


Feeling Interpersonally Controlled While Pursuing Materialistic Goals: A Problematic Combination for Moral Behavior

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Abstract

We created a life-goal assessment drawing from self-determination theory and achievement goal literature, examining its predictive power regarding immoral behavior and subjective well-being. Our source items assessed direction and energization of motivation, via the distinction between intrinsic and extrinsic aims and between intrinsic and extrinsic reasons for acting, respectively. Fused source items assessed four goal complexes representing a combination of direction and energization. Across three studies ($N_s = 109, 121, \text{ and } 398$), the extrinsic aim/extrinsic reason complex was consistently associated with immoral and/or unethical behavior beyond four source and three other goal complex variables. This was consistent with the triangle model of responsibility's claim that immoral behaviors may result when individuals disengage the self from moral prescriptions. The extrinsic/extrinsic complex also predicted lower subjective well-being, albeit less consistently. Our goal complex approach sheds light on how self-determination theory's goal contents and organismic integration mini-theories interact, particularly with respect to unethical behavior.

Keywords

goals, morality, self-determination theory, well-being

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What are the root causes of immoral and/or unethical behavior? Herein we approach this question from a motivational perspective, attempting to understand both the life-goals and the reasons for pursuing the life-goals that are associated with immoral behavior. We test the hypothesis that a particular configuration of life-goals and reasons underlies much immoral behavior—one in which people pursue money and resources at the behest of controlling others. In the process we also present a new application of the emerging concept of goal complexes, originally derived from the achievement goal literature (Elliot & Thrash, 2001; Sommet & Elliot, 2017). Specifically, we use a goal complex approach to link self-determination theory's (SDT) goal contents mini-theory and SDT's organismic integration mini-theory (Deci & Ryan, 2017), shedding new light on how the two mini-theories interact and combine to account for important outcomes.

Moral Psychology and Motivation

Moral psychology is a large field, encompassing many theoretical perspectives including social learning perspectives (Bandura, 1999), cognitive-developmental perspectives (Kohlberg, 2008), moral identity perspectives (Damon & Colby, 2015),

humanistic perspectives (Gino, Kouchaki, & Galinsky, 2015), sociobiological perspectives (Haidt, 2012), and personality trait perspectives (Ashton & Lee, 2007). The field also focuses on explanatory variables from multiple levels of analysis ranging from neurochemical to neurofunctional, from cognitive to emotional, from person-based to situation-based, and from dyads to groups to cultures (Rommel & Glenn, 2015).

A common but often unstated element in many of these analyses is *motivation*. People committing immoral acts are trying to do something, but what are they doing and why are they trying to do it? What goals do the immoral behavior serve or fulfill? To what enticing temptations might persons fall prey, thus becoming disengaged from their own moral scruples (Bandura, 1999)? And what motivated strategies

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might they use to ward off recriminations when they violate moral norms (Bandura, 1999; Schlenker, Britt, Pennington, Murphy, & Doherty, 1994)? On the contrary, when people manage to behave morally, why do they do it? Are they motivated by a desire to conform to social norms or to express reasoned personal principles (Kohlberg, 2008)? What is the process by which people internalize the moral motivations within their milieu, making them their own, and how might they fail in this critical developmental task?

Despite the apparent relevance of motivation theories for moral questions, the field of motivation research has contributed relatively little to the understanding of moral versus immoral behavior (for exceptions, see Frimer, Walker, Lee, Riches, & Dunlop, 2012; Kaplan, 2016; Murdock & Anderman, 2006). In part, this may be due to motivation researchers' conventional focus on the *quantity* of motivation (i.e., strength, intensity, persistence), more so than the *quality* of motivation (i.e., whether the motivation is health-promoting, prosocial, or commendable in some other way). However, when distinguishing between moral (commendable) versus immoral (non-commendable) behavior, more than the mere quantity of motivation needs to be considered. How can "motivational quality" be conceptualized? Two possibilities are suggested by the fact that motivation theories have historically addressed both the *direction* and *energization* of behavior (although not often at the same time). Direction concerns the explicit target or goal of the behavior. Given an appropriate theory we can ask, does a particular type of goal-target facilitate moral versus immoral behavior? In contrast, energization concerns the reasons why people invest effort into the goal. Given an appropriate theory we can ask, do the reasons a person pursues that goal-target make a difference, in terms of prompting moral versus immoral behavior?

Exemplifying this kind of approach, Frimer and colleagues (2012) examined the motivational targets of moral exemplars compared with equally influential but less moral figures. They found that moral exemplars showed integration of agency and communion motives in their speeches and writings, whereas comparison subjects showed "unmitigated agency," in which individual strivings were not tempered by concern for others. Frimer, Walker, Dunlop, Lee, and Riches (2011) found a similar pattern involving integration of agency and communion motives by exemplars, and Frimer and Walker (2009) showed that the synergistic combination of self-interest and moral concerns was associated with moral behavior. Notice that the motivational perspective of Frimer et al. conduces to such an analysis because of its assumptions regarding the motivational "quality" of goal-targets—namely, that agency/self-interest, when untempered by communion/moral interest, is problematic for people and societies.

SDT

In this article, we draw on SDT (Deci & Ryan, 1985, 2017), because it not only considers the quality of motivation but

also considers both the direction and energization of behavior. At a meta-theoretical level, SDT defines high quality motivation as motivation which expresses intrinsic motivations and growth impulses. SDT is an organismic/dialectical theory which assumes that people inherently *want* to grow, develop, and connect to others. However, the theory recognizes that impulses toward growth and health can be fragile, and that people can be diverted into less salubrious paths when thwarted by environments and circumstances. Indeed, when difficulties continually exceed peoples' resources and coping abilities, extreme pathology and dysfunction can result. Immoral or illegal behavior can be viewed as one example of such dysfunction. More concretely, SDT provides two theoretical perspectives clearly relevant to moral functioning: goal contents mini-theory and organismic integration mini-theory.

Goal Contents Mini-Theory

Goal contents theory (Kasser & Ryan, 1993; Vansteenkiste, Niemiec, & Soenens, 2010) is a "what" theory of motivation, because it focuses on goal contents, targets, or aims; it does so specifically via the distinction between intrinsic and extrinsic aspirations. Intrinsic aspirations, toward community, personal growth, and emotional connections with others, are said to be inherently rewarding to pursue and experience. Pursuing them satisfies basic psychological needs (Deci & Ryan, 2017) and thus helps people to grow and be happy. In contrast, extrinsic aspirations, such as seeking money/luxury, appearance/image, and status/popularity, are less directly rewarding and often represent some kind of compensation for psychological difficulties (Sheldon & Kasser, 2008). The intrinsic/extrinsic distinction is supported by factor analyses and much validation data (Kasser, 2002).

Organismic Integration Mini-Theory

In contrast, organismic integration mini-theory is a "why" theory of motivation, because it addresses the quality of people's reasons for pursuing a goal, regardless of the target or content of that goal. The relative autonomy continuum (RAC; Sheldon, Osin, Gordeeva, Suchkov, & Sychev, 2017) ranges from external motivation at one end (i.e., lacking autonomy; one does the behavior only to obtain external rewards or praise, or to avoid punishment or criticism) to intrinsic motivation on the other (i.e., fully autonomous and self-reinforcing; one does the behavior because it is interesting, challenging, and enjoyable). Located between these two extremes are several intermediate forms of motivation which we will not consider herein. The organismic integration mini-theory states that any behavior can be located on the RAC, and research has shown that the more intrinsic people's motivation, the happier and healthier they are (Deci & Ryan, 2017).

How do the "what" (goal contents mini-theory) and the "why" (organismic integration mini-theory) relate to each

other? Typically, intrinsic aspirations are positively associated with autonomous reasons and extrinsic aspirations are positively associated with controlled reasons (Sheldon & Kasser, 1995). This raises the following question: Might the pernicious effects of having strong extrinsic aspirations be mostly due to the controlled reasons that often underlie such aspirations? This was the contention of Srivastava, Locke, and Bartol (2001) who argued “it’s not the money, it’s the motives” (p. 959), in trying to explain the link between materialistic aspirations and negative well-being (see also Carver & Baird, 1998). However, Sheldon, Ryan, Deci, and Kasser (2004) critiqued psychometric aspects of past research and showed that the “what” and the “why” of motivation actually have independent main effects in the prediction of subjective well-being (SWB) and related outcomes.

SDT and Moral Psychology

In line with the relative paucity of motivational perspectives in moral psychology, there are surprisingly few studies linking SDT to moral behavior. Concerning goal contents mini-theory, Kasser (2016) discussed the personal and social costs of strong extrinsic (or materialistic) aspirations, showing that extrinsic individuals evidence less empathy (Sheldon & Kasser, 1995), more Machiavellianism (McHoskey, 1999), more psychopathy (Foulkes, Seara-Cardoso, Neumann, Rogers, & Viding, 2014), and more antisocial behavior (Kasser & Ryan, 1993). Sheldon and McGregor (2000) showed that people high in extrinsic relative to intrinsic aspirations behaved more selfishly within resource dilemmas. Moreover, leaders high in extrinsic aspirations were found to have a weaker sense of corporate responsibility (Kolodinsky, Madden, Zisk, & Henkel, 2010), and workers high in extrinsic aspirations were found to show more deviant workplace behaviors (Deckop, Giacalone, & Jurkiewicz, 2015). Chowdhury and Fernando (2013) showed that materialism was associated with unethical beliefs and practices in the workplace; materialists report benefiting from illegal actions, from questionable but legal actions, and from “no harm, no foul” actions.

Concerning organismic integration mini-theory, Ntoumanis and Standage (2009) showed that autonomous sports motivation predicts greater sportsmanship and less antisocial moral attitudes, with controlled motivation predicting the opposite. Hodge and Gucciardi (2015) showed that perceiving controlling coaches and teammates predicted athletes’ moral disengagement in the context of their sport, and Hodge, Hargreaves, Gerrard, and Lonsdale (2013) showed that controlled sports motivation predicts moral disengagement and positive attitudes toward doping. Assor (2012) sketched the beginnings of an SDT-based perspective on the motivation to follow moral norms, arguing that autonomous moral motivation was critical in reducing susceptibility to moral lapses and discussing how authorities should behave with subordinates to promote their autonomous moral functioning.

Two facts are apparent from the above literature review: First, immoral behavior becomes more likely when people are oriented toward the goals of money and materialism (a particular type of extrinsic aspiration), and second, morality is threatened within interpersonal contexts that feel controlling (a particular type of external motivation). Could it be that the combination or synergy of materialistic aspirations plus externally controlled motivation renders a person *most* susceptible to immoral temptations? In such cases, people are grasping for money and resources with a sense that it is not really them who is doing it. Thus, the potential to shirk responsibility and disengage from moral considerations (Bandura, 1999) may be particularly high. However, few research studies have found statistical interactions in combined studies of goal contents and goal reasons (but see Gaudreau, 2012). This “absence of evidence” might be interpreted as indicating that goal contents and goal reasons do not function in a synergistic way (Sheldon et al., 2004).

The Goal Complex Approach

In this research, we approached the synergy question in a new way, by drawing on the goal complex concept and associated methodology. This concept was originally developed in the achievement goal literature, as a way of differentiating components of achievement motivation within achievement goal measures (Elliot & Thrash, 2001; Thrash & Elliot, 2001). Sommet, Elliot, and Sheldon (in press) recently conducted a systematic review to summarize this emerging literature. They pointed to “three generations” in achievement goal research: a first generation in which performance and mastery goals were distinguished (i.e., surpassing others vs. surpassing oneself), a second generation in which approach and avoidance components of each of these goals were distinguished (i.e., approaching success vs. avoiding failure), and now a third generation, in which an achievement goal component, a reason component, and particular combinations of goal and reason components are distinguished (whereas formerly, construct definitions and item sets often contained both kinds of information). This third generation approach has produced the concept of goal complex, that is, a motivational hybrid comprised of a directional goal and an energizing reason, taking the structural form of “*goal* IN ORDER TO *reason*” or “*goal* BECAUSE *reason*.” In measurement, goal, reason, and goal complex are semantically isolated, so that the effects of each component on outcomes can be assessed. The key is that source items must be *constrained*; they can only focus on the simplified essence of the concept in question, and not contain unrelated information. For example, the Achievement Goal Questionnaire–Revised (Elliot & Murayama, 2008) contains the performance-approach goal item, “My goal is to perform better than other students,” a pure aim/content/target stripped of any reason/energization referent. The advantage of such precision is that source goal and reason items can then be easily combined to

form composite goal complex items, to which participants can respond independent of responding to the simpler source items (Sommet & Elliot, 2017). This allows the influence of each type of concept to be tested independently, as well as in combination.

To date, almost all goal complex research has taken the approach of combining the achievement goal perspective with SDT's organismic integration mini-theory, asking "does it matter why a person pursues a particular achievement goal content?" (for a review, see Vansteenkiste, Lens, Elliot, Soenens, & Mouratidis, 2014). The answer is yes: Vansteenkiste, Mouratidis, and Lens (2010) found that individuals pursuing performance-approach goals for controlled reasons (the aim to do better than others because of an external pressure) were most likely to objectify others and treat them unfairly. Performance-approach goals for controlled reasons were found to negatively predict SWB (Gillet, Lafrenière, Vallerand, Huart, & Fouquereau, 2014) and to be associated with maladaptive perfectionism (Vansteenkiste, Smeets, et al., 2010), as well as other maladaptive outcomes, such as help avoidance and self-handicapping (Senko & Tropiano, 2016). On the other side of the achievement goal and organismic integration continua, Vansteenkiste, Mouratidis, Van Riet, and Lens (2014) showed that pursuing mastery-approach goals for autonomous reasons (the aim to improve and learn because of a personal challenge) predicted prosocial behavior. Recently, Sommet and Elliot (2017) developed a rigorous methodological approach to disentangle the shared and unique variance explained by goals, reasons, and goal complexes. They observed that goal complexes explained incremental variance in a series of experiential and self-regulated learning outcomes (e.g., satisfaction, positive emotion, persistence), that is, in addition to the independent contributions of "pure" goals and reasons.

The main innovation of the present research was to utilize the goal complex approach to newly examine the relation between the "what" and "why" of motivation as designated by SDT. The goal complex approach has not been applied in this way before, that is, as an attempt to bridge major areas of SDT. In doing so, we hoped to better understand the motivational sources of immoral behavior, as well as to continue adding to the emerging literature linking SDT and achievement goal theory and method (see Vansteenkiste et al., 2014). An additional advantage of our approach is that it allows a new test of Srivastava et al.'s (2001) argument that "it's not the money, it's the motives." Specifically, the method allows for independent testing of two types of SDT goal content, intrinsic and extrinsic; two types of SDT goal reason, intrinsic and extrinsic; and four types of goal complexes, derived by combining the source items into four types of combined statement (i.e., intrinsic and extrinsic aims crossed by intrinsic and extrinsic reasons). We examined (a) the influence of content alone; (b) the influence of reasons, above and beyond content; (c) the influence of statistical interactions between

contents and reasons; and (d) the incremental influence of the four goal complex variables.

A potential source of confusion should be addressed up front—the fact that the terms "intrinsic" and "extrinsic" appear in both goal contents theory and organismic integration theory. This creates potential confusion when both types of construct are being examined together. This potential is exacerbated in the present case, because we are focusing on the materialism aspiration, a prototypic exemplar of an extrinsic aspiration; felt interpersonal control, a prototypic exemplar of extrinsic, controlled motivation; the emotional intimacy aspiration, a prototypic exemplar of an intrinsic aspiration; and intrinsic motivation, a prototypic exemplar of autonomous motivation. Note that in both the goal contents and organismic integration mini-theories, the "intrinsic" end of the continuum is presumed to be psychologically healthier than the "extrinsic" end of the continuum. Drawing on this similarity, we use the terms "intrinsic" and "extrinsic" to refer to both goal contents and goal reasons. However, we are also careful to use the term "aims" and/or "reasons" to designate which type of measure is being referred to.

As dependent measures, we focused primarily on moral attitudes and moral behaviors, measured in several different ways described below. However, we also examined SWB variables, in keeping with the predominant focus of past SDT life-goal research (Sheldon & Kasser, 1995).

Our primary hypothesis was that one combination of aims and reasons might be particularly predictive of amoral behavior: namely, the pursuit of materialistic goals for socially controlled reasons. We drew from the triangle model of responsibility (Britt, 1999; Schlenker et al., 1994), which distinguishes three factors (vertices) relevant to responsibility: *prescriptions* (that should be followed), *situations* (in which they should be followed), and *identity* (of the implicated agent in the situation). People are responsible when the *self* is obligated to follow a particular *prescription* within a particular *situation*. According to the model, to make an excuse is to deny or weaken the link between any two vertices. One important type of excuse involves decoupling the self from the behavioral prescription. In human society, a very general prescription is "don't be greedy and selfish." The extrinsic aim/extrinsic reason complex directly references acquisitiveness, in combination with a rationale that one is doing it at the behest of external forces. This decoupling of self from prescription may provide a ready-made excuse, licensing the commitment of immoral acts (Sheldon et al., 2018). The Nuremberg defense that "I was only following orders" illustrates the risk that this line of thinking poses for moral behavior.

Approach to the Present Research

Our hypothesis derivation and analytical approach consisted of four steps.

At Step 1 of our regression modeling, we expected intrinsic and extrinsic aims to account for significant variance in the outcomes (Hypothesis 1), thus replicating past SDT findings (Kasser, 2002). Specifically, we expected that extrinsic aims would predict greater immorality and lower SWB, whereas intrinsic aims would predict the opposite. Together, the two aim variables should account for the same amount of variance as would a single intrinsic–extrinsic difference score, the focus of most past research (Kasser, 2016). Thus, we present *R*-squared change statistics at each step of the analyses.

At Step 2 of our regression models, we expected the entry of intrinsic and extrinsic reasons to account for additional variance in the outcomes (Hypothesis 2). This would also replicate past SDT findings (Deci & Ryan, 2017), although again, such research typically uses a difference score approach. In keeping with the findings of Sheldon et al. (2004), the Step 1 aim relations should not disappear when the reason variables are entered at Step 2; there will be statistical main effects of both types of construct.

At Step 3 of our regression models, we entered interaction terms representing the statistical combination of aims with reasons (e.g., Extrinsic Aims \times Intrinsic Reasons). We did not expect these to account for additional variance in the outcomes, in keeping with past research which has rarely found these kinds of interactions (Sheldon et al., 2004). However, we do not state this as a formal hypothesis, to avoid hypothesizing the null.

At Step 4 of our regression models, we expected the set of four goal complex variables to account for incremental variance in the outcomes, particularly the extrinsic aim/extrinsic reason goal complex and the intrinsic aim/intrinsic reason goal complex, as discussed above (Hypothesis 3). Our general reasoning was that within these two goal complexes, the two paired elements would amplify each other's influence, as both are psychologically healthy or unhealthy (Deci & Ryan, 2017). In contrast, the two mixed cases might have self-canceling effects. Specifically, we hypothesized that the extrinsic aim/extrinsic reason goal complex would predict immoral behavior, given prior findings that *performance-based goals* (conceptually akin to extrinsic aims) combined with controlled (extrinsic) reasons are negatively associated with morality-based outcomes (Sommet et al., in press; Vansteenkiste, Mouratidis, & Lens, 2010). We also hypothesized that the combination of intrinsic aims and intrinsic reasons would predict SWB, given prior findings that mastery goals combined with autonomous reasons are strongly predictive of SWB (Gillet et al., 2014; Sommet & Elliot, 2017). Studies 1 and 2 used convenience samples, whereas in Study 3, sample size was determined a priori. Analyses were planned a priori, and all manipulations, data exclusions, and variables analyzed have been reported. SPSS raw Studies 1-3 datasets as well as a Stata .do file (including instructions and codebook) are available through FigShare (<https://figshare.com/s/3235e568b1de8d0b6688>).

Study 1

Method

Participants and procedure. Participants were 109 members of a psychology class at the University of Missouri (26 men, 82 women, one missing), who completed an in-class survey for extra course credit (the scales were administered at the beginning of a larger battery of questionnaires on motivation and well-being). The modal participant ethnicity was Caucasian (70%) and the modal age was 20 (ranging from 19 to 38).

Measures. Table 1 contains descriptive statistics and correlations for all variables.

Aims. In the instructions, participants read “Below are life-goals that people might try to accomplish over the course of their lives in general. Please indicate how much each life-goal characterizes what YOU will try to accomplish.” We framed the instructions broadly, seeking to assess a general goal adoption tendency. With regard to the items, the goal complex item-crossing method requires that source items be limited in number. In this study, we selected two extrinsic aim items, both representing the “financial success” extrinsic aspiration (“I will try to have many expensive possessions” and “I will try to be rich”), and two intrinsic aim items (“I will try to have deep, enduring relationships” and “I will try to have committed intimate relationships”), both representing the “emotional intimacy” intrinsic aspiration. These choices reflect the findings reviewed above, namely, that materialism and interpersonal relations are particularly relevant issues for immoral behavior. The four items were drawn from the short version of the Aspirations Index (Sheldon & Kasser, 2008; Sheldon & Krieger, 2014).

Reasons. Participants next read “Below are reasons why you might try to accomplish what you do, in life in general. Please indicate how much each reason characterizes why YOU try to accomplish things.” Again seeking to assess a general tendency, we framed the questions more broadly than is usually done in the organismic integration literature. We included six reason-based source items, two assessing intrinsic reasons (“because behaving this way is interesting” and “because I enjoy behaving this way”) and four assessing interpersonal external reasons (“because important people, i.e., parents, friends, professors, will like me better if I behave this way,” “because if I don't behave this way, others will get mad,” “because I want to gain praise or other rewards from important people,” and “because I'll get into trouble if I don't behave this way”). Four external reason items were used instead of two, because past goal complex research suggests that this reason can be difficult to measure reliably with fewer items (e.g., Michou, Vansteenkiste, Mouratidis, & Lens, 2014; Sommet & Elliot, 2017).

Goal complexes. Participants then proceeded to the goal complex section, and read, “Below are life-goals that people

Table 1. Study 1: Descriptive Statistics and Correlation Matrix for the Main Variables.

	Descriptive statistics			Correlation matrix								
	M	SD	α	1	2	3	4	5	6	7	8	9
1. Moral disengagement	2.72	0.67	.68	—								
2. SWB	3.52	0.69	.90	-.11	—							
3. IA	4.42	0.83	.89	-.03	.10	—						
4. EA	3.21	0.93	.73	.20	.01	.10	—					
5. IR	3.51	0.85	.51	.12	.05	.33	.11	—				
6. ER	2.64	0.87	.72	.33	-.23	-.15	.06	.07	—			
7. IA/IR goal complex	3.72	0.97	.77	.01	-.02	.47	.17	.36	.07	—		
8. IA/ER goal complex	2.53	0.93	.87	.37	-.10	-.19	.21	.03	.63	.13	—	
9. EA/IR goal complex	3.04	0.99	.82	.22	.02	.07	.48	.32	.07	.34	.09	—
10. EA/ER goal complex	2.07	0.82	.85	.44	-.14	-.50	.20	-.13	.55	-.25	.57	.26

Note. SWB = subjective well-being; IA = intrinsic aims; EA = extrinsic aims; IR = intrinsic reasons; ER = extrinsic reasons. Correlations $\geq .21$ are significant at the .05 level. Correlations $\geq .24$ are significant at the .01 level. Correlations $\geq .34$ are significant at the .001 level.

might try to accomplish over the course of their life in general, together with explanations for why they are motivated to accomplish it. Please rate how much each statement characterizes you, AS A WHOLE. Please read carefully!" Twenty-four goal complex items were derived, to assess four different types of complexes. The 24 items were created by appending reason items to aim items, using the word BECAUSE. An example item is "I will try to be rich BECAUSE I want to gain praise or other rewards from important people" (assessing the extrinsic aim/extrinsic reason goal complex; see the appendix for full list).

Moral disengagement. We administered Shu, Gino, and Bazerman's (2011) six-item "Moral Disengagement From Cheating" scale. This scale measures the propensity to disengage from the moral issues raised by one's behavior, and to exhibit motivated forgetting of information that might otherwise limit one's dishonesty (Bandura, 1999). Example items are "cheating is appropriate behavior when no one gets hurt" and "sometimes getting ahead of the curve is more important than adhering to rules."

SWB. We administered the nine-item Mood scale of Emmons (1991), which contains five positive and four negative mood adjectives. We also administered the five-item Satisfaction With Life scale (Diener, Emmons, Larsen, & Griffin, 1985). As positive affect, negative affect, and life satisfaction are the three components of SWB, the negative mood items were reversed and we combined the items into a single SWB measure (see Busseri, 2015).¹

Results

Overview of the hierarchical regression. To test our primary study hypotheses, we used the four-step hierarchical regression approach that we described in our research overview. All variables were standardized. Table 2 contains the full regression results.

Moral disengagement. At Step 1, consistent with Hypothesis 1, extrinsic aims were a positive predictor of moral disengagement, $\beta = 0.21$ [0.02, 0.40], $p = .031$, $\eta_p^2 = .04$ (numbers in brackets represent 95% confidence intervals [CIs]). Intrinsic aims were not significant ($p = .556$). At Step 2, consistent with Hypothesis 2, extrinsic reasons were a positive predictor, $\beta = 0.30$ [0.12, 0.49], $p = .001$, $\eta_p^2 = .09$, with extrinsic aims remaining a marginal predictor, $\beta = 0.18$ [0, 0.36], $p = .055$, $\eta_p^2 = .04$. Intrinsic reasons were not significant ($p = .377$). At Step 3, none of the four interaction terms were significant ($ps \geq .377$). At Step 4, consistent with Hypothesis 3, the extrinsic aim/extrinsic reason goal complex predicted incremental variance, $\beta = 0.41$ [0.11, 0.71], $p = .008$, $\eta_p^2 = .07$. At this step, none of the other 11 predictors were significant ($ps \geq .246$).

SWB. At Step 1, inconsistent with Hypothesis 1, intrinsic aims were not a significant predictor of SWB ($p = .640$). Extrinsic aims were also not significant ($p = .979$). At Step 2, consistent with Hypothesis 2, extrinsic reasons were a negative predictor, $\beta = -0.21$ [-0.41, -0.02], $p = .032$, $\eta_p^2 = .04$; intrinsic reasons were not significant ($p = .607$). At Step 3, none of the four interaction terms were significant ($ps \geq .148$). At Step 4, inconsistent with Hypothesis 4, the intrinsic aim/intrinsic reason goal complex was not a significant predictor ($p = .574$); only extrinsic reasons were significant at this step, $\beta = -0.32$ [-0.60, -0.05], $p = .022$, $\eta_p^2 = .05$.

Brief Discussion

Study 1 provided preliminary support for several of the study hypotheses. The extrinsic aim and extrinsic reason variables were positively associated with moral disengagement, as expected (Hypotheses 1 and 2). There were no interactions between aims and reasons in predicting disengagement. Also, only the extrinsic aim/extrinsic reason goal complex was significant at the last step (Hypotheses 4), suggesting that this motivational complex is uniquely predictive of

Table 2. Study 1: Coefficient Estimates and Effect Sizes for the Hierarchical Regression Analysis Testing the Influence of Aims (Step 1), Reasons (Step 2), Aim x Reason Interactions (Step 3), and Aim/Reason Goal Complexes (Step 4) on Moral Disengagement and SWB.

	SWB											
	Moral disengagement											
	Step 1 $R^2 = .04^\dagger$	Step 2 $\Delta R^2 = .10^{***}$	Step 3 $\Delta R^2 = .01$	Step 4 $\Delta R^2 = .13^{**}$	Step 1 $R^2 = .00$	Step 2 $\Delta R^2 = .04^\dagger$	Step 3 $\Delta R^2 = .03$	Step 4 $\Delta R^2 = .01$	β	η_p^2	β	η_p^2
IA	-0.06	-0.04	-0.08	0.14	0.03	-0.01	-0.05	—	0.00	—	—	—
EA	0.21*	0.18 [†]	0.18 [†]	0.03	0.00	0.01	0.03	—	-0.01	—	—	—
IR	—	0.09	0.07	0.07	—	0.05	0.05	—	0.05	—	—	—
ER	—	0.30 ^{***}	0.28 ^{***}	0.00	—	-0.21*	-0.25*	.05	-0.32*	.05	—	.05
IA x IR	—	—	-0.02	-0.01	—	—	0.07	—	0.06	—	—	—
IA x ER	—	—	0.10	0.13	—	—	0.17	—	0.17	—	—	—
EA x IR	—	-0.09	-0.09	-0.11	—	—	-0.15	—	-0.15	—	—	—
EA x IR	—	-0.04	-0.04	-0.03	—	—	-0.16	—	-0.13	—	—	—
IA/IR goal complex	—	—	—	-0.05	—	—	-0.08	—	-0.08	—	—	—
IA/ER goal complex	—	—	—	0.15	—	—	0.14	—	0.14	—	—	—
EA/IR goal complex	—	—	—	0.09	—	—	0.06	—	0.06	—	—	—
EA/ER goal complex	—	—	—	0.41 ^{***}	—	—	0.00	—	0.00	—	—	—

Note. SWB = subjective well-being; IA = intrinsic aims; EA = extrinsic aims; IR = intrinsic reasons; ER = extrinsic reasons.
[†] $p < .10$. * $p < .05$. *** $p < .001$.

Table 3. Study 2: Descriptive Statistics and Correlations for Time 1 and Time 2 Variables.

	Descriptive statistics						Correlation matrix (Time 1 is below the diagonal; Time 2 is above the diagonal).										
	Time 1			Time 2			2	3	4	5	6	7	8	9	10	11	
	M	SD	α	M	SD	α											
1. Unethicality	NA	NA	NA	2.18	0.69	.81	.63	-.17	-.22	.23	.07	.43	-.13	.51	.3	.63	
2. Moral disengagement	2.71	0.81	.82	2.62	0.71	.79	–	-.18	-.20	.38	.03	.48	-.03	.46	.46	.60	
3. SWB	3.47	0.68	.93	3.52	0.65	.92	-.13	–	.09	-.10	.05	-.32	.00	-.22	.09	-.29	
4. IA	4.40	0.73	.86	4.17	0.91	.93	-.20	.25	–	.16	.28	-.01	.67	-.14	.10	-.26	
5. EA	3.13	0.95	.79	3.01	0.99	.82	.56	.04	-.07	–	.02	.43	.14	.31	.52	.43	
6. IR	3.60	0.89	.78	3.37	0.70	.9	.06	.24	.31	.19	–	.13	.44	.11	.31	-.08	
7. ER	2.81	0.86	.83	2.79	0.83	.81	.48	-.03	-.06	.47	.16	–	.11	.67	.35	.66	
8. IA/IR goal complex	3.91	0.88	.89	3.60	0.72	.84	-.04	.20	.61	.01	.53	-.01	–	.12	.29	-.17	
9. IA/ER goal complex	2.55	0.80	.87	2.49	0.78	.84	.51	-.12	-.21	.33	.08	.56	-.05	–	.32	.67	
10. EA/IR goal complex	3.15	1.01	.89	3.00	0.89	.92	.54	-.05	.03	.62	.25	.28	.25	.27	–	.47	
11. EA/ER goal complex	2.19	0.91	.93	2.30	0.90	.92	.70	-.25	-.28	.53	-.02	.58	-.18	.71	.51	–	

Note. SWB = subjective well-being; IA = intrinsic aims; EA = extrinsic aims; IR = intrinsic reasons; ER = extrinsic reasons; NA = non-applicable (the variable was not measured at this time).

Correlations $\geq .21$ are significant at the .05 level. Correlations $\geq .24$ are significant at the .01 level. Correlations $\geq .34$ are significant at the .001 level.

moral difficulties. Study 1 found little support for our hypotheses concerning SWB.

Study 2

In Study 2, we attempted to replicate the results concerning moral disengagement, and to again seek support for our hypotheses concerning SWB. Study 2 also introduced a longitudinal element, repeating the study measures after approximately 6 weeks. This allowed us to examine whether *changes* in life-goal responding are associated with changes in moral disengagement. Study 2 also added a second measure of moral functioning to evaluate the generalizability of the findings.

Method

Participants and procedure. At Time 1, participants were 121 members of a psychology class at the University of Missouri (42 men, 79 women) who completed an in-class survey for extra course credit (the scales were part of a larger battery of questionnaires on motivation). The modal participant ethnicity was Caucasian (85%) and the modal age was 21 (ranging from 19 to 33). This first assessment took place as an online survey administered approximately midway through the semester. All participants were different from those of Study 1.

At Time 2, approximately 6 weeks later, 123 participants completed an additional online survey in which all of the Time 1 measures described below were repeated and one new measure was added. Five participants were excluded a priori due to missing data on the variables of interest, leaving a sample size of $N = 116$. We report two sets of cross-sectional results below, one from each time period. We also present longitudinal results based on the 101 participants with complete data at both time periods.

Measures. Table 3 contains descriptive statistics and correlations for all Time 1 and Time 2 variables.

Aims, reasons, and goal complexes. We used the same aspiration items as in Study 1. At Time 1, we used the same intrinsic and extrinsic reason items as in Study 1, but at Time 2, we added two additional intrinsic reason items, to balance the four extrinsic reason items. These were “because I like to” and “because it is challenging.”

Moral disengagement and unethicality. At Time 1 and Time 2, we again administered Shu et al.’s (2011) Moral Disengagement scale. At Time 2, we also administered a shortened version of Chen and Tang’s (2006) Unethical Behavior scale, tailored to a scenario in which the participant worked in retail. We eliminated items describing situations unlikely to be familiar to undergraduates (i.e., involving business strategy and management), leaving items that were likely more applicable (e.g., “I might use office supplies for my personal use” and “I might borrow money from a cash register without asking”).

SWB. We used the same nine-item mood measure and five-item life-satisfaction measure as in Study 1. As in Study 1, the negative mood items were reversed and we combined the items into a single SWB measure.

Results

Cross-sectional tests. To test our primary study hypotheses, we began with two cross-sectional tests, conducted at Time 1 and at Time 2, using the same four-step regression procedure as in Study 1. Table 4 contains the full Time 1 results and Table 5 contains the full Time 2 results. Below we summarize the

Table 4. Study 2, Time 1: Coefficient Estimates and Effect Sizes for the Cross-Sectional Hierarchical Regression Analysis Testing the Influence of Aims (Step 1), Reasons (Step 2), Aim x Reason Interactions (Step 3), and Aim/Reason Goal Complexes (Step 4) on Moral Disengagement and SWB.

	Moral disengagement												SWB												
	Step 1			Step 2			Step 3			Step 4			Step 1			Step 2			Step 3			Step 4			
	$R^2 = .34^{***}$	η_p^2	β	$\Delta R^2 = .06^{***}$	η_p^2	β	$\Delta R^2 = .01$	η_p^2	β	$\Delta R^2 = .18^{***}$	η_p^2	β	$\Delta R^2 = .06^*$	η_p^2	β	$R^2 = .03$	η_p^2	β	$\Delta R^2 = .01$	η_p^2	β	$\Delta R^2 = .06^\dagger$	η_p^2	β	
IA	-0.17*	.04	-0.16*	.04	-0.22*	.05	-0.18*	.04	0.25***	.06	0.19*	.03	0.14	—	0.10	—	—	—	—	—	—	—	—	—	—
EA	0.55***	.31	0.42***	.18	0.42***	.18	0.17†	.03	0.06	—	0.05	—	0.06	—	0.20	—	—	—	—	—	—	—	—	—	—
IR	—	—	-0.01	—	0.02	—	0.01	—	—	—	0.18†	.03	0.21†	.03	0.18	—	—	—	—	—	—	—	—	—	—
ER	—	—	0.28***	.09	0.26**	.07	0.05	—	—	—	-0.07	—	-0.07	—	0.04	—	—	—	—	—	—	—	—	—	—
IA x IR	—	—	—	—	-0.12	—	-0.15*	.04	—	—	—	—	-0.10	—	-0.08	—	—	—	—	—	—	—	—	—	—
IA x ER	—	—	—	—	0.00	—	-0.02	—	—	—	—	—	-0.02	—	0.00	—	—	—	—	—	—	—	—	—	—
EA x IR	—	—	—	—	0.01	—	0.00	—	—	—	—	—	-0.07	—	-0.06	—	—	—	—	—	—	—	—	—	—
EA x IR	—	—	—	—	0.04	—	0.02	—	—	—	—	—	0.03	—	0.05	—	—	—	—	—	—	—	—	—	—
IA/IR goal complex	—	—	—	—	—	—	0.11	—	—	—	—	—	—	—	-0.02	—	—	—	—	—	—	—	—	—	—
IA/ER goal complex	—	—	—	—	—	—	0.02	—	—	—	—	—	—	—	0.07	—	—	—	—	—	—	—	—	—	—
EA/IR goal complex	—	—	—	—	—	—	0.14	—	—	—	—	—	—	—	-0.05	—	—	—	—	—	—	—	—	—	—
EA/ER goal complex	—	—	—	—	—	—	0.49***	.14	—	—	—	—	—	—	-0.36*	—	—	—	—	—	—	—	—	—	—

Note. SWB = subjective well-being; IA = intrinsic aims; EA = extrinsic aims; IR = intrinsic reasons; ER = extrinsic reasons. [†] $p < .10$. * $p < .05$. *** $p < .001$.

Table 5. Study 2, Time 2: Coefficient Estimates and Effect Sizes for the Cross-Sectional Hierarchical Regression Analysis Testing the Influence of Aims (Step 1), Reasons (Step 2), Aim x Reason Interactions (Step 3), and Aim/Reason Goal Complexes (Step 4) on Moral Disengagement, Unethicality, and SWB.

	Moral disengagement												Unethicality												SWB											
	Step 1			Step 2			Step 3			Step 4			Step 1			Step 2			Step 3			Step 4			Step 1			Step 2			Step 3			Step 4		
	β	η^2	ΔR^2	β	η^2	ΔR^2	β	η^2	ΔR^2	β	η^2	ΔR^2	β	η^2	ΔR^2	β	η^2	ΔR^2	β	η^2	ΔR^2	β	η^2	ΔR^2	β	η^2	ΔR^2	β	η^2	ΔR^2	β	η^2	ΔR^2			
IA	-0.27***	.08	-0.26***	.08	-0.31***	.10	-0.25**	.05	-0.26***	.07	-0.25***	.07	-0.25***	.06	0.00	—	0.11	—	0.06	—	0.09	—	0.09	—	0.18	—	0.11	—	0.06	—	0.09	—	0.18	—		
EA	0.42***	.18	0.27***	.08	0.30***	.09	0.13	—	0.27***	.08	0.11	—	0.09	—	-0.08	—	-0.11	—	0.04	—	0.09	—	0.09	—	-0.03	—	-0.11	—	0.04	—	0.09	—	-0.03	—		
IR	0.05	—	0.05	—	0.04	—	0.00	—	0.09	—	0.09	—	0.06	—	0.11	—	—	—	0.07	—	0.08	—	0.08	—	0.00	—	—	—	0.07	—	0.08	—	0.00	—		
ER	0.35***	.13	0.35***	.13	0.31***	.10	0.09	—	0.37***	.13	0.36***	.12	-0.03	—	-0.03	—	—	—	-0.35***	0.1	-0.30***	.07	-0.30***	.07	-0.20	—	—	—	-0.35***	0.1	-0.30***	.07	-0.20	—		
IA x IR	—	—	—	—	-0.07	—	-0.07	—	—	—	-0.04	—	-0.05	—	-0.05	—	—	—	0.18	—	0.18	—	0.18	—	0.10	—	—	—	0.18	—	0.10	—	0.10	—		
IA x ER	—	—	—	—	0.13	—	0.15	—	—	—	-0.04	—	-0.04	—	-0.04	—	—	—	-0.12	—	-0.12	—	-0.12	—	-0.14	—	—	—	-0.12	—	-0.14	—	-0.14	—		
EA x IR	—	—	—	—	-0.18†	.03	-0.15	—	—	—	0.00	—	0.03	—	0.03	—	—	—	0.00	—	0.00	—	0.00	—	0.05	—	—	—	0.00	—	0.05	—	0.05	—		
EA x IR	—	—	—	—	0.16†	.03	0.11	—	—	—	-0.13	—	-0.16†	.04	-0.16†	.04	—	—	0.15	—	0.15	—	0.15	—	0.13	—	—	—	0.15	—	0.13	—	0.13	—		
IA/IR goal complex	—	—	—	—	—	—	0.10	—	—	—	—	—	—	—	-0.12	—	—	—	-0.12	—	-0.12	—	-0.12	—	-0.29*	.04	—	—	-0.12	—	-0.29*	.04	-0.29*	.04		
IA/ER goal complex	—	—	—	—	—	—	0.01	—	—	—	—	—	—	—	0.17	—	—	—	0.17	—	0.17	—	0.17	—	0.19	—	—	—	0.17	—	0.19	—	0.19	—		
EA/IR goal complex	—	—	—	—	—	—	0.16	—	—	—	—	—	—	—	0.05	—	—	—	0.05	—	0.05	—	0.05	—	0.41***	.09	—	—	0.05	—	0.41***	.09	0.41***	.09		
EA/ER goal complex	—	—	—	—	—	—	0.35**	.06	—	—	—	—	—	—	0.52***	.12	—	—	0.52***	.12	0.52***	.12	0.52***	.12	-0.43***	.07	—	—	0.52***	.12	-0.43***	.07	-0.43***	.07		

Note. SWB = subjective well-being; IA = intrinsic aims; EA = extrinsic aims; IR = intrinsic reasons; ER = extrinsic reasons.
 †p < .10. *p < .05. **p < .01. ***p < .001.

results together, as they were largely the same across time periods.

Moral disengagement and unethicity. At Step 1, consistent with Hypothesis 1, extrinsic aims were a positive predictor of moral disengagement at both Time 1, $\beta = 0.55$ [0.40, 0.70], $p < .001$, $\eta_p^2 = .31$, and Time 2, $\beta = 0.42$ [0.26, 0.59], $p < .001$, $\eta_p^2 = .18$. Intrinsic aims were also a negative predictor at Time 1, $\beta = -0.17$ [-0.32, -0.02], $p = .27$, $\eta_p^2 = .04$, and Time 2, $\beta = -0.27$ [-0.44, -0.10], $p = .002$, $\eta_p^2 = .08$. At Step 2, consistent with Hypothesis 2, extrinsic reasons were a positive predictor at both Time 1, $\beta = 0.28$ [0.12, 0.44], $p < .001$, $\eta_p^2 = .09$, and Time 2, $\beta = 0.35$ [0.18, 0.53], $p < .001$, $\eta_p^2 = .13$. Intrinsic reasons were not a significant predictor at either time period ($ps \geq .509$). At Step 3, none of the four interaction terms were significant ($ps \geq .179$), although the two interactions involving extrinsic aims at Time 2 were marginal ($ps \leq .059$). At Step 4, consistent with Hypothesis 3, the extrinsic aim/extrinsic reason goal complex predicted incremental variance at both Time 1, $\beta = 0.49$ [0.25, 0.72], $p < .001$, $\eta_p^2 = .14$, and Time 2, $\beta = 0.35$ [0.08, 0.62], $p = .011$, $\eta_p^2 = .06$. At Time 2, we also examined the unethical behavior measure (Chen & Tang, 2006). Key results were mostly similar (in terms of significance and effect sizes) as those found for moral disengagement (see Table 4).

SWB. At Step 1, partially consistent with Hypothesis 1, intrinsic aims were a positive predictor of well-being at Time 1, $\beta = 0.25$ [0.25, 0.72], $p = .006$, $\eta_p^2 = .06$, but not at Time 2 ($p = .236$). Extrinsic aims were not a significant predictor at either time period ($ps \geq .227$). At Step 2, partially consistent with Hypothesis 2, extrinsic reasons were not a significant predictor at Time 1 ($p = .473$), but were a negative predictor at Time 2, $\beta = -0.35$ [-0.54, -0.15], $p < .001$, $\eta_p^2 = .10$. Intrinsic reasons were a marginal predictor at Time 1, $\beta = 0.18$ [-0.01, 0.37], $p = .057$, $\eta_p^2 = .03$, and not significant at Time 2 ($p = .434$). At Step 3, none of the four interaction terms were significant ($ps \geq .137$). At Step 4, inconsistent with Hypothesis 3, the intrinsic aim/intrinsic reason goal complex did not predict incremental variance at Time 1 ($p = .897$) and was a negative, rather than positive, predictor at Time 2, $\beta = -0.29$ [-0.58, -0.01], $\eta_p^2 = .04$, $p = .044$. The only consistent result was the negative contribution of the extrinsic aim/extrinsic reason goal complex at both Time 1, $\beta = -0.36$ [-0.69, -0.03], $p = .035$, $\eta_p^2 = .04$, and Time 2, $\beta = -0.43$ [-0.74, -0.11], $p = .008$, $\eta_p^2 = .07$.

Longitudinal tests. Next, we used stepwise regression to predict change in moral disengagement and SWB (administered at both Time 1 and Time 2). For each outcome, we first tested whether any of the Time 1 predictors were associated with change in the outcome variable: We regressed Time 2 outcome variable on Time 1 outcome variable, aims, reasons, Aim \times Reason interactions, and aim/reason goal complexes. Then, we estimated whether *change* in any of the predictors

was associated with change in the outcome variable: We used a forward entry procedure to see whether any of the Time 2 aims, reasons, Aim \times Reason interactions, and aim/reason goal complexes predicted incremental variance. These analyses provide preliminary information concerning the dynamic effects of the various motivation variables.

Change in moral disengagement. Time 1 moral disengagement was a positive predictor of Time 2 moral disengagement, $\beta = 0.67$ [0.48, 0.87], $p < .001$, $\eta_p^2 = .35$ (the test-retest coefficient). The Time 1 interaction between extrinsic aims and intrinsic reasons, $\beta = -0.12$ [-0.23, -0.02], $p = .015$, $\eta_p^2 = .07$, and the extrinsic aim/intrinsic reason goal complex, $\beta = 0.21$ [0, 0.42], $p = .047$, $\eta_p^2 = .04$, were significant predictors. More importantly, following the forward entry procedure, only Time 2 extrinsic aim/extrinsic reason goal complex predicted incremental variance, $\beta = 0.33$ [0.12, 0.54], $p = .002$, $\eta_p^2 = .10$. This indicates that participants who increased over the 6-week period in the extrinsic/extrinsic goal complex also increased in their moral disengagement.

Change in SWB. Time 1 SWB was a positive predictor of Time 2 SWB, $\beta = 0.49$ [0.30, 0.67], $p < .001$, $\eta_p^2 = .24$ (the test-retest coefficient). Time 1 extrinsic reasons, $\beta = 0.30$ [0.06, 0.55], $p = .016$, $\eta_p^2 = .06$, and the extrinsic aim/extrinsic reason goal complex were also significant at $\beta = -0.41$ [-0.73, -0.08], $p = .014$, $\eta_p^2 = .07$. Second, following the forward entry procedure, only Time 2 extrinsic reasons, $\beta = -0.29$ [-0.52, -0.06], $p = .014$, $\eta_p^2 = .07$, and the extrinsic aim/intrinsic reason goal complex, $\beta = 0.35$ [0.08, 0.56], $p = .010$, $\eta_p^2 = .07$, were significant. This failed to support Hypothesis 4 which, in the longitudinal case, would predict that increases in the intrinsic aim/intrinsic reason goal complex would be associated with increased SWB.

Brief Discussion

Study 2 found support for many of the study hypotheses. In the two cross-sectional analyses, both aim and reason variables were associated as expected with moral disengagement and SWB (Hypotheses 1 and 2) and did not interact with each other, consistent with prior research linking the goal contents and organismic integration mini-theories. As expected by Hypothesis 3, the extrinsic aim/extrinsic reason goal complex variable was a consistent predictor of moral disengagement. However, Hypothesis 3's prediction that the intrinsic aim/intrinsic reason goal complex would be uniquely associated with SWB was not supported. Instead, the extrinsic aim/extrinsic reason goal complex was negatively associated with SWB at both time periods, in addition to being positively associated with moral disengagement. In the longitudinal analysis, increases in the extrinsic aim/extrinsic reason goal complex were also associated with increases in moral disengagement. Once again, however, the

intrinsic aim/intrinsic reason goal complex did not predict positive change in SWB; instead, increases in the extrinsic aim/intrinsic reason goal complex were associated with increases in SWB.

Study 3

In Study 3, we evaluated the replicability of the Study 1 and Study 2 findings and their generalizability to a different population, using a much larger sample from MTurk. Based on the earlier results, we left Hypotheses 1 and 2 unmodified. Regarding Hypothesis 3, we again expected the extrinsic aim/extrinsic reason goal complex to predict immorality. However, based on the earlier results, we no longer expected the intrinsic aim/intrinsic reason goal complex to predict SWB beyond the other measures. Instead, we evaluated whether the negative association of the extrinsic aim/extrinsic reason goal complex with SWB would replicate. This association may be seen as consistent with our theoretical perspective and even with some past research findings, thus we believed that it might be observed again.

The main innovation of Study 3 was to include a *behavioral* measure of immorality, to go beyond self-report measures of unethical tendencies. As will be described below, we administered a “geometrical reasoning task” in which participants could get extra pay on MTurk by solving problems correctly, a task that tempted participants to exaggerate how many problems they got correct. In addition, in Study 3, we again administered self-report moral disengagement/unethical behavior and SWB scales.

Method

Participants and procedure. An a priori power analysis revealed that 395 participants were needed to detect small-sized effects ($f^2 = .02$) with a total of 12 predictors and a power of .80. A total of 439 MTurk workers participated in a study of “geometrical reasoning under time pressure.” We only accepted workers with fewer than 500 previous hits, to boost the likelihood that workers would actually engage in the geometric reasoning task described below. Forty-one participants were excluded a priori due to missing data, leaving a sample size of $N = 398$. Due to an oversight in programming, demographic data were not assessed; however, it likely conformed to typical numbers for MTurk workers of 53.9% male, with a mean age of 31.6 years old (Levay, Freese, & Druckman, 2016).

The study was advertised as paying US\$0.30, and the consent form explained that participants could also earn US\$0.10 extra for each of six geometrical reasoning problems they solved correctly (in debriefing, all participants were told they had earned the full US\$0.90, regardless of their actual performance). The geometrical problems were developed by Pulfrey and Butera (2013). They involved attempting to copy six figural images (a) without lifting

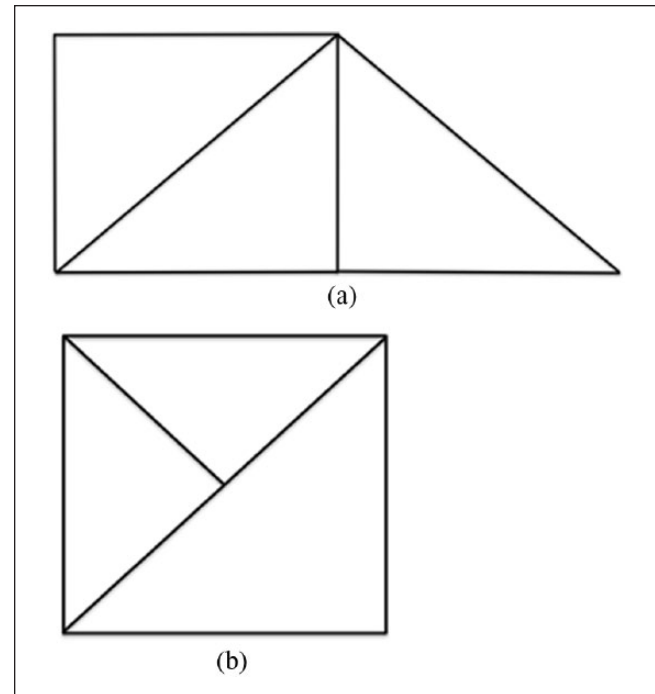


Figure 1. An example of (a) solvable and (b) unsolvable problem from the “geometrical reason task” (Pulfrey & Butera, 2013).

pencil from paper, and (b) without repeating any line twice. This task required participants to get a pencil and paper and to turn away from the computer when doing each problem. Participants were allotted 60 s for each numbered problem, and then the screen automatically advanced to the next problem. After the 6 min were up, we asked participants to indicate whether or not they were able to solve each problem. Only three of the six problems were solvable (see Figure 1 for examples), thus immoral behavior was operationalized as how many of the three unsolvable problems participants *claimed* to have solved.

Measures. Table 6 contains descriptive statistics and correlations for all variables.

Aims, reasons, and goal complexes. We used the same measure of life-goals used in Study 2 (the Time 2 version, with four intrinsic reason and four extrinsic reason items).

Self-reported moral disengagement and unethicality. We used the same self-report measures of moral disengagement and unethical behavior used in Study 2.

SWB. SWB was measured with a different item set than in Studies 1 and 2, to examine generalizability. At the beginning of the survey, participants were asked, “How do you feel today? Please locate your mood between the two alternatives.” They were presented with nine adjective pairs anchored with positive versus negative feelings (e.g., happy/

Table 6. Study 3: Descriptive Statistics and Correlation Matrix for the Main Variables.

	Descriptive statistics			Correlation matrix										
	M	SD	α	1	2	3	4	5	6	7	8	9	10	11
1. Behavioral lies	0.97	1.08	—	—										
2. Moral disengagement	2.26	0.74	.81	.04	—									
3. Unethicality	1.84	0.62	.70	.02	.39	—								
4. SWB	4.63	1.15	.90	-.01	-.14	-.12	—							
5. Intrinsic aims	4.32	0.78	.83	-.1	-.1	-.14	.11	—						
6. Extrinsic aims	2.65	0.91	.72	.13	.26	.12	.03	.04	—					
7. Intrinsic reasons	3.58	0.8	.74	-.02	-.01	-.07	.27	.26	.12	—				
8. Extrinsic reasons	2.48	0.91	.80	.11	.21	.23	-.16	.01	.29	.03	—			
9. Intrinsic/intrinsic	3.59	0.8	.91	-.04	.03	-.01	.06	.53	.08	.46	.11	—		
10. Intrinsic/extrinsic	2.02	0.88	.92	.16	.33	.22	-.08	-.12	.26	-.07	.56	.04	—	
11. Extrinsic/intrinsic	2.76	1.03	.91	.06	.37	.23	.07	-.01	.62	.26	.22	.24	.3	—
12. Extrinsic/extrinsic	1.74	0.8	.86	.23	.43	.34	-.14	-.19	.42	-.1	.55	-.04	.72	.48

Note. SWB = subjective well-being.

Correlations $\geq .10$ are significant at the .05 level. Correlations $\geq .13$ are significant at the .01 level.

sad; connected/lonely; dissatisfied/satisfied); a 7-point scale was provided for each. Later, negative items were rescored, such that for all items, higher scores meant more positivity. As in Studies 1 and 2, the items were combined into a single SWB score.

Immoral behavior. The number of impossible problems claimed to have been solved served as a measure of immoral behavior. Participants claimed 0 (45.73%), 1 (25.13%), 2 (15.58%), or 3 (13.57%) impossible claims.

Results

Self-reported outcome variables. To test our primary study hypotheses, we used the same regression models as in the Study 1 and Study 2 cross-sectional tests. We consider results involving the new behavioral measure of immorality separately, as it required a different data analytic procedure. Table 7 contains the full results.

Self-reported moral disengagement and unethicality. The patterns for the two self-report immorality variables from the earlier studies were largely replicated. At Step 1, consistent with Hypothesis 1, extrinsic aims were a positive predictor of both moral disengagement, $\beta = 0.26$ [0.17, 0.36], $p < .001$, $\eta_p^2 = .07$, and unethicality, $\beta = 0.12$ [0.03, 0.22], $p = .013$, $\eta_p^2 = .02$. Intrinsic aims were a negative predictor of both outcomes, $\beta = -0.11$ [-0.21, -0.02], $p = .018$, $\eta_p^2 = .01$, and $\beta = -0.15$ [-0.24, -0.05], $p = .003$, $\eta_p^2 = .02$. At Step 2, consistent with Hypothesis 2, extrinsic reasons were a positive predictor of both outcomes, $\beta = 0.15$ [0.05, 0.25], $p < .001$, $\eta_p^2 = .02$, and $\beta = 0.22$ [0.12, 0.32], $p < .001$, $\eta_p^2 = .02$, respectively. At Step 3, inconsistent with the earlier results, the Intrinsic Aims \times Extrinsic Reasons interaction

was significant for both outcomes, $\beta = -0.14$ [-0.23, -0.04], $p = .005$, $\eta_p^2 = .02$, and $\beta = -0.11$ [-0.21, -0.02], $p = .022$, $\eta_p^2 = .01$, respectively. At Step 4, consistent with Hypothesis 4, the extrinsic aim/extrinsic reason goal complex was a positive predictor of both outcomes, $\beta = 0.25$ [0.10, 0.40], $p = .001$, $\eta_p^2 = .03$, and $\beta = 0.25$ [0.10, 0.41], $p = .002$, $\eta_p^2 = .03$, respectively. In addition, contrary to the former studies, the extrinsic aim/intrinsic reason goal complex was also a positive predictor in both cases, $\beta = 0.24$ [0.11, 0.37], $p < .001$, $\eta_p^2 = .03$, and $\beta = 0.19$ [0.06, 0.33], $p = .006$, $\eta_p^2 = .02$, respectively.

SWB. At Step 1, consistent with Hypothesis 1, intrinsic aims were a positive predictor, $\beta = 0.11$ [0.01, 0.20], $p = .035$, $\eta_p^2 = .01$. Extrinsic aims were not a significant predictor ($p = .621$). At Step 2, consistent with Hypothesis 2, intrinsic reasons were a positive predictor, $\beta = 0.25$ [0.16, 0.35], $p < .001$, $\eta_p^2 = .06$, whereas extrinsic reasons were a negative predictor, $\beta = -0.19$ [0.29, 0.09], $p < .001$, $\eta_p^2 = .03$. At Step 3, none of the four interaction terms were significant ($ps \geq .218$). At Step 4, consistent with revised Hypothesis 3, the extrinsic aim/extrinsic reason goal complex was again a negative predictor, $\beta = -0.18$ [-0.34, -0.02], $p = .029$, $\eta_p^2 = .01$. In addition, the intrinsic aims/intrinsic reason goal complex was a *negative* predictor, $\beta = -0.14$ [-0.27, -0.01], $p = .031$, $\eta_p^2 = .01$, just as it was in the Time 2 cross-sectional analysis of Study 1.

Immoral behavior. Given that our behavioral measure of immorality was a count variable, following a Poisson-like distribution, ordinary linear regression could not be used for the analysis. Instead, we used a negative binomial regression modeling procedure (Gardner, Mulvey, & Shaw, 1995). The incidence rate ratio (IRR) is the coefficient estimate for

Table 7. Study 3: Coefficient Estimates and Effect Sizes for the Hierarchical Regression Analysis Testing the Influence of Aims (Step 1), Reasons (Step 2), Aim x Reason Interactions (Step 3), and Aim/Reason Goal Complexes (Step 4) on Moral Disengagement, Unethicality, and SWB.

	Moral disengagement												Unethicality												SWB											
	Step 1			Step 2			Step 3			Step 4			Step 1			Step 2			Step 3			Step 4			Step 1			Step 2			Step 3			Step 4		
	β	η^2	ΔR^2	B	η^2	ΔR^2	β	η^2	ΔR^2	β	η^2	ΔR^2	β	η^2	ΔR^2	β	η^2	ΔR^2	β	η^2	ΔR^2	β	η^2	ΔR^2	β	η^2	ΔR^2	β	η^2	ΔR^2	β	η^2	ΔR^2			
IA	-0.11*	.01	-0.11*	.01	-0.16**	.02	-0.08	—	-0.15**	.02	-0.13**	.02	-0.15**	.02	-0.10 [†]	.01	-0.10 [†]	.01	0.04	—	0.03	—	0.03	—	0.09	—	0.09	—	0.09	—	0.09	—				
EA	0.26***	.07	0.22***	.05	0.21***	.04	-0.01	—	0.12*	.02	0.07	—	0.07	—	-0.10 [†]	.01	-0.10 [†]	.01	0.05	—	0.04	—	0.04	—	0.02	—	0.02	—	0.02	—	0.02	—				
IR	—	—	-0.01	—	0.00	—	-0.03	—	—	—	-0.05	—	-0.07	—	-0.10 [†]	.01	-0.10 [†]	.01	0.25***	.06	0.27***	.07	0.27***	.07	0.29***	.06	0.29***	.06	0.29***	.06	0.29***	.06				
ER	0.15**	.02	0.15**	.02	0.17***	.03	0.01	—	—	—	0.22***	.04	0.22***	.04	0.14*	.01	0.14*	.01	-0.19***	.03	-0.17***	.03	-0.17***	.03	-0.15*	.02	-0.15*	.02	-0.15*	.02	-0.15*	.02				
IA x IR	—	—	-0.07	—	-0.07	—	-0.06	—	—	—	-0.01	—	-0.01	—	-0.01	—	-0.01	—	0.01	—	0.01	—	0.01	—	0.02	—	0.02	—	0.02	—	0.02	—				
IA x ER	—	—	-0.14**	.02	-0.14**	.02	-0.10*	.01	—	—	-0.11*	.01	-0.09 [†]	.01	-0.09 [†]	.01	-0.09 [†]	.01	-0.06	—	-0.06	—	-0.06	—	-0.07	—	-0.07	—	-0.07	—	-0.07	—				
EA x IR	0.03	—	0.03	—	0.03	—	0.02	—	—	—	-0.07	—	-0.07	—	-0.08	—	-0.08	—	0.03	—	0.03	—	0.03	—	0.00	—	0.00	—	0.00	—	0.00	—				
EA x IR	-0.02	—	-0.02	—	-0.02	—	-0.01	—	—	—	-0.08 [†]	.01	-0.08 [†]	.01	-0.08 [†]	.01	-0.08 [†]	.01	0.06	—	0.06	—	0.06	—	0.07	—	0.07	—	0.07	—	0.07	—				
IA/IR goal complex	—	—	—	—	—	—	0.02	—	—	—	—	—	—	—	0.01	—	0.01	—	—	—	—	—	—	—	-0.14*	.01	-0.14*	.01	-0.14*	.01	-0.14*	.01				
IA/ER goal complex	—	—	—	—	—	—	0.06	—	—	—	—	—	—	—	-0.10	—	-0.10	—	—	—	—	—	—	—	0.13 [†]	.01	0.13 [†]	.01	0.13 [†]	.01	0.13 [†]	.01				
EA/IR goal complex	—	—	—	—	—	—	0.24***	.03	—	—	—	—	—	—	0.19**	.02	0.19**	.02	—	—	—	—	—	—	—	0.09	—	0.09	—	0.09	—	0.09	—			
EA/ER goal complex	—	—	—	—	—	—	0.25**	.03	—	—	—	—	—	—	0.25**	.03	0.25**	.03	—	—	—	—	—	—	-0.18*	.01	-0.18*	.01	-0.18*	.01	-0.18*	.01				

Note. SWB = subjective well-being; IA = intrinsic aims; EA = extrinsic aims; IR = intrinsic reasons; ER = extrinsic reasons.
[†] $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 8. Study 3: Incidence Rate Ratio for the Hierarchical Regression Analysis Testing the Influence of Aims (Step 1), Reasons (Step 2), Aim \times Reason Interactions (Step 3), and Aim/Reason Goal Complexes (Step 4) on Immoral Behavior.

	Step 1	Step 2	Step 3	Step 4
Intercept	0.95	0.95	0.95	0.93
IA	0.89*	0.89*	0.90 [†]	0.92
EA	1.16**	1.13*	1.10	1.11
IR		1.00	1.02	1.07
ER		1.09	1.09	0.97
IA \times IR			1.05	1.06
IA \times IR			0.99	1.02
EA \times IR			1.03	1.06
EA \times IR			1.09	1.07
IA/ER goal complex				1.05
EA/ER goal complex				1.00
IA/ER goal complex				0.86 [†]
EA/ER goal complex				1.29**

Note. IA = intrinsic aims; EA = extrinsic aims; IR = intrinsic reasons; ER = extrinsic reasons.

[†] $p < .10$. * $p < .05$. ** $p < .001$.

negative binomial regression: An IRR significantly higher than 1 indicates a positive effect, an IRR significantly lower than 1 indicates a negative effect, and an IRR not significantly different than 1 indicates a null result. Table 8 presents the full set of results.

At Step 1, consistent with Hypothesis 1, extrinsic aims was a positive predictor of immoral behavior, $IRR = 1.16$ [1.04, 1.29], $p = .009$, whereas intrinsic aims was a negative predictor, $IRR = 0.89$ [0.80, 0.99], $p = .038$. At Step 2, inconsistent with Hypothesis 2, neither extrinsic nor intrinsic reasons was significant ($ps \geq .142$). At Step 3, none of the interactions between aims and reasons reached significance, as expected ($ps \geq .103$). At Step 4, consistent with revised Hypothesis 3, the extrinsic aim/extrinsic reason goal complex was a positive predictor of immoral behavior, $IRR = 1.29$ [1.08, 1.53], $p = .004$.

General Discussion

In this research, we adopted a novel and integrative approach to studying the relation between people's motivational aims (as specified by goal contents mini-theory within SDT) and their reasons for pursuing those aims (as specified by organismic integration mini-theory within SDT). Only a few extant studies have attempted to investigate both the "what" and "why" of SDT motivation at the same time, and these studies have merely told us that both factors tend to have their own main effects on SWB (Sheldon et al., 2004). In the current studies, we tested for moderator effects as in prior research (e.g., Carver & Baird, 1998), but we also took a novel and integrative approach to the synergy question by employing the goal complex method (Elliot & Thrash, 2001). Via this

method, conceptual elements of interest can be carefully parsed and separated, so that the influence of different elements can be evaluated uncontaminated by other, non-relevant elements. Although the goal complex method was originally developed in the achievement goal literature, we believed it could be fruitfully applied within SDT as well. Thus, we measured intrinsic and extrinsic aims, and intrinsic and extrinsic reasons, as specified by SDT, but we also measured four goal complex variables derived by combining those four elements. These variable sets were examined as predictors of moral attitudes and behavior, an unusual outcome variable in SDT research. The variable sets were also examined as predictors of SWB, the focus of much prior work in the SDT literature.

We found good support for our main study hypotheses (see Table 9 for a summary). For Hypothesis 1, the two aim variables were in the expected direction in predicting immorality and SWB. Specifically, intrinsic aims were associated (or, in some instances, tended to be associated) with greater SWB and lower immorality, and vice versa for extrinsic aims. Essentially the same pattern was found at Step 2 of the regressions (Hypothesis 2) when the two reason variables were entered. That is, intrinsic reasons for acting predicted greater SWB and lower immorality, whereas the pattern for extrinsic reasons was in the opposite direction. Although not all of these effects were statistically significant in all three studies, the general pattern was clear. Also, the low prevalence of moderator effects involving the computed product terms was also very clear.

Hypothesis 3, of primary interest, concerned the four goal complex variables that were entered at the last step of the regression equations. Based on findings in the achievement goal literature involving the combination of goal-types (primarily mastery-approach and performance-approach) and goal reasons (intrinsic and extrinsic), we expected the two extreme combinations to manifest reliable effects. Specifically, we expected the combination of an extrinsic aim and an extrinsic reason to predict immoral behavior beyond all other predictors, and the combination of an intrinsic aim and an intrinsic reason to incrementally predict SWB. We found strong support for the first facet of Hypothesis 3. Across all three studies, participants endorsing the pursuit of an extrinsic aim for an extrinsic (socially controlled) reason showed the most immoral behavior, as measured via self-report and actual behavior.

Why is this extrinsic/extrinsic combination particularly problematic for moral behavior? We did not test any mediators within our models, so we can only speculate at this juncture. We suggest that the combination of engaging in somewhat base activity (materialistic strivings) together with a feeling of being forced or controlled by others forestalls integrated self-involvement with the behavior and also removes a sense of responsibility for the behavior (Schlenker et al., 1994; Sheldon et al., 2017). People acting out of this goal complex care only about the end (getting the money or

Table 9. Studies 1 to 3: Summary of the Findings.

	Self-reported immorality-related outcome variables																		
	Moral disengagement						Unethicality			Immoral behavior			SWB-related measures						
	Study 1	S2 Time 1	S2 Time 2	Study 3	S2 Time 2	Study 3	Study 3	S2 Time 2	Study 3	Study 3	Study 1	S2 Time 1	S2 Time 2	Study 3	Study 1	S2 Time 1	S2 Time 2	Study 3	
Step 1																			
IA	ns	Negative	Negative	Negative	Negative	Negative	Negative	Negative	Negative	Negative	ns	Positive	ns	Positive	ns	Positive	ns	Positive	
EA	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	ns	ns	ns	ns	ns	ns	ns	ns	
Step 2																			
IR	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	Positive [†]	ns	Positive [†]	ns	Positive	ns	Positive	
ER	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Negative	ns	Negative	ns	Negative	ns	Negative		
Step 3																			
IA x IR	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	
IA x ER	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	
EA x IR	ns	ns	Negative [†]	ns	ns	Negative	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	
EA x ER	ns	ns	Negative [†]	ns	ns	ns	ns	ns	ns	ns	ns	Negative [†]	ns	ns	ns	ns	ns	ns	
Step 4																			
IA/IR goal complex	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	
IA/ER goal complex	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	
EA/IR goal complex	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	
EA/ER goal complex	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Negative	Positive	Negative	Negative	

Note. SWB = subjective well-being; S2 = Study 2; IA = intrinsic aims; EA = extrinsic aims; IR = intrinsic reasons; ER = extrinsic reasons.

[†]The effect was marginal ($p < .1$).

avoiding the disapproval), and also have the excuse that “I had to because of others”. With this mind-set, any possible avenue to the end might be considered and chosen: the easier and quicker, the better. The results of the three studies suggest that this state of mind may also have detrimental effects on participants’ SWB, consistent with SDT’s claim that people are ultimately prosocial and growth-oriented. In contrast, if there is any kind of intrinsic quality to the motivated regulation (one has healthy aims, even for the wrong reasons; or one has good reasons at least, for ignoble aims), then people are able to remain aware of the connection of their behavior with their own moral identities and standards, and feel more of an obligation to behave responsibly and morally.

Why did the intrinsic aim/intrinsic reason goal complex *not* provide incremental variance in the prediction of positive SWB, as initially proposed by Hypothesis 3? It may be that having either intrinsic aims or intrinsic reasons is enough to provide the full available boost for SWB, and that also having some mixture of extrinsic reasons or aims is not especially problematic for SWB. After all, extrinsic aims—to look good, to be known and respected, and to have a comfortable situation—are an important part of life. According to Kasser (2002), it is only when these aspirations become *too* strong that problems arise. However, it is also possible that the intrinsic aim/intrinsic reason goal complex creates problems for people. In fact, in two of four cross-sectional tests, the intrinsic/intrinsic complex was significantly associated with *lower* SWB. One interpretation of this finding is that people who focus too strongly on enjoying their relationships may be neglecting other important life-tasks, such as being a student in an academic program or being a child of aging parents. However, we have no direct evidence for this possibility. Another interpretation is that this is simply a suppression effect; in neither of the two tests just mentioned was there a significant correlation at the zero order level. The safest interpretation at present seems to be that the intrinsic aim/intrinsic reason goal complex adds little if any additional variance in the prediction of either morality or SWB.

It is also worth discussing the extrinsic aim/intrinsic reason goal complex. This is the combination that some theorists have suggested should not be a problem, because “it’s not the money, it’s the motives,” and here, the motives are OK. However, in two cases, the extrinsic aim/intrinsic reason goal complex provided incremental variance in predicting greater immoral behavior. On the contrary, in one case, this goal complex variable incrementally predicted higher SWB. We suggest that, as with the intrinsic aim/intrinsic reason goal complex just discussed, the safest conclusion is that this goal complex does not add much predictive utility. Completing the picture, the intrinsic aim/extrinsic reason complex did not add incremental variance in any of the models. Overall, only the extrinsic aim/extrinsic reason complex emerged as a consistent and reliable predictor of immorality.

Readers may wonder about the goal complex items. Are they not “double-barreled” questions, that is, questions

which contain two propositions, such that it is not clear which proposition participants are responding to? We would argue that this is not the case. Participants are asked to consider the complex statements “AS A WHOLE,” as a single fused unit that rings true to a greater or lesser degree. The fact that goal complex variables have an influence beyond their own source variables already shows that they are more than either type of source variable alone. We suggest that the goal complex items actually make the questions more real and more pointed for participants, giving them relatively clear and specific ideas of rather complex motivational states; this may help them to carefully consider how much each state applies to their own regulation. In essence, the goal complex places their aims in context, and items that capture this contextually situated motivation may have particularly strong predictive utility.

A number of limitations of the present studies may be noted. Studies 1 and 2 were conducted exclusively with college students, although Study 3 used an adult MTurk sample, increasing generalizability. Most of our findings regarding immoral behavior pertain to self-report measures, although Study 3 replicated the basic findings using a behavioral measure of immorality. None of the studies obtained informant reports, which could have further helped to rule out socially desirable responding as an alternative explanation. Also, because the goal complex method allows for only a limited number of source items, we did not fully sample the conceptual domains comprising intrinsic and extrinsic aspirations, including intrinsic aspirations for personal growth or community contribution or extrinsic aspirations for fame or physical attractiveness. Instead, we only focused on the prototypical goals of materialistic concerns and relationship concerns. Finally, our research does not provide information on how people acquire the “double whammy” of pursuing materialist life-goals for externalized reasons, or on how people can be helped to mature beyond this problematic combination. Still, we suggest that our research has shed significant new light on the motivational etiology of immoral behavior, and hope that our findings will serve as a platform for future conceptual and empirical advancement.

Appendix

Complexes

Please pay close attention in this section, because the language will get a bit complex! We are trying to make some precise distinctions, so please read carefully. Below are life-goals representing what you might be trying to accomplish in your life, together with explanations for why you might be motivated to accomplish it. Please rate how much each statement, AS A WHOLE, characterizes you. Please read carefully!

1 = No agreement

2 = Little agreement

- 3 = Some agreement
 4 = Much agreement
 5 = Very much agreement
1. I will try to have many expensive possessions BECAUSE important people (i.e., parents, friends, professors) will like me better if I behave this way
 2. I will try to have many expensive possessions BECAUSE if I don't do behave this way, others will get mad
 3. I will try to have many expensive possessions BECAUSE behaving this way is interesting
 4. I will try to have many expensive possessions BECAUSE I enjoy behaving this way
 5. I will try to have many expensive possessions BECAUSE I want to gain praise or other rewards from important people
 6. I will try to have many expensive possessions BECAUSE I'll get into trouble if I don't behave this way
 7. I will try to have many expensive possessions BECAUSE I like to behave this way
 8. I will try to have many expensive possessions BECAUSE it is challenging to behave this way

Please continue to rate the accuracy of each statement, AS A WHOLE.

1. I will try to have deep, enduring relationships BECAUSE important people (i.e., parents, friends, professors) will like me better if I behave this way
2. I will try to have deep, enduring relationships BECAUSE if I don't do behave this way, others will get mad
3. I will try to have deep, enduring relationships BECAUSE behaving this way is interesting
4. I will try to have deep, enduring relationships BECAUSE I enjoy behaving this way
5. I will try to have deep, enduring relationships BECAUSE I want to gain praise or other rewards from important people
6. I will try to have deep, enduring relationships BECAUSE I'll get into trouble if I don't behave this way
7. I will try to have deep, enduring relationships BECAUSE I like to behave this way
8. I will try to have deep, enduring relationships BECAUSE it is challenging to behave this way

Please continue to rate the accuracy of each statement, AS A WHOLE.

1. I will try to get rich BECAUSE important people (i.e., parents, friends, professors) will like me better if I behave this way

2. I will try to get rich BECAUSE if I don't do behave this way, others will get mad
3. I will try to get rich BECAUSE behaving this way is interesting
4. I will try to get rich BECAUSE I enjoy behaving this way
5. I will try to get rich BECAUSE I want to gain praise or other rewards from important people
6. I will try to get rich BECAUSE I'll get into trouble if I don't behave this way
7. I will try to get rich BECAUSE I like to behave this way
8. I will try to get rich BECAUSE it is challenging to behave this way

Please continue to rate the accuracy of each statement, AS A WHOLE.

1. I will try to have committed intimate relationships BECAUSE important people (i.e., parents, friends, professors) will like me better if I behave this way
2. I will try to have committed intimate relationships BECAUSE if I don't do behave this way, others will get mad
3. I will try to have committed intimate relationships BECAUSE behaving this way is interesting
4. I will try to have committed intimate relationships BECAUSE I enjoy behaving this way
5. I will try to have committed intimate relationships BECAUSE I want to gain praise or other rewards from important people
6. I will try to have committed intimate relationships BECAUSE I'll get into trouble if I don't behave this way
7. I will try to have committed intimate relationships BECAUSE I like to behave this way
8. I will try to have committed intimate relationships BECAUSE it is challenging to behave this way

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Note

1. For this and the subsequent studies, principal components analysis for the two scales are presented in Supplementary Material (Tables S1-S2). The full results for the three measures separately

(i.e., satisfaction with life, positive affect, negative affect) are also reported in Supplementary Material (Tables S3-S5).

Supplemental Material

Supplementary material is available online with this article.

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