

Time Affluence as a Path toward Personal Happiness and Ethical Business Practice: Empirical Evidence from Four Studies

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ABSTRACT. Many business practices focus on maximizing material affluence, or wealth, despite the fact that a growing empirical literature casts doubt on whether money can buy happiness. We therefore propose that businesses consider the possibility of “time affluence” as an alternative model for improving employee well-being and ethical business practice. Across four studies, results consistently showed that, even after controlling for material affluence, the experience of time affluence was positively related to subjective well-being. Studies 3 and 4 further demonstrated that the experience of mindfulness and the satisfaction of psychological needs partially mediated the positive associations between time affluence and well-being. Future research directions and implications for ethical business practices are discussed.

KEY WORDS: Subjective well-being, time, business ethics, wealth

Introduction

The idea that material affluence brings happiness and signifies success is fundamental to the ideology of capitalistic, consumer-based economies (Kasser et al., 2007). Advertisements entice us to purchase goods and services associated with symbols of love, competence, and joy; governments develop policies designed to maximize national economic growth; and businesses strive for profit and reward their workers with financial bonuses and raises.

However, empirical tests of the association between material affluence and quality of life do not support the idea that “money buys happiness.” For example, a recent review concludes that, among economically developed nations, personal wealth is only slightly positively correlated with happiness

and economic growth does not typically improve national well-being over time (Diener and Seligman, 2004). Other research demonstrates that financial rewards can diminish individuals’ intrinsic motivation (Deci et al., 1999) and that for people oriented toward the intrinsic satisfactions of work, high incomes are associated with lower subjective well-being and job satisfaction (Malka and Chatman, 2003). Studies also show that individuals who strongly value goals for wealth and possessions report lower personal well-being (see Kasser et al., 2006, for a review relevant to business ethics).

As noted in the mission statement of this journal, ethics involves “all human action aimed at securing a good life.” If ethical businesses attempt to “secure the good life” by striving to support the happiness and satisfaction of their employees, then the findings just reviewed raise important questions about how best to create an ethical business culture. For example, given that increases in wealth are not associated with increases in happiness, is it ethical for a business to single-mindedly pursue profit? Given that financial rewards can undermine the intrinsic motivation and enjoyment that comes from pursuing activities (including work activities), is it ethical for companies to reward employees primarily with financial raises and bonuses? Also, given that people experience lower well-being when they strongly value materialistic goals, is it ethical to follow the recommendations of those thinkers who suggest that companies place pay at the center of their business culture and celebrate competition and wealth (e.g., Lawler, 2000; Pfeffer, 1998)?

Questions like these suggest that it may be worthwhile to develop alternative models of “affluence” to supplement the current materialistic model. For

this reason, the current article empirically explores whether “time affluence” might benefit people’s well-being and thus be a promising model for improving both employee well-being and ethical business practice. We have four reasons for believing that time affluence holds promise in this regard.

First, there are many conceptual similarities between time and money, suggesting that individuals may resonate to the idea of applying an “affluence” model to time. For example, people talk of time and money in similar ways: We “save,” “spend,” and “waste” both. Further, like money, time is a limited resource - we have only 24 hours a day and 365 days a year until we die. Also like money, some people are wealthy and some poor with regard to time, as, across economically developed nations, large disparities exist with regard to time affluence; consider that while U.S. citizens work on average almost 1900 hours per year, those in Norway and the Netherlands are closer to 1400 (Hayden, 2003).¹

Beyond the conceptual similarities between time and money, several strands of psychological theory suggest that time affluence might be an important predictor of subjective well-being (SWB). For one, time is the “stuff” needed to have the experiential activities that Lyubomirsky et al. (2005) claim account for approximately 50% of the variance in SWB. Similarly, time is necessary to engage in activities that promote personal growth, connection with others, and community involvement, three sets of activities that typically enhance SWB (Kasser, 2002). Time poverty can also lead to cognitive overload and feelings of pressure that may interrupt one’s ability to be present in the moment (Brown and Ryan, 2003) and experience “flow” (Csikszentmihalyi, 1999), both of which facilitate happiness.

Some empirical research also points to the idea that time affluence may bring happiness. For example, Kasser and Brown (2003) reported that work hours were negatively correlated with life satisfaction in a sample of adults. Van Boven and Gilovich (2003) also found that people are happier with experiential than material purchases; the former of course require time to consume. In addition, chapters in de Graaf (2003) suggest that time poverty can impinge on people’s happiness by lowering physical health, civic engagement, and family involvement.

A final reason why time affluence might hold promise as a way of improving happiness is that many people want more free time. As reviewed by Hayden (2003), most European nations have reduced yearly work hours in response to popular demand; workers in Denmark even went on strike in 1998 to demand a sixth week of vacation! Perennially over-worked Americans also seem to desire more time: A 2003 nationally representative survey of 500 U.S. adults found that approximately two-thirds feel too much pressure to work and that 52% would be willing to forego a day’s pay per week if they could work one less day per week (Americans Eager, n.d.).

The present studies

In order to more directly test the potential benefits of time affluence for subjective well-being, we conducted four studies. Our basic hypothesis throughout was that, when considered alongside material affluence (MA), time affluence (TA) would also significantly relate to SWB. Importantly, we are *not* predicting that TA is a *stronger* predictor of SWB than is MA, but rather that TA *also* relates to people’s well-being. We also explore in each study whether MA and TA interact in the prediction of SWB and whether either has a curvilinear relationship with SWB; we make no hypotheses in this regard, however.

Study 1 provides an initial examination of our hypotheses with a large archival sample of adults. In Study 2, we develop a self-report measure to assess the subjective experiences of time and material affluence, and also examine whether time affluence may benefit only certain people. Then, in Studies 3 and 4, we test two potential pathways by which TA might contribute to enhanced SWB.

Study 1

Method

Participants and procedures

Study 1 employed data from the “Millennium/Microsoft” poll, conducted in July 1999 by the New York Times organization. The poll used random

TABLE I
Sample characteristics in the four studies

	Study 1	Study 2	Study 3	Study 4
N	1178	80	106	145
% Male	41.1	37.2	36.8	36.0
Mean Age (SD)	46.9 (17.1)	43.3 (14.7)	19.6 (1.3)	43.3 (14.2)
% Caucasian	83.1	90	83.0	81.0

digit dialing to sample people from all regions, ages and classes within the United States. The initial dataset contained 1178 participants representing every state; see Table I for sample characteristics.

Measures

Material and time affluence. Material affluence was assessed by asking participants if their total family income is less than \$15,000, between \$15,000 and \$30,000, between \$30,000 and \$50,000, between \$50,000 and \$75,000, or over \$75,000 per year; 96 participants did not respond to the income question. Time affluence was assessed by a single item: "Some people have said that it is harder these days to get enough time for oneself – by that I mean peace and quiet with time alone with one's thoughts. Is it harder these days for you to get enough time for yourself, or easier, or has there been no change?" Income and this time affluence item were significantly negatively correlated, $r = -.12$, $p < .01$.

Subjective well-being. We assessed subjective well-being with measures of family and job satisfaction, which Diener (1984) notes are specific domains highly relevant to SWB. Participants were asked "How satisfied are you with the relationship you have with your immediate family?" and "How satisfied are you with your job?," responding to both items on a "very dissatisfied" to "very satisfied" scale. Scattered missing data occurred for the family satisfaction item and only 798 responses were available for the job-satisfaction item because it was posed only to those who indicated current employment.

Results

In order to test our primary hypotheses, we conducted two analyses in which each well-being variable was

simultaneously regressed upon income and subjective feelings of time affluence; this statistical procedure allowed us to test the unique, independent association between a predictor and an outcome after controlling for the other predictor. As can be seen in Table II, analyses indicated that income related positively to both job and family satisfaction. Supporting our hypothesis, feelings of time affluence also related positively to both job and family satisfaction.

There was not a significant interaction between income and time affluence in the prediction of either satisfaction variable (both $ps > .25$). No curvilinear relationships were evident for time affluence ($ps > .60$), but income had a curvilinear relationship with both outcomes, such that the positive effects of income on job satisfaction ($\beta = -.48$, $p < .05$) and family satisfaction ($\beta = -.26$, $p < .10$) became weaker as individuals became more materially affluent. Said differently, at low levels of income, increases in income improved well-being, but at higher levels of income, equivalent increases in income did not improve well-being as much; this finding is consistent with many past studies (Diener and Seligman, 2004).

Study 2

Study 1 demonstrated in a large, national sample of adults that time affluence is positively associated with SWB, even after controlling for the effects of income. Study 2 built on these findings in three ways. First, we included the standard triumvirate of measures (Diener, 1984) typically used to assess SWB: General life satisfaction, positive affect, and negative affect. Second, we developed a multi-item survey to assess the subjective experiences of material and time affluence, as opposed to relying on the single-item measures used

TABLE II
Simultaneous regressions of well-being on measures of material and time affluence

	Study 1		Study 2	Study 3	Study 4
	Job satisfaction	Family satisfaction	Subjective well-being	Subjective well-being	Subjective well-being
Income β	.15*	.08*	.22+		.21*
Time β	.09*	.07*	-.20		-.20*
R^2	.026	.009	.069		.072
F	$F_{(2,746)} = 9.96^{**}$	$F_{(2,1059)} = 4.63$	$F_{(2, 65)} = 2.40+$		$F_{(2,127)} = 4.94^{**}$
MA β			.51**	.06	.42**
TA β			.24*	.39***	.32**
R^2			38.1%	16.2%	36.7%
F			$F_{(2,75)} = 23.10^{**}$	$F_{(2, 103)} = 9.93^{**}$	$F_{(2,132)} = 38.19^{**}$

Note. + $p < .10$, * $p < .05$, ** $p < .01$.

in Study 1. Specifically, we created a survey instrument that more directly assesses different aspects of individuals' subjective experience of material and time affluence; given the parallel conceptions of time and money discussed above, we endeavored to use similarly worded items (e.g., "I have had plenty of spare money/time") when possible.

Third, we explored the possibility that time affluence may not benefit the well-being of individuals who may want to be busy and rushed. First, we examined the need for achievement, typically defined as the desire to strive for excellence (McClelland and Koestner, 1992); such individuals may be willing to work long hours to achieve their goals, and thus perhaps may not benefit from feeling time affluent. Second, we assessed subjects' sensation seeking, which involves the desire for frequent and varied stimulation (Zuckerman, 1994); perhaps being busy is a type of stimulation that matches the desires of such individuals. Third, we developed a measure that directly asked subjects how much they chose to "keep busy" because they find value, fun, and challenge in such a lifestyle.

Methods

Participants and procedures

Between January and March of 2007, students in a Theories of Personality class at Knox College were

provided the opportunity to earn extra credit by distributing packets of surveys (with self-addressed stamped envelopes) to individuals over 18 who were not college students; only one participant per household was allowed. This resulted in a sample of 80 adults; see Table I for characteristics of the resulting convenience sample. Participants answered all questions with regard to "the last six months or so."

Measures

Subjective well-being. Participants completed the well-validated five-item Satisfaction With Life Scale (Diener et al., 1985), using a 1 (*Strongly Disagree*) to 5 (*Strongly Agree*) scale; a sample item is "In most ways my life has been close to my ideal." Participants also reported how much they had experienced each of 4 pleasant (e.g., pleased, happy) and 5 unpleasant (e.g., worried/anxious; unhappy) emotions (Diener and Emmons, 1984) on a 1 (*Not at All*) to 5 (*Extremely*) scale. As in past research (Sheldon and Kasser, 2001), a summary SWB variable was computed by standardizing the three variables and then summing the scores on life satisfaction and positive affect and subtracting negative affect; in support of this procedure, a higher-order factor analysis of these three well-being indicators yielded a single factor that accounted for 54.3% of the variance with all indicators loading above $|.61|$.

Material and time affluence scale (MATAS). Participants rated on a 1 (*Strongly Disagree*) to 5 (*Strongly*

Agree) scale 16 items tapping feelings of material and time affluence. As shown in Table II, parallel wordings were made for the two sets of items. To determine whether the MATAS items assessed two distinct constructs, we conducted a factor analysis on the 16 items; a scree plot suggested a two-factor solution. As can be seen from the factor loadings presented in the first two columns of Table III, items loaded clearly on material and time affluence factors. TA and MA were correlated $r = .24, p < .05$.

To test the construct validity of the MATAS, we also collected more objective indices of material and time affluence by asking for current yearly household income and for the number of hours per week spent on “the work that you do for pay, for child care, and for other household necessities.” As would be expected, subjective reports of MA were correlated positively with income ($r = .39, p < .01$), but unrelated to hours worked ($p = .56$), whereas subjective reports of TA were negatively correlated with hours worked ($r = -.38, p < .01$) but not significantly related to income ($p = .08$).

Wanting to be busy. As noted above, we assessed three psychological characteristics that might lead participants to want to be busy. First, we assessed need for achievement with sixteen True/False items from the well-validated Jackson Personality Research Form (Jackson, 1984); sample items include “I don’t mind working while other people are having fun” and “I will not be satisfied until I am the best in my field.” Second, we administered the 40 items of the Sensation Seeking Scale, Form V (Zuckerman, 1994). For each item, participants circle which of two statements best describes them; for example, someone high in sensation seeking would likely circle “I sometimes like to do things that are a little frightening” whereas someone low in sensation seeking would probably circle “A sensible person avoids activities that are dangerous.” Third, we directly assessed how much subjects desired to “keep busy” by asking them to rate on a 1 (*Strongly Disagree*) to 5 (*Strongly Agree*) scale the following four items: “I find it fun to be busy most of the time,” “I enjoy the challenges that come with being very

TABLE III
Items and item loadings from factor analyses of the material and time affluence scale, studies 2, 3 and 4

Item	Study 2		Study 3		Study 4	
	Factor 1	Factor 2	Factor 1	Factor 2	Factor 1	Factor 2
My life has been too rushed.	.06	-.80	-.04	-.76	-.01	-.72
I have had plenty of spare time.	.12	.74	.07	.80	.04	.76
I have been racing from here to there.	-.05	-.83	-.05	-.71	-.09	-.76
I have had enough time to do what I need to do.	.20	.80	.06	.83	.22	.78
I have been able to take life at a leisurely pace.	.07	.74	.01	.76	.09	.80
There have not been enough minutes in the day.	-.05	-.76	-.09	-.77	-.07	-.71
I have had enough time to do the things that are important to me.	.29	.61	.18	.70	.33	.74
I have felt like things have been really hectic.	-.12	-.79	-.06	-.75	-.03	-.81
I have had enough money to buy the things that are important to me.	.88	.08	.80	.05	.82	.12
There has not been enough money to go around.	-.86	-.04	-.78	-.15	-.80	-.13
I have been able to buy what I want.	.69	.09	.86	.14	.82	-.02
I have felt like I’m pretty poor.	-.87	-.03	-.83	-.03	-.71	-.07
My bank account has been too low.	-.87	-.08	-.69	-.08	-.86	-.09
I have had enough money to buy what I need to buy.	.64	.20	.59	.06	.81	.10
I have been broke.	-.81	.00	-.75	-.02	-.77	-.06
I have had plenty of spare money.	.75	.28	.80	.04	.66	.25
Eigenvalue	6.23	3.82	5.59	3.87	6.23	3.64
% Variance accounted for	38.94	23.88	34.91	24.16	38.95	22.74
Cronbach’s α	.92	.89	.90	.90	.92	.90

busy,” “I’ve thought about it and have decided that keeping busy is the best way to live my life,” and “It is important to me to keep busy.” Cronbach’s α for this scale was .83.

Results

A simultaneous multiple regression of subjective well-being on the time and material affluence variables from the MATAS accounted for a significant amount of variance, with both MA and TA having significant and independent positive associations with subjective well-being; see Table II. We also examined whether work hours or family income predicted SWB; although both were in the predicted direction, neither Beta reached traditional levels of significance.

No evidence was found for curvilinear relationships between either TA or MA and SWB ($ps > .36$), but the interaction between TA and MA approached significance ($p = .06$). To interpret the form of the interaction, we conducted a median split on the MA measure and examined correlations between TA and SWB among individuals high and low in MA. These follow-up analyses suggested that TA was more strongly correlated with SWB for participants high in MA ($r = .48, p < .01$) than for participants low in MA ($r = .13, p = .42$).

We next examined the possibility that the benefits of time affluence are moderated by the psychological characteristics of need for achievement, sensation seeking, and wanting to keep busy because it is fun, challenging, and personally important. To this end, we followed the standard procedure (Aiken and West, 1991) of centering TA and each moderator, and then conducted one multiple regression for each potential moderator in which SWB was simultaneously regressed onto time and material affluence (from the MATAS), the potential moderator, and a product term coding the interaction between TA and the potential moderator. TA did not interact with any of the potential moderators (all $ps > .32$).

Study 3

Having developed a psychometrically sound scale to measure material and time affluence and having

shown that the benefits of TA also occur for people who want to be busy, we undertook a third study to replicate some of these effects and to examine two potential mediators of the positive association between TA and SWB. That is, we attempted to understand the psychological processes through which time affluence relates positively with subjective well-being.

First, we administered a brief measure of mindfulness (Brown and Ryan, 2003) to determine whether the feeling that one is frequently “in the moment” might help explain the positive association of TA and SWB. Past work shows that mindful individuals are happier than less mindful people, and that daily variations in mindfulness predict daily variations in mood (Brown & Ryan); further, interventions designed to increase mindfulness are effective treatments of several psychological disorders (Baer, 2003). Further, TA should relate positively to mindfulness, as when one is rushed and hurried, fewer cognitive resources are available to remain centered in the present and fully aware of one’s experience.

Second, we examined satisfaction of psychological needs for autonomy, competence, and relatedness. Past theoretical (Ryan and Deci, 2000) and empirical work (Reis et al., 2000; Sheldon et al., 2001) shows that people experience higher levels of SWB when they feel like they are choosing their behaviors (rather than feeling coerced), when they feel efficacious and successful (rather than incompetent), and when they feel close and connected to other people (rather than lonely or alienated). We expect that when individuals experience more time affluence, they have more opportunity to engage in the kinds of activities that express and satisfy these three needs.

In sum, our predictions for Study 3 were once again that TA would predict higher SWB even after accounting for the effects of MA, and that the beneficial effects of TA on SWB would be at least partially mediated by mindfulness and need satisfaction, as pictorially represented in Figure 1.

Methods

Participants and procedures

All Knox College students on campus during January, 2005 received an e-mail inviting them to

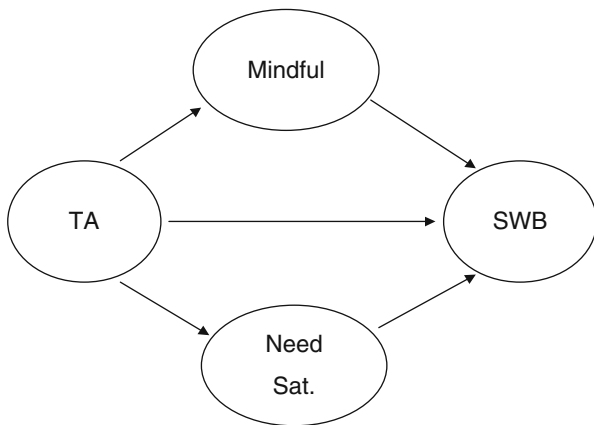


Figure 1. Proposed mediational model explaining the positive associations between time affluence and subjective well-being. *Note:* TA = Time Affluence; SWB = Subjective Well-being; Need Sat. = Need Satisfaction.

complete a 10–15 minute survey on one of three nights in return for a \$2 gift and a chance at several larger cash prizes. 106 students attended; see Table I for sample characteristics. Participants completed all measures with regard to the last 24 hours.

Measures

Subjective well-being. The same three measures were used and combined as in Study 2, i.e., negative affect scores were subtracted from the sum of life satisfaction and positive affect. A factor analysis supported the computation of a single SWB score, as one factor emerged accounting for 60.1% of the variance on which all variables loaded above $|.73|$.

Material and time affluence. The MATAS was again administered. As shown in the middle two columns of Table III, two factors again emerged, with items loading appropriately to form separate MA and TA factors. MA and TA were marginally positively correlated ($r = .18$, $p = .06$).

Mindfulness. We used the four-item mindfulness measure from Brown and Ryan's (2003) study of daily variations in mindfulness. Subjects answered on a 1 (*Almost always*) to 6 (*Almost never*) scale; a sample item is "I've been finding myself doing things without paying attention." α was .76.

Need satisfaction. Following Reis et al. (2000), subjects reported the three activities, other than sleeping, that they had spent the most time doing during the last 24 hours. Subjects then rated how

much they had done each activity for each of four reasons varying in autonomy: intrinsic reasons (for the interest, enjoyment and/or fun of it), identified reasons (because it expressed my true values), introjected reasons (in order to avoid anxiety or guilt) and external reasons (my external situation forced me); the last two controlled reasons were then subtracted from the sum of the first two, autonomous reasons (c.f., Sheldon and Kasser, 1995) to form a measure of the relative amount of autonomy experienced in each activity. Next, for each activity, participants rated how competent or effective they felt and how close or connected they felt to other people, using a 1 (*Not at all*) to 5 (*Extremely*) scale. Ratings were averaged across the three activities to yield summary autonomy, competence and relatedness variables. These three need satisfaction variables were then averaged to create a summary need satisfaction score for use in mediational analyses; supporting this computational procedure, all three need satisfaction measures loaded on a single factor above .60.

Results

We simultaneously regressed SWB onto MA and TA; as can be seen in Table II, a significant amount of variance was accounted for. Whereas TA had a significant positive association with SWB, MA did not.

As in previous studies, we next examined for quadratic effects and potential interactions. Although the quadratic effect for TA was non-significant ($p = .18$), a marginally significant quadratic effect was found for MA ($p < .07$), such that participants either very high or very low in material affluence reported greater SWB than did those with more moderate scores. There was no interaction between MA and TA ($p = .59$).

Mediational analyses

Following the standard procedures for testing mediation established by Baron and Kenny (1986), we found significant correlations between the potential mediators (i.e., need satisfaction and mindfulness) and both the outcome variable (SWB) and the predictor (TA) (all $ps < .05$). We next conducted a partial correlation between TA and SWB, controlling for

mindfulness and the satisfaction of the three psychological needs; the r dropped from .40 ($p < .001$) to $pr = .24$ ($p < .05$), suggesting partial mediation.

To more formally test our mediational model (presented in Figure 1), we next derived un-standardized regression coefficients and standard errors representing TA's effect upon each of the proposed mediators, and then derived regression coefficients and standard errors representing each mediator's influence upon SWB. Application of Sobel's (1982) formula revealed that both need-satisfaction and mindfulness were significant mediators when considered separately ($ts = 2.31$ and 2.60 , respectively, $ps < .05$). Considered jointly (i.e., controlling for their shared variance), both mediators achieved marginal significance ($ts = 1.79$ and 1.76 , respectively, $ps < .10$). Thus, individuals who experience more time affluence apparently report higher subjective well-being in part because they experience more mindfulness and greater satisfaction of their psychological needs.

Study 4

The results of Study 3 supported our hypotheses that TA is as important as MA in the prediction of SWB and that mindfulness and psychological need satisfaction partially mediate the positive relationships between TA and SWB. Although promising, we decided to conduct a final, fourth study to further test our ideas; this fourth study had several advantages over our previous ones. First, we assessed a sample of adults to determine whether the same mediational model tested with college students also fit for adults. Second, we obtained a somewhat larger sample of adults than that used in Study 2 to test whether the more objective indicators of MA and TA (i.e., income and work hours, respectively) related to SWB; recall that correlations in Study 2 were in the predicted direction but non-significant. Third, we included a more complete measure of mindfulness rather than the very brief measure used in Study 3. Finally, rather than asking subjects about the satisfaction of psychological needs, we asked subjects to report the extent of their participation in activities that theoretically support psychological need satisfaction. Specifically, we assessed how frequently people engaged in activities for personal

growth, affiliation, community feeling, and physical fitness, each of which typically bears positive associations with psychological need satisfaction and well-being (Kasser, 2002; Kasser and Ryan, 1996). By doing so, we hoped to more concretely examine the types of well-being enhancing activities in which people engage when they have sufficient TA.

Methods

Participants and procedures

Participants in this sample were recruited during Fall, 2004 using a similar procedure to that described in Study 2. This convenience sample resulted in 145 adults; see Table I for sample characteristics. Participants answered all questions with regard to "the last month or so."

Measures

Subjective well-being. The same three well-being measures were used and combined as in Studies 2 and 3; higher-order factor analyses yielded a single factor that accounted for 78.2% of the variance with all indicators loading above $|.87|$.

Material and time affluence. The MATAS was again administered. As before, a factor analysis yielded a two-factor solution; factor loadings are presented in the third section of Table III. MA and TA were correlated $r = .30$, $p < .05$.

We again tested the validity of our scale by collecting more objective indices of material and time affluence. Specifically, we asked participants to report their current yearly household income (assessed on a 1 = "less than \$10,000" to 5 = "over \$70,000" scale) and the number of hours per week spent on "the work that you do for pay, for child care, and for other household necessities" (assessed on a 1 = "0 to 20 hours" to 5 = "over 80 hours" scale). Correlations again supported the construct validity of the MATAS, as subjective reports of MA were correlated positively with income ($r = .40$, $p < .01$) but unrelated to hours worked ($p = .68$), whereas subjective reports of TA were negatively correlated with hours worked ($r = -.37$, $p < .01$) but unrelated to income ($p = .45$).

Mindfulness. Participants completed the 15 items of Brown and Ryan's (2003) Mindful Awareness Attention Scale, using a 1 (*Almost Always*) to 6 (*Almost Never*) scale. α was .87.

Need-satisfying activities. Participants reported how frequently they had engaged in 20 activities on a scale varying from 1 (*Not at all*) to 6 (*6–7 times per week*); these activities were culled from past research on the contents of goals that are typically positively associated with well-being (Kasser and Ryan, 1996; Sheldon et al., 2004). Five activities each were rated for physical fitness (e.g., exercised for at least 20 minutes; $\alpha = .63$), personal growth (e.g., did one of my favorite hobbies; $\alpha = .71$); affiliation (e.g., did something fun with my romantic partner; $\alpha = .57$); and community feeling (e.g., did some volunteer work; $\alpha = .81$).

Results

We simultaneously regressed the summary SWB variable onto the subjective reports of MA and TA. As can be seen in Table II, the two measures accounted for a significant amount of variance in SWB, with both MA and TA being significantly related to SWB. Similar results occurred when SWB was simultaneously regressed onto income and work hours. Such results suggest that Study 2's failure to find significant results with these more "objective" measures of MA and TA may have been due to the substantially lower sample size in that study ($n_s = 80$ vs. 145).

Once again we tested for curvilinear effects and interactions between material and time affluence in the prediction of SWB. Neither the interaction between TA and MA nor between hours worked and income were significant ($ps > .66$). Once again, no quadratic relationships were found between SWB and TA, hours worked, or income (all $ps > .52$). However, a significant quadratic relationship between MA and SWB was discovered ($p = .04$), such that the benefits of MA increased substantially as individuals moved from low to moderate levels of MA but dissipated at higher levels of MA.

Mediational analyses

We began by examining correlations among TA, SWB, mindfulness and the four need-satisfying activities. All of the five potential mediators except for community feeling activities were significantly correlated with both SWB and TA ($ps < .05$); we therefore dropped community feeling activities from further consideration. We next factor analyzed the

three remaining need-satisfying activities with a view toward combining them into a single variable; indeed, each loaded on a single factor above .73.

We then conducted a partial correlation in which the association between TA and SWB was tested after controlling for the potential mediators; the correlation between TA and SWB dropped from $r = .45$ to $pr = .18$ ($p = .05$); these results speak in favor of partial mediation. In order to more formally test our hypothesis that mindfulness and psychological need satisfaction mediate the relationships between TA and SWB we again derived the necessary regression coefficients in order to compute the Sobel's (1982) statistics. Analyses revealed that both need-satisfying activities and mindfulness were significant mediators when considered separately ($ts = 3.01$ and 3.93 , respectively, both $ps < .01$) and when considered jointly ($ts = 2.47$ and 3.48 , respectively, both $ps < .05$). These analyses again support the mediational model depicted in Figure 1, such that mindfulness and the satisfaction of psychological needs (through the pursuit of relevant activities), partially explain the significant associations between TA and SWB.

General discussion

In an attempt to develop a model of "affluence" that might improve employee well-being and help businesses act more ethically, we reported four studies demonstrating that time affluence is positively related to subjective well-being: (a) when considered alongside the effects of material affluence; (b) across various time frames of assessment (i.e., the last 24 hours, the last month, the last six months, and in general); (c) for both subjective and more objective indicators of TA; and (d) in both adult and college student samples. We also explored potential "boundary conditions" to determine whether the benefits of TA were limited to certain situations or types of people; generally speaking, we were unable to document any consistent effects in this regard. For example, Study 2 showed that the benefits of time affluence did not depend on personality characteristics such as being high in need for achievement or sensation seeking or reporting that one wants to "keep busy" because it is fun, challenging, or personally valued. Although one result from Study 2

suggested that the beneficial effects of TA were strongest among those highest in material affluence, this finding was not significant ($p = .06$) nor was it replicated in any other study. We also explored potential quadratic effects but found no curvilinear relationships between TA and SWB, suggesting that increases in TA continue to benefit SWB even at relatively high levels of TA. In contrast, curvilinear relationships between material affluence and well-being were found in Studies 1 and 4, each of which were consistent with the literature showing that the well-being benefits of financial wealth generally diminish at high levels of income (Diener and Seligman, 2004).

Another important contribution of these studies is the explication of the mediational pathways through which TA may benefit SWB. Specifically, in Studies 3 and 4, we showed that a substantial portion of the association between TA and SWB was due to two factors. First, people reporting more time affluence also reported enhanced states of mindfulness (Brown and Ryan, 2003); that is, rather than feeling distracted or concerned about the past or future, individuals who felt time affluent also felt able to stay “in the present,” a psychological characteristic demonstrated by past research to benefit well-being (Baer, 2003; Brown and Ryan, 2003). Second, people higher in TA reported experiencing more autonomy, competence, and feelings of intimacy with others and reported spending more time pursuing activities related to personal growth, connections to others, and physical fitness; such experiences and activities apparently helped to satisfy people’s psychological needs, to the benefit of their personal well-being.

Limitations and future research directions

Although the results reviewed above suggest that time affluence may hold promise as a means of enhancing the happiness of individuals, future research should attempt to correct for several of the limitations of the present studies as well as explore other issues. To begin, all of our results are based on retrospective self-report measures collected at a single point in time; future research could employ more objective indicators (e.g., peer-reports of well-being), longitudinal designs, and experience sampling methods to assess the associations between time

affluence and well-being. The findings are also limited by the fact that all samples included individuals living in the U.S., a predominance of whom were Caucasian; studies with more representative samples and with samples from other cultures would help to test the generalizability of these findings. Third, analyses suggested that TA was still positively related to SWB even after controlling for the significant mediating effects of mindfulness and need satisfaction; future research might explore other variables to explain the remainder of this effect. Finally, it would also be interesting to examine how TA relates to other outcomes of interest to ethical businesses. For example, Kasser and Brown (2003) showed that whereas wealthier individuals engaged in fewer positive environmental behaviors and had lifestyles that involved the consumption of more resources, individuals who worked fewer hours were better ecological citizens of the world; such research could be expanded. TA might also predict quality of social interactions; for example, rushed parents may treat their children in more controlling and less nurturing ways (Grolnick and Apostoleris, 2002), with consequent decrements for their children’s well-being.

Implications for ethical business practices

The current results add to a growing literature suggesting that feelings of time affluence not only benefit people’s physical health, family and civic involvement, and positive ecological behavior (see de Graaf, 2003), but also their subjective well-being and happiness. Such findings suggest that in addition to paying employees adequate wages, ethical businesses might institute policies to improve the time affluence of their employees. Here we mention three proposals from the U.S. activist group “Take Back Your Time (TBYT; www.timeday.org), as they provide an excellent and reasonably comprehensive agenda for improving time affluence.

The first way businesses could improve employees’ feelings of time affluence is through expanding paid family leave, allowing workers more time off during key phases of life (e.g., birth of children and illnesses of family members). Substantial variation exists among nations as to the amount and quality of family leave currently mandated by law. Most European nations provide new parents with at least

14 weeks of leave at full wages or at least 52 weeks of leave at half wages, and a few nations (i.e., Cuba, Uzbekistan, South Korea) have even more generous policies (Who Gives Parents a Break, 2007). In contrast, Liberia, Papua New Guinea, Australia, and the United States guarantee no paid parental leave. When considered against the policies in much of the rest of the world, it is rather staggering that current federal law in the United States (i.e., the Family and Medical Leave Act) only allows workers 12 weeks of unpaid leave to care for newborn children or sick relatives; because it is unpaid, many poorer Americans may feel financially unable to take this leave. Clearly all workers, but particularly those with no guaranteed paid parental leave, could benefit from more time affluence when their children are born or their family members are ill.

TBYT's second proposition is to "Require three weeks minimum paid vacation for all workers." Again, substantial variation exists cross-culturally with regard to vacation legislation. Although the legal minimum vacation for workers is four weeks in the European Union and three weeks in China, there is no mandated minimum in the U.S. Typically Americans receive two weeks of paid vacation, but poor Americans often receive no paid vacation, and many Americans feel pressure to skip their vacations or take it in small "chunklets" that provide little in the way of deep relaxation (Robinson, 2003). As such, some individuals have less opportunity to not only physically rest and rejuvenate, but also to pursue personal interests, spend time with family, and pause and reflect on life, all important predictors of subjective well-being.

The final proposal concerns forced overtime. While most nations have some maximum cap on the number of overtime hours that an employer can ask an employee to work, Golden (2003, p. 29) notes that, "In the U.S., it is entirely legal for an employer to require an employee to work beyond his or her scheduled shift time with no advance notice, and to take disciplinary action against a worker who refuses." Although a couple of states and industries have placed caps on the maximum number of hours one can be asked to work, such caps typically far exceed the standard 40 hours per week. As such, TBYT recommends that workers be given "the right to refuse overtime after 48 hours on the job per week." Such a practice would not only bring the

U.S. in line with many other economically developed nations, but would also allow workers to be more in charge of their lives, to spend more time with friends and family, and to be more engaged in civic and volunteer activities.

In closing, we would note that these policies could be implemented either at the business or national-level. If the nation in which it operates does not have laws that sufficiently enhance employee time affluence, a business may strive to be more ethical by changing its own culture. To this end, managers, owners, boards of directors, and shareholders might change company policies regarding family leave, vacations, and overtime. While this would be an important step, history shows that many barriers to time affluence have arisen because powerful businesses have lobbied against laws that they perceive as interfering with their ability (or even "right") to make a profit. Thus, it also seems that an ethical business would not only strive to change its own internal culture, but would also lobby for national laws that provide paid family leave and minimum paid vacations, as well as place reasonable caps on mandatory overtime hours. By doing so, other workers might also enjoy the benefits of time affluence.

Note

¹ There is one important conceptual, yet highly practical, difference between time and money, however: unlike money, time is not "liquid." If a person does not use his/her time at a particular point, that time is forever lost, whereas money typically remains available for use in the future. Given its ephemeral supply, this difference would seemingly make time more valuable than money. Thanks to Maurizio Pugno of the University of Cassino, Italy for pointing out this difference.

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