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Exploring the place of financial status in the good life: Income and meaning in life

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ABSTRACT

Two studies examined the association between income and meaning in life (MIL). Study 1 ($N = 781$) demonstrated that income and other measures of financial status are positively associated with MIL and other aspects of well-being. The association between income and MIL was partially explained by autonomy, competence, and perceptions of control. Study 2 ($N = 123$) examined people's forecasts of how financial status would affect their future well-being. Having a middle class or upper-middle class income in the future was expected to result in higher MIL, happiness, and need satisfaction than a life with a low income, showing that people perceive income as tied to meaning. These studies demonstrate how financial status can contribute to actual and expected MIL.

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Folk wisdom often portrays money as unimportant to living a good life. Indeed, in the psychological literature, wealth is often considered an extrinsic value and therefore potentially irrelevant to eudaimonic functioning (e.g. Ryan & Deci, 2001). Those who value extrinsic goods (such as money) above intrinsic values exhibit poorer psychological and physical functioning (e.g. Dittmar, Bond, Hurst, & Kasser, 2014; Kasser & Ryan, 1993, 1996). It is also debatable whether increases in societal wealth (i.e. GDP) boost well-being. Despite substantial economic improvements across countries during the mid-twentieth century, some data suggests that well-being has not correspondingly increased (Easterlin, 1974, 1995; though cf. Hagerty & Veenhoven, 2003; Stevenson & Wolfers, 2008), perhaps due to shifting norms for wealth (Easterlin, 1995). In contrast to these controversies, the association between personal income and life satisfaction (LS) is more straightforward: For individuals, income is consistently, though modestly, predictive of higher LS (e.g. Diener & Biswas-Diener, 2002; Diener, Ng, Harter, & Arora, 2010; Diener, Tay, & Oishi, 2013). Income's association with LS is curvilinear, diminishing as income rises, suggesting income may only boost well-being up to a point (e.g. Diener & Biswas-Diener, 2002; Diener et al., 2010; Kahneman & Deaton, 2010; Lamu & Olsen, 2016). In addition, income's benefits are likely to be more influential to overall evaluations of life than to emotional well-being (Kahneman & Deaton, 2010).

In this article, we present two studies examining the association between income and well-being, with special emphasis on the experience of life as meaningful. This focus on meaning in life (MIL) is important because MIL is often portrayed as emblematic of eudaimonic functioning (e.g. Lewis, Kanai, Rees, & Bates, 2014) and has at times been placed on a pedestal above worldly concerns (King, 2014; Ward & King, 2016b). Research has begun to explore the underpinnings of the positive relationship between income and LS (e.g. Howell, Kurai, & Tam, 2013; Johnson & Krueger, 2006). Similarly, here we hope to demonstrate, in varying ways, the promise of explicitly incorporating economic variables into MIL research.

Meaning in life and money

Although its definition has been the subject of debate, consensus has emerged that the experience of MIL includes a sense of one's existence as having purpose, significance, and coherence (Martela & Steger, 2016). MIL has been shown to be positively correlated with income (e.g. Kobau, Snizek, Zack, Lucas, & Burns, 2010; Pinquart, 2002; Ryff & Singer, 1998; Ward & King, 2016a). A recent longitudinal study suggested that this association is likely bidirectional. Just as finances may facilitate meaning and purpose, a sense of purpose predicts enhanced income over time (Hill, Turiano, Mroczek, & Burrow, 2016). If we

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entertain the idea that income is likely to be positively related to MIL, we can then pursue the interesting question of why that is the case.

Mechanisms linking income to well-being

The association between MIL and income may be explained by individual differences that are linked to both of these variables. For instance, income and other indicators of socioeconomic status are positively associated with autonomy, competence, and relatedness need satisfaction (e.g. Di Domenico & Fournier, 2014; Howell et al., 2013), which are themselves related to MIL (Trent & King, 2010). Income is also associated with various conceptualizations of personal control, including locus of control, personal mastery, and self-efficacy (e.g. Downey & Moen, 1987; Gecas, 1989; Lachman & Weaver, 1998; Levenson, 1981). Internal locus of control is positively related to MIL (e.g. Jackson & Coursey, 1988). Past research has shown that income's association with LS is mediated by need satisfaction and perceived control (e.g. Howell et al., 2013; Johnson & Krueger, 2006), supporting the idea that income may contribute to MIL through its influence on these variables. In addition to these more established potential explanatory variables, optimism may also explain the link between income and meaning: Higher socioeconomic status is linked to higher optimism (e.g. Heinonen et al., 2006; Segerstrom, 2007), a known correlate of MIL (e.g. Ho, Cheung, & Cheung, 2010; Ju, Shin, Kim, Hyun, & Park, 2013).

Income's relation to MIL may at times depend on the influence of other well-being variables. A recent series of studies demonstrated a positive correlation between income and MIL that was moderated by positive affect (Ward & King, 2016a). In a large representative sample, high positive mood mitigated the effects of low income in predicting MIL (Ward & King, 2016a, Study 1). Similarly, high positive affect compensated for low income in predicting MIL in a mood induction study (Ward & King, 2016a, Study 2). Finally, when asked to imagine a future life with a low income (i.e. minimum wage) vs. great wealth (i.e. income over \$1,000,000 per year), participants believed that the wealthy life would be not only happier, but also more meaningful than the life of poverty. The present studies seek to build on these results to continue a scientific conversation about the potential role of money in the experience of MIL.

Overview

Two studies examined the relationship between MIL and economic variables. Each study examined a different aspect of this association, in the hopes of laying the groundwork for studies on the place of economic variables in the good life. First, Study 1 examined whether income relates to MIL

and, if so, what psychological variables explain this relationship. We predicted that income and other measures of financial status would be positively associated with MIL, autonomy, competence, perceptions of control, and optimism. Moreover, we expected autonomy, competence, optimism, and perceptions of control would help explain income's association with MIL. Importantly, Study 1 included a measure of LS, allowing us to examine whether the relationships uncovered were specific to MIL or generalized across aspects of well-being.

Study 2 investigated whether folk ideas about the association between income and MIL reflect the diminishing returns of income suggested by past research. In previous research (Ward & King, 2016a), participants rated an extremely wealthy life as more meaningful than a financially poor one. Because the association between income and well-being is typically curvilinear, it was important to probe whether people viewed middle class and upper middle class incomes as equally likely to produce a meaningful life. That is, do people perceive that money offers diminishing returns to meaning beyond a certain point, or do they foresee a linear relationship?

Study 1

Study 1 examined the association between MIL and several measures of financial status and explored potential explanatory variables for this association. We predicted that income would share a quadratic association with MIL based on past research showing it shares a quadratic association with LS (e.g. Diener & Biswas-Diener, 2002; Lamu & Olsen, 2016). Study 1 also examined whether basic need satisfaction, personal control, and optimism mediated the association between income and MIL. We also included other well-being measures (LS, positive affect) to evaluate whether they shared a similar association with economic resources.

Study 1 included diverse economic variables, allowing us to test the relations of these to well-being. Analyses primarily relied on income as an indicator of financial status, consistent with past research on well-being, as cited above. In addition to income, we measured more subjective assessments of financial status, including perceptions of one's income relative to others, feelings of having enough money to meet one's needs, and satisfaction with income. Past research has demonstrated that subjective socioeconomic status can predict health and psychological well-being even more strongly than more objective economic measures (and even when controlling for objective measures; Adler, Epel, Castellazzo, & Ickovics, 2000). Consequently, we included both objective and subjective economic measures to provide the best understanding of which related to well-being. Finally, we assessed the extent

to which people value having expensive possessions and wealth to evaluate if this extrinsic valuation of money was negatively related to well-being.

Participants

Participants on Mechanical Turk ($N = 781$; 417 women, 364 men, paid \$1) completed this study online. Mean age was 34.61 ($SD = 11.94$). Ethnicities included white/Caucasian (79.1%), black/African American (6.5%), Hispanic/Latino (5%), Asian/Asian-American (6.6%), and other (2.7%). The majority of participants were married (36.4%) or in a relationship (22.5%); 34.4% were single and 5% were divorced (1.6% widowed or separated). (For income and education, see below).

Materials and procedures

Participants first completed well-being and personality measures, and then they completed reports of demographics and financial status.¹ Unless otherwise noted, items were rated on 1–7 scales with higher scores indicating higher agreement. Table 1 shows descriptive statistics.

Well-being

Meaning in life

Participants completed the five-item presence of meaning subscale of the Meaning in Life Questionnaire (MLQ; Steger, Frazier, Oishi, & Kaler, 2006; e.g. 'I have a good sense of what makes my life meaningful').

Satisfaction with life

Participants completed the Satisfaction with Life Scale (Diener, Emmons, Larsen, & Griffin, 1985) to measure LS (sample item: 'The conditions of my life are excellent').

Affect

Positive affect items included happy, satisfied, cheerful, enjoyment/fun, and content.² Negative affect items included sad, worried, frustrated.

Need satisfaction

The Basic Need Satisfaction Scale (Gagné, 2003) includes subscales measuring autonomy (7 items, e.g. 'I generally feel free to express my ideas and opinions'), competence (6 items, e.g. 'Most days I feel a sense of accomplishment from what I do'), and relatedness (8 items, e.g. 'People in my life care about me'). Composites were computed for each need.

Personality characteristics

Next, participants completed measures that might mediate the association between MIL and socioeconomic status.

Personal control

We used three general items (versus items pertaining to specific events) from the Levenson Multidimensional Locus of Control scale (Levenson, 1973) to measure the sense of personal control (e.g. 'My life is determined by my own actions.'). Because items on this scale were quite specific, three additional face-valid items were added to better reflect general perceptions of control (e.g. 'I don't have much control over bad things that happen to me,' reverse-coded; see Supplementary Materials).

We included additional questions, modeled on the MIDUS assessment (Brim et al., 2011), in which participants rated, from 1 (No control) to 7 (Significant control), the control they perceived over five life domains: health, work situation, financial situation, personal relationships, and life.

Table 1. Intercorrelations between well-being measures and their correlations with economic measures, study 1.

	Means(SD)	α	MIL	SWL	OPT	PA	AUTO	COMP	REL	PCON	LIFECON
Meaning in life	4.55(1.58)	.95		.64**	.59**	.65**	.55**	.62**	.49**	.43**	.49**
Satisfaction with life	4.32(1.59)	.93			.61**	.74**	.61**	.63**	.59**	.46**	.61**
Optimism	4.53(1.48)	.93				.71**	.67**	.71**	.62**	.59**	.54**
Positive affect	4.46(1.40)	.88					.65**	.71**	.69**	.49**	.62**
Autonomy	4.98(1.04)	.82						.73**	.69**	.58**	.66**
Competence	4.90(1.19)	.82							.7**	.54**	.61**
Relatedness	4.99(1.11)	.87								.46**	.53**
Personal control	4.66(1.06)	.83									.67**
Life domain control	4.96(1.06)	.81									
<i>Economic measures</i>											
Income	\$35,001-\$50,000 ^a	–	.14**	.34**	.19**	.2**	.18**	.19**	.21**	.17**	.25**
SES ladder	4.85(1.92)	–	.22**	.38**	.25**	.28**	.26**	.24**	.29**	.25**	.31**
Spending money	3.97(1.51)	.81	.43**	.65**	.45**	.45**	.45**	.47**	.43**	.43**	.55**
Income satisfaction	3.51(1.72)	–	.4**	.55**	.33**	.4**	.35**	.32**	.33**	.33**	.45**
Education	Some college ^a	–	.06	.06	.09*	.02	.0	.08*	.05	.06	–.00
Extrinsic valuation of money	2.81(1.35)	.88	–.10*	–.04	–.13	.04	–.22**	–.13*	–.15**	–.06	–.04

Notes: $N = 737$.

^aFor income and education, medians are reported.

** $p < .001$; * $p < .05$.

Optimism

Participants completed the Life Orientation Test-Revised (Scheier, Carver, & Bridges, 1994, p. 6 items, excluding fillers), measuring the propensity to expect positive events in the future (e.g. 'I'm always optimistic about my future').

Economic variables

Income

Participants selected their household income from the following categories: less than \$15,000 (14% participants), \$15,001–25,000 (13.3%), \$25,001–\$35,000 (14.2%), \$35,001–\$50,000 (17.2%), \$50,001–\$75,000 (20.6%), \$75,001–\$100,000 (9.9%) \$100,001–\$150,000 (8.1%), and \$150,001 and over (2.7%).

Education

Participants selected among six categories: some high school/G.E.D. (0.7% participants), high school (11.4%), some college (37.4%), bachelor's degree (37.7%), Master's degree (10.3%), doctorate degree (2.6%).

SES ladder

Participants completed the MacArthur Scale of Subjective Socioeconomic Status (Adler et al., 2000), a picture of a ten-rung ladder representing where people stand in the US (top rung = best off in terms of money, education, and jobs; bottom rung = worst off economically). Coding responses so that high scores represent higher placement on the SES ladder, responses spanned the full range.

Spending money

Participants rated three items about discretionary spending money (e.g. 'I have enough money to buy things I want'; Griskevicius, Tybur, Delton, & Robertson, 2011).

Financial satisfaction

Participants rated satisfaction with their current income, from 1 'Extremely dissatisfied' to 7 'Extremely satisfied'.

Extrinsic valuation of money

Participants rated extrinsic valuing of money on five items (e.g. 'It is important to me to own luxury items and prestigious brands'; see Supplementary Materials).

Attention check

Participants completed an instructional manipulation check (adapted from Oppenheimer, Meyvis, & Davidenko, 2009) requiring them to read a long paragraph that instructed them towards the end to enter a sentence in the 'other' response option. Data from participants responding incorrectly ($n = 43$; or 5.5% of participants) were discarded.

Results and discussion

Income and subjective socioeconomic status were normally distributed (skew $<+/-0.11$, kurtosis $<+/-0.87$). Income was correlated with education, $r = .24$, the SES ladder, $r = .42$, spending money, $r = .43$, and financial satisfaction, $r = .40$, all p 's $< .001$. The SES ladder was correlated with spending money, $r = .49$, $p < .001$, and financial satisfaction, $r = .37$, $p < .001$. Extrinsic valuation of money was weakly related to income, $r = .11$, $p = .003$, and subjective socioeconomic status, $r = .12$, $p = .001$. (See the Supplementary Materials for the full correlation matrix).

Table 1 displays the correlations among well-being variables and financial indicators. LS, positive affect, need satisfaction, optimism, and personal control were all moderately to strongly correlated with each other. In addition, MIL was associated with income, SES ladder, discretionary spending money, and financial satisfaction as were LS, optimism, positive affect, need satisfaction and personal control. Income was more strongly correlated with LS than MIL, $z = 4.09$, $p < .001$.

Perhaps due to the lack of variability in education (most participants had a college degree or some college), education was only weakly related to optimism and competence, and it was unrelated to other well-being measures. Consistent with past research (e.g. Kasser & Ryan, 1996), extrinsic valuation of money was negatively associated with MIL and need satisfaction.

Quadratic associations

We next tested for a quadratic association between income and MIL. When MIL was regressed on income, $\beta = .16$ $p < .001$, and quadratic income, $\beta = -.14$, $p < .001$, $\Delta R^2 = .02$ for step, both were significant predictors. As Figure 1 shows, income is initially associated with higher MIL but this association weakens as income rises. As shown in Figure 2, consistent with past research (e.g. Diener & Biswas-Diener, 2002), there was also a significant quadratic effect of income on LS, $\beta = -.15$ $p < .001$, $\Delta R^2 = .02$ for step; for linear income, $\beta = .35$, $p < .001$. Although MIL and LS were lower in the highest income group ($> \$150,000$) versus the middle income groups in these figures, these estimates should be interpreted with caution due to the small sample size ($n = 20$) of people in this high income group.

Mediation models

Next, mediational models examined which variables might account for the quadratic association between income and MIL. We relied on income, rather than more subjective

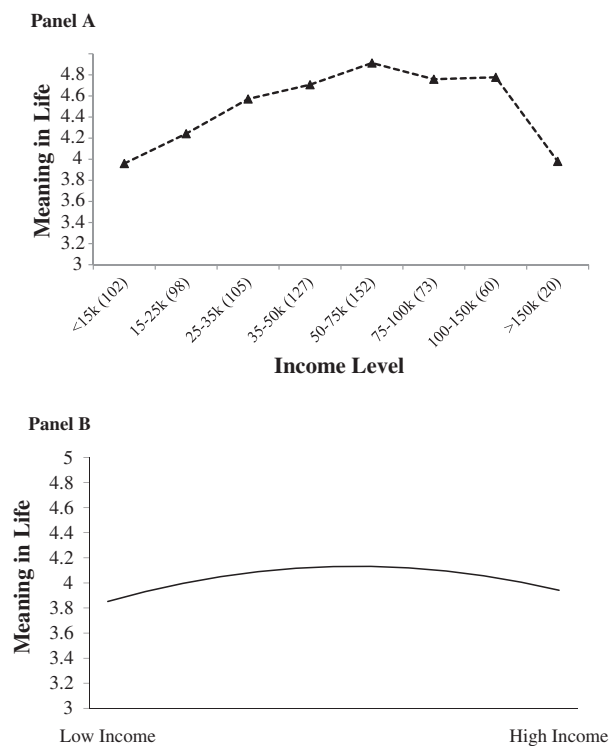


Figure 1. Study 1, quadratic effect of income on meaning in life (Panel A) & quadratic effect of income on meaning in life when controlling for perceptions of control, autonomy, and competence (Panel B).

Note: *n*'s for each category are shown in parenthesis in Panel A.

measures of SES, because subjective measures might be more strongly influenced by shared method variance and desirability bias. As Table 1 shows, many of the predictors were strongly correlated. As such, individual beta weights should be interpreted with caution. In addition, relatedness failed to contribute to the association between income and MIL when entered in models with autonomy and competence (see Supplementary Materials). Given that past research has demonstrated that autonomy, competence, and perceptions of control explain income's association with LS (e.g. Di Domenico & Fournier, 2014; Howell et al., 2013; Johnson & Krueger, 2006), to simplify analyses, we present the models including only these variables. Optimism also partially mediated the association between income and MIL/LS, as can be seen in the Supplementary Materials.

General perceptions of control and specific life domain control were strongly correlated, $r = .67, p < .001$, so an aggregate of these was used in mediation analyses. Using the PROCESS macro in SPSS (Hayes, 2012; Model 4), autonomy, competence, and control were entered as parallel mediators, and the linear effect of income was treated as a covariate. As Figure 3 shows, confidence intervals for the indirect effects of autonomy, competence, and perceptions of control did not include zero,

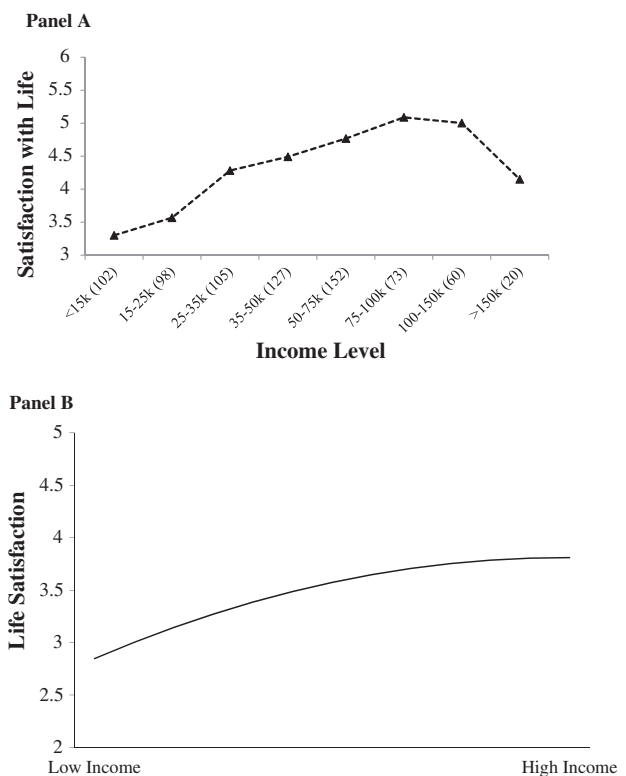


Figure 2. Study 1, quadratic effect of income on life satisfaction (Panel A) & quadratic effect of income on life satisfaction when controlling for perceptions of control, autonomy, and competence (Panel B).

Note: *n*'s for each category are shown in parenthesis in Panel A.

suggesting they each independently partially mediated the quadratic effect of income on MIL. Note the association was reduced but not fully eliminated. As Panel B of Figure 1 shows, controlling for autonomy, competence, and perceptions of control, the quadratic association between income and MIL, though statistically significant, is negligible.

A similar mediational analysis for LS is shown in Figure 4. Autonomy, competence, and perceptions of control each independently mediated the quadratic effect of income on LS (i.e. all indirect effect confidence intervals did not contain zero), though the association remained significant. This quadratic association between income and LS, controlling for autonomy, competence, and perceptions of control, is apparent in Panel B of Figure 2.

We also examined income's association with both MIL and LS, when controlling for the other. Controlling for LS, $\Delta R^2 = .41, \beta = .66, p < .001$, the quadratic income term was no longer related to MIL, $\beta = -.04, p = .12$, and the linear term was negatively related, $\beta = -.07, p = .02, \Delta R^2 = .007$ for step. Controlling for MIL, $\Delta R^2 = .41, \beta = .59, p < .001$; both quadratic income, $\beta = -.07, p = .02$, and linear income, $\beta = .26, p < .001, \Delta R^2 = .06$ for step, were positively related to LS.

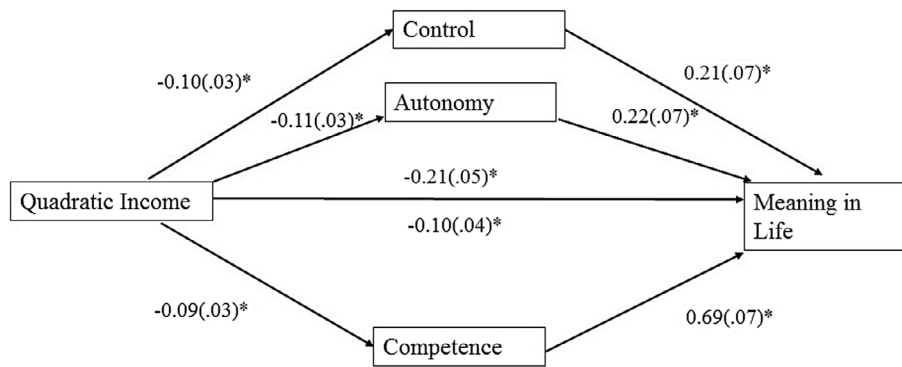


Figure 3. Mediation model predicting meaning in life from quadratic income through perceptions of control, autonomy, and competence; study 1.

Notes: $N = 737$. * $p < .05$. Values presented are unstandardized betas. The linear effect of income on life satisfaction was controlled for, $b = 0.32(0.04)$, $p = .52$. Control, autonomy, and competence all independently mediated the effect of quadratic income on life satisfaction, CI's for indirect effects = $[-0.05, -0.005]$ for control; $[-0.05, -0.007]$ for autonomy, $[-0.12, -0.02]$ for competence. Model run using Process Model 4 (Hayes, 2012).

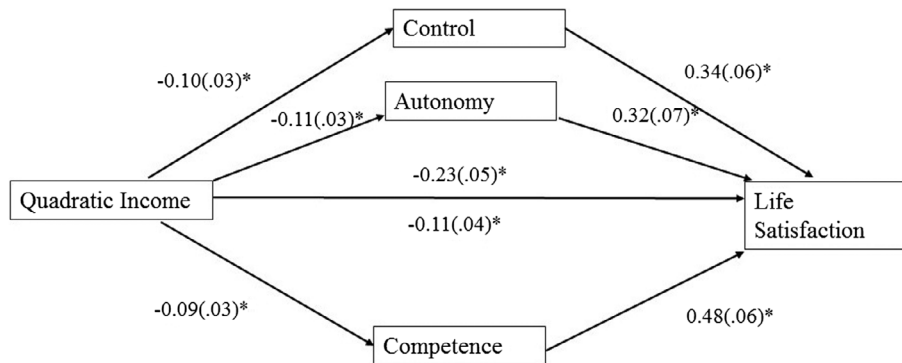


Figure 4. Mediation model predicting life satisfaction from quadratic income through perceptions of control, autonomy, and competence; study 1.

Notes: $N = 737$. * $p < .05$. Values presented are unstandardized betas. The linear effect of income on life satisfaction was controlled for, $b = 0.32(0.04)$, $p < .001$. Control, autonomy, and competence all independently mediated the effect of quadratic income on life satisfaction, CI's for indirect effects = $[-0.06, -0.01]$ for control; $[-0.07, -0.01]$ for autonomy, $[-0.08, -0.01]$ for competence. Model run using Process Model 4 (Hayes, 2012).

Employment status

Next, we compared those who were at least employed part time ($n = 496$) to the unemployed ($n = 82$) on well-being measures. The employed had significantly higher MIL, $M(SD) = 4.74(1.49)$ and LS, $M(SD) = 4.52(1.52)$, than the unemployed, for unemployed MIL $M(SD) = 3.25(1.60)$, for LS, $M(SD) = 3.03(1.55)$; $t's > 8.23$, $p's < .001$. This difference remained significant for both criteria, $F's(1, 575) > 40.02$, $p's < .001$, when controlling for income, $F's(1, 575) > 26.98$, $p's < .001$. The Supplementary Materials present additional analyses comparing different employment statuses.

Satisfaction with income

Finally, we examined satisfaction with income as a contributor to the association between income and well-being measures. Controlling for satisfaction with income, $\Delta R^2 = .19$, $\beta = .43$, $p < .001$, quadratic income, $\beta = -.18$,

$p = .01$ but not linear income, $\beta = .02$, $p = .62$ ($\Delta R^2 = .008$, $p = .03$ for step), predicted MIL. Controlling for satisfaction with income, $\Delta R^2 = .35$, $\beta = .54$, $p < .001$, linear income, $\beta = .13$, $p < .001$, and quadratic income, $\beta = -.08$, $p = .01$ ($\Delta R^2 = .02$ for step), still predicted LS. Thus, satisfaction with income appears to partially account for the association between income and well-being. Interestingly, satisfaction with income predicted well-being even at low levels of income: Among participants with incomes less than \$25,000 ($n = 212$), income satisfaction was correlated with MIL, $r = .37$, and LS, $r = .50$, $p's < .001$.

Brief discussion

Study 1 demonstrated that financial status is positively related to MIL and other features of well-being. Autonomy, competence, and perceptions of control partially mediated income's association with MIL and LS. Thus, income may have an indirect role in promoting MIL (and LS) through

its associations with other forms of well-being, though the cross-sectional nature of these data of course limits conclusions about the underlying causal pathway from income to MIL.

These results show income and subjective measures of financial status related to multiple facets of both eudaimonic and hedonic well-being. However, income shared a stronger relationship with LS (often considered more hedonic) than with MIL (generally considered eudaimonic). Importantly, the association between income and MIL was curvilinear. People with income levels of \$50,000-\$75,000 had the highest level of MIL; at higher levels of income, MIL plateaued and there was a decrease in the highest income group (>\$150,000; $n = 20$). Past research using large samples has not provided evidence for decreased well-being at high incomes (e.g. Diener et al., 2010; Kahneman & Deaton, 2010), so these findings may reflect the small sample size of wealthy individuals. Study 2 tested whether naive theories map onto these results: Do people have insight into income's diminishing returns, and do they anticipate that autonomy and competence likely underlie this association?

Study 2

People often aspire to high paying careers and affluent lifestyles, envisioning that luxurious belongings and experiences may bring high levels of happiness. Indeed, the perceptions people have about the importance of income to well-being may affect the choices they make in the hopes of achieving a meaningful life. Thus, it is valuable to investigate people's folk theories about the role of economic factors in well-being (Scollon & King, 2011). Study 2 tested the effects of experimentally manipulated expectations of financial success on forecasts of future MIL, happiness, and need satisfaction. Although past research has shown that people expect wealthy incomes to lead to higher MIL and happiness than low incomes (Ward & King, 2016a), it is uncertain whether people anticipate differences in well-being between gradations of wealth (e.g. low income versus middle class; middle class versus upper middle-class/wealthy).

Participants were assigned randomly to imagine their future with either a low, middle-class, or upper middle-class/wealthy income. Then, they rated their expected MIL, search for meaning, happiness, and need satisfaction. We predicted that people would forecast that income would have a larger influence on expected happiness than on expected MIL and relatedness. We also expected participants would foresee higher incomes as leading to more autonomy and competence, which would account for the stronger expectations of MIL and happiness with these lifestyles.

Participants

123 undergraduates (55 women, 67 men, 1 unreported; mean age = 19.32, $SD = 1.33$) at a large Midwestern university in the United States participated online in exchange for research credit. Ethnicities included white/European American (84.4%), black/African American (7.4%), Asian/Asian-American (5.7%), Middle Eastern/Arab (1.6%) and other (0.8%).

Materials and procedures

Participants were assigned randomly to one of three future outcomes: poor (\$20,000 per year; $n = 40$), middle class (\$70,000 per year; $n = 43$), or upper middle class/wealthy (\$250,000 per year; $n = 39$). These numbers were rough approximations of income levels (i.e. <30%, 50%; >80%) from Census population data ('Historical income,' 2016). Participants were instructed to imagine and write at least five sentences about how they would feel if in five years they had the income specified (adapted from Ward & King, 2016a). Participants then rated the dependent measures based on how they expected their lives to be if they actually had the life they wrote about. Unless noted, items were rated on 1-7 scales with higher scores indicating higher agreement.

Expected meaning in life

The MLQ presence subscale from Study 1 was modified to reflect how one would feel in the future (e.g. 'My life would have a clear sense of purpose') for a measure of *Future MIL*. In addition, we measured *Future Search for Meaning* using a future-tense version of the search subscale of the MLQ (e.g. 'I would be seeking a purpose or missing for my life'). Although we measured the search for meaning to include the full questionnaire, we were primarily interested in the presence of meaning.

Expected need satisfaction

Items (2 for each need) from the Basic Need Satisfaction Scale from Study 1 were modified to represent future need fulfillment of autonomy ('I feel like I would be free to decide for myself how to live my life'; 'I feel like I would pretty much be myself in daily situations'), competence ('Most days I would feel a sense of accomplishment from what I do'; 'I often would not feel very capable', reverse-coded), and relatedness ('The people in my life would care about me'; 'The people I would interact with regularly would not seem to like me much', reverse-coded). Composites were formed for each need. Items were chosen based on item-total correlations with the full subscales in past datasets.

Expected positive affect

Participants rated how they would feel if they had the life they wrote about, from 1 ('Very sad') to 7 ('Very happy').

Results

One participant in the poor future condition was dropped for failing to follow instructions. Table 2 shows the results by condition. People who imagined their lives with middle class and upper middle class/wealthy lifestyle incomes expected higher MIL, happiness, autonomy, and competence than people in the poor future condition. Means on expected well-being did not differ between the middle and upper middle/class wealthy conditions, similar to the actual data in Study 1. Unexpectedly, people imagining an upper middle class future thought that they would search for meaning more and have lower relatedness than those imagining a middle class future. Across measures, the middle class lifestyle was perceived to be highest in well-being.

Because the middle class and upper middle/wealthy conditions did not differ on expected MIL, happiness, autonomy, or competence, we pooled these groups to provide a comparison group to the poor condition for subsequent analyses. There was a larger disparity between the middle class/upper middle class group and poor group on expected happiness, $t(120) = 14.74$, $d = 2.69$ than expected MIL, $t(120) = 7.62$, $d = 1.39$. Thus, money matters more to expectations for happiness than MIL, consistent with past research (Baumeister, Vohs, Aaker, & Garbinsky, 2013).

Were condition differences on expected happiness and MIL due to differences in expected need satisfaction? Controlling for autonomy, $\beta = .21$, $p = .002$, and competence, $\beta = .34$, $p < .001$, $\Delta R^2 = .68$, for step, condition (0 = poor; 1 = middle class/upper middle class) still significantly predicted expected happiness, $\beta = .44$, $p < .001$, $\Delta R^2 = .10$. However, when controlling for autonomy, $\beta = .22$, $p = .012$, and competence, $\beta = .55$, $p < .001$, $\Delta R = .59$, for step, condition (0 = poor; 1 = middle class/upper middle class) did not predict expected MIL, $\beta = .05$, $p = .55$, $\Delta R^2 = .001$. These results suggest that naïve theories of the association between income and MIL are rather

nuanced, with forecasts mapping well on to the patterns identified in Study 1.

Brief discussion

Study 2 suggests that people think income can aid in producing a more meaningful, happy, and need satisfying life, but that this association is not linear: People believe that their well-being will be just as high with a middle class income (\$70,000) as with an upper middle class/wealthy income (\$250,000), dovetailing well with results of Study 1. Although previous research has shown that people may overestimate the role of income in LS (Aknin, Norton, & Dunn, 2009; though cf. Cone & Gilovich, 2010), these results show that people do have insight into the diminishing returns income can offer for well-being.

Interestingly, these results illustrate that part of the reason expected MIL is tied to income is due to the role income is thought to play in promoting need satisfaction. In Study 1, income and other measures of socioeconomic status were positively associated with need satisfaction. These results show that people accurately perceive a link between income and need satisfaction (albeit likely an exaggerated one), which leads them to think higher financial resources can facilitate MIL and happiness. One limitation of this study was the low alphas of the 2-item expected autonomy and relatedness scales (α 's = .56, .49, respectively), which suggests these modified shortened scales did not fully capture need satisfaction as well as longer subscales would have. Future research should utilize longer assessments of these expected needs to provide the most accurate measurement of them.

Together, the results of Studies 1 and 2 demonstrate both an actual and perceived link between financial resources and eudaimonic and hedonic well-being.

General discussion

The present studies examined the actual (Study 1) and forecasted (Study 2) association between MIL and financial resources. Study 1 demonstrated that income and other

Table 2. Effects of condition on well-being measures, study 2.

	Grand mean (SD)	α	Condition			F(119)	Partial η^2
			Poor (n = 40)	Middle class (n = 43)	Upper middle class/rich (n = 39)		
Meaning in life	4.59 (1.39)	.90	3.46 (1.18) ^a	5.28 (1.04) ^b	4.99(1.23) ^b	29.75**	0.33
Search for meaning	4.57(1.52)	.94	5.30(1.06) ^a	3.84(1.46) ^b	4.64(1.63) ^c	11.21**	0.16
Happiness	4.78(2.12)	–	2.35(1.29) ^a	5.86(1.17) ^b	6.08(1.37) ^b	108.50**	0.65
Relatedness	5.37(1.18)	.49	5.04(1.17) ^a	5.80(1.10) ^b	5.23(1.17) ^a	5.03*	0.08
Autonomy	4.98(1.52)	.56	3.64(1.38) ^a	5.44(1.07) ^b	5.85(1.09) ^b	39.55**	0.40
Competence	4.70(1.69)	.74	3.04(1.38) ^a	5.47(1.15) ^b	5.55(1.15) ^b	54.12**	0.48

Notes: Means values with different superscript letter in rows are significantly different tested by 1-way ANOVA followed by Bonferroni post-test, $p < .05$. ** $p < .0001$; * $p < .01$.

measures of financial status are positively associated with MIL, LS, need satisfaction, positive affect, perceptions of control, and optimism. The association between MIL and income was partially mediated by autonomy, competence, and perceptions of control. Study 1 revealed a curvilinear association between income and MIL: Income was positively related to MIL at low levels of income, yet this association weakened among people with middle class incomes, who had the highest reported MIL. In Study 2, people forecasted that MIL, need satisfaction, and happiness would be higher with a middle class or upper-middle class income (versus a low income), but they did not perceive differences in well-being between middle and upper-middle class incomes. Thus, people exhibited some accuracy in understanding that income may benefit well-being, but only up to a certain point.

Implications

The present results show that income's role in MIL and LS is partially attributed to autonomy, competence, and perceptions of control. Thus, people with low incomes may be able to improve their well-being by aiming to heighten their sense of control, autonomy, and competence in their daily lives. For instance, Lachman and Weaver (1988) found that people with low incomes who perceived a high sense of control over life exhibited well-being on par with people with high incomes.

People with low incomes may find a strong sense of MIL through other sources. Dispositional or induced positive affect can mitigate the effect of low income on MIL (Ward & King, 2016a). In addition, religiosity can serve as a potent source of meaningfulness, particularly among people with minimal financial resources: People in lower income nations reported higher meaning than people in high income nations, due to the higher levels of religiosity in low-income countries (Oishi & Diener, 2014). Also, relatedness, which was relatively irrelevant in these studies, may be especially important as a foundation of meaning in the face of chaos among individuals with lower SES (Piff, Stancato, Martinez, Kraus, & Keltner, 2012). Finally, emotional stability has also been found to moderate the effect of income on LS: Income is more strongly tied to LS (Soto & Luhmann, 2013) among those low in emotional stability and particularly at low levels of income (Proto & Rustichini, 2015).

Limitations & future research directions

We have interpreted the relationship between income and MIL as income potentially promoting MIL. The opposite causal path is also plausible. As noted earlier, recent longitudinal research shows that purpose in life predicts increases in income over time, even when controlling for LS, positive affect, and personality traits (Hill et al., 2016).

Research has also shown that people who find their work meaningful – which is strongly associated with general MIL – have higher career commitment (Steger, Dik, & Duffy, 2012), which may also lead to increased income. Other features of well-being discussed in these studies may also encourage higher earning potential: People with high autonomy and competence may be more likely to be motivated and successful in their professional lives, which may lead to higher incomes. Understanding how facets of well-being can promote economic and career success is an important avenue for future research.

Similarly, Study 1 showed that income's association with MIL is explained by its link to basic need satisfaction. An alternate causal pathway is also possible: Financial resources may bolster MIL and LS, which could have downstream consequences on need satisfaction and perceptions of control. Further examining the causal pathways between well-being variables remains an intriguing topic for future studies.

Although income is arguably more objective than subjective ratings of financial standing, it is important to note that Study 1 participants self-reported their income. Such self-reports may be affected by intentional or unintentional inaccuracies. Another potential issue with our reliance on income is that we could not account for cost-of-living differences in the varied geographical locations in the United States in which participants lived. The association between income and well-being might be stronger in areas with similar costs of living.

Research on economic variables and MIL might benefit from probing whether access to financial resources facilitates the specific components of MIL. For instance, economic success might enhance significance, allowing parents to support children's education or facilitating philanthropy which might enhance a sense of mattering to the world (Freund & Blanchard-Fields, 2014; Smeets, Bauer, & Gneezy, 2015). Economic pursuits can be an important source of motivation, especially for those who are not well off, engendering a sense of purpose. Income also reduces the hassles and stressors associated with making ends meet, fostering a sense of coherence. Future research might use more tailored assessments of the components of MIL to address these possibilities.

Consistent with past research (e.g. Dittmar et al., 2014), in Study 1 valuing money and expensive possessions was negatively related to MIL and to need satisfaction. Yet, it is unclear at which point valuing wealth becomes detrimental. People living in poverty may place goals for economic success above other needs until a level of economic comfort has been reached. What are the implications of basing MIL on one's economic standing (even if temporarily)? People who consider financial success important to MIL may be more prone to seek high paying jobs at the

expense of other important life goals, ultimately vitiating their likelihood of experiencing meaning. This possibility underscores the importance of taking a person-centered approach when examining the dynamic interplay of financial status, financial pursuits, and the experience of meaning.

The present studies demonstrate the value of considering economic resources when investigating what contributes to a meaningful life. Further understanding how economic factors relate to well-being is an important scientific goal and has significant implications for society and policy.

Notes

1. We included additional measures in this study that are excluded from analyses.
2. We investigated potential interactions between PA and expected/actual income in Studies 1 and 2 as these were noted in previous research (Ward & King, 2016a). Specifically, Ward and King found a stronger relationship between PA and MIL among people with low incomes. Study 1, a main effect of PA emerged, $\beta = .53$, $p < .001$, but income and the PA X income interaction were not significant, β 's $< .05$; p 's $> .16$. This lack of an interaction may be due to the nature of the participant sample or the different measure of PA used in this study (versus Ward & King, 2016a). In Study 2, we also examined whether expected happiness interacted with dummy coded conditions (middle class treated as baseline) to predict expected MIL. There was a main effect of expected happiness on expected MIL, $\beta = 0.79$, $p < 0.001$, but the interactions between dummy coded condition and expected happiness were not significant, β 's $< +/-.09$ p 's $> .61$. Within cell correlations between expected happiness and MIL were consistent with Ward & King, 2016a: r 's = .66, .58, .49; p 's $< .001$ for poor, middle class, and upper middle class/wealthy future conditions, respectively.

Disclosure statement

No potential conflict of interest was reported by the authors.

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