mindfulness is related to smaller financial desire discrepancy and higher SWB, and that smaller desire discrepancy is related to higher SWB. This suggests a mediational path from mindfulness to desire discrepancy to SWB. We tested this by regressing SWB on both mindfulness and desire discrepancy in a standard multiple regression model. The mindfulness – SWB relation dropped from  $\beta = .44$ ,  $p < .0001$  in a simple regression to  $\beta = .40$ ,  $p < .0001$  after entry of desire discrepancy into the model. In this latter model, desire discrepancy remained significantly related to SWB,  $\beta = .20$ ,  $p < .001$ . To determine whether the partial mediation effect of desire discrepancy was significant, we used the  $z'$  and product methods (Mackinnon, Lockwood, Hoffman, West, & Sheets, 2002). Both methods showed that desire discrepancy significantly mediated the mindfulness – SWB relation, ( $z' = 2.16$ ,  $p < .01$ ;  $P = 9.74$ ,  $p < .0001$ ).

## 2.3. Brief discussion

Study 1 provided initial support for our three hypotheses. First, we found that those scoring higher in mindfulness reported a smaller financial desire discrepancy. Next, in accord with past research, financial desire discrepancy was inversely related to SWB (cf., Solberg et al., 2002), and when compared to two other forms of discrepancy (past and social discrepancies), only desire discrepancy showed an independent relation to SWB (cf., Michalos, 1985). Finally, we found a small, significant path from mindfulness to desire discrepancy to SWB.

Study 1 was limited in several ways. First, it focused on college students, whose situation may conduce to a different pattern of financial desire discrepancies than would be seen in working people. Also, we did not collect data on financial status, such as income. If financial status is related to financial desire discrepancy, then the relation between mindfulness and desire discrepancy may disappear when accounting for financial status. Also, if financial status independently predicts SWB, even if only to a small extent (Easterlin, 2001a), it could account for the relation between financial desire discrepancy and SWB. Accordingly, Study 2 was conducted with income-earning adults.

## 3. Study 2

Study 2 examined the robustness of the hypothesized relations between mindfulness, financial desire discrepancy, and SWB in a sample of working adults. We specifically examined whether the association between mindfulness and desire discrepancy found in Study 1 would remain when a variety of objective financial status indicators, and of changes in financial status, were controlled. Additionally, although past research suggests that higher financial standing, and changes therein, may have little role in SWB because wealth-related desire discrepancies remain, with few exceptions (e.g., Stutzer, 2004), research has not formally tested this proposition; we did so in Study 2.

### 3.1. Method

#### 3.1.1. Participants

Participants were 74 adults (55% female) from a mid-size Northeastern US city who met four inclusion criteria: (1) being at least 18 years old; (2) currently working at least 30 h per week

**Table 1**  
Descriptive statistics and intercorrelations among all variables (Study 1).

Measure	1	2	3	4	5
1. Mindfulness	–	.19**	.18**	.22***	.44****
2. Desire discrepancy		–	.56****	.56****	.28***
3. Past comparison discrepancy			–	.51****	.23***
4. Social comparison discrepancy				–	.22***
5. Subjective well-being					–
Mean	3.77	3.27	4.01	4.26	2.65
SD	0.70	1.42	1.62	1.28	1.01

Note:  $N = 221$ .

\*\*  $p < .01$ .

\*\*\*  $p < .001$ .

\*\*\*\*  $p < .0001$ .

in the daytime; (3) being the primary spender of their household's money; and (4) spending money at least three times per week. The latter two criteria were set for purposes of another study (Brown, Kasser, Ryan, & Konow, 2007). The average age was 37.6 years (range = 18 to 62). Most were Caucasian (87.8%). The sample was generally well educated: 73% completed at least some college, and 27% had post-graduate training. More information on this sample can be obtained elsewhere (Brown, Kasser et al., 2007).

### 3.1.2. Procedures and measures

Participants first completed the same measures of mindfulness (MAAS;  $\alpha = .86$ ; Brown & Ryan, 2003), financial desire discrepancy (Michalos, 1985), and life satisfaction (TSWLS  $\alpha = .90$ ; Pavot et al., 1998) used in Study 1. The 9-item (Diener & Emmons, 1984) scale of pleasant and unpleasant affect valence was also completed. Participants reported their emotional state "over the past week" using a 7-point scale (*not at all to extremely*). The sample  $\alpha$ s for pleasant and unpleasant affect were .86 and .78, respectively. Because affect balance and life satisfaction were moderately correlated ( $r = .38$ ,  $p < .001$ ), these variables were combined into an overall SWB score as in Study 1.

Several financial indicators were collected, including: annual personal and household income (open-ended); proportional amount of personal and household income sequestered into savings or investments each month (open-ended); dollar amount of non-mortgage debt (using 11 equally-spaced categories ranging from *none* to *over \$50,000*); and personal net worth, including possessions and financial assets minus debts (using 12 equally spaced categories, ranging from *under \$4,999* to *over \$100,000*). Changes in personal income were assessed with two questions: "How has your personal income changed over the past year?" and "over the past 5 years"; responses were made on a 7-point scale (*decreased substantially to risen substantially*); these questions were also asked regarding household income. The 1- and 5-year income change variables were highly correlated at both personal and household levels (both  $r$ s = .57,  $p < .0001$ ). Because both 1-year income change variables were uncorrelated with the psychological variables in preliminary analyses ( $ps > .05$ ), these variables were not further considered. To preserve statistical power, when individuals were unmarried, not living with a partner, or otherwise not sharing household expenses with another person, personal income was treated as household income; the same was done with proportionate personal and household savings, and changes in household income. Because past research suggests a possible curvilinear relation between income and variables such as SWB (e.g., Diener et al., 1993), logarithmic transformations of both personal and household income were applied to linearize such relations. In total, eight financial status and financial status change indicators were examined.

### 3.2. Results

Preliminary analyses showed no effects of sex or education on the outcomes, so these variables were not further considered. There was a negative correlation between age and financial desire discrepancy ( $r = -.27$ ,  $p < .05$ ), so age was retained in further analyses. The top portion of Table 2 presents the correlations between the psychological variables in this study. Supporting our first two hypotheses, higher mindfulness was related to lower financial desire discrepancy and both higher mindfulness and lower desire discrepancy were related to higher SWB. In this sample of working adults, these correlations were somewhat higher than among the students in Study 1.

The lower portion of Table 2 shows that financial desire discrepancy correlated with several income variables, including log personal and household income, 5-year personal and household income increase, and personal net worth. SWB was also related to household income, and to 5-year personal and household income change (see Table 2). Finally, personal income, and personal and household income increases were positively correlated with mindfulness.

To determine if the relation between mindfulness and desire discrepancy would remain when financial variables were controlled, we regressed desire discrepancy on mindfulness, age, and all relevant financial variables. Due to conceptual overlap between personal and household financial variables, we ran separate regression models for each set. Financial variables included in the personal-level model were personal log income, 5-year income increase, and savings, net worth, and debt. In this model, higher mindfulness was related to lower desire discrepancy ( $\beta = -.27$ ,  $p < .01$ ), as were higher savings and net worth ( $\beta = -.24$ ,  $p < .05$  and  $\beta = -.25$ ,  $p < .05$ , respectively). In the household model, which included household log income, 5-year income increase, and savings, mindfulness and desire discrepancy were significantly related,  $\beta = -.28$ ,  $p < .01$ . Among the control variables, higher age was related to lower financial desire discrepancy ( $\beta = -.28$ ,  $p < .05$ ), as were higher proportional savings and 5-year income increase ( $\beta = -.26$ ,  $p < .01$  and  $\beta = -.21$ ,  $p < .05$ , respectively). No other predictors were significant,  $ps > .05$ .

The next set of models tested hypothesized relations with SWB. In a model regressing SWB on mindfulness, desire discrepancy, and relevant personal financial variables, only mindfulness ( $\beta = .34$ ,  $p < .005$ ) and discrepancy ( $\beta = -.30$ ,  $p < .05$ ) were significant predictors. In the household-level model which regressed SWB on mindfulness, desire discrepancy, and relevant financial variables, only mindfulness ( $\beta = .34$ ,  $p < .005$ ) and desire discrepancy ( $\beta = -.25$ ,  $p < .05$ ) were significant predictors. We next tested our proposed mediation model, and, as in Study 1, found that tests of mediation ( $z'$  and  $P$ ) of the mindfulness – SWB relation by desire discrepancy were significant, even after controlling for the finan-

**Table 2**  
Descriptive statistics and correlations between psychological and financial variables (Study 2).

Study measures	Psychological variables			Mean	SD
	Mindfulness	Desire discrepancy	SWB		
<i>Psychological variables</i>					
Mindfulness	–			3.98	0.66
Desire discrepancy	–.44****	–		4.51	1.73
SWB	.50****	–.46****	–	2.82	1.17
<i>Financial variables</i>					
<i>Personal income</i>					
Log (\$)	.24*	–.23*	.20	33681.39	19330.10
Change, past 5 years	.28*	–.24*	.25*	5.53	1.36
<i>Household income</i>					
Log (\$)	.20	–.32**	.30**	47228.23	27587.44
Change, past 5 years	.31**	–.30**	.26*	5.43	1.48
Savings, personal income proportional	.18	–.32**	.21	0.12	0.12
Savings, household income proportional	.12	–.21	.07	0.09	0.09
Net worth, personal	.15	–.44****	.15	40892.86	36129.13
Debt, personal	–.14	–.12	.01	15439.19	15797.08

Note.  $N = 74$ . The means and standard deviations for the log income variables are reported using raw (untransformed) income data.

\*  $p < .05$ .  
\*\*  $p < .01$ .  
\*\*\*\*  $p < .0001$ .

cial variables in both personal and household level models, all  $ps < .01$ .

### 3.3. Brief discussion

Study 2 showed that the association between mindfulness and lower financial desire discrepancy remained significant after controlling for a number of demographic and financial variables. This is important given that several financial variables were also related to a smaller financial aspiration gap. Further, results showed that controlling for numerous financial variables did not affect the mediational path from mindfulness to financial desire discrepancy to SWB.

The fact that mindfulness was significantly related to higher income and to a greater increase in income over time raises the possibility that the smaller financial aspiration gap reported by more mindful people may be because they have been more successful in reaching financial goals. However, neither income level nor income change were consistently related to financial desire discrepancy in regression analyses, weakening the likelihood that the relation between mindfulness and desire discrepancy was due to financial success.

The results of Study 2 support the argument that mindfulness conduces to a smaller financial desire discrepancy independent of one's financial standing, with positive consequences for SWB. However, these results were based on a relatively small sample of working adults drawn from one US metropolitan area. To examine whether the primary results of this study would replicate in a larger, more geographically representative sample of US residents, a third study was conducted. To test the robustness of the findings, Study 3 also used a different measure of financial desire discrepancy from that used in the two previous studies.

## 4. Study 3

### 4.1. Method

#### 4.1.1. Participants

Participants were 200 adults ( $n = 131$  female) who were part of a national survey study (see Brown & Kasser, 2005 for details). Their average age was 44 years ( $SD = 13.23$ ). The sample was fairly well educated, with 25.5% having some college education, 30.5%

holding a college degree, and 21.5% holding a postgraduate degree. Most participants (90%) were Caucasian.

#### 4.1.2. Measures

As in Studies 1 and 2, mindfulness was assessed using the MAAS (sample  $\alpha = .86$ ; Brown & Ryan, 2003). As in Study 2, pleasant affect valence ( $\alpha = .86$ ) and unpleasant affect valence ( $\alpha = .91$ ) were assessed using the Diener and Emmons (1984) measure. Life satisfaction was again measured using the TSWLS ( $\alpha = .92$ ; Pavot et al., 1998). Affect balance and life satisfaction were moderately correlated ( $r = .50$ ,  $p < .001$ ), so again these were combined into an SWB score.

To assess financial desire discrepancy, subjects completed a 30-item version of the Aspiration Index (e.g., Kasser & Ryan, 1993), in which the personal importance and current attainment of 6 aspiration types are rated on a 5-point scale (*not at all* to *extremely*). Here, we used the 5-item subscales of financial success importance ( $\alpha = .82$ ) and attainment ( $\alpha = .85$ ) to assess financial desire discrepancy by subtracting (after centering) the averaged attainment score from the averaged importance score. Higher scores reflected greater importance placed on wealth than what had been currently attained, and thus a larger aspiration gap or desire discrepancy. In this sample, wealth importance was rated higher ( $M = 2.56$ ,  $SD = 0.78$ ) than wealth achievement ( $M = 2.39$ ,  $SD = 0.78$ ).

Two financial status indicators were collected: annual personal and household income (open-ended); for all analyses, logarithmic transformed personal and household income variables were used. As in Study 2, changes in personal and household income were each assessed with two questions varying in the time frame specified ("over the past year" and "over the past 5 years") using a 1–7 scale. Unlike Study 2, 1-year and 5-year income change variables were not highly correlated ( $r = .39$ ,  $p < .0001$  and  $r = .42$ ,  $p < .0001$  for personal and household levels, respectively), so both were retained for analyses. As in Study 2, when individuals were unmarried, not living with a partner, or otherwise not sharing household expenses with another person, personal income and income change were treated as household income and income change, respectively.

### 4.2. Results

Preliminary analyses showed no effects of gender or education level on the outcome variables, so these were not further consid-

ered. As in Study 2, older individuals reported a smaller financial desire discrepancy ( $r = -.38, p < .0001$ ) so age was retained for further analyses. The top portion of Table 3 presents the correlations between the psychological variables in this study. As in Studies 1 and 2, individuals scoring higher in mindfulness reported a smaller financial desire discrepancy and higher SWB. A smaller financial desire discrepancy was also related to higher SWB.

The lower portion of Table 3 shows that log personal and household income were significantly inversely correlated with financial desire discrepancy. These income variables were also positively related to SWB, as was a 1-year increase in personal income, and 1-year and 5-year increases in household income. Mindfulness was not related to the financial status or status change variables.

To test whether the significant relations between mindfulness, financial desire discrepancy and SWB would remain when age and all income variables (see Table 3) were controlled, we tested separate personal and household level multiple regression models. In the prediction of financial desire discrepancy, mindfulness was significant in both personal level and household level models,  $ps < .05$ . Age was also significantly related to desire discrepancy,  $ps < .0001$  in both models. One-year personal income increase and 5-year household income increase were related to lower desire discrepancy (both  $ps < .05$ ). No other predictors were significant in these two models,  $ps > .05$ .

Turning to the SWB-related hypotheses, we regressed this variable on mindfulness, financial desire discrepancy, and all income variables. In the personal level model, only mindfulness ( $\beta = .39, p < .0001$ ) and financial desire discrepancy ( $\beta = -.24, p < .0005$ ) were significantly related to SWB. Tests of mediation of the mindfulness – SWB relation by desire discrepancy were significant after controlling for the income variables,  $z' = 2.04, p < .01$  and  $P = 9.09, p < .01$ . In the household level model, mindfulness ( $\beta = .40, p < .0001$ ) and financial desire discrepancy ( $\beta = -.25, p < .0001$ ) were highly significant predictors. One-year income change was also significantly related to SWB,  $\beta = .15, p < .05$ . Tests of mediation of the mindfulness – SWB relation by desire discrepancy were significant after controlling for all income variables,  $z' = 2.04, p < .01$  and  $P = 9.66, p < .0001$ .

#### 4.3. Brief discussion

Replicating the results of study 2, study 3 showed that mindfulness was linked with lower financial desire discrepancy even after

controlling for demographic and financial variables. Also in accord with the previous findings, the partial mediation pathway from mindfulness to financial desire discrepancy to SWB remained significant in all analyses after accounting for the effects of personal and household income status, and changes therein.

## 5. Study 4

Studies 1, 2, and 3 suggest that mindfulness relates to smaller financial desire discrepancies, helping to explain why more mindful individuals report higher SWB. Studies 2 and 3 demonstrate that these associations are not explained by individuals' financial circumstances. Doubt remains, however, about whether mindfulness actually carries responsibility for a lower financial desire discrepancy and higher SWB, given that all three studies used cross-sectional designs. A final, quasi-experimental study was therefore conducted to examine whether enhancements in mindfulness brought on by training can promote improvements in SWB, and if they do, whether this relation is accounted for, at least in part, through a reduction in financial desire discrepancies. As before, demographic and income indicators were controlled.

### 5.1. Method

#### 5.1.1. Participants

Participants ( $N = 69$ ) were attendees at one of two 4-week residential mindfulness meditation trainings held in Northern California. Recruitment was done by mail and in person at the training site. Of the 39 participants who began the study in training group A, 36 (92%) completed all assessments. In training group B, 33 of 38 (87%) participants completed the study. For each complete assessment packet returned, \$5 was donated to the site's training scholarship fund.

Most participants were female (71%) and Caucasian (84%). The age of participants ranged from 27 to 76 years ( $M = 53.3$ ). They were well-educated, with most participants reporting college (39%) or graduate degree (49%) completion. Participants' previous meditation experience varied widely from 2 to 31 years ( $M = 13.5, SD = 8.9$ ). Groups A and B did not differ on any demographic, economic, practice, or training expectancy variables, all  $ps > .05$ . Preliminary analyses showed no sex or ethnicity effects on the outcomes (all  $ps > .05$ ) so these variables are not further considered.

**Table 3**  
Descriptive statistics and correlations between psychological and financial variables (Study 3).

Study measures	Psychological variables			Mean	SD
	Mindfulness	Desire discrepancy	SWB		
<i>Psychological variables</i>					
Mindfulness	–			4.22	0.63
Desire discrepancy	–.18**	–		0.17	0.96
SWB	.43****	–.33****	–	2.91	1.46
<i>Financial variables</i>					
Personal income					
Log (\$)	.12	–.14*	.16*	41653.40	30154.27
Change, past year	–.03	–.12	.18**	4.15	1.23
Change, past 5 years	–.08	–.04	.12	4.71	1.71
Household income					
Log (\$)	–.01	–.19**	.17*	69504.19	44413.14
Change, past year	.00	–.01	.23****	4.30	1.34
Change, past 5 years	–.05	–.03	.18**	4.92	1.65

Note:  $N = 200$ . The means and standard deviations for the log income variables are reported using raw (untransformed) income data.

\*  $p < .05$ .

\*\*  $p < .01$ .

\*\*\*  $p < .001$ .

\*\*\*\*  $p < .0001$ .

5.1.2. Study design

The study used a matched control quasi-experimental design of the following form:

Group A	O <sub>1A</sub>	X	O <sub>2A</sub>		O <sub>3A</sub>	
Group B	O <sub>1B</sub>		O <sub>2B</sub>	X	O <sub>3B</sub>	O <sub>4B</sub>

The Os represent assessment points, each one month apart, for the two training groups. Identical assessments of mindfulness, desire discrepancy, and SWB were distributed by mail or in person at the training site and returned in stamped, self-addressed envelopes at each time point. The Xs represent the two training periods. Group A completed measures within two weeks prior to their training (pre-test; O<sub>1A</sub>) and then completed measures at post-test (O<sub>2A</sub>), and at a one-month follow-up point (O<sub>3A</sub>). Group B began the training one month after group A, and for this one-month pre-training interval served as a wait-list, pre-test (O<sub>1B</sub>) to post-test (O<sub>2B</sub>) control group for the first set of analyses of mindfulness training effects. Group B also completed measures post-training (O<sub>3B</sub>) and at a one-month follow-up point (O<sub>4B</sub>), providing a second sample to test the questions of this study. Although Group B completed 4 assessments and group A only 3 assessments, preliminary analyses showed no significant group differences on the mindfulness, discrepancy, and SWB measures at each relevant point of comparison for these analyses: pre-test (O<sub>1A</sub> vs. O<sub>2B</sub>), post-test (O<sub>2A</sub> vs. O<sub>3B</sub>), and follow-up (O<sub>3A</sub> vs. O<sub>4B</sub>). Therefore analyses based on pre-test to follow-up changes used both groups combined.

5.1.3. Mindfulness training

All attendees followed a structured schedule of mindfulness meditation practice (10–12 h/day), interspersed with didactic instruction and other activities, including exercise and work. The schedule for both retreats was almost identical. Training focused on mindfulness of kinesthetic sensations, emotions, thoughts, and other psychological states.

5.1.4. Measures

5.1.4.1. Demographic, economic, and training characteristics. Measures of age, sex, ethnicity, and education level were administered

at pre-test, as were open-ended measures of personal and household income, and scaled questions on income change over 1 and 5 years; these income change variables were not highly correlated ( $r = .31, p < .01$  and  $r = .27, p < .05$  for personal and household levels, respectively) so both were retained for analyses. History of meditation training was assessed with one item: “How many months or years have you been practicing meditation with some regularity?” Training expectations were assessed with one item on a 1 (*not at all*) to 10 (*extremely*) scale: “How much do you believe this month-long retreat will benefit you?”

5.1.4.2. Psychological variables. The MAAS measure of trait mindfulness was again administered ( $\alpha = .91$ ). In addition, subjects also completed the Freiburg Mindfulness Inventory (FMI; Walach, Buchheld, Buttenmuller, Kleinknecht, & Schmidt, 2006;  $\alpha = .89$ ), which is designed for individuals with mindfulness training. This 14-item trait measure uses a 4-point Likert scale (*rarely to almost always*); items include, “When I notice an absence of mind, I gently return to the experience of the here and now.” The same measures of financial desire discrepancy and affect (pleasant and unpleasant affect  $\alpha$ 's = .88 and .83, respectively) used in Studies 1 and 2 were administered. The 5-item Satisfaction With Life Scale ( $\alpha = .78$ ; Diener, Emmons, Larsen, & Griffin, 1985) was used to again form an SWB composite with affect balance.

5.2. Results

Preliminary analyses showed that age, practice history, and training expectations were related to one or more outcomes of interest ( $ps < .05$ ) so we retained these pre-test variables for the primary analyses. The top portion of Table 4 presents the correlations between the psychological variables. Replicating the three previous studies, higher mindfulness (FMI) was related to smaller financial desire discrepancy and higher SWB, and smaller financial desire discrepancy was related to higher SWB. Higher income and income increases were related to lower desire discrepancy.

Descriptive statistics on the three psychological variables at each time point are displayed in Table 5, as are general linear model results on changes in each variable over the pre-test to follow-up period. These analyses revealed that mindfulness and SWB

**Table 4**  
Descriptive statistics and correlations between psychological and financial variables (Study 4).

Study measures	Psychological variables				Mean	SD
	Mindfulness		Desire discrepancy	SWB		
	MAAS	FMI				
<i>Psychological variables</i>						
Mindfulness (MAAS)	–				3.89	0.59
Mindfulness (FMI)	.62****	–			2.79	0.47
Desire discrepancy	–.15	–.25*	–		3.13	1.58
SWB	.40***	.57****	–.35**	–	2.48	1.42
<i>Financial variables</i>						
<i>Personal income</i>						
Log (\$)	–.08	.03	–.38***	–.02	63074.24	80144.32
Change, past year	.12	.22*	–.46****	.32**	4.04	1.38
Change, past 5 years	–.07	.02	–.45****	.20	4.16	1.77
<i>Household income</i>						
Log (\$)	.00	.08	–.27*	.02	92127.42	100602.48
Change, past year	.26*	.34**	–.20	.18	4.00	1.25
Change, past 5 years	.02	.01	–.35**	.10	4.19	1.69

Note: N = 69. MAAS = Mindful Attention Awareness Scale; FMI = Freiburg Mindfulness Inventory. All descriptive statistics are for time 1. The means and standard deviations for the log income variables are reported using raw (untransformed) income data.

\*  $p < .05$ .  
 \*\*  $p < .01$ .  
 \*\*\*  $p < .001$ .  
 \*\*\*\*  $p < .0001$ .

**Table 5**  
Mean (and SD) values at pre-test, post-test, and follow-up time points for both samples combined (Study 4).

Variable	Pre-test	Post-test	Follow-up	<i>d</i>	<i>p</i> <sub>time</sub>
Mindfulness, MAAS	3.89 (0.59) <sup>a</sup>	4.47 (0.74) <sup>b</sup>	4.47 (0.51) <sup>b</sup>	1.05	.0001
Mindfulness, FMI	2.79 (0.47) <sup>a</sup>	3.25 (0.37) <sup>b</sup>	3.10 (0.41) <sup>c</sup>	0.70	.0001
Desire discrepancy	3.13 (1.58) <sup>a</sup>	2.88 (1.54) <sup>b</sup>	2.95 (1.50) <sup>b</sup>	0.12	.06
Subjective well-being	2.48 (1.42) <sup>a</sup>	2.77 (1.07) <sup>a</sup>	2.83 (1.00) <sup>a</sup>	0.29	.05

Notes: *N* = 69. The *p*<sub>time</sub> column shows significance levels for the main effect of time in GLM analyses. Desire discrepancy results shown are from the model controlling for personal income variables. Superscripts with different letters designate adjacent mean scores differing at *p* < .05 or less. MAAS = Mindful Attention Awareness Scale; FMI = Freiburg Mindfulness Inventory.

increased significantly, while desire discrepancy marginally declined over the study period in models controlling for both personal and household income, as well as demographic and training effects. Post-hoc *t*-tests showed that all variables except SWB changed significantly in expected directions from pre- to post-training, and for most measures, scores were stable from post-training to follow-up. The effect sizes of the pre-training to follow-up changes (Cohen's *d*) ranged from small (desire discrepancy) to large (mindfulness).

To examine the relation of mindfulness training to a decline in desire discrepancy, a 2 (group) × 2 (time) mixed factorial ANOVA compared changes from pre- to post-training among Group A participants relative to Group B participants, who served as controls over the initial one-month interval. The group × time interaction was non-significant (*p* < .20 and *p* < .24 in the personal- and household-level income models, respectively) indicating that mindfulness training was not related to desire discrepancy change over the training interval. Because this null finding may be due to variations in how much participants' experienced enhancements in mindfulness, we examined whether changes in mindfulness were related to changes in desire discrepancy and SWB. To this end, we analysed data over the pre-training to follow-up period for groups A and B combined (i.e., *O*<sub>1A</sub> to *O*<sub>3A</sub> and *O*<sub>2B</sub> to *O*<sub>4B</sub>, respectively). The form of the hierarchical regression analysis was as follows:

Var 1 follow-up score = Var 1 pre-training score + Var 2 pre-training score + Var 2 follow-up score.

With pre-training scores on Var 1 and Var 2 entered in steps 1 and 2, we focused on the relation of the Var 2 follow-up score to the Var 1 follow-up score (step 3); this described whether change in one variable (e.g., mindfulness) was related to change in another variable (e.g., discrepancy). Preliminary analyses showed that of the demographic, economic, and other baseline variables, only age related to any of the variables (namely, desire discrepancy), so we retained age for further analyses.

We ran separate regression models testing the role of each mindfulness predictor (MAAS and FMI). The MAAS model showed that increases in mindfulness predicted residual declines in desire discrepancy,  $\beta = .18, p < .05$ . Older individuals showed a larger discrepancy decline,  $\beta = .17, p < .05$ . The results of the FMI model were almost identical (mindfulness  $\beta = .19, p < .05$ ; age  $\beta = .17, p < .01$ ). Simple regression showed that desire discrepancy decline was related to SWB increase,  $\beta = .48, p < .05$ . To test whether desire discrepancy helped to mediate the relation between increases in mindfulness and SWB, we regressed the latter variable on both mindfulness and desire discrepancy. Tests of mediation (*z'* and *P*) were significant in both the MAAS and FMI models, all *ps* < .05. In both models, the effect of mindfulness remained significant (MAAS  $\beta = .34, p < .01$ ; FMI  $\beta = .45, p < .001$ ), indicating that desire discrepancy decline partially mediated the mindfulness – SWB relation. Finally, we note that when regression analyses were done using residual change scores for each psychological variable (e.g., Cohen & Cohen, 1983), the results were very similar to those reported.

### 5.3. Brief discussion

This quasi-experimental study found that mindfulness training did not in itself predict change in financial desire discrepancy. However, mindfulness, desire discrepancy, and SWB all changed significantly over the 2-month study, and training-related increases in mindfulness, as assessed by two measures, were related to declines in financial desire discrepancy over this period. Further, declines in desire discrepancy were related to increases in SWB over the same time period, and these discrepancy declines helped to explain the relation between increases in mindfulness and increases in SWB. Concerns about the generalizability of these findings, given that the two groups in this study were above-average in socioeconomic status and meditation history, may be allayed by noting that their baseline psychological scores were comparable to those seen in Studies 1–3 (see Tables 1–3).

## 6. General discussion

In the realm of finances and wealth, past research has suggested that “getting what one wants” by pursuing and attaining material desires may do little to enhance SWB. The present research therefore investigated whether the psychological capacity of mindfulness might help close this perceived aspiration gap by helping people to “want what one has.” Further, we examined whether smaller financial desire gaps might be one reason that mindfulness is related to higher SWB.

Replicating past research (e.g., Michalos, 1985), the first study, conducted with British college students, revealed that higher mindfulness was related to a smaller financial desire discrepancy and greater SWB, and that a smaller desire discrepancy was related to higher SWB. Further, there was a significant mediational pathway from mindfulness to financial desire discrepancy to SWB. Study 2, sampling American working adults, replicated these results and showed that personal and household economic status did not account for or qualify the relations between mindfulness, smaller financial desire gaps, and SWB. Study 2 also found no support for the alternative hypothesis that the reason more mindful people have lower discrepancies is because they are more successful at attaining their financial goals; instead, the results suggested that they are more content with what they have. Study 3 replicated the primary results of both of the previous studies using a different measure of financial desire discrepancy in a larger sample of adults drawn from across the US. Finally, Study 4 showed that to the extent that a training regimen helped increase individuals' mindfulness, financial desire discrepancies decreased and SWB increased; further, the relation between increases in mindfulness and increases in SWB was partially explained by declines in financial desire discrepancy. Once again, these relations were not explained by economic status or recent economic status changes.

To our knowledge, the present studies represent the first empirical investigation of an inner capacity to lessen financial desires,

with concomitant benefits for SWB. Future research will need to explore in further detail why mindfulness yields this effect. It may be that mindfulness helps regulate financial desires because this capacity strengthens tendencies to savor present experience and to embrace a value structure that places intrinsic goals before extrinsic, materialistic goals (Brown & Kasser, 2005). Mindfulness may also relate to a greater acceptance of one's circumstances (e.g., Baer, 2003) or help people recognize how much wealth is necessary to optimize their SWB.

Evidence from the present studies also provides some basis for recommending the enhancement of mindfulness as a means of moderating people's financial desires. Insofar as mindfulness can be developed through training (cf., Shapiro, Brown, & Biegel, 2007), the results of Study 4 suggest that this may help individuals with large financial aspiration gaps become more accepting of their current financial state and thereby help to foster well-being.

### 6.1. Limitations and future research

This research focused on students and working adults. Our samples were fairly well educated and the adults were on average middle class, as assessed by income. As such, it is unclear if these findings will replicate among poorer, or less well-educated individuals, for whom economic status is more important to SWB (Diener & Biswas-Diener, 2002). Future research on mindfulness and financial desires could be extended to such individuals, and could also explore whether mindfulness, in regulating financial desires, facilitates or hinders personal striving for economic betterment.

This research was also limited by its non-experimental nature. These correlational studies do not preclude the possibility that smaller desire discrepancies or higher SWB could lead to higher mindfulness or that other, unexamined variables may influence both financial desire discrepancies and mindfulness. Study 4 in this series comes closest to permitting directional inferences, as the training specifically focused on mindfulness. But even there, the training atmosphere may have led to higher SWB, leading to higher mindfulness. Yet both theory and past research indicates that trait mindfulness leads to well-being (e.g., Broderick, 2005; Brown & Ryan, 2003), as do lower desire discrepancies (e.g., Higgins, 1999). Also, it is more likely that a disposition (mindfulness) will lead to a state of desire discrepancy than the reverse. But experimental research is needed to test the claim that mindfulness changes are causally prior to desire discrepancy and SWB changes.

Another limitation was that our tests of the mindfulness – SWB association did not control for personality traits with known relations to SWB, especially neuroticism and extraversion (Diener, Suh, Lucas, & Smith, 1999). However, trait mindfulness has been correlated with SWB and a variety of other psychological well-being variables after controlling for the effects of these two traits (Brown & Ryan, 2003), which supports the validity of the present findings.

It is also worth noting that while all four studies indicated that mindfulness is reliably associated with greater SWB by “wanting what one has,” this path offers only a partial account of the relations between mindfulness and SWB. The well-being benefits of mindfulness may be further explored by examining its role in multiple types of desire discrepancy within major life domains where a “gap” can be experienced, including relationships, occupation, and health. Research into both mindfulness and desire discrepancy could also be extended to other outcomes beyond SWB. For example, more mindful people or those with smaller desire discrepancies may show less consumption (Rosenberg, 2004), an outcome tied to environmental deterioration (Worldwatch Institute, 2007). Research on mindfulness could also be extended to forms of desire such as craving and addiction that have powerful effects on personal and collective well-being.

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