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Intrinsic and Extrinsic Work Orientations as Moderators of the Effect of Annual Income on Subjective Well-Being: A Longitudinal Study

Ariel Malka

Jennifer A. Chatman

University of California, Berkeley

Income is only weakly associated with both subjective well-being (SWB) and job satisfaction in the United States, a surprising finding in light of the importance placed on financial status in capitalistic societies. To explore this further, the authors examined intrinsic and extrinsic work orientations as potential moderators of the effects of financial compensation on SWB and job satisfaction. Master's of business administration students (N = 124) completed measures of work orientation and, 4 to 9 years later, reported their current salary, SWB, and job satisfaction. As predicted, individuals high in extrinsic orientation experienced higher SWB and job satisfaction to the degree that they earned more money, whereas those high in intrinsic orientation were lower on SWB at higher income levels. These findings are discussed in terms of the Values as Moderators Perspective of SWB and Cognitive Evaluation Theory.

Keywords: *intrinsic motivation; work orientations; annual income; subjective well-being; job satisfaction*

Subjective well-being (SWB) refers to people's cognitive and emotional evaluations of their lives (Diener, Suh, Lucas, & Smith, 1999). Because how much money one makes determines material comfort and, to a large degree, social status, some researchers have taken an interest in how strongly a person's income influences his or her SWB, or in other words, whether money can buy happiness. Research addressing this question indicates that there is, indeed, a positive association between annual income and SWB, but it is surprisingly small among people whose basic needs are generally met (Diener, Sandvik, Seidlitz, & Diener, 1993; Veenhoven, 1991). Thus, although earning more rather than less

money does make people happier, the impact of income on SWB is minor when basic needs are satisfied.

Job satisfaction refers to people's affective orientations to their work roles (Lease, 1998). Although it is rarely the focal question in organizational research, studies involving the assessment of both job satisfaction and income have tended to show that, similar to SWB, job satisfaction is only modestly influenced by how much money one makes (Boudreau, Boswell, & Judge, 2001; O'Reilly & Caldwell, 1980). In a sense, this finding is even more counterintuitive because it implies that income not only weakly predicts overall quality of life but also satisfaction in the life domain with which income is intimately associated—work. Taken together, these findings point to the paradoxical conclusion that even in a society dominated by capitalism—in which goods, services, and even values are often framed in financial terms (Tetlock, Kristel, Elson, Green, & Lerner, 2000), and in which one's status is signaled through one's income and the associated fruits—overall happiness and satisfaction with work are not very closely aligned with financial success.

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The modest correlations just described may not tell the whole story regarding the effects of income on SWB and job satisfaction. Specifically, these weak associations may be masking substantial variation in the strength, and even direction, of these effects among different types of people. In other words, there may be some people for whom SWB and job satisfaction are highly contingent on income, others for whom SWB and job satisfaction are unrelated to income, and still others for whom SWB and job satisfaction are actually negatively contingent on income. Therefore, a more useful question for SWB researchers to address might be, "For whom can money buy happiness?" In line with this reasoning, we investigated intrinsic and extrinsic work orientations as potential moderators of the effects of annual income on SWB and job satisfaction. Using an archive of data collected with master's of business administration (MBA) students, we tested the long-term implications of these two work orientations, assessed during the first year of the MBA program, for the subsequent effects of annual income on SWB and job satisfaction, assessed 4 to 9 years after the initial assessment. This design enabled us to gauge the enduring impact of work values on the contingencies of SWB and job satisfaction on financial success.

SWB is conceptualized as having a cognitive appraisal component, life satisfaction, and two emotional components, positive and negative affect (Diener, 1998; Diener et al., 1999). Many studies show substantial correlations among these components implying that they may, taken together, represent a superordinate SWB factor (Diener et al., 1999; see Elliot, Sheldon, & Church, 1997). Job satisfaction also has been studied as both an omnibus construct (e.g., O'Reilly & Caldwell, 1980) and a multifaceted construct (e.g., Wanous & Lawler, 1972). Because we are interested in people's general appraisals of their lives and jobs, we treat SWB and job satisfaction as unitary global constructs. Intrinsic and extrinsic work orientations represent work-related reinforcement preferences, or tendencies to value specific types of incentives inherent in the work environment (Caldwell, O'Reilly, & Morris, 1983; Glynn, 1998). Individuals high in intrinsic orientation (sometimes referred to as expressive orientation) value opportunities for intellectual fulfillment, creative self-expression, and the pleasure associated with task mastery on the job. Individuals high in extrinsic orientation (sometimes referred to as instrumental orientation) primarily value remuneration and view work principally as a means to attaining remuneration. Although these orientations appear conceptually to be bipolar, instruments assessing individual differences related to intrinsic and extrinsic motivation tend to yield scores that are nearly independent (Amabile, Hill, Hennessey, & Tighe, 1994; Pintrich & Garcia, 1991). We, therefore, conceptualize intrinsic and extrinsic work orientations

as independent dimensions of work value, with unique influences on people's psychological responses to their annual income.

We examined intrinsic and extrinsic work orientations as moderators because of their relevance to two theories that address how motives might influence psychological responses to annual income. The first theory, the Values as Moderators Perspective of SWB, proposes that resources impact SWB to the extent that they are relevant to one's values (Oishi, Diener, Suh, & Lucas, 1999). This perspective implies that income should have a stronger positive effect on SWB and job satisfaction among individuals who are highly extrinsically oriented than among individuals who are low on extrinsic orientation. The second theory, Cognitive Evaluation Theory (CET), proposes that excess rewards for conducting an already intrinsically valued task can be experienced as controlling and may therefore negatively influence quality of motivation and SWB (Deci & Ryan, 1985). This perspective implies that for those relatively high in intrinsic orientation, higher income might actually be associated with lower SWB and job satisfaction.

VALUES AS MODERATORS OF SUBJECTIVE WELL-BEING

Some SWB research has been guided by the assumption that the degree to which specific life outcomes and resources affect SWB depends on how much these life outcomes and resources help people attain their valued goals. In one study, daily life events had a greater impact on participants' SWB to the degree that the events were relevant to participants' goals (Emmons, 1991). Similarly, Diener and Fujita (1995) found that possessing resources that are useful for attaining one's idiosyncratic personal goals was associated with higher SWB. Oishi and colleagues proposed the Values as Moderators framework to explain such findings (Oishi, Diener, Lucas, & Suh, 1999; Oishi, Diener, Suh, et al., 1999). According to this framework, satisfaction with a specific life domain only contributes to overall SWB to the degree that the domain is valued. For example, satisfaction with one's achievements only translates to high SWB to the extent that one values achievement. So, according to this framework, daily life events (e.g., getting promoted) and resources (e.g., enhanced status) contribute to domain-specific satisfaction (e.g., achievement-based satisfaction), and domain-specific satisfaction in turn leads to global SWB if the domain of focus is valued (e.g., if one is achievement-oriented). Empirical research supports this reasoning. For example, one study showed that being satisfied with a specific life domain has a stronger influence on overall SWB to the degree that the life domain is personally valued (Oishi, Diener, Suh, et al., 1999). Furthermore, cross-cultural research suggests that overall SWB is best predicted by

satisfaction with life domains that are valued within one's culture (Kwan, Bond, & Singelis, 1997; Oishi, Diener, Lucas, et al., 1999).

If resources and life outcomes influence SWB to the extent that they are relevant to one's values, then extrinsic orientation, or a person's tendency to value work primarily as a means to attaining money, should moderate the link between annual income and SWB. Specifically, for individuals high in extrinsic orientation, there should be a relatively strong positive association between income and SWB. Furthermore, although job satisfaction has not been studied in the context of the Values as Moderators framework, it is likely that this domain-specific satisfaction is also differentially contingent on income depending on an individual's level of extrinsic orientation. Some organizational theorists propose that general job satisfaction is determined by the extent to which the work environment satisfies salient individual needs (Lofquist & Dawis, 1975). If a person's need for income is especially salient, then he or she should experience a relatively high-paying job as more satisfying than a relatively low-paying job. Externally oriented individuals especially value financial compensation in their jobs. We therefore predict that job satisfaction, similar to SWB, will be more strongly contingent on income among individuals high in extrinsic orientation than it will be among individuals low in extrinsic orientation.

COGNITIVE EVALUATION THEORY

Because financial compensation is not an intrinsic value, the Values as Moderators perspective does not appear to offer insight regarding how income might differentially impact SWB depending on level of intrinsic orientation. CET, however, does. CET is a subtheory of Self-Determination Theory that addresses the cognitive processes that mediate the impact of environmental contingencies on human motivation (Deci & Ryan, 1985). Researchers in this tradition note that a large portion of competent human activities, such as those exhibited at work, are intrinsically rewarding, meaning they are valued for their capacity to produce spontaneous internal reinforcement during engagement. In these cases, the opportunity to engage in the activity is rewarding in and of itself and external rewards such as money and praise are not necessary for a person to initiate and sustain the activity.

According to CET, rewards do not necessarily preclude intrinsic motivation, but presenting rewards for engaging in an already intrinsically appealing activity can undermine intrinsic motivation. This is because intrinsically motivated action is partially rooted in the fundamental psychological need for self-determination, or the need to feel as though one's actions are freely chosen. Furthermore, rewards are often presented in a con-

trolling manner, or as intended to coax the individual into performing the activity, fostering perceptions of an external rather than internal locus of causality (DeCharms, 1968). Thus, receiving a reward for doing an activity that one would have done without reward can cause a shift in the attributed cause of the behavior from an internal to an external source. Perceiving one's task engagement as instrumental to the acquisition of external incentives reduces feelings of self-determination and, consequently, undermines intrinsic motivation. Numerous laboratory experiments attest to the validity of this undermining effect (see Deci, Koestner, & Ryan, 1999; cf. Eisenberger & Cameron, 1996).

A target activity must be initially intrinsically interesting for rewards to undermine intrinsic motivation; when a person does not find an activity intrinsically interesting, there is, of course, no intrinsic motivation to undermine. This tenet of CET has been confirmed with both experimental research (e.g., Calder & Staw, 1975) as well as field research in which individual differences in intrinsic orientation are used as a proxy for initial intrinsic interest (Caldwell et al., 1983). One field study showed that receiving a subsidy to cover educational expenses only undermined intrinsic motivation among MBA students who were highly intrinsically oriented with respect to school (Caldwell et al., 1983). Unlike students who were not intrinsically motivated to engage in their coursework in the first place, students high on intrinsic orientation experienced diminished intrinsic interest as a consequence of being rewarded. In the present study, we consider intrinsic orientation a proxy for initial intrinsic interest.

Other field research has explored the larger relevance of intrinsic and extrinsic motivation for SWB and job satisfaction. Kasser and Ryan (1993), for example, found that individuals who ascribed relatively high value to their extrinsic goal pursuits in comparison to their intrinsic goal pursuits had lower levels of SWB. Likewise, Sheldon and Kasser (1998) demonstrated that making progress toward extrinsic goals did not produce the well-being benefits associated with progress on intrinsic goals. With regard to job satisfaction, findings suggest that intrinsic motivation is beneficial for job satisfaction, whereas extrinsic motivation is not (e.g., O'Reilly & Caldwell, 1980).

Individuals high on an intrinsic orientation toward work view their work-related activity as a way to experience fulfillment and mastery-related pleasure. These individuals have a nontrivial "initial level" of intrinsic interest in their work, a prerequisite for the undermining effect. Such undermining of intrinsic motivation in the workplace could have broader implications for their SWB and job satisfaction. We, therefore, predict that intrinsic orientation will moderate the relationship

between income and SWB and job satisfaction, respectively, such that, compared to individuals low in intrinsic orientation, individuals high in intrinsic orientation will be less satisfied in their jobs and lower on SWB as they are more highly compensated for their work.

A secondary reason for making this prediction has to do with the factors that influence job choice. Although high-paying jobs are sometimes chosen on the basis of intrinsic factors (see Morgan, Isaac, & Sansone, 2001), it seems likely that within a sample of business professionals, individuals with relatively high income are more likely to have discounted intrinsic factors when making their job decisions than are individuals with relatively low income. That is, the actual decision to take a job primarily on the basis of financial considerations might imply to some extent that lower weight was given to other factors such as those pertaining to the intrinsic qualities of the job. Research has shown that in choosing a job, people trade off various job attributes such as compensation and potential intrinsic enjoyment of the work (e.g., Saks, Wiesner, & Summers, 1996; Shapira, 1981). Neglecting intrinsic factors when making job choices can negatively affect SWB and job satisfaction. One might expect that people who hold strong intrinsic values will experience these negative consequences to a stronger degree. Although this explanation has intuitive appeal, it has a less solid theoretical basis than does the first explanation (e.g., Morgan et al., 2001). Nonetheless, this process represents a reasonable alternative explanation for the phenomena that we predict.

METHOD

We tested our hypotheses using a sample of MBA students who completed measures of work orientation during the first year of their program and reported their current salary and levels of SWB and job satisfaction 4 to 9 years after the initial assessment.

Participants

Participants in this study were 124 (58 women, 66 men) MBA graduates of the University of California, Berkeley's, Haas School of Business who completed their degrees between 1987 and 1992. The data for this study were collected through the MBA Assessment Project conducted in the Institute of Personality and Social Research (see Craik et al., 2002). Participants completed an initial assessment package containing several individual difference measures during the first year of their 2-year MBA program. One hundred ninety-one participants were initially assessed in 1986 ($n = 60$), 1987 ($n = 71$), 1988 ($n = 24$), and 1991 ($n = 36$); 151 (79%) of these participants completed a follow-up questionnaire in 1995. Of these participants, 27 either were unemployed at the time of the 1995 follow-up, returned an incom-

plete 1995 follow-up survey, or had not completed the necessary measures from the initial assessment. This left a usable sample of 124 participants who had completed the relevant measures from the initial assessment at least 4 years prior to the 1995 follow-up. The mean age of participants in this sample at the time of the initial assessment was 28. Of the participants, 77% were Caucasian, 8% were Asian, 5% were African American, 8% were Latino, and 2% specified Other or did not report their ethnicity. At the time of the 1995 follow-up, 68% of the participants were married or cohabitating and 46% of the participants had at least one child. Annual income at this time ranged from \$18,000 to \$2,000,000, with a median of \$80,000.

Procedure

Participants were recruited via course announcements to participate in a weekend Personality and Managerial Assessment Center. Because more students volunteered than could be accommodated, participants were selected from the volunteers in a manner that maximized their demographic representativeness to the broader MBA cohorts. Participants completed several individual difference measures over the course of one assessment weekend, including the measure from which the intrinsic and extrinsic orientation scales used in this study were derived. In 1995, participants were mailed a follow-up questionnaire that they were asked to complete and return via U.S. mail.

Initial Assessment Measures: Intrinsic and Extrinsic Work Orientations

During the initial assessment, participants completed measures of intrinsic orientation and extrinsic orientation that were derived from two components of a survey requesting information about participants' jobs, career aspirations, and life circumstances. In one of these components, participants were instructed to rate the degree to which each of a series of statements described a characteristic of their ideal job on a 1 (*not at all important*) to 7 (*extremely important*) scale. In the second component, participants were instructed to rate the importance of five "kinds of rewards that work can provide" using the same rating scale. Because the instructions for these two sets of items differed, we transformed individual item responses into standard scores before averaging them to form the two work orientation measures. Descriptive statistics reported in this section, however, were computed prior to these transformations.

We formed each of the two work orientation measures by identifying items, drawn from these two components of the survey, whose content was appropriate to the theoretical constructs. We formed the extrinsic orientation measure by averaging self-reported ratings of the ideal

job characteristic “good salary and benefits” and the reward “having the material possessions and lifestyle you desire” ($M = 5.06$, $SD = 1.03$, $\alpha = .70$). We formed the intrinsic orientation measure by averaging ratings of the ideal job characteristics “work that allows you to make full use of your abilities,” “work that stimulates your intellectual growth,” “the opportunity to contribute to the growth and welfare of the organization,” “opportunities to be creative and innovative,” and “work that provides a feeling of accomplishment” and the reward “utilizing and developing your capabilities to the fullest possible extent and in so doing deriving a sense of personal accomplishment” ($M = 5.85$, $SD = .63$, $\alpha = .63$). Although test-retest data are not available for these particular measures, other research shows that individual difference dimensions related to intrinsic and extrinsic motivation are temporally stable (e.g., Amabile et al., 1994).

1995 Follow-Up Measures: Annual Income, Subjective Well-Being, and Job Satisfaction

Annual income. Participants reported their annual income for the current year. As expected, the income distribution was skewed with extreme positive values pulling the mean to \$106,071 ($SD = \$183,947$). As is typical in compensation research, the log of the current salary was used to prevent extreme positive values from having a large impact on the results (see Hodson, 1985).

Subjective well-being. We assessed the three components of SWB posited by Diener (1998): life satisfaction, positive affect, and negative affect. Life satisfaction was measured with the Satisfaction With Life Scale (SWLS) (Diener, Emmons, Larsen, & Griffin, 1985). This measure consists of five items (e.g., “I am satisfied with my life”) that participants rated on a 1 (*strongly disagree*) to 7 (*strongly agree*) scale ($M = 4.88$, $SD = 1.21$, $\alpha = .85$). None of the SWLS items pertains to job- or career-related satisfaction. We assessed positive affect and negative affect with the Positive and Negative Affect Schedule (PANAS) (Watson, Clark, & Tellegen, 1988). Participants were instructed to rate 10 positive emotion words (e.g., *excited*) and 10 negative emotion words (e.g., *afraid*) with regard to how they had felt during the past year on a 1 (*very slightly or not at all*) to 5 (*extremely*) scale. Responses were averaged to form positive affect ($M = 3.75$, $SD = .61$, $\alpha = .88$) and negative affect ($M = 1.99$, $SD = .57$, $\alpha = .84$) subscales. Because we do not specify differential predictions for the individual components of SWB, we formed a composite SWB index by averaging the z scores of the three components (with negative affect reversed).

Job satisfaction. We assessed participants’ job satisfaction with the items “All in all, how satisfied are you with your current job” using a 7-point scale in which 1 indicated being *completely dissatisfied* and 7 indicated being

completely satisfied and “How close is your current job to your ideal job,” again using a 7-point scale in which 1 indicated *very different than my ideal job* and 7 indicated *it is my ideal job* ($M = 4.81$, $SD = 1.12$, $\alpha = .75$).

Control Variables

Research has shown evidence for links between various demographic characteristics and motivational orientation, as well as dimensions related to SWB and job satisfaction (e.g., Diener et al., 1999; Maurer & Tarulli, 1994). Therefore, we obtained reports of participants’ sex, ethnicity, and age at the time of the initial assessment and, along with cohort, included these as control variables in the regression analyses. In the follow-up assessment, participants reported (and we included as control variables) their marital status and whether they had children because these factors might have implications for SWB (e.g., Mookherjee, 1997) or the amount of income necessary for basic sustenance. Finally, during the follow-up, participants reported the number of hours they worked per week as well as information relevant to their organizational status (the number of levels in their organizations and the number of levels they were from the top level). An organizational status measure was computed by dividing the number of levels participants had attained (total number of levels in the organization minus number of levels from the top) by the total number of levels in the organization. Hours worked and organizational status were then included as controls because each might have implications for work orientation, income, and/or SWB, as well as the relations among these variables (e.g., Chatman, Caldwell, & O’Reilly, 1999; O’Reilly & Chatman, 1994).

RESULTS

Preliminary Analyses

Sex and cohort analyses. We tested for sex and cohort differences in the two work orientations, income, job satisfaction, composite SWB, and the three components of SWB. Men had significantly higher incomes than women ($r = .25$, $p < .01$) and marginally significant sex effects were found for the affect variables such that men experienced more positive affect ($r = .15$, $p < .10$) and women experienced more negative affect ($r = -.15$, $p < .10$). Participants from earlier cohorts were earning more income than those from later cohorts ($R^2 = .06$, $p = .06$), which was expected given the differences in time spent on the job market between the cohorts.

We tested for sex interactions with the work orientations and income in the prediction of all of the outcome variables. We also tested for three-way interactions between sex, the work orientations, and income in predicting the outcome variables. None of the interactions

TABLE 1: Standardized Regression Slopes Between Income and Subjective Well-Being (SWB)/Job Satisfaction Variables by Intrinsic and Extrinsic Orientation Levels

Work Orientation	Standardized Regression Slope Between Income and				
	SWB	Job Satisfaction	Life Satisfaction	Positive Affect	Negative Affect
Extrinsic					
High	.11	.32	.16	.09	.00
Low	-.28	-.08	-.28	-.19	.14
Interaction beta and significance	.20*	.20*	.22*	.14 [†]	-.07
Intrinsic					
High	-.41	.02	-.39	-.35	.17
Low	.05	.18	.07	.07	.03
Interaction beta and significance	-.23*	-.08	-.23*	-.21*	.07

[†] $p < .15$. * $p < .05$.

was significant and we therefore collapsed across sex in all of the analyses.

Zero-order correlations. Income had a near-significant positive association with job satisfaction ($r = .17, p < .06$) but, of interest, was unrelated to SWB ($r = -.04, ns$). This is likely due to the high mean wealth of the sample. We found a small positive correlation between intrinsic orientation and extrinsic orientation ($r = .22, p < .05$), supporting our contention that these orientations are not bipolar but also suggesting that they are not entirely independent—a point to which we return in the Discussion section. In the regression analyses, we used residualized measures of intrinsic and extrinsic orientation, partialling out their shared variance, to test for main effects and to form the cross-products of work orientation and income.

Intrinsic orientation was positively related to SWB ($r = .29, p < .01$) but uncorrelated with job satisfaction ($r = .08, ns$). Extrinsic orientation was uncorrelated with SWB ($r = .00, ns$) and job satisfaction ($r = -.12, ns$). Intrinsic and extrinsic orientations were both uncorrelated with annual income ($r = -.07, ns$ and $.03, ns$, respectively). Finally, SWB and job satisfaction were highly correlated ($r = .51, p < .001$).

Primary Analyses

Overview. To test our predictions, we individually regressed SWB and job satisfaction on two hierarchical regression models—the extrinsic orientation as a moderator model and the intrinsic orientation as a moderator model. The first two steps were identical across both of the models: Step 1 included the control variables sex, age, ethnicity (four vectors), cohort (three vectors), marital status, parent versus not a parent, organizational status, and number of hours worked per week; Step 2 included annual income and the residualized versions of intrinsic and extrinsic orientation. In each of the analyses, we entered an interaction term at Step 3: the Extrinsic Orientation \times Annual Income cross-product for the extrinsic orientation as a moderator model and the

Intrinsic Orientation \times Annual Income cross-product for the intrinsic orientation as a moderator model. Variables were mean-centered prior to the computation of the interaction terms. We report the interaction results in Table 1. In this section, we report significant effects for the work orientations, income, and the interaction terms.

Subjective well-being. The control variables did not account for a significant proportion of the variance in SWB at Step 1 ($R^2 = .08, ns$). Adding the two work orientations and annual income as predictors at Step 2 yielded a significant increment in variance ($\Delta R^2 = .10, p < .01$), which was accounted for by a positive main effect for intrinsic orientation ($\beta = .32, p < .01$). Participants high on intrinsic orientation tended to report higher levels of SWB. Testing the extrinsic orientation as a moderator model, we added the Extrinsic Orientation \times Annual Income interaction term at Step 3 of the analysis. Adding this interaction term yielded a significant increment in variance ($\Delta R^2 = .04, p < .05$) and as predicted, a positive interaction was observed ($\beta = .20, p < .05$). Computing separate standardized regression slopes for individuals high (+1 *SD*) and low (-1 *SD*) on extrinsic orientation, we obtained values of .11 for individuals high in extrinsic orientation and -.28 for individuals low in extrinsic orientation. This confirmed our hypothesis that income would have more of a positive effect on SWB for individuals high in extrinsic orientation than for individuals low in extrinsic orientation. Of interest, income had a stronger negative effect on SWB for individuals low in extrinsic orientation.

Adding the Intrinsic Orientation \times Annual Income interaction term also yielded a significant increment in variance in SWB ($\Delta R^2 = .04, p < .05$) and a negative interaction was observed ($\beta = -.23, p < .05$). The standardized regression slopes were -.41 for individuals high in intrinsic orientation and .05 for individuals low in intrinsic orientation, confirming our hypothesis that income would have more of a negative effect on the SWB of individuals

high in intrinsic orientation compared to individuals low in intrinsic orientation.

Job satisfaction. At Step 1, the control variables accounted for a near-significant proportion of the variance in job satisfaction ($R^2 = .16, p < .09$). Adding the two work orientations and annual income at Step 2 yielded a near-significant increment in variance ($\Delta R^2 = .05, p < .11$), but no significant main effects were observed. Adding the Extrinsic Orientation \times Annual Income interaction term at Step 3 yielded a significant increment in variance ($\Delta R^2 = .04, p < .05$), and we observed a positive interaction ($\beta = .20, p < .05$). The standardized regression slope for individuals high in extrinsic orientation was .32, whereas for individuals low in extrinsic orientation the standardized regression slope was $-.08$. Consistent with our hypothesis, there was a positive contingency of job satisfaction on income for individuals high in extrinsic orientation but not for individuals low in extrinsic orientation.

Adding the Intrinsic Orientation \times Annual Income interaction term did not yield a significant increment in variance in job satisfaction ($\Delta R^2 = .01, ns$), and a nonsignificant negative interaction was observed ($\beta = -.08, ns$), disconfirming our hypothesis regarding intrinsic orientation as a moderator of the effect of income on job satisfaction.

Effects on the Differentiated Components of SWB

In Table 1, we also present the regression results for the Work Orientation \times Annual Income interactions with the individual components of SWB as the dependent variables. We obtained the same general pattern found for SWB across all three components, although the effect of Extrinsic Orientation \times Annual Income was only significant for life satisfaction ($\beta = .22, p < .05$) and near-significant for positive affect ($\beta = .14, p < .12$), and the effect of Intrinsic Orientation \times Annual Income was only significant for life satisfaction ($\beta = -.23, p < .05$) and positive affect ($\beta = -.21, p < .05$).

DISCUSSION

This research was guided by the notion that the surprisingly modest influence of income on SWB and job satisfaction points to the need to investigate individual difference moderators of these relations. We proposed that although the overall effects of annual income on these outcomes is positive and small, the magnitude and even direction of these effects might vary as a function of an individual's work values. As predicted, we found that for individuals high on an extrinsic orientation toward work, SWB and job satisfaction were positively contingent on income; whereas for individuals high on an intrinsic orientation toward work, SWB was negatively

contingent on income. In this study, income, SWB, and job satisfaction were assessed 4 to 9 years after the assessment of work orientations. Thus, this study demonstrates the enduring impact of work values on the psychological responses to annual income.

The additional analyses differentiated among the three components of SWB and revealed that income positively influenced life satisfaction among individuals high in extrinsic orientation and negatively influenced life satisfaction and positive affect among individuals high in intrinsic orientation. Furthermore, across all five of the dependent variables used in our analyses (i.e., composite SWB, job satisfaction, and the three components of SWB), we obtained interaction effects in the predicted direction for both of our interaction hypotheses. The opposite direction of the moderation findings for intrinsic and extrinsic orientation was not due to bipolarity. In fact, these orientations were positively correlated in this study, suggesting that a general motivation factor may underlie both dimensions such that some people are simply more motivated, intrinsically and extrinsically, than others (e.g., Elliot & Church, 1997). Of course, another plausible explanation for the correlation between intrinsic and extrinsic orientation found here is common method bias. To establish measures of work orientation free of general motivation and response bias, we used residualized measures of intrinsic and extrinsic orientation to test our hypotheses. However, future research should directly address the relationship between individual differences related to intrinsic and extrinsic motivation and use established measures of these constructs to study motivational processes.

We predicted a positive contingency of SWB and job satisfaction on income for extrinsically oriented individuals based on our reasoning that money should have a greater influence on satisfaction with work and general quality of life among individuals who place relatively high value on extrinsic rewards. Our findings from the primary analyses confirmed these hypotheses and the ancillary analyses offered a more refined picture of the differential effects of income on the three components of SWB. Specifically, the only SWB component whose relationship with income was significantly moderated by extrinsic orientation was life satisfaction. Much of the research conducted within the Values as Moderators framework has only examined the differential effects of resources on life satisfaction and has not examined the affective components of SWB (Oishi, Diener, Lucas, et al., 1999; Oishi, Diener, Suh, et al., 1999). Thus, values related to money and material possessions may moderate the relations between possessing these resources and the cognitive appraisal component of SWB to a greater

extent than the emotional components of SWB. Future research should explore this possibility more directly.

We conceptualized extrinsic orientation as a general tendency to value work for financial reasons. However, the specific reasons why individuals value money have been shown to differentially affect SWB (Srivastava, Locke, & Bartol, 2001). Although income is largely valued for its capacity to enhance material comfort, it is also viewed by some people as a marker of competence and personal value. Stated differently, some people believe they are only worth “as much as they make.” Thus, extrinsically oriented individuals may be higher on SWB and job satisfaction when they earn higher compensation because they only feel competent and personally valuable to the extent that they make a lot of money. This explanation builds on the Values as Moderators perspective by identifying a reason why income might be especially valued among some members of a relatively high-income sample such as this. In terms of Maslow’s (1954) hierarchy of needs, excess income can aid in the satisfaction of esteem needs because high income implies high competence and overall personal worth. So, even when satisfaction of basic physiological and security needs is not an issue, some people will value high income as a marker of competence and personal worth. Future research should investigate perceived competence and self-worth as mediators of the effects of extrinsic orientation on the SWB- and job satisfaction-income contingencies.

Our measure of extrinsic orientation only tapped into values related to financial compensation, or “instrumental” work values (O’Reilly, 1977). Another type of work-related value that may be labeled extrinsic has to do with the desire for recognition and high status (see Amabile et al., 1994). Because our main concern was to investigate moderators of the contingencies of SWB and job satisfaction on income, it seemed most appropriate to use an individual difference variable pertaining to valuing income itself rather than one related to valuing other extrinsic incentives. Future research should, however, investigate the differential moderating roles of these two distinct types of extrinsic motivation in the influence of several extrinsic organizational factors, including income and organizational status, on SWB and job satisfaction.

The most counterintuitive finding of this research is the negative contingency of SWB on income for individuals high in intrinsic orientation. We offered two explanations related to CET for this negative contingency. First, it is possible that because of their inclination to be initially intrinsically motivated, individuals high in intrinsic orientation were more susceptible to the detrimental properties of rewards (Deci & Ryan, 1985). The second, more speculative, explanation is that high

income might be an indicator of having neglected intrinsic factors in choosing one’s job, which may yield greater detrimental consequences for individuals who are highly intrinsically oriented. The finding that intrinsic and extrinsic orientations are not bipolar in this and other research (e.g., Amabile et al., 1994) runs counter to this explanation. That is, if intrinsic and extrinsic motivation are not bipolar at the level of individual differences, perhaps they also do not represent opposite endpoints of the job choice continuum. In support of this challenge, Morgan and colleagues found that college students’ ratings of “perceived interestingness” and “high pay and status” of potential careers were either positively correlated or uncorrelated depending on the career (Morgan et al., 2001). Still, as factors influencing actual job decisions within a specific field, intrinsic and extrinsic considerations may be negatively correlated. Future research should test whether factors affecting job choice play a part in the phenomena demonstrated in this study.

A third explanation for the intrinsic orientation moderation finding is that this result is attributable to the amount of time that highly paid intrinsically oriented individuals spend at work. Perhaps individuals high in intrinsic orientation are more likely to value non-work-related goals, and those in high-paying, demanding jobs have less time to devote to such goals. However, in an effort to rule out this explanation, we controlled for number of hours worked per week in the main analyses.

We studied SWB and job satisfaction as distinct outcome variables in this study. Oishi and colleagues have theorized that general SWB judgments, particularly life satisfaction judgments, are driven by domain-specific satisfaction judgments (Oishi, Diener, Suh, et al., 1999). Job satisfaction may be considered one of these domain-specific satisfaction judgments. Although life satisfaction and job satisfaction were substantially correlated ($r = .50, p < .001$), we found that intrinsic orientation moderated the effect of income on life satisfaction but not job satisfaction. This pattern of findings underscores the importance of addressing these constructs separately. One explanation for this pattern of findings has to do with cognitive dissonance (Festinger & Carlsmith, 1959). Specifically, individuals high in intrinsic orientation who also have high-paying jobs value work for its capacity to satisfy intrinsic needs but might have neglected these needs while making their job decisions. Such individuals may feel the need to justify the SWB consequences of having neglected these needs when making their job choices by convincing themselves that they are satisfied with their jobs. In other words, such individuals might be aware that they have made themselves unhappy by neglecting intrinsic factors when choosing their jobs, and such a belief might conflict with

the belief that they are not at least satisfied with their jobs. It follows, then, that these individuals might adopt the belief that they are satisfied (or, at least, not dissatisfied) with their jobs for the sake of maintaining an internally consistent system of beliefs.

One null finding outside of this study's main hypotheses deserves attention. Specifically, we did not replicate the well-established small positive effect of annual income on SWB. One explanation for this null finding has to do with the sample used in this research. Evidence suggests that the effect of income on SWB becomes smaller at higher income levels within U.S. samples (Diener et al., 1993). This may be because as threat to basic need satisfaction becomes less of a realistic concern, income becomes a less crucial determinant of the overall quality of one's life. Thus, the high mean wealth of this sample might account for this null effect.

The results of this research should be interpreted with caution because of certain limitations. First, we expect that the demonstrated phenomena only apply to relatively privileged individuals. The median annual income in this sample was \$80,000 at the time of the 1995 follow-up and it is likely that many of this study's participants in relatively lower paying jobs had considerable financial assets independent of the money they were currently earning. It is unlikely that income would be negatively related to SWB for any type of person within a low-income sample. Also, income was self-reported in this study. Future research should obtain more objective measures of earned income as well as general wealth. Finally, we assessed a narrow range of the potential components of psychological well-being in this study. Construing well-being in terms of levels of life satisfaction, positive affect, and negative affect represents a hedonic, as opposed to eudaimonic, approach to well-being (Ryan & Deci, 2000). This approach makes the assumption that quality of life is best indicated by the amounts of pleasure and pain experienced in one's life. Other approaches to well-being propose that this construct is best conceptualized in terms of active psychological growth and the realization of human potential (Ryff, 1989). It is quite possible that having used measures of well-being consistent with this eudaimonic approach would have yielded different findings from those that we obtained.

CONCLUSION

Kasser and Ryan (1993) have proposed that there is a "dark side of the American dream" (p. 410) to accumulate wealth when this aspiration takes on a central role in one's life. This research takes their proposition a step further by demonstrating that actual financial success is

associated with low SWB among individuals with relatively strong intrinsic work values. This research also extends the Values as Moderators framework of SWB by showing that income is more of a positive predictor of SWB and job satisfaction for individuals with strong extrinsic work values than it is for individuals with weak extrinsic work values. Research on personality and SWB has largely focused on the relations between static traits and SWB. The present study, along with the Values as Moderators research on which it is based, aimed to address the substantive personality processes that affect SWB. As we have suggested, future research should focus on the processes by which intrinsic and extrinsic work orientations foster opposite contingencies of SWB on income. In particular, investigations of potential mediators such as perceived competence, intrinsic enjoyment of work, and job choice on the basis of intrinsic and extrinsic factors seem to be in order. For now, we conclude that high income has its advantages and its disadvantages, and the relative strength of each depends in part on what an individual values in the workplace.

REFERENCES

- Amabile, T. M., Hill, K. G., Hennessey, B. A., & Tighe, E. M. (1994). The Work Preference Inventory: Assessing intrinsic and extrinsic motivational orientations. *Journal of Personality and Social Psychology, 66*, 950-967.
- Boudreau, J. W., Boswell, W. R., & Judge, T. A. (2001). Effects of personality on executive career success in the United States and Europe. *Journal of Vocational Behavior, 58*, 53-81.
- Calder, B. J., & Staw, B. M. (1975). Self-perception of intrinsic and extrinsic motivation. *Journal of Personality and Social Psychology, 31*, 599-605.
- Caldwell, D. F., O'Reilly, C. A., & Morris, J. H. (1983). Responses to an organizational reward: A field test of the sufficiency of justification hypothesis. *Journal of Personality and Social Psychology, 44*, 506-514.
- Chatman, J. A., Caldwell, D. F., & O'Reilly, C. A. (1999). Managerial personality and performance: A semi-idiographic approach. *Journal of Research in Personality, 33*, 514-545.
- Craik, K. H., Ware, A. P., Kamp, J., O'Reilly, C., Staw, B., & Zedeck, S. (2002). Explorations of construct validity in a combined managerial and personality assessment programme. *Journal of Occupational and Organizational Psychology, 75*, 171-193.
- DeCharms, R. (1968). *Personal causation: The internal affective determinants of behavior*. New York: Academic Press.
- Deci, E. L., Koestner, R., & Ryan, R. M. (1999). A meta-analytic review of experiments examining the effects of extrinsic rewards on intrinsic motivation. *Psychological Bulletin, 125*, 627-668.
- Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. New York: Plenum.
- Diener, E. (1998). Subjective well-being and personality. In D. F. Barone & M. Hersen (Eds.), *Advanced personality* (pp. 311-334). New York: Plenum.
- Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The Satisfaction With Life Scale. *Journal of Personality Assessment, 49*, 71-75.
- Diener, E., & Fujita, F. (1995). Resources, personal strivings, and subjective well-being: A nomothetic and idiographic approach. *Journal of Personality and Social Psychology, 68*, 926-935.
- Diener, E., Sandvik, E., Seidlitz, L., & Diener, M. (1993). The relationship between income and subjective well-being: Relative or absolute? *Social Indicators Research, 28*, 195-223.

- Diener, E., Suh, E. M., Lucas, R. E., & Smith, H. L. (1999). Subjective well-being: Three decades of progress. *Psychological Bulletin, 125*, 276-302.
- Eisenberger, R., & Cameron, J. (1996). Detrimental effects of reward: Reality or myth? *American Psychologist, 51*, 1153-1166.
- Elliot, A. J., & Church, M. A. (1997). A hierarchical model of approach and avoidance achievement motivation. *Journal of Personality and Social Psychology, 72*, 218-232.
- Elliot, A. J., Sheldon, K. M., & Church, M. A. (1997). Avoidance personal goals and subjective well-being. *Personality and Social Psychology Bulletin, 23*, 915-927.
- Emmons, R. A. (1991). Personal strivings, daily life events, and psychological and physical well-being. *Journal of Personality, 59*, 453-472.
- Festinger, L., & Carlsmith, J. M. (1959). Cognitive consequences of forced compliance. *Journal of Abnormal and Social Psychology, 58*, 203-210.
- Glynn, M. (1998). Situational and dispositional determinants of managers' satisfaction. *Journal of Business and Psychology, 13*, 193-209.
- Hodson, R. (1985). Some considerations concerning the functional form of earnings. *Social Science Research, 14*, 374-394.
- Kasser, T., & Ryan, R. M. (1993). A dark side of the American dream: Correlates of financial success as a central life aspiration. *Journal of Personality and Social Psychology, 65*, 410-422.
- Kwan, V. S. Y., Bond, M. H., & Singelis, T. M. (1997). Pancultural explanations for life satisfaction: Adding relationship harmony to self-esteem. *Journal of Personality and Social Psychology, 73*, 1038-1051.
- Lease, S. H. (1998). Annual review, 1993-1997: Work attitudes and outcomes. *Journal of Vocational Behavior, 53*, 154-183.
- Lofquist, L. H., & Dawis, R. V. (1975). Vocational needs, work reinforcers, and job satisfaction. *Vocational Guidance Quarterly, 24*, 132-139.
- Maslow, A. H. (1954). *Motivation and personality*. New York: Harpers.
- Maurer, T. J., & Tarulli, B. A. (1994). Investigation of perceived environment, perceived outcome, and person variables in relationship to voluntary development activity by employees. *Journal of Applied Psychology, 79*, 3-14.
- Mookherjee, H. N. (1997). Marital status, gender, and perception of well-being. *Journal of Social Psychology, 137*, 95-105.
- Morgan, C., Isaac, J. D., & Sansone, C. (2001). The role of interest in understanding the career choices of female and male college students. *Sex Roles, 44*, 295-320.
- Oishi, S., Diener, E. F., Lucas, R. E., & Suh, E. M. (1999). Cross-cultural variations in predictors of life satisfaction: Perspectives from needs and values. *Personality and Social Psychology Bulletin, 25*, 980-990.
- Oishi, S., Diener, E., Suh, E., & Lucas, R. E. (1999). Value as a moderator in subjective well-being. *Journal of Personality, 67*, 157-184.
- O'Reilly, C. A. (1977). Personality-job fit: Implications for individual attitudes and performance. *Organizational Behavior and Human Decision Processes, 18*, 36-46.
- O'Reilly, C. A., & Caldwell, D. F. (1980). Job choice: The impact of intrinsic and extrinsic factors on subsequent satisfaction and commitment. *Journal of Applied Psychology, 65*, 559-565.
- O'Reilly, C., & Chatman, J. A. (1994). Working smarter and harder: A longitudinal study of managerial success. *Administrative Science Quarterly, 39*, 603-627.
- Pintrich, P. R., & Garcia, T. (1991). Student goal orientation and self-regulation in the college classroom. *Advances in Motivation and Achievement, 7*, 371-402.
- Ryan, R. M., & Deci, E. L. (2000). On happiness and human potentials: A review of research on hedonic and eudemonic well-being. *Annual Review of Psychology, 52*, 141-166.
- Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology, 57*, 1069-1081.
- Saks, A. M., Wiesner, W. H., & Summers, R. J. (1996). Effects of job previews and compensation policy on applicant attraction and job choice. *Journal of Vocational Behavior, 49*, 68-85.
- Shapira, Z. (1981). Making trade-offs between job attributes. *Organizational Behavior and Human Decision Processes, 28*, 331-355.
- Sheldon, K. M., & Kasser, T. (1998). Pursuing personal goals: Skills enable progress, but not all progress is beneficial. *Personality and Social Psychology Bulletin, 24*, 1319-1331.
- Srivastava, A., Locke, E. A., & Bartol, K. M. (2001). Money and subjective well-being: It's not the money, it's the motives. *Journal of Personality and Social Psychology, 80*, 959-971.
- Tetlock, P. E., Kristel, O. V., Elson, S. B., Green, M. C., & Lerner, J. S., (2000). The psychology of the unthinkable: Taboo trade-offs, forbidden base rates, and heretical counterfactuals. *Journal of Personality and Social Psychology, 78*, 853-870.
- Veenhoven, R. (1991). Is happiness relative? *Social Indicators Research, 24*, 1-34.
- Wanous, J. P., & Lawler, E. E. (1972). Measurement and meaning of job satisfaction. *Journal of Applied Psychology, 56*, 95-105.
- Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology, 54*, 1063-1070.

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