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ORGANIZATION OF SELF-KNOWLEDGE PREDICTS UNETHICAL BEHAVIOR

A DISSERTATION APPROVED FOR THE
DEPARTMENT OF PSYCHOLOGY

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Abstract

People represent the self (*self-structure*) using cognitive strategies that either confront (*integration*) or avoid (*compartmentalization*) negative self-information (Showers, 1992). Previous research has found that compartmentalization predicts dishonesty on academic performance tasks under neutral conditions in the laboratory (Showers, Thomas, & Grundy, 2015; Thomas, 2015). The current experiments extend this work by using an online paradigm to assess cheating via a coin flip procedure (Bryan, Adams, & Monin, 2013). Here, two experiments seek to replicate the association between compartmentalization and dishonesty under various priming conditions. In Experiment 1, individuals with compartmentalized selves were more dishonest than were individuals with integrative selves, especially under conditions of a "cheater" prime. In Experiment 2, results showed that individuals with integrative selves remained relatively honest compared to individuals with compartmentalized selves even under conditions of greater temptation (money prime). These findings are consistent with the model that individuals with compartmentalized selves defensively avoid negative interpretations of their own behavior. Instead, they may rationalize their dishonesty as normative or even self-enhancing. Conversely, individuals with integrative selves vigilantly process dishonest behavior as having negative implications for the self, thereby motivating themselves to behave more honestly. This model of defensive self-structure lays the framework for a more comprehensive understanding of ethical behavior.

Organization of Self-Knowledge Predicts Unethical Behavior

Carl Rogers's (1961) conception of a fully functioning person, someone open about personal needs and driven to self-actualize, implies inherent goodness in humankind. Although Rogers paints a rosy picture, the fact is that unethical behavior remains prevalent in everyday life (*cf.* DePaulo, Kashy, Kirkendol, Wyer, & Epstein, 1998). A report cited by Dinh and Lord (2013) from the Association of Certified Fraud Examiners (ACFE) estimates organizations lose over $1 trillion globally per year due to conduct deemed unethical. This figure has since grown and ACFE's 2014 report estimated global organizational loss of over $3.7 trillion due to fraud (ACFE, 2014). Within the U.S. alone, the National Retail Federation (NRF, 2015) concluded that U.S retailers lost $31.9 billion in 2014 due to shoplifting and employee theft. These figures demonstrate the importance for researchers to understand the mechanisms underlying unethical behavior so attempts can be made to reduce such behavior. Unfortunately, a recent review of ethical judgment and behavior research by Dinh and Lord (2013) concludes that "attention to the dynamics of moral processing has been limited, and a more holistic understanding of these processes is needed to provide a comprehensive framework for theory and interventions" (p. 380).

Although a comprehensive framework remains elusive, a substantial body of research has studied unethical behavior, dishonesty, and moral functioning from various perspectives: psychology (Hartshorne & May, 1928; Piaget, 1932/1965; Aronson & Mettee, 1968; Kohlberg, Levine, & Hewer, 1984a; Haidt, 2001; see also Mikulincer & Shaver, 2012); business (Ford & Richardson, 2005; Treviño, den Nieuwenboer, & Kish-Gephart, 2014); and academic institutions (McCabe, Treviño, & Butterfield, 2001).

This research has attempted to illuminate the psychological processes associated with ethical behavior to understand why, if people are inherently good (as Rogers claimed), unethical behavior remains so pervasive.

The current experiments propose a framework that predicts ethical behavior using Showers's (1992) model of self-structure. She has demonstrated that an individual difference exists among people for how they cognitively organize negative, potentially threatening self-knowledge. People are either willing to acknowledge and confront negative self-knowledge (*integration*); or defensively to avoid and deny negative self-knowledge (*compartmentalization*). Thus, people with integrative selves may be especially likely to confront unethical behavior and view it as detrimental for the self, promoting ethical choices. Conversely, people with compartmentalized selves may avoid or deny any negative implications that unethical behavior has for the self, encouraging unethical choices. Interestingly, literature on the role of the self in ethical behavior has emerged only since researchers have shifted away from a perspective that viewed morality as a rational trait, developed in stages throughout the lifespan. Not until after the cognitive revolution of the 1960's and into the 1980's did the self become central to an understanding of ethical behavior and moral functioning (*cf.* Blasi, 1983).

Early Perspectives on Ethical Behavior, Dishonesty, and Morality

Historically, research on moral functioning (i.e., ethical behavior) can be represented on a continuum from a purely trait-based approach to a purely situation-based approach. From a relatively trait-based end of the spectrum, early researchers took a stage approach to moral judgment and development (Piaget, 1932/1965; Kohlberg et al., 1984a). These approaches focused on the development of consistency

within moral judgment and reasoning. The basis for these theories lies in controlled reasoning and cognitive deliberation. Over time, a rational agent with an ideal form of morality may develop. Morality is seen as a stable, conscious activity not motivated by situational forces (e.g., transient emotional states). Two researchers, Jean Piaget and Lawrence Kohlberg, were heavily influential with this type of approach to morality.

Piaget (1932/1965) defined the development of moral judgment with two stages: *moral heteronomy* and *moral autonomy*. The heteronomous stage (approximately ages 4 to 7) reflected a child's conception of morality as literal and absolute (i.e., right or wrong), derived from external authority (e.g., caregivers, teachers). Children in this egocentric stage processed whether a violation of rules or harmful outcome occurred with no ability to take intention or another's perspective into account. Older children (approximately ages 8 to 10) matured into the autonomous stage, marked by perspective taking and an understanding of intention. This stage was marked by less reliance on external authority and absolute rules. Instead, children began to evaluate intention and understand perspective-taking through interactions with their peers. In addition, moral judgment was used as a means to foster group agreement and cooperation.

Kohlberg (1984a) refined Piaget's stage approach into adulthood. Unlike Piaget, Kohlberg's primary concern went beyond a simple right or wrong judgment for a given moral dilemma. Kohlberg was also interested in people's rationale sophistication for such judgment. Kohlberg's first level of moral development (*preconventional*) found that children sought to avoid punishment, obeyed authority without question, and motive by egocentric needs (similar to Piaget's heteronomous stage). The second level (*conventional*) marked a shift from an egocentric morality to a

morality based on societal rules, objective right and wrong for behavior, the development of a conscience, and the desire to be perceived by others as a good person. The third and final level (*postconventional*) emphasized an idealized sense of morality through the development of a person's own moral principles transcending societal definitions or prescribed laws of right and wrong. In this level, there exists a personal commitment to uphold a morality that promotes a right to life above all else and a common good for all people. Kohlberg's notion of an idealized and consistent morality undoubtedly continues to influence theories of ethical behavior and moral development today (*cf.* Lapsley & Carlo, 2014). However, researchers disagree about the consistency of ethical behavior or the notion that morality develops in stages.

Around the time Piaget first introduced his approach to moral development, researchers with a relatively situationist approach found little support for stable patterns with regard to unethical behavior. Hartshorne and May (1928) conducted their *Studies in Deceit* to investigate whether temptation and unethical behavior was consistent (i.e., a trait) over 9 different situations, presumably activating different aspects of the self-concept within each setting. These situations ranged from paper-and-pencil intelligence tests that were self-scored to athletic measures of lung capacity and chin ups scored by research assistants. The authors found that deceitful behavior was consistent within persons only to the extent that the testing contexts were similar. Overall, Hartshorne and May (1928) concluded that each situation elicits a varying degree of deceit depending on the set of motives, values, and learned responses guiding behavior.

Taken together, these early models highlight the two ends of the moral functioning spectrum. Piaget (1932/1965) and Kohlberg's (1984a) work suggests moral

functioning develops across one's lifespan and remains consistent across situations. Meanwhile, Hartshorne and May (1928) found little overlap in moral functioning between situations, suggesting a lack of stable, consistent ethical behavior. Thus, the competing models from decades ago suggest that morality may not completely develop as a universally stable trait (i.e., individual difference) nor is it completely driven by the influence of one's current situation. Instead, people seem to rely on a combination of person and situation factors to maintain their own idiosyncratic definition of what it means to be moral, honest, and ethical.

Cognitive Strategies Approach to Ethical Behavior, Dishonesty, and Morality

The so-called "cognitive revolution" in psychology shifted the field into a more nuanced understanding of how people process social (and moral) information into behavior. Walter Mischel's (1968, 1973) groundbreaking cognitive social learning theory of personality advanced how researchers assessed and operationalized personality as a construct. Mischel (1973) suggested that personality was not strictly a stage-developed, global characteristic of a person. Instead, person variables should be seen as a dynamic set of socially learned schemas and cognitive strategies that people deploy in specific situations to guide behavior. Mischel believed the assessment of a person's idiosyncratic definition of a situation or stimulus was central to an understanding of their social behavior. For instance, two different people may define the personality characteristic of "being nice" toward their server after a meal with unique, personalized schemas. These schemas allow a person to initiate a cognitive strategy for behavior. One person might determine that "being nice" means they should behave pleasantly throughout the meal, depart with a smile and say thank you to the

server, but leave no tip. The second person might believe that "being nice" means they should eat quickly with little interaction or warmth toward the server, but leave a huge tip. Depending on the type of restaurant and payment structure for the server (i.e., the situation), each person might be considered nice or mean by their server. Thus, the unit of focus shifts from consistent, global characteristics a person *has* to the cognitive strategies that guide what a person *does* in a given situation (Mischel, 1973; Cantor, 1990).

The key to understanding what a person does is a mixture of previous experience and consideration of the situation. After the experience or observation of a situation and subsequent behavioral response (the *doing* of a person), people cognitively encode and categorize the event, or update a previously learned schema, script, or prototype. This learned information is then applied strategically to determine future behavior in subjectively perceived similar situations (Mischel, 1973). With schemas, people organize previous knowledge using the schema to filter social information (e.g., directing attention) and develop cognitive strategies for action (Showers & Cantor, 1985; Cantor, 1990). These strategies are motivated by a person's specific goals, mood, and capabilities. In this way, people may develop a consistent, self-imposed preference or aversion to contextual information that has previously produced desirable or undesirable behavioral outcomes (Mischel, 1973).

Mischel applied his theory to ethical behavior specifically, by reanalyzing the Hartshorne and May (1928) data. Mischel concluded in part that, "rather than acquiring a homogenous conscience that determines uniformly all aspects of their self-control, people seem to develop subtler discriminations that depend on many considerations" (p.

26). The "many considerations" include a person's activated schema and cognitive strategies that guide behavior to be consistent with perceived goals and standards. Individual differences (or traits) are useful insofar as people activate a schema for a given situation to filter social information with learned, consistent cognitive strategies that instigate behavior. Thus, different people may apply different schemas and strategies that uniquely determine what it means for that person to behave ethically or unethically.

Subsequent researchers applied Mischel's initial thoughts on the malleability of ethical behavior using a social cognitive approach (Lapsley & Narvaez, 2004; 2005). Lapsley and Narvaez (2004) most directly applied Mischel's theory, acknowledging that a difficulty exists with the claim of consistency between disparate situations and trait morality. Instead, they emphasized how people utilize both conscious and unconscious cognitive strategies when determining whether to behave ethically. For Lapsley and Narvaez (2004), stability of ethical behavior exists to the extent that people maintain consistent "goal systems" that filter social information (i.e., the activated schema) into moral terms. Depending on the degree to which a person processes social information as morally relevant, a cognitive strategy for how to behave may instigate either an ethical or unethical response. Over time, as people continually and consistently activate their morally related schemas, the schemas become chronically activated (i.e., efficient and automatic). In Lapsley and Narvaez's view, individual differences in ethical behavior exist as people habitually activate morally related schemas when processing social information (*moral chronicity*). The current experiments take a cognitive strategies approach to how people organize and evaluate

self-concept related schemas. We propose that the strategy a person uses to manage negative self-knowledge predicts unethical behavior.

Organizing Self-Knowledge

The self can be thought of as the conduit by which the person and the social environment interact. People view the self through a multidimensional lens, organizing self-knowledge into multiple, contextualized cognitive representations of the self (*self-aspects*; Markus & Wurf, 1987). People categorize self-aspects into specific roles, experiences, domains, relationships, and attributes (Linville, 1987; Showers, 1992). Given a person's current social and emotional context, a specific self-aspect becomes activated, helping to direct cognition, affect, motivation, self-regulation, and behavior. Showers's (1992) model of evaluative self-structure emphasizes how people cognitively represent positive and negative self-attributes within self-aspects.

According to Showers's model, people organize negative self-attributes on a continuum from perfectly integrative to perfectly compartmentalized. A perfectly integrative self-structure would be someone that evenly distributes negative self-attributes across all self-aspects (for an example see Table 1, Panel B). Both positive and negative self-attributes are present within each self-aspect. Rather than denying the possession of negative self-attributes within most self-aspect, people who integrate acknowledge their negative features. On the other hand, a perfectly compartmentalized self-structure is someone who completely separates negative self-attributes from positive self-attributes within self-aspects (Table 1, Panel A). People who compartmentalize activate only positive or negative self-attributes, depending on the contextually activated self-aspect. In this way, they avoid or deny the possession

negative self-beliefs as long as positive compartments remain active. When prompted, people can make distinctions between self-aspects as being more or less important to the self, and as more or less positive and negative in valence (Pelham & Swann, 1989).

People who compartmentalize evaluate their positive self-aspects as more important (*positively compartmentalized*) report the highest self-esteem and most positive mood. Moreover, in certain situations a person with a positively compartmentalized self-structure may react defensively to avoid activating negative self-aspects to maintain a more positive, if not artificially inflated, overall self-view. On the other hand, people who integrate maintain a relatively moderate level of self-esteem and mood regardless of the importance or activation of positively or negatively evaluated self-aspects. By including both positive and negative self-attributes within any given self-aspect, integrative individuals stabilize a more modest self-view (Showers & Zeigler-Hill, 2007).

Compartmentalization's self-worth roller coaster. People with a compartmentalized self-structure report the highest self-esteem and mood when the going is good; they are also prone to instability when the going gets tough. Positive and negative situations and events occur on a daily basis, activating relevant self-knowledge and attributes (Markus & Kunda, 1986). People who compartmentalize may strategically process negative self-knowledge in a defensive manner to minimize the impact of and easily avoid negative self-knowledge (Showers, Thomas, & Ditzfeld, 2013). When this strategy is effective, people use only positive attributes to evaluate the self. The result is higher self-esteem and a more positive mood. However, when negative self-knowledge is unavoidable (e.g., after social rejection or academic failure),

people who compartmentalize experience a greater drop in state self-esteem and a more negative mood than do people who integrate (Ziegler-Hill & Showers, 2007). The authors describe the peaks and valleys of self-worth as compartmentalization's "hidden vulnerability" (p. 1185). The sudden flood in activation of negative (or positive) self-attributes while simultaneously lacking access to positive (or negative) self-attributes promotes more extreme reactivity (i.e., fluctuations or instability of self-esteem and mood) to any given situation or event. In contrast, people who integrate tend not to experience inflated highs or depressed lows within any activated self-aspect. Their strategy is to distribute negative self-knowledge more evenly across self-aspects that also contain positive self-knowledge. This allows people who integrate to confront negative self-knowledge in a more stable fashion and elude compartmentalization's reactive roller coaster.

Compartmentalization can be considered a manifestation of a fragile, defensive self. Crocker and Wolfe's (2001) contingencies of self-worth theory supports the notion of self-fragility in response to feedback about an important self-domain. For instance, they find that people whose self-worth is highly conditional on academic success report higher self-esteem on days they are accepted into graduate school and lower self-esteem on days they are rejected. In addition, people with unstable high-self esteem react to negative feedback by offering excuses and blaming others for poor performance (Kernis, Cornell, Sunn, Berry, & Harlow, 1993) and with proneness toward hostility and aggression (Kernis, Grannemann, & Barclay, 1989). Indeed, research suggests that people who compartmentalize are emotionally more reactive to

situational feedback compared to integratives. People who integrate tend to be relatively more stable and secure (Ditzfeld & Showers, 2014).

Several studies have found support for the notion of compartmentalization's hidden vulnerability in domains beyond the self. Showers and Kling (1996) found that after being induced to a sad mood, people who compartmentalize took longer to recover than did people who integrate. The absence of positive self-attributes during a period of sadness made people who compartmentalize especially vulnerable to prolonged states of low self-worth. Similarly, compartmentalization has been associated with defensive processing of romantic partner information (Showers & Kevlyn, 1999). The authors found that early in a relationship, a positively compartmentalized partner structure was associated with a more positive attitude toward that partner. However, a follow-up assessment 1 year later found that compartmentalization was associated with the end of that relationship. These findings suggest that early in a relationship, defensive processing of negative partner information facilitates a honeymoon period during which one's partner can do no wrong. However, this exceedingly positive view of one's partner is fleeting. As the relationship continues, this unrealistic view becomes vulnerable to flaws of the partner that cannot remain denied. Relationships in which a partner's negative attributes are acknowledged and confronted (integrative partner structure) are more likely to continue beyond the honeymoon period.

This research suggests that how a person manages negative self-knowledge (*self-structure*) reliably predicts self-esteem, mood instability, and the defensive processing of information. The current experiments extend the self-structure model into the domain of ethical behavior. The following sections begin with a review of literature

on how the self can influence unethical behavior. Then we discuss how a defensive self-structure may predict unethical behavior. Finally, we consider additional individual difference factors that predict unethical behavior before outlining the current experiments.

The Self's Influence on Ethical Behavior

Lapsley and Narvaez (2004) credit Augusto Blasi's (1983) *Self Model* as the first to recognize the role of the self as a motivator of ethical behavior. Blasi (1983) described a person's moral identity as the extent to which concepts such as being fair, just, or good were central to the construction of the self. The mechanism driving ethical behavior is a person's need for self-consistency. In this way, ethical behavior can be thought stable and predictable as a person's moral identity becomes central to the self. However, Blasi (1983) relied heavily on Piaget's work and provided only a starting point to emphasize the relationship between the self and ethical behavior. Another line of earlier research by Aronson and Mettee (1968) also suggests that self-consistency can motivate unethical behavior. For these authors, the self influences ethical behavior by activating a cognitive strategy aimed to reduce dissonance between one's primed self-regard and subsequent ethical behavior. Specifically, they gave participants negative feedback on a personality test meant to prime low self-esteem. After the negative self-esteem prime, people were more likely to cheat on a card game. Conversely, people primed with high self-esteem behaved with honesty. The authors concluded that people's unethical (or ethical) behavior reinforced their primed negative (or positive) self-esteem suggesting a motivation for consistency between the self and behavior. To summarize, a person's processing of the current situation and feelings about the self can

promote unethical (or ethical) behavior. However, priming self-esteem or seeking self-consistency is only part of a dynamic, complex self-concept that influences ethical behavior.

Recently, the notion of a moral self has been described as operating at a "working" level. In this view, the self can be described differently as situational changes occur to one's environment (Monin & Jordan, 2009). Although "my moral self" might not be a specific self-aspect, a situation that activates a self-aspect with a similar meaning can guide ethical behavior. Indeed, research has established that activating the self (either a specific self-aspect or, more broadly, one's identity) prior to assessing ethical behavior can affect behavioral outcomes. (For a review of the self's role in prime-to-behavior effects, see Wheeler, DeMarree, & Petty, 2007.) There are two mechanisms central to the current experiments that demonstrate the influence of the self on ethical behavior. The first, self-awareness, describes the active self perspective (Diener & Wallbom, 1976; Kallgren, Reno, & Cialdini, 2000; Bryan, Adams, & Monin, 2013). The second, self-enhancement, describes a broad, individual difference that influences a person's identity (von Hippel, Lakin, & Shakarchi, 2005; Paulhus & John, 1998; as a form of narcissism, see Vazire & Funder, 2006).

Self-awareness. When people are made to be self-aware, their active self (i.e., self-schema) serves as a strategic filter of social information that can motivate behavior. When a person perceives an ethical dilemma, the active self's motivations and desires direct their decision on how to behave. Zimbardo (1970) theorized that decreased self-awareness (i.e., deindividuation) facilitated antinormative behavior that would normally be restrained. For instance, Diener and Wallbom (1976) found support for this theory

specifically with cheating behavior. The authors increased self-awareness by having people sit in front of a mirror, viewing themselves during the task, and replaying their own voice with a tape recorder. Their results showed that people in the self-aware condition cheated at a remarkably lower rate (7% of participants) than those in the no self-awareness condition (71%).

More recently, Kallgren et al. (2000; Study 3) tested how personal norms against unethical behavior (i.e., littering) would be affected by self-awareness. The authors triggered self-awareness by having participants view a video of themselves during the experiment. They found that even for people who held a strong personal norm against littering; there was only a reduction in littering when they were made self-aware. Similarly, Vincent, Emich, & Goncarlo (2013) used the mirror manipulation while assessing cheating on arithmetic problems for money. Their findings support the notion that low self-awareness can increase unethical behavior, which in this case involved reporting more correct answers and receiving unearned money. Interestingly, Vincent and colleagues found that this effect was most pronounced for participants primed with positive affect. The authors suggest that positive affect increases the flexibility for categorizing behavior (a cognitive strategy). This flexibility promotes what the authors described as "a moral gray zone" (p. 598) when interpreting unethical behavior. This gray zone may help people avoid or disengage their "moral self" when behaving unethically.

In addition, less blatant means to increase self-awareness can also reduce unethical behavior. A manipulation as subtle as a noun frame that triggers a focus on identity can influence ethical behavior (e.g., "How important is it to you TO BE A

VOTER [versus TO VOTE] in tomorrow's election?"). People who received the "to be a voter" question frame (i.e., identity prime) were more likely to vote in an election a day later (Bryan, Walton, Rogers, & Dweck, 2011). The authors suggest that this framing implies an approach orientation to achieve a desirable identity (i.e., to be a voter). People not only behave in ways to achieve sought-after identities, but also to avoid unfavorable identities. In a subsequent study, Bryan, Adams, and Monin (2013) found that cheating to gain extra, unearned money was reduced when participants were primed with a "being a cheater" identity. Taken together, these results suggest that when people become focused on identity (i.e. self-aware) they behave more honestly. The current experiments test whether conditions that prime identity affect whether a person's self-structure facilitates or inhibits unethical behavior.

Self-enhancement. The second mechanism reflects an individual difference in how a person processes information related to the self. People who self-enhance tend to process information related to the self in a biased fashion, promoting overly positive self-regard. Specific to ethical behavior, von Hippel et al. (2005) found that people who construe positive outcomes associated with the self as more important than negative outcomes (i.e., self enhancers) failed to prevent an answer from being displayed on a computer-adapted mental math task. This unethical behavior resulted in unmerited correct answers. Furthermore, self-enhancement has been associated with exaggerated social status and intellect (*egotistic bias*; Paulhus & John, 1998). An egotistic bias can be considered a form of narcissism in which people expect praise without achievement and exaggerate their abilities or accomplishments. In this way, self-enhancers (and, by extension, narcissists) may be prone to distort their performance on tasks in a way that

results in greater achievement even if it is undeserved and obtained through unethical means. Also, narcissists show impulsivity, seeking short-term reward at the expense of more lasting positive outcomes. The short-term gains through unethical means often foil a narcissist's desire for higher status and recognition (Vazire & Funder, 2006).

Research has linked individual differences related to the self or identity with ethical behavior (e.g., Blasi, 1983; Aquino & Reed, 2002; Aquino et al., 2009; Lapsley & Narvaez, 2004; von Hippel et al., 2005). However, this research has largely overlooked a central feature of the self, namely, how a person cognitively represents the self-concept. For instance, Lapsley and Narvaez (2004) highlight the importance of the moral self and describe the need to understand the schemas used to alter behavior. They relate the self to ethical behavior through the self's influence on social information-processing, focusing on ease of access to morally related self-schemas (viz., moral chronicity). However, this previous research has not examined the content and organization of a person's self-concept (*self-structure*). The current experiments take the notion of a moral self in a novel direction and show that a person's self-structure, more specifically how defensive processing of negative self-knowledge, predicts unethical behavior.

Defensive Self-Structure and Ethical Behavior

A person with an insecure self (i.e., defensive and unstable) may be motivated to maintain positive self-worth even if it means behaving unethically. For instance, Gillath and colleagues found that priming insecure attachment was associated with dishonesty (i.e., unethical behavior). The authors concluded that a stable, secure self "allows a person to forego various kinds of defenses and be more open and honest with

others and more true to oneself" (p. 853; Gillath, Sesko, Shaver, & Chun, 2010). Specific to Showers's (1992) self-structure model, Bozeman (2012) found that for people with high self-esteem, compartmentalization increased after an insecure attachment prime. People with compartmentalized selves tend to process defensively information that threatens the self which may leave them vulnerable to feelings of insecurity. Conversely, people with integrative selves possess a more secure self, willing to confront and admit possession of negative self-attributes. Without the need for defensive processing, people who integrate may also be open to confronting the negative implications for the self of engaging in unethical behavior.

A person with a defensively compartmentalized self may cognitively process unethical behavior in a biased fashion to prevent negative self-beliefs from creeping into their active self. Recall that von Hippel et al. (2005) find that self enhancers positively bias their processing of information about the self. By doing this, self-enhancers can rationalize cheating as only an unavoidable mistake, not an unethical behavior, and focus on the potentially desirable outcome instead (e.g., the reward of additional money). People who compartmentalize may use a similarly biased processing strategy to minimize the accessibility of negative self-beliefs, especially with regard to behaving unethically. Indeed, Shu and Gino (2012) find evidence supporting a biased processing mechanism for unethical behavior. Their results show that when a situation seemingly permits cheating (i.e., no ethics code statement before taking a test), people are motivated to forget about morality (*moral disengagement*) and take advantage of the opportunity to cheat. In this situation, people are motivated to limit access to ethics-related concepts that may otherwise prevent cheating (Shu, Gino, &

Bazerman, 2011). Ostensibly, people who compartmentalize defensively process the implications of cheating (i.e., avoid incorporating negative attributes into the active self) when the situation permits.

How a person manages negative knowledge about the self may promote unethical behavior for the sake of self-consistency or to protect unstable but high self-worth. This organizational strategy may also provide insight into how people process unethical or dishonest behavior (i.e., cheating). The underlying theme of the present studies is that, if people tend to avoid acknowledging negative self-attributes (*compartmentalization*), they may also avoid processing unethical behavior in a negative light. They avoid processing the negative implications of their behavior (e.g., cheating on a math test or taking unearned money). Instead, they construe their unethical behavior in positive terms (e.g., showing superior math ability or receiving more money). In this way, they can maintain a consistently positive view of the self and protect against fluctuations in self-worth. Conversely, people who tend to confront their negative self-attributes (*integration*) may also be willing to process the harmful outcomes of unethical behavior. Their acknowledgement that cheating can reflect negatively on the self promotes more honest, ethical behavior.

Other Individual Differences That Influence Ethical Behavior

Beyond self-concept related constructs, other individual differences can be powerful predictors of ethical or unethical behavior.

Guilt and shame proneness. A person's tendency to experience the emotions of guilt or shame predicts unethical behavior (Wolf, Cohen, Panter, & Insko, 2010; Cohen, Wolf, Painter, & Insko, 2011). Guilt- and shame-prone people anticipate the

experience of negative emotions for personal transgression. This sensitivity triggers negative self-consciousness (e.g., acute self-awareness) which promotes ethical and prosocial behavior (Cohen, 2011). There are generally two major distinctions between guilt and shame, the self-behavior and public-private dichotomies. Shame-prone people evaluate unethical behavior in relatively global, self-relevant terms. On the other hand, guilt-prone people narrow their evaluation to the specific behavior and situation. In addition, feelings of shame are elicited when a person's unethical behavior occurs in public, whereas feelings of guilt stem from private unethical behavior (Cohen et al., 2011). Similarly, feelings of shame-proneness tend to reduce public unethical behavior whereas guilt-proneness reduces private unethical behavior (Wolf et al., 2010).

Creativity. Although generally discussed in positive terms, creativity has also been associated with unethical behavior. Highly creative people or people primed with a creative mindset more frequently behaved unethically (Gino & Ariely, 2012). Additionally, after behaving unethically, people became more creative (Wiltermuth & Gino, 204). Being creative facilitates the discovery of original, innovative solutions for problem solving across disparate domains. However creative people are also better at justifying dishonest behavior (Gino & Ariely, 2012) and feel unconstrained by rules (Wiltermuth & Gino, 2014). Gino and Wiltermuth (2014) apply the anecdote "rules are meant to be broken" (p. 979) as one underlying feature of both creativity and unethical behavior. Interestingly, Gino & Ariely (2012, Experiments 3 & 4) found evidence that a positive association exists between creativity and moral flexibility. Creative people may construe their unethical behavior in beneficial ways, which may tempt them to behave unethically.

Moral identity. The extent to which moral character is central to a person's identity (*moral identity*; Aquino & Reed, 2002) also predicts ethical behavior. People acquire a strong or weak moral identity through life experience that varies across persons. A strong moral identity suggests a person tends to value and has internalized morality-related concepts such as responsiveness to others or honesty (Aquino & Reed, 2002; Aquino, Freeman, Reed, Lim, & Felps, 2009). Aquino and Reed (2002) discuss moral identity as one facet of a person's set of self-schemas. Thus, a strong moral identity becomes chronically accessible; it becomes a central self-schema used to process social information and guide behavior across situations. Aquino and Reed (2002) found a relationship between moral identity and prosocial behavior (e.g., donating cans of food). Also, when a person lacks access to their moral identity they tend to decrease their prosocial behavior and instead behave selfishly (Aquino et al., 2009).

The Current Experiments

The current experiments examine the relationship between a person's organization of self-knowledge (*self-structure*; Showers, 1992) and ethical behavior. Previous research has found a positive association between compartmentalization and cheating under neutral conditions (Showers et al., 2015; Thomas, 2015). When people with compartmentalized selves have the opportunity to cheat, they may avoid negative implications for the self. Instead, they may interpret their behavior in positive, self-enhancing terms which facilitates cheating (e.g., "I earned more money" or "I outperformed others"). On the other hand, people with integrative selves may be better equipped to acknowledge the negative implications of cheating. As a result, they

willingly process unethical behavior's negative impact for the self and remain more honest when given an opportunity to cheat. The current experiments include measures of self-enhancement to explore this idea. Additionally, in Experiment 2 we expose people to varying degrees of temptation unrelated to ego-depletion. This tests whether people who integrate or people who compartmentalize are more sensitive to situational temptations to cheat. The introduction for Experiment 2 thoroughly reviews research that demonstrates how the situation can influence ethical behavior.

EXPERIMENT 1

Overview and Predictions

The purpose of Experiment 1 is to examine the relationship between self-structure (*compartmentalization* or *integration*) and unethical behavior (i.e., cheating) under conditions of a neutral, "cheater," or "cheating" prime. In Experiment 1, the compartmentalization effect extends into an online cheating paradigm unrelated to math ability. We use Bryan et al.'s (2013) online coin flip procedure to assess cheating behavior. An online procedure potentially expands the diversity of participants and provides a more naturalistic, private environment compared to a traditional laboratory experiment. Specifically, Bryan and colleagues find that people primed with a "cheater" identity remain honest compared to conditions with no identity prime (i.e., "cheating" or neutral). It seems plausible that depending on a person's self-structure they might respond to this prime differently. The basic prediction is that people who integrate will be more sensitive to these primes, but especially the "cheater" identity prime. Therefore, we predict that people who integrate will remain honest after receiving the "cheater" prime.

Moderator variable analysis explores whether constructs related to defensive responding affect the association between self-structure and cheating. Specifically, self-deceptive enhancement and narcissism are included to assess a tendency to respond defensively. Generally, people who self-enhance (*cf.* von Hippel et al., 2005) or are narcissistic (Vazire & Funder, 2006) tend also to behave unethically. Therefore, we predict a positive relationship between cheating and these two constructs. Importantly, self-enhancement or narcissism may instigate a defensive response to threatening self-knowledge and thus moderate the predicted relationship between self-structure and cheating.

Method

Participants

The sample was 150 undergraduate students (94 females) enrolled in an introductory psychology course. Participants volunteered for the experiment through the psychology department's online research management system (sona-systems.com, or *SONA*) in partial fulfillment of a course research participation requirement. In addition, participants received a monetary incentive for performance in the online portion of the study.

Design

Experiment 1 is conceptually a 2 (self-structure: integrative or compartmentalized) x 3 (instruction conditions: cheater, cheating, or no instruction) design. The self-structure measure is a continuous individual difference variable, whereas the instruction condition is manipulated between participants. When including self-structure as predictor variables, a hierarchical multiple regression analysis tests the

main effects and two-way interactions. The instruction condition variable is analyzed using an ANOVA and is also included in the regression analyses.

Measures

Self-structure card sorting task. The card-sorting task assessed the cognitive structure of a person's self-concept (Showers, 1992). Participants were given a deck of 40 cards each containing an adjective that could be used to describe the self (20 positively valenced, e.g., *successful, independent, organized, happy*; 20 negatively valenced, e.g., *immature, insecure, disorganized, uncomfortable*). Participants were told, "Your task is to think of the different aspects of yourself or your life and then form groups of traits that go together, where each group of traits describes an aspect of yourself or your life." Participants created their own labels for each *self-aspect* and used the cards to describe each. Participants were instructed to form as many different self-aspects as they desired, using as few or as many adjectives as needed. Participants were allowed to use the same adjectives in multiple self-aspects or not at all, using only the attributes they felt could describe each self-aspect. Several variables relevant to the current experiment result from the card sort: evaluative organization, differential importance, and the proportion of negative attributes.

Evaluative organization (phi). The measure of evaluative self organization is the phi coefficient based on a chi square statistic. The phi coefficient indexes the deviation from chance of the number of positive and negative attributes used to describe each self-aspect, given the proportion of positive and negative attributes used across all self-aspects (Cramer, 1946). Phi can range from 0 (integration; positive and negative attributes are evenly distributed across all subcategories) to 1 (compartmentalization;

either positive or negative attributes describe each subcategory). Phi was only calculated if a participant's card sort used two or more negative attributes and had three or more self-aspects. Table 1 provides example card sorts for both compartmentalized and integrated self-structures. For detail on the computation of phi, see Showers and Kevlyn (1999).

Differential importance (DI). Developed by Pelham and Swann (1989), DI assesses the relative importance of positive and negative self-aspects. Participants were asked to rate the positivity, negativity, and importance of each created self-aspect on a scale from 1 (*not at all important*) to 7 (*very important*). DI is the within-subject correlation of the positive-negative difference score for each self-aspect (i.e., positivity rating minus negativity rating) with the importance assigned to the self-aspect. Scores can range from -1 to 1, with positive scores indicating that positive self-aspects are more important than negative ones (Showers, 1992). DI was considered missing if there was no variability in positivity-negativity scores across the self-aspects created by a given participant.

Proportion of negative attributes (neg). This variable is the number of negative attributes in a participant's card sort divided by the total number of attributes used across all self-aspects.

Coin flip task (cheating behavior). The coin flip task developed by Bryan et al. (2013) assessed unethical behavior. The task was administered online by Qualtrics survey software. On the first instruction screen, participants read a brief summary of Bem's (2011) article claiming scientific evidence supporting *psychokinesis* -- people's abilities to control physical objects with their minds. They read that many people are

skeptical of the results and critics believe that, as more tests on psychokinesis are done, the results will not be replicated. Then participants were instructed to find a coin to flip 10 times, while trying to influence the outcome on each flip to yield a "head." The instructions indicated that to be "properly motivated" to influence each flip, participants would receive $1 for each head. The psychokinesis cover story provided a rationalization for cheating (i.e., the demonstration of psychokinesis) and minimized the participant's perception that the experiment was actually about cheating. Participants then read a second instruction screen telling them that the "laws of probability alone dictate" that on average people will earn $5, although some will earn as much as $10 and as few as $0. The "cheater" or "cheating" prime was presented on the third instruction screen:

> NOTE: Please don't (*be a cheater* or *cheat*) and report that one or more of your coin flips landed heads when it really landed tails! Even a small (*number of cheaters* or *amount of cheating*) would undermine the study, making it appear that psychokinesis is real.

The manipulation repeated on the next screen, where participants also recorded the results of their 10 coin flips. In capital red letters directly above the responses for each flip was displayed either: *PLEASE DON'T CHEAT* (i.e., behavior focus; *cheating* condition) or *PLEASE DON'T BE A CHEATER* (i.e., identity-focus; *cheater condition*). Participants in the *no instruction* condition did not see the third instruction screen and did not have the red letters displayed above the recording of flips. The total number of heads reported for the 10 flips was used to estimate cheating rates. [1]

Self-enhancement. The following self-report measures assess self-enhancement.

Narcissism. The Narcissistic Personality Inventory (NPI-37; Emmons, 1987) has four subscales: Leadership/Authority, Self-Absorption/Self-Admiration, Superiority/Arrogance, and Exploitiveness/Entitlement. The total score of all four subscales will be featured in Experiment 1. These items measure criteria associated with a narcissistic personality disorder: grandiose sense of self-importance, preoccupation with fantasies of unlimited power and success, exhibitionism, and entitlement. For each item, participants were given two statements and chose the one closer to their own feelings (e.g., "A. I like having authority over other people or B. I don't mind following orders."). The total score was the sum of the 37 items indicating greater narcissism ($\alpha = .85$, $n = 107$).

Self-deceptive enhancement. The Balanced Inventory of Desirable Responding (BIDR Version 6; Paulhus, 1994) measures conscious and unconscious socially desirable responding. The BIDR has two subscales: Self-Deceptive Enhancement (unconscious) and Impression Management (conscious). The Self-Deceptive Enhancement (SDE) subscale will be featured in Experiment 1. SDE includes 20 items measuring the tendency to provide positively biased, ego enhancing responses for self-reported items (e.g., "I always know why I like things."). The Impression Management subscale includes 20 items measuring conscious lying about performance of desirable behaviors (e.g., "I have never dropped litter on the street."). Participants indicated agreement with each of the 20 statements on a 7-point scale (0 = *not true*; 6 = *very true*). A sum score was calculated for each extreme response (i.e., 5 or 6 response after

reverse scoring). We did not extrapolate the sum score when a participant failed to respond to one or more items, instead assigning them a missing value ($\alpha = .62$, $n = 111$).

Procedure

Participants logged onto SONA and completed a set of measures as part of a departmental prescreening questionnaire for students in an introductory psychology course. The prescreening questionnaire included the NPI-37 and BIDR. After completing the prescreening measure, participants selected on SONA an available time to complete the experiment's laboratory session. In groups from 1 to 10, participants completed the card sorting task, followed by a set of paper and pencil questionnaires. At least 24 hours after completing the laboratory session, participants received an email with a website URL to complete the online portion of the experiment. The online session used Qualtrics survey software for data collection and included the coin flip task (which Bryan et al., 2013 created for use with Qualtrics), questionnaires, demographics, and feedback about the experiment. Upon opening the website URL, the Qualtrics software randomly assigned them to read 1 of 3 instructions (i.e., cheater, cheating, or no instruction). Participants first completed the coin flip task receiving $1 for each head flipped. After entering each individual flip, a separate screen asked participants to answer items asking how many total heads flipped and how much money earned. Upon completion of the coin flip task, participants completed a series of questionnaires, demographics, and feedback items.[2] Participants next selected a method of payment for the money they earned during the coin flip task. They provided an email address so the researchers could contact them to coordinate payment. They chose either to meet a research assistant at a later time to pick up cash, or to have an Amazon gift card sent to

the email address provided. At the end of the online session, participants were thoroughly debriefed and, because of the direct deception used for the coin flip task, given the opportunity to exclude their data from analysis.

Results

Of 150 participants who began the experiment, 24 participants (16.0%) selected to exclude their data on the online debriefing screen. Of the remaining 126 participants, 12 participants (8.0%) did not complete the online part of the experiment and 1 participant failed to follow the questionnaire instructions. Therefore, analysis included 113 participants (77 females). The mean age of participants was 19.0 years (*SD* = 1.1). The racial/ethnic composition was 80.5% White, 6.2% Hispanic, 4.4% Asian, 2.7% Native American, 1.8% Black, and 4.4% Other. Eleven participants had missing phi values because they failed to create at least 3 self-aspects or use at least 2 negative attributes. Finally, 1 participant had no DI value computed because there was no variance in the positivity-negativity ratings between self-aspects. Therefore, analyses involving self-structure used 101 participants (69 females). Note that we completed additional analyses but included the significant results. Table 2 presents the correlations and descriptive statistics for reported heads, self-structure, and moderators from Experiment 1.

Cheating Between and Within Condition

A one sample t-test examined whether reported heads within each of the three conditions fell above or below chance (i.e., heads = 5). There was a significantly greater number of heads than would be expected by chance within each of the three conditions: no instruction (M = 5.77, SD = 1.88), $t(38) = 2.55$, $p = .02$, $d = .41$; cheating

instruction (M = 5.70, SD = 1.71), $t(33) = 2.40$, $p = .02$, $d = .42$; cheater instruction (M = 5.65, SD = 1.82), $t(39) = 2.26$, $p = .03$, $d = .36$. A one-way analysis of variance (ANOVA) examined whether any differences between conditions and reported heads existed. No difference in reported heads existed between conditions, $F(2, 110) = .04$, $p = .96$. Table 3 provides a comparison of Bryan et al. (2013) and the current experiment's mean reported heads. Note that the means for the cheating and no instruction conditions match Bryan's results, but those for the cheater condition differ.

Self-Structure and Cheating

The *basic model* was a hierarchical regression performed for self-structure and instruction variables. The analysis of reported heads tested up to two-way interactions for the following four predictors: phi, DI, neg, and instruction (tested for each *pair* of conditions to avoid dummy coding). The sample size within each condition provided a reliable model up to two-way interactions. On Step 1, the main effect terms phi, DI, neg, and instruction were entered. These terms were mean centered (Aiken & West, 1991). On Step 2, all two-way interactions of phi, DI, neg, and instruction were entered. Neg was arcsine transformed to normalize the distribution (*cf.* Dixon, 1960). Table 4 presents the basic model results for each pair of instruction conditions.

Cheater versus no instruction. There was a marginally significant phi main effect, $\beta = .29$, $t(66) = 1.94$, $p = .06$, $sr^2 = .05$, such that greater compartmentalization was associated with more reported heads. No other main effects or interactions existed.

Cheater versus cheating. There was a marginally significant phi main effect, $\beta = .25$, $t(61) = 1.68$, $p = .10$, $sr^2 = .04$, such that greater compartmentalization was associated with more reported heads. The main effect was qualified by a significant Phi

x Instruction interaction, β = -.28, $t(60) = -2.19$, $p = .03$, $sr^2 = .07$, such that in the cheater condition, greater compartmentalization was associated with more reported heads (Figure 1). This interaction was significant within the excluded variable model, which entered only the Phi x Condition term on Step 2 of the model.

Cheating versus no instruction. There was a significant DI main effect, β = -.31, $t(60) = -2.21$, $p = .03$, $sr^2 = .08$, such that important negative self-aspects (*low DI*) were associated with more reported heads than important positive self-aspects (*high DI*). No other main effects or interactions existed.[3]

Self-Structure and Cheating with Moderators

The moderator models tested how narcissism and self-deception affected the phi and instruction effects from the basic model. A hierarchical regression was performed for self-structure, instruction, and each moderator variable. The DI and neg variables were controlled as main effects only because the basic model didn't show any significant interactions with these variables. The analysis of reported heads tested up to two-way interactions for the following three predictors: phi, instruction, and moderator. The sample size within each condition provided a reliable model up to two-way interactions. On Step 1, DI and neg were controlled. On Step 2, the main effect terms phi, instruction, and moderator were entered. These terms were mean centered (Aiken & West, 1991). On Step 3, all two-way interactions of phi, instruction, and moderator were entered. Neg was arcsine transformed to normalize the distribution. The basic model analysis suggested compartmentalization effects for the cheater condition; therefore we present the moderator models that include the cheater instruction

condition. Tables 5 and 6 present the Narcissism and SDE regression model results, respectively.

Narcissism. There were marginally significant phi main effects for both the cheater versus no instruction and cheater versus cheating analyses, βs ≥ .31, *t*s ≥ 1.87, *p*s ≤ .07, sr^2 ≤ .08, such that greater compartmentalization was associated with more reported heads. The main effect was qualified by a significant Phi x Narcissism interaction in the cheater versus no instruction model, β = .27, *t*(55) = 2.11, *p* = .04, sr^2 = .07, such that for people high in narcissism, greater compartmentalization was associated with more reported heads (Figure 2).

Self-deceptive enhancement. There were significant phi main effects for both the cheater versus no instruction and cheater versus cheating analyses, βs ≥ .34, *t*s ≥ 2.18, *p*s ≤ .03, sr^2 ≤ .08, such that greater compartmentalization was associated with more reported heads. The main effects were qualified by significant Phi x Instruction interactions in both analyses replicating the compartmentalization effect for the cheater condition in the cheater versus cheating basic model analysis.

Additionally, a consistent marginally significant Phi x SDE interaction emerges from both analyses. The interaction suggests that the ethical decision context appeals to different people. A plausible prediction would be that high SDE people cheat, but here it's low SDE people. This suggests that those compartmentalized people who are low in SDE (i.e., who don't chronically self-enhance), might be drawn to cheat by demonstrating psychokinesis as a means to activate their positive compartments. Conversely, compartmentalized people with high SDE may not feel a need to enhance

in this setting as they chronically enhance everywhere else (Figure 3). Further discussion of this marginal result is withheld until the General Discussion.

Discussion

The results for Experiment 1 support the previously found association between compartmentalization and cheating under neutral conditions (Showers et al., 2015; Thomas, 2015). In addition, current results extend the previous findings in several important ways. First, the compartmentalization effect exists under non-neutral conditions, i.e., after priming a cheater self-aspect. Second, the effect is found with a different procedure to assess unethical behavior. The coin flip task eliminates the academic performance aspect of previous procedures (Showers et al., 2015; Thomas, 2015) that may have tempted some people to cheat. The arithmetic problems may have put additional demands on people to display average or better math ability which facilitated cheating. Finally, the effect extends to unethical behavior tested in a private, online environment away from a laboratory setting. This should reduce any self-presentational concerns motivating participants to remain honest because the experiment was completed in a setting of their choice without any direct communication with the experimenter. Without the academic performance concerns of previous studies, one might plausibly hypothesize that cheating would be reduced overall. However, the current experiments find that people who compartmentalize still cheat even outside of situations where academic performance concerns exist. The current results are theoretically important by showing that the association between compartmentalization and unethical behavior generalizes beyond neutral conditions, academic performance, and laboratory settings.

Interpretation of Cheater Instructions

One interpretation of the results is that people who compartmentalize or integrate may have differentially processed the "cheater" identity prime. Presumably, this prime activates a self-aspect akin to "me as a cheater" which could be a threatening self-aspect. For compartmentalized people to maintain an overall positive self-view, they may defensively process their behavior on the task to avoid negative self-perceptions. Therefore, cheating on the task might be construed as a behavior to which others are prone (a normative behavior), which suggests a less negative connotation. This is similar to a *descriptive norm* which is defined as a focus on what other people have done in a specific situation (Cialdini, Reno, & Kallgren, 1990; Reno, Cialdini, & Kallgren, 1993). This type of norm narrows the impact and implications for any specific behavior. In a similar fashion, people who compartmentalize may evaluate their own behavior only within the specific coin flip task context. This would minimize the impact of cheating and promote a less critical view of inaccurately reporting the number of heads flipped.

Conversely, people who integrate may read the "don't be a cheater" instructions and more broadly consider whether their behavior is acceptable. Their interpretation may function similarly to an *injunctive norm*. This type of norm focuses on whether society would approve or disprove (Cialdini et al., 1990). Unlike descriptive norms, injunctive norms suggest a cross-situational interpretation of what is culturally acceptable behavior (Reno et al., 1993). For integrative people, the cheater instructions may activate a "me as a cheater" self-aspect that must be momentarily confronted. Their active self may therefore contain negative self-attributes of a cheater self, while

simultaneously holding positive self-beliefs if they remain honest. Much like an injunctive norm, integrative people may generalize the cheater instructions as reflecting who they are more generally, not simply behavior specific to the coin flip task. In this way, people who integrate confront the negative implications of being a cheater on the coin flip task and behave honestly.

Interpretation of Psychokinesis Cover Story

An alternative explanation of the findings is that certain people ignored the "don't be a cheater" warning and instead felt a type of experimental demand given the psychokinesis cover story. The introduction of psychokinesis during the coin flip instructions tells participants that "many people are skeptical [of psychokinesis]. Critics generally agree that, as more studies are conducted, the findings will not hold up." Some people may have read that statement and inferred how they were expected to behave. The language makes it plausible that an experimental demand may have motivated certain people to find support for (or against) psychokinesis.

The experimental demand to prove psychokinesis may have especially tempted people who compartmentalize to cheat. They may have felt threatened if they failed to demonstrate psychokinesis. A defensive response may ensue this potential self-threat. People who compartmentalize may process their behavior in a biased fashion, by isolating and avoiding negative implications for cheating, as a means to self-enhance (*cf.* von Hippel et al., 2005; Ditzfeld & Showers, 2014). In this way, cheating on the coin flip task can be processed in a positive light as demonstrating a skill (namely, psychokinesis) or as a means of receiving extra money. This allows people who compartmentalize to avoid any negative implications of being a cheater; quite the

contrary, their dishonest behavior can be self-enhancing. The finding that narcissistic people who compartmentalize cheat the most supports a self-enhancement interpretation. These people would be most likely to exploit the task to show superior ability or feel entitled to the most amount of money.

On the other hand, people who integrate are motivated to portray the self accurately (Ditzfeld & Showers, 2014), promoting greater honesty. Integratives may resist the temptation to cheat provided by the psychokinesis cover story because they process how dishonest behavior would negatively impact the self. Unlike the self-enhancement motive for people who compartmentalize, integratives seek an accurate assessment of their behavior on the coin flip. They confront how cheating would affect the experimental results (and reflect on the self), resulting in more honest behavior.

Coin Flip Procedure Validity

The finding that narcissistic people who compartmentalize report the most heads flipped supports the validity of the online coin flip task. It is reasonable to consider that narcissistic people may behave dishonestly when there is a benefit for the self. They likely feel comfortable exploiting the coin flip task to affirm feelings of superiority and entitlement. Narcissistic people who compartmentalize may use those feelings to avoid any negative implications of cheating for the self. Instead they may interpret their additional heads as self-enhancing (e.g., a display of superior psychokinesis). They may also feel a sense of entitlement to receive the most amount of money possible. The perception of coercion to participate in experiments as required for course credit may foster such entitlement, especially in narcissistic people. Conversely, narcissistic people who integrate may reinforce a feeling of moral superiority by behaving with

honesty on the coin flip task. In both cases, narcissists affirm their inflated sense of self, but only compartmentalized people deny the negative implications of cheating and use a more dubious means to achieve their feelings of superiority.

Implications

These results suggest support for the notion that when primed with a "cheater" identity, people who compartmentalize avoid negative self-perceptions which facilitates unethical behavior. They may defensively process the cheater self-aspect and interpret cheating on the coin flip task in terms of how the behavior benefits the self. People who compartmentalize may process their behavior in positive terms such as: they helped the experimenter prove psychokinesis; they displayed superior psychokinetic ability; or they earned extra money. In these ways, they avoid a drop in self-worth that the cheater self-aspect might imply. Interestingly, Thomas (2015) finds a result that under conditions of ego-depletion, people who integrate cheat at a higher rate than people who compartmentalize. However, the current results suggest that other, non-neutral conditions exist where compartmentalization is associated with cheating (namely when priming a "cheater" self-aspect). The competing result from Thomas (2015) may reflect a result unique to ego-depletion and people who integrate. Experiment 2 introduces another situational factor to understand better the type of situations for which integrative people remain resilient against temptations to cheat.

Limitations and Issues

Comparison to Bryan et al. (2013). Although the present results don't find a main effect between conditions, the self-structure and condition interactions do support Bryan and colleagues' cheater condition findings. Specifically, when primed with a

"cheater" identity (cheater condition), people who integrate report a similar number of heads flipped as Bryan and colleagues' cheater condition results. Both experiments find people in the cheater condition (only integratives in the current experiment) report heads at a rate not significantly greater than chance (i.e., 5.0 heads flipped). In addition, the number of reported heads in the cheater condition for people who compartmentalize falls well above that which Bryan and colleagues find in any of their analyses.

The lack of between-condition effects may be explained by sample differences between the current experiment and Bryan et al.'s. The current experiment's sample came from an introductory psychology course whereas Bryan and colleagues used a community-based online participant pool. The participants in the current experiment received both course credit and money, and tended to be younger than Bryan's sample. Bryan's sample chose to participate in that study with only a monetary expectation and no course requirement. On the other hand, participants in the current experiment may have felt coerced into completing the experiment given the course credit requirement. They may have used this coercion as a justification to award themselves unearned money (with the exception of integrative people in the cheater condition). With regard to age, the current experiment's sample had a mean age of 19 years old compared to Bryan's mean ages of 40 (Study 2) and 23 (Study 3). It could be that, over time, people become less defensive and more stable with regard to their self-concept, and Bryan simply had fewer compartmentalized people in his sample.

Participant exclusion. Another issue with the current experiment was the number of participants (16.0%) who chose to exclude their data from analysis. Participants provided their full name as a signature as part of the debriefing. They also

actively selected whether to have their data included or excluded. A general defensive response upon learning that the experiment tested honesty may have also contributed to the high rate of exclusion. The online nature of the experiment should reduce participant's concern about identification while engaged in coin flip task. However, after participants revealed their full name and learned the true meaning of the coin flip task, they may have felt uneasy or threatened. Therefore, the best way to ensure they were not found to cheat was to exclude their data from analysis. A less invasive debriefing procedure could alleviate concerns about participant identification. Experiment 2 attempts to resolve the debriefing exclusion issue.

EXPERIMENT 2

The purpose of Experiment 2 is to replicate the compartmentalization effect previously found under conditions that prime a cheater self-aspect. In addition, a situational manipulation presents participants with greater or less temptation to cheat during the coin flip task. This explores whether integrative people remain resilient and relatively honest when presented a more tempting situation to cheat; and whether compartmentalized people behave more honestly when presented a less tempting situation to cheat. The manipulation attempts to replicate previous research that self-reflective primes reduce dishonesty (i.e., time; Gino & Mogilner, 2013). Finally, the debriefing procedure is updated to reduce the unusually high number of participants that selected to exclude their data from analysis. Before proposing Experiment 2, we review existing research that establishes how situational factors affect unethical behavior.

Situational Influences of Ethical Behavior

As first suggested by Hartshorne and May (1928), other researchers provide evidence that situational factors influence unethical behavior. A classic example is Milgram's (1974) study on obedience. His study shows that under conditions with expectations to obey an authority figure, people followed orders that could be perceived as potentially fatal for someone else. However, research has also found situational factors that can affect more commonplace types of unethical behavior.

Other people's behavior. Research has demonstrated that people may adjust their own behavior by merely observing the behavior of others. Bandura and colleagues' "Bobo doll" study found that children would mimic aggressive behavior against a doll after they observed an adult behave in an aggressive manner towards the doll (Bandura, Ross, Ross, 1961). Bandura's social learning theory suggested that a person's behavior could be influenced by observing the behavioral cues of others. Indeed, recent research found that people cheated to make extra money after witnessing a perceived ingroup member cheat in a similar fashion (i.e., the confederate wore a sweatshirt depicting the participant's school). Interestingly, this result did not hold when the confederate was perceived as an outgroup member; in that case, people were more honest (Gino, Ayal, Ariely, 2009). In a related result, people changed their behavior and attitudes when they felt psychologically closer to another person who behaved unethically. When psychologically closer, people made less harsh judgment of the other's actions and behaved more unethically themselves (Gino & Galinsky, 2012). The authors described this phenomenon as *vicarious dishonesty*. The previous studies suggested that the perception of others' unethical behavior communicated a

permissiveness and justification of the behavior, which facilitated similarly unethical behavior for oneself.

Ego-depletion. Research suggests that people are more likely to behave unethically after they exhaust self-control resources (e.g., ego-depletion; Mead, Baumeister, Gino, Schweitzer, & Ariely, 2009; Gino, Schweitzer, Mead, & Ariely, 2011). After people exhaust their capacity to exert self-control, they cheat to gain additional money more often and to a greater extent than non-depleted people. Depleted people are also more likely to put themselves in situations that tempt cheating and, thus, engage in more cheating as well (Mead et al., 2009). In addition, people who resist the temptation to cheat expend self-control resources to do so (Gino et al., 2011). This phenomenon is not limited to the laboratory setting. Kouchaki and Smith's (2014) "morning morality effect" (p. 1) shows that people are more likely to behave unethically in the afternoon than in the morning. Their findings also show that normal, everyday tasks deplete self-control resources and explain why unethical behavior increases later in the day. Likewise, a diary study of people's sleep patterns shows a positive relationship between unethical behavior and less sleep (Barnes, Schaubroeck, Huth, & Ghumman, 2011). In the diary study, the association is mediated by cognitive fatigue (i.e., ego-depletion).

Reduced identification. People are more likely to behave in unethical ways when they perceive greater anonymity for their actions. For instance, when people experience darkness and perceive a reduction in others' ability to identify them, self-interested behavior becomes disinhibited (Zhong, Bohns, & Gino, 2010). The authors demonstrate this phenomenon by manipulating the amount of light in a room or the type

of glasses participants wear while completing the previously described math task. Under conditions of increased *illusory anonymity* (i.e., when the room was dimmer or when participants wore sunglasses as opposed to clear lenses) people behave in a more self-interested manner, cheating to a greater extent on a math task. Zhong and colleagues (2010) conclude that under conditions where people perceive greater concealment of identity, they feel licensed to cheat. In a similar vein, another study finds that participants cheat to a greater extent when they perceive wearing counterfeit sunglasses compared to authentic sunglasses (Gino, Norton, & Ariely, 2010). Of note, the authors also find that feeling inauthentic about the self (i.e., feeling out of touch with the "real me") mediates the effect of wearing counterfeit sunglasses on cheating.

Time versus money. Situations that evoke the concept of time or money can predict ethical or unethical behavior. Research suggests that people can hold dissonant attitudes toward the concept of money. Depending on the context, money can elicit greed, exploitation, and self-serving attitudes; or fairness and reciprocity (Yang, Wu, Zhou, Mead, Vohs, & Baumeister, 2013). However, previous studies support the former as the most readily accessible money-related concepts. In general, the concept of money seems to be a temptation for people to behave unethically, often in a self-interested manner. For instance, people primed with an image of money (i.e., an image of paper money on a computer's screen saver) work harder on a difficult task and want to take on more of the work, but also reduce their helpfulness toward others and increase isolationist behavior (Vohs, Mead, & Good, 2008). Moreover, activating the concept of money is associated with an impersonal, economic input-output (e.g., market utility) mindset which promotes personal achievement over social engagement (Vohs et

al, 2008) and self-sufficient, yet socially insensitive, outcomes (Vohs, Mead, & Goode, 2006). These results suggest that priming the concept of money increases self-interested behavior while limiting attention to interpersonal cues that may help monitor the self. The current experiment uses a money prime to increase participants' temptation to behave unethically.

On the other hand, the concept of time is associated with self-reflection and greater prosocial behavior. In a study by Mogilner (2010), participants at a coffee shop primed with the concept of time (as opposed to money) choose to spend more time socializing with others and less time working alone. The decision to spend time with others is associated with increased self-reported happiness. Other studies find similar results by priming the concept of time: people report an increase in concern for emotional meaning (Liu & Aaker, 2007), an increase in happiness through interpersonal relationships (e.g., charitable giving; Liu & Aaker, 2008), and greater social engagement (Mogilner & Aaker, 2009). These studies suggest that priming time may increase a person's concern for others' well-being and how others perceive them. These concerns may bring to mind that cheating may negatively impact others, such as falsely helping the researchers show support for psychokinesis or taking unearned money that may instead go to someone else. Under conditions of self-reflection the temptation to cheat might be reduced because a person can no longer avoid processing the negative self-implications for unethical behavior. The current experiment uses the concept of time as a way to reduce cheating on the coin flip task.

Previous research has established that priming money or time influenced ethical behavior. People were more likely to cheat when solving arithmetic problems when

primed with money as opposed to time (Gino & Mogilner, 2013). The authors found this association consistently using various operationalizations of money and time primes. For instance, the results held using various procedures to affect the prime, including sentence unscrambling or searching for song lyrics about either money or time. These studies suggested that activating money or time concepts influence prosocial or unethical behavior. Specifically, priming the concept of money presumably increased focus on improving economically and reduced concern with how others may perceive you, increasing the temptation to cheat. On the other hand, priming the concept of time increased self-reflection and the concern with how others perceived you, reducing the temptation to cheat. The current experiment explored the relationship between self-structure and unethical behavior under conditions of greater or less temptation to cheat.

Overview and Predictions

The purpose of Experiment 2 is to replicate the positive relationship between compartmentalization and unethical behavior. Previous research establishes the positive association between compartmentalization and cheating under neutral conditions (Showers et al., 2015; Thomas, 2015). Experiment 2 also explores the resilience of integrative people in situations with a greater temptation to cheat. For instance, Thomas (2015) found that under conditions of ego-depletion, integrative people cheated more than compartmentalized people. In order to test whether integrative people fall prey to temptation beyond ego-depletion conditions, Experiment 2 provides 3 contexts with varying degrees of temptation. Finally, the debriefing exclusion issue is addressed in two ways. First, the signature provided is changed so participants input only their

initials to indicate they've read the debriefing form. Second, participants must actively select to have their data excluded; the default selection is that their data be included.

We predict a replication from Experiment 1, such that compartmentalized people will cheat more than integrative people in neutral conditions (Showers, et al., 2015; Thomas, 2015) and after a "cheater" identity prime. In addition, we vary the temptation to cheat using a prime of money (greater temptation), time (less temptation), or no prime (neutral condition). Previous research finds that priming self-reflection using the concept of time results in greater honesty (Gino & Mogilner, 2013). Therefore, our basic prediction is that in a situation with greater temptation (money) people will cheat more compared to a less tempting situation (time). Furthermore, self-structure may interact with the varying levels of temptation. It seems plausible that people who integrate may generally be more sensitive to ethical-behavior-related manipulations and fall prey to temptation (similar to ego-depletion conditions; Thomas, 2015). However, research has shown that priming money can counteract ego-depletion effects (Boucher & Kofos, 2012). Specifically, ego-depleted people primed with money concepts perform better at subsequent effortful tasks (e.g., a Stroop task). The authors find evidence that money reduces the perceived difficulty and effort needed to complete these tasks. People who integrate may recover any previously lost self-control resources when primed with money and remain relatively honest compared to people who compartmentalize. Therefore, we predict that people who integrate remain vigilant under conditions of greater temptation (money) and remain relatively honest compared to people who compartmentalize.

Finally, we analyze individual difference variables that may moderate the compartmentalization effect. The specific moderators, self-deceptive enhancement (SDE) and shame proneness, conceptually reflect a tendency to cheat. We include both constructs because it is difficult to predict for which measure people will be most sensitive within the current paradigm. It seems plausible that greater self-deceptive enhancement or less shame proneness predicts unethical behavior. Furthermore, we predict that self-enhancing people who compartmentalize cheat more than their integrative counterparts. This should be especially true under conditions of greater temptation (money prime). Additionally, the tendency to see oneself as a bad person (shame prone) after behaving unethically should promote more honesty during the coin flip task. This might be especially prominent when priming time. The influence of self-reflection and shame proneness may result in greater honesty especially in people who may otherwise cheat (i.e., compartmentalized or self-enhancing). Therefore we predict that under conditions that prime time (self-reflection) shame prone compartmentalized people override their tendency to cheat and remain honest.

Method

Participants

The sample was 309 undergraduate students (211 females) enrolled in an introductory psychology course. Participants volunteered to complete the experiment on SONA in partial fulfillment of a course research participation requirement. In addition, participants received a monetary incentive for performance in the online portion of the study.

Design

Experiment 2 is conceptually a 2 (self-structure: integrative or compartmentalized) x 2 (instruction condition: cheater or no instruction) x 3 (background condition: money, time, or gray) design. The self-structure measure is a continuous individual difference variable, whereas the instruction and background conditions are manipulated between participants. When including the self-structure variables as predictors, a hierarchical multiple regression analysis tests the main effects and up to three-way interactions. The instruction and background condition variables are analyzed using an ANOVA. These variables are also included as separate terms in the regression analyses.

Measures

Self-structure card sorting task. The card-sorting task was the same as in Experiment 1.

Coin flip task (cheating behavior). As in Experiment 1, Bryan et al.'s (2013) coin flip task assessed dishonest behavior. Experiment 2 included the cheater (i.e., identity-focus) and no instruction conditions. Participants viewed one of three backgrounds while completing the coin flip task: solid gray (control), a wallpaper image of $100 bills (money prime), or a wallpaper image of pocket watches (time prime; see Figure 4).

Self-deceptive enhancement. As in Experiment 1, the BIDR-SDE (Paulhus, 1994) measured a person's tendency to unconsciously bias their responses to enhance one's ego ($\alpha = .70$, $n = 277$).

Shame proneness. The Test of Self-Conscious Affect Scale (TOSCA-3 short version) measures the experience of shame and guilt in response to various scenarios.

The TOSCA-3 short version has four subscales: Shame Proneness, Guilt Proneness, Externalization, and Detachment/Unconcern. A scenario is presented that contains four different ways people might react. Participants report their likelihood to react in each of the four different ways; each reaction represents one of the subscales. The Shame Proneness subscale will be featured in Experiment 2. It includes 11 items measuring one's negative evaluation of the self for the given scenario (e.g., Scenario: "While playing around, you throw a ball and it hits your friend in the face." Reaction: "You would feel inadequate that you can't even throw a ball."). Participants indicate the likelihood of their reaction on a 5-point scale (1 = *not likely*; 5 = *very likely*). The Shame Proneness subscale is the sum of the 11 items indicating greater shame ($\alpha = .74$, $n = 303$).

Free market outcome fairness. The Fair Market Ideology Scale (FMI; Jost et al., 2003) measures the tendency to believe that the existing free market system is fair. The FMI has two subscales: Procedural Fairness and Outcome Fairness. The Outcome Fairness (FMOF) subscale will be featured in Experiment 2. It includes 10 scenarios measuring perceptions of fairness for market-driven outcomes (e.g., "When concessions at airports and concerts charge higher prices for beverages because they know that their customers have no alternatives, it is…"). Participants indicate agreement with each of the 10 scenarios on an 11-point scale (-5 = *completely unfair*; 5 = *completely fair*). FMOF is the mean response of the 10 scenarios indicating greater fairness ($\alpha = .80$, $n = 278$).

The FMOF measure looks at potential rationalizations after unethical behavior. Previous research has established that priming money increases acceptance of free-

market capitalism and exploiting disadvantaged groups (Caruso, Vohs, Baxter, & Waytz, 2013). Therefore, it seems plausible to predict that cheating increases subsequent belief in FMOF. People increase their belief in FMOF to reflect having taken advantage of the opportunity to optimize money earned by cheating. This effect should be most pronounced under conditions of greater temptation (i.e., money background).

Procedure

The procedure was the same as Experiment 1, except for the addition of a background manipulation for the online session and the TOSCA-3 and FMI measures. The TOSCA-3 was included in the departmental prescreening. In groups from 1 to 14, participants completed the card sorting task, followed by the same set of paper and pencil questionnaires as in Experiment 1. Before participants began the online session, Qualtrics software randomly assigned them to read 1 of 2 instructions (cheater or no instructions), and to view 1 of 3 backgrounds (money, time, or gray). After completing the coin flip task, the background was gray for the remainder of the online session. The online session included the FMOF measure within a larger group of questionnaires after the coin flip task. At the end of the online session participants were thoroughly debriefed and, because of the direct deception used for the coin flip task, given the opportunity to exclude their data from analysis.[4]

Results

Of 309 participants who began Experiment 2, 2 participants selected to exclude their data on the online debriefing screen. Of the remaining 307 participants, 28 persons (9.1%) did not complete the online part of the experiment and 1 person

completed only the online part of the experiment. Therefore, analyses included 278 participants (198 females). The mean age of participants was 18.7 years (*SD* = 1.5). The racial/ethnic composition was 74.1% White, 10.8% Asian, 5.4% Hispanic, 4.0% Black, 2.5% Native American, and 3.2% Other. Thirty-one participants had missing phi values because they failed to create at least 3 self-aspects or use at least 2 negative attributes. Finally, 2 participants had no DI value computed because there was no variance in the positivity-negativity ratings between self-aspects. Therefore, analyses including measures of self-structure used 245 participants (177 females). Note that we completed additional analyses but included the significant results. Table 7 presents the correlations and descriptive statistics for reported heads, self-structure, and moderator variables for Experiment 2.

Cheating Between Conditions: Sum of All Trials

A one sample t-test examined whether reported heads within each of the 2 (instruction: cheater or no instruction) x 3 (background: money, time, or gray) conditions fell above or below chance (5 reported heads). There was a significantly greater number of reported heads than would be expected by chance within five of the six conditions, ts $\geq$ 2.359, ps $\leq$ .02, ds $\geq$ .35; the cheater-gray condition reported only marginally more than five reported heads, t (46) = 1.944, p = .06, d = .28. Next, a 2 (instruction) x 3 (background) ANOVA examined whether differences in reported heads existed between conditions. There was a significant main effect for instruction, F (1, 272) = 11.60, p = .00, η^2 = .04, such that people reported fewer heads after reading the cheater instructions compared to no instruction. There were no significant effects for background, F (2, 272) = .48, p = .62, or the Instruction x Background interaction, F (2,

272) = .64, p = .53. Table 8 shows descriptive statistics and ANOVA results for reported heads.

Cheating Between Conditions: Individuals Trials 1 to 10

As a follow up analysis we ran 2 (instruction) x 3 (background) ANOVAs to test whether differences existed by condition within each of the ten trials. To summarize, there was a significant instruction main effect for trials 1 and 2 (combined), F (1, 272) = 5.89, p = .02, η^2 = .02, such that people reported fewer heads on trials 1 and 2 in the cheater condition than in no instruction. The main effect was qualified by a marginally significant Instruction x Background interaction, F (2, 272) = 2.47, p = .09, η^2 = .02. People in the cheater-time condition reported fewer heads on trial 1 and 2, whereas the other groups reported more heads (Table 9). This result suggests people in the cheater-time condition initially behaved in the predicted direction while viewing time background (i.e., more honestly). Also, there was a significant Instruction x Background interaction for trials 6 and 7 (combined), F (2, 272) = 3.22, p = .04, η^2 = .02. People in the cheater-time condition reported more heads on trials 6 and 7 (Table 10).

Taken together, the follow-up ANOVAs suggest that reading the cheater instructions while viewing the time background delayed people's cheating until trials 6 and 7. On these trials people may have reported additional heads making up for their previous honesty on flips 1 and 2. However, on all ten trials people reading the cheater instructions still remained relatively more honest than those in the no instruction condition. Figure 5 presents bar charts of mean heads reported for all ten trials, trials 1 and 2, and trials 6 and 7 respectively.

Self-structure and Cheating

The *basic model* was a hierarchical regression performed for self-structure, instruction, and background variables. The analysis of reported heads tested up to three-way interactions for the following five predictors: phi, DI, neg, instruction, and background. On Step 1, the main effect terms phi, DI, neg, instruction, and background were entered. These terms were mean centered (Aiken & West, 1991). On Step 2, all two-way interactions of phi, DI, neg, instruction, and background were entered. On Step 3, all three-way interactions of phi, DI, neg, instruction, and background were entered. Two participants had extremely high neg values; these values were winsorized to the next highest value (*cf.* Dixon, 1960). Neg was arcsine transformed to normalize the distribution. Figure 6 presents the frequency distributions for reported heads and the self-structure variables.

Preliminary analyses of the basic model for all possible pairs of backgrounds within each instruction condition suggested that effects within the gray condition differed from those within the time and money conditions (which were similar). In fact, these analyses suggested that, overall, the time background may have been perceived like a money prime (possibly because the watches looked expensive). Therefore, the overall regression model tested the background conditions coded as follows: money or time = 0; gray = 1. If a variable had no significant interaction terms ($p < .05$) we analyzed a *trimmed basic model* removing all of the variable's two- and three- way interaction terms to reduce model complexity and multicollinearity. In all cases, we examined the complete and trimmed models. The trimmed model sometimes reduced

significant effects to marginal ones; therefore, the stronger results are presented in the text with the alternative analysis in the appendix.

Trimmed basic model (money/time versus gray). There were no significant background or instruction interactions in the overall basic model. Therefore, we tested a regression model removing all two- and three- way interaction terms for the instruction or background variables. Table 11 presents the trimmed basic model regression results. There was a significant main effects for instruction, $\beta = .23$, $t(239) = 3.65$, $p = .00$, $sr^2 = .05$, such that reading the cheater instructions was associated with fewer reported heads. There was a marginal phi main effect, $\beta = .12$, $t(239) = 1.74$, $p = .08$, $sr^2 = .01$, such that greater compartmentalization was associated with more reported heads. These main effects were qualified by a significant Phi x Neg interaction, $\beta = -.14$, $t(235) = -2.08$, $p = .04$, $sr^2 = .02$, such that for low neg, greater compartmentalization was associated with more reported heads (Figure 7). For sake of completeness, Appendix C presents the untrimmed basic model analysis.

Basic model (money versus time). Given that we were not expecting differences in the basic model for money and time, we ran the money versus time basic model regression for sake of completeness. Table 12 presents the regression results. The main effects were the same as the money/time versus gray basic model for instruction and phi. The main effects were qualified by a significant Phi x DI x Neg interaction, $\beta = -.26$, $t(144) = -2.09$, $p = .04$, $sr^2 = .03$. The interaction conceptually replicated the above Phi x Neg interaction suggesting that for low neg, greater compartmentalization was associated with more reported heads. Additionally, the interaction suggested that the most negative integration (i.e., low DI, high neg) was

associated with the fewest reported heads of any group (Figure 8). This analysis presents the complete model; the trimmed model is in Appendix D.

Self-structure and Cheating with Moderators

The basic model suggested that the money and time backgrounds may have been perceived similarly by the sample as a whole. However, preliminary analyses with moderators suggested that some people did differentiate between money and time; therefore we presented money versus time comparisons for the moderator analyses. Because a Phi x Neg interaction existed in the basic model, the moderator models included neg but controlled for DI.

The moderator model was a hierarchical regression performed for self-structure, instruction, background, and the moderator variable. The analysis of reported heads (cheating) tested up to three-way interactions for the following five predictors: phi, neg, instruction, background, and moderator. On Step 1, the DI variable was entered to control for any main effect. On Step 2, the main effect predictor terms phi, neg, instruction, background, and moderator were entered. These terms were mean centered (Aiken & West, 1991). On Step 3, all two-way interactions of phi, neg, instruction, background, and moderator were entered. On Step 4, all three-way interactions of phi, neg, instruction, background, and moderator were entered. Two participants had extremely high neg values; these values were winsorized to the next closest value (*cf.* Dixon, 1960). Neg was arcsine transformed to normalize the distribution. As explained above, for each model that had a variable with no significant interaction terms ($p < .05$), we analyzed a trimmed model removing all of that variable's two- and three-way interaction terms to reduce model complexity and multicollinearity. In all cases we

looked at the complete and trimmed models, reporting the model with stronger effects. The appendices present the alternative model. Tables 13 to 15 present the time versus money moderator model regression results for three moderators: self-deceptive enhancement, shame proneness, and free market outcome fairness respectively.

Self-deceptive enhancement (money versus time). The main effects for instruction, phi, and neg remained the same as the basic model. The main effects were qualified by a significant Phi x Background x SDE interaction, $\beta = .24$, $t(123) = -2.21$, $p = .03$, $sr^2 = .04$, such that for high SDE in the money condition, greater compartmentalization was associated with more reported heads (Figure 9). For highly self-deceptive people who compartmentalize, priming money increased cheating. This analysis presents the complete model; the trimmed model is in Appendix E.

Shame proneness (money versus time). The instruction main effect remained the same as in previous models. In addition, there were significant main effects for phi, $\beta = .17$, $t(168) = 2.09$, $p = .04$, $sr^2 = .03$; and shame proneness, $\beta = -.19$, $t(168) = -2.59$, $p = .01$, $sr^2 = .04$, such that compartmentalization and less shame proneness were associated with more reported heads. There were no significant two- or three-way interactions. Note that, by controlling for shame proneness, we obtained a main effect association between compartmentalization and greater cheating across both cheater and no instruction conditions.

Free market outcome fairness (money versus time). The significant instruction and marginally significant phi main effects remained the same as previous models. The main effects were qualified by a significant Instruction x Background x FMOF interaction, $\beta = -.16$, $t(143) = -2.00$, $p = .05$, $sr^2 = .03$, such that for low FMOF

in the money condition, the cheater instructions were associated with fewer reported heads than were no instructions (Figure 10). For people without their self-concept primed who also believe in less fairness of free-market outcomes, priming money increased cheating. This analysis presents the complete model; the trimmed model is in Appendix F.

Discussion

The results for Experiment 2 provide further evidence for the association between compartmentalization and greater cheating. Results support the main effect association between compartmentalization and cheating found previously under neutral conditions (Showers et al., 2015; Thomas, 2015). In addition, compartmentalized people who describe themselves using fewer negative self-attributes also cheated more than integrative people. The main effect association between the cheater identity prime (i.e., cheater instructions) and less cheating conceptually replicates the Bryan et al. (2013) results. However, there is no direct replication of the Experiment 1 result showing that integrative people behave more honestly after the "cheater" identity prime. Instead, Experiment 2 finds that the "cheater" identity prime and an integrative self-structure separately predict more honest behavior. It should be noted that controlling for shame proneness strengthens the main effect association between compartmentalization and cheating. Also, as predicted, the results reveal that shame proneness predicts greater honesty. This relationship is not qualified by any results with regards to self-structure or temptation. The experience of shame may separately motivate people to hide and avoid, or blame others (Tangney, Stuewig, & Martinez, 2014). Shame prone people may apply behavioral avoidance and reject cheating on

their coin flips. Thus, the shame proneness result suggests an avenue where the experience of shame can be constructive, namely, when it deters unethical behavior.

Another purpose of Experiment 2 is to examine cheating under conditions of greater or less temptation (i.e., money versus time). The results provide some evidence for the predicted positive association between greater temptation and cheating. Specifically, after the "cheater" identity prime, people in the less tempting situation (time prime) report fewer heads on flips 1 and 2. This suggests people delay their cheating on the task under less tempting circumstances. With regard to self-structure, we find no evidence that integrative people fall prey to cheating under conditions of greater temptation. In addition, the moderator analysis reveals that certain compartmentalized people cheat more under conditions of greater temptation. Specifically, highly self-deceptive (SDE) people who compartmentalize cheat more than high SDE people who integrate under conditions of greater temptation.

Implications

The results of Experiment 2 provide additional support for the notion that people who compartmentalize behave more unethically than people who integrate. We do not find evidence that people who integrate cheat more than people who compartmentalize under conditions of greater temptation. Our findings suggest a narrow interpretation of the ego-depletion effects Thomas (2015) finds for people who integrate. She discusses the ego-depletion results as an ironic effect for people who integrate. Because they usually avoid situations that tempt unethical behavior, they have little practice resisting such temptation. As a result, people who integrate may fall prey to temptation once ego-depleted because they have yet to strengthen the cognitive muscle needed to defend

against ego-depletion effects under conditions of greater temptation (*cf.* Baumeister, Bratslavsky, Muraven, & Tice, 1998; Baumeister, Vohs, & Tice, 2007). It seems that the ironic effect for integratives occurs under conditions of ego-depletion with a relatively more effortful task. A different situational temptation and less demanding task provide no evidence that people who integrate behave more unethically than people who compartmentalize.

Furthermore, individual difference effects provided support for the interpretation that integrative people remain resilient against conditions of greater temptation. Specifically, high SDE people who compartmentalize cheated the most when primed with money. This finding suggests that they avoided processing any negative connotations for cheating. Instead, they may have used the task to self-enhance by demonstrating superior psychokinesis or receiving better-than-average money. Moreover, it seems plausible these people use any possible rationalization for unethical behavior. The presence of money might especially put these people in an economic mindset where maximum financial gains justify any unethical behavior that results in additional pay.

The individual flip analyses suggest that the time prime may delay cheating until later flips. Specifically, we find that after the cheater identity prime, people viewing the time prime report fewer heads on flips 1 and 2. These same people also report more heads on flips 6 and 7. When accounting for all ten flips, there is no difference in cheating between the initially honest people in the time-cheater condition and the other conditions. The pattern of early honesty, later cheating might be a type of moral credentialing (Monin & Miller, 2001) for people primed with time and a "cheater"

identity (time-cheater condition). In this case, after remaining honest after the first few flips people may feel that their moral self is affirmed, providing a rationalization for them to behave unethically on later flips.

Limitations and Issues

In Experiment 1, a large segment of people (16.0%) selected that their data be excluded. The data for Experiment 2 suggested the changes to the debriefing procedure alleviated this problem. In fact, only 2 of the original 309 participants (.01%) selected their data for exclusion. The specific improvements that participants provided only their initials as a signature and actively selected a button online for their data to be excluded appeared to fix the issue.

Time and money background images. The failure to find strong background manipulation effects for all ten flips may be explained by the images used in the current experiment. The preliminary analyses suggested the gray background was perceived differently than the time and money backgrounds. In general the time and money backgrounds appeared to be evoking a similar response for most participants. The current images were selected to provide backgrounds that superficially looked similar. This helped the images appear less obvious as a manipulation in the study. Another consideration was whether the images worked as a background image in the Qualtrics computer program. Therefore, we used as equivalent an image as possible of currency and time pieces scattered about the page. However, the image of time depicted with pocket watches may have been perceived as expensive or wealthy by most participants (see Figure 4 for the images). If perceived as wealth, participants may have fallen prey to an *abundance effect* as described by Gino and Pierce (2009). The authors found that

people behaved unethically when in the presence of monetary wealth. In their studies, the depiction of abundant wealth provoked feelings of envy in their participants that led to unethical behavior. It's plausible that the vast majority of participants never possessed a pocket watch like those depicted in the current experiment. As a result they may have focused on the abundance of expensive looking watches with a shiny gold or silver finish. A better self-reflective prime might have been to use an image of digital clocks or clock faces without a shiny finish prime.

GENERAL DISCUSSION

The first goal of the current experiments was to replicate the association between compartmentalization and cheating using an online paradigm unrelated to academic performance. We find support for the positive association between compartmentalization and unethical behavior under neutral conditions across two experiments. Both experiments find a main effect between compartmentalization and cheating in the predicted direction. Now replicated across numerous studies, the consistent results suggest that people who defensively process negative self-beliefs also defensively process the implications for unethical behavior. The extension of previous results into different unethical behavior procedures broadens the scope of the self-structure model to predict unethical behavior. Previously, only academic performance tasks (i.e., arithmetic problems) in a laboratory setting assessed unethical behavior within a self-structure framework. The coin flip procedure provides a different unethical behavior as a dependent variable, unrelated to math ability and in an online environment outside of a laboratory. Thus, compartmentalization predicting unethical

behavior appears to generalize across different unethical behavior procedures and study settings.

The self-structure model provides a mechanism that may explain how other individual differences predict unethical behavior. For instance, defensive processing of negative self-beliefs may result in avoidance of negative emotions like guilt or shame. It seems plausible that people with compartmentalized selves may defensively process feelings of guilt or shame to avoid the experience of those emotions. Wolf et al. (2010) found guilt- or shame- proneness to be associated with reactions to private or public unethical behavior, respectively. This suggests that compartmentalization may especially facilitate unethical behavior in private situations associated with guilt. For a private, guilt-inducing transgression, people who compartmentalize must only avoid negative self-beliefs for that specific situation and with only the self as a witness. Shame, on the other hand, tends to result in more global negative self-evaluations (Cohen et al., 2011). After a public transgression, people may process others' feedback, making it relatively more difficult to avoid any negative self-implications. The association we find between shame-proneness and greater honesty suggests a broader self-evaluation for unethical behavior.

In a related manner, creative people may compartmentalize to avoid the negative implications of unethical behavior. Creative people feel unconstrained by rules (Wiltermuth & Gino, 2014) which may foster the cognitive flexibility to process unethical behavior in a different light. Thus it seems plausible that creative people who compartmentalize might be most willing to construe unethical behavior in a self-serving way. The combination of cognitive flexibility and defensive processing of negatives

may facilitate more exceptional, imaginative rationalizations for unethical behavior. For instance, creative compartmentalized people may rationalize cheating on a test as outperforming others in the class; or receiving unearned money as maximizing their profit (or, specific to the current experiment, reporting additional heads flipped as displaying psychokinesis). Indeed, previous research suggests that creative people are better at justifying dishonest behavior (Gino & Ariely, 2012).

A second goal of the experiments was to examine how various priming conditions, creating different levels of temptation, affected the established compartmentalization effect. First, we include instructions with the warning "don't be a cheater" that presumably primes a "cheater" identity. Bryan et al. (2013) find without qualification that people react with greater honesty after priming a "cheater" identity. They suggest that people wish to deny this negative identity and instead behave with honesty. The current experiments extend the cheating paradigm developed by Bryan et al. The present research suggests differential responses after activating a "cheater" identity. We find that after a "cheater" identity prime, people who compartmentalize respond by cheating more and people who integrate respond with greater honesty (Experiment 1). Thus, the warning "don't be a cheater" does not always result in greater honesty. Instead, people who compartmentalize may respond defensively when a negative self activates as a means to protect their self-worth.

People who compartmentalize may rationalize their unethical behavior to avoid negative implications for the self. Bandura's (1999) review of research on moral agency finds that people can cognitively restructure unethical behavior as being relatively benign or morally justifiable. Once restructured, people disengage their

moral self and limit any feelings of responsibility for the unethical behavior. Similarly, Tsang (2002) discusses a specific moral rationalization process as a person's capacity to construe unethical behavior in less negative, moral terms. Thus, compartmentalization may facilitate a rationalization of unethical behavior, allowing people to avoid negative implications for the self. The rationalization process used by people who compartmentalize may be motivated by self-enhancement goals (Ditzfeld & Showers, 2014). For instance, they may rationalize cheating on the coin flip task as an opportunity to earn more money. The self might be enhanced by feeling good about receiving extra money while ignoring the unethical means of achievement. The psychokinesis cover story could also justify unethical behavior. In this case, people who compartmentalize deny reporting additional heads as cheating; they construe themselves as displaying superior psychokinesis. Moreover, people who compartmentalize may infer from the online setting that the experimenters implicitly condone unethical behavior because of a lack of safeguards against it. This rationalization would limit a person's responsibility for cheating and shift blame instead on the experimenters. In each of these examples, people who compartmentalize defensively process unethical behavior through rationalizations that pose less threat to the self and promote a positive self-view.

In Experiment 2, we introduced a prime meant to vary temptation which also provides support for the association between compartmentalization and cheating. Specifically, self-deceptive enhancing (SDE) people who compartmentalize remain the most dishonest under conditions of greater temptation (money background; Experiment 2). This finding supports research suggesting that the concept of money can corrupt and

can increase unethical behavior (Gino & Mogilner, 2013). Furthermore, the finding for SDE suggests only certain types of people process money in exploitative ways. It seems plausible that high SDE people who compartmentalize process situational factors through a lens that seeks maximum personal benefit. For these people, the money background may signal decisions based on business or economic outcomes, a mindset which increases unethical behavior (Kouchaki, Smith-Crowe, Brief, & Sousa, 2013).

The Self and Reduction of Unethical Behavior

The confrontation of negative self-beliefs appears to be a central process that reduces unethical behavior. The current experiments provide evidence that people who integrate behave more honestly. Integratives, motivated by accurate self-perceptions, confront their negative self-beliefs (Ditzfeld & Showers, 2014). Meanwhile, people with compartmentalized selves behave unethically, but avoid viewing themselves in a negative light. Indeed, most of the time compartmentalization is associated with high self-esteem and positive moods (Showers, 1992). By defensively processing unethical behavior, people who compartmentalize may avoid a drop in self-esteem or mood. Instead, they avoid any negative implications and construe their unethical behavior in potentially self-enhancing ways. Furthermore, previous research suggests that self-enhancement may be inherently unethical (von Hippel et al., 2005).

Interventions or primes that reduce self-enhancement motives may promote greater honesty and less defensive processing of threatening information. Without a self-enhancement motive, people who compartmentalize may be more willing to confront and process accurately the consequences of unethical behavior. Less defensiveness may also limit the rationalizations compartmentalized people use to

justify unethical behavior. Instead of a self-enhancing interpretation for unethical behavior (e.g., "I got an A on the test"; "I'll take home more money"), an accuracy motive may help with acknowledging the downside of unethical behavior (e.g., "I cheated on the test"; "I didn't earn this money"). At first, a reduction in defensiveness is likely limited to the current behavior in a specific context. However, over time, if a person remains conscientious about confronting negative self-beliefs, the practice should generalize. Eventually, this more generally integrative self should behave with greater honesty.

Limitations and Issues

Unethical behavior at the individual level. The current experiments assess cheating on the coin flip task as a comparison to chance (i.e., flipping 5 heads). However, given the online nature of the procedure, we cannot determine whether any individual participant actually flips a coin or behaves unethically. A small percentage of participants likely flip 9 or 10 heads on the task and report their results truthfully. The fact that people on average report fewer heads flipped in the cheater condition compared to the control condition suggests a general tendency for people to cheat in the no instruction condition (Experiment 2). The academic performance procedures used in previous research on compartmentalization and ethical behavior can determine cheating within each participant. For instance, Thomas (2015) had participants solve a set of math problems on one sheet of paper. The participants think they are recycling that sheet of paper and reporting separately the number of problems they solve. Unbeknownst to participants, the researchers recover the sheet recycled sheet to compare the number of correct responses participants report versus actually solve. With

this procedure, researchers determine at the individual level whether a participant lies about their scores to receive unearned money. Nevertheless, the consistent positive association between compartmentalization and cheating in the current experiments, which replicate previous findings (Showers et al., 2015; Thomas, 2015), suggest that the coin flip procedure validly assesses unethical behavior.

Self-deceptive enhancement. The current experiments find competing results with regard to self-deceptive enhancement. Given the recent focus on replication issues in social psychology, this result seems relevant for discussion ("Estimating the reproducibility of psychological science," 2015). Our results suggest that participants are sensitive to relatively small adjustments with the experimental context. In Experiment 1, low SDE people who compartmentalize cheat the most. This finding is likely driven by the "cheater" identity prime. For these people who do not chronically self-enhance, a "cheater" identity prime may feel especially threatening. Thus, they respond defensively to activate their positive compartments. They may rationalize their unethical behavior by processing their behavior as making more money or proving psychokinesis. People who tend chronically to enhance everywhere else (i.e., high SDE) may not have felt the need to self-enhance after a "cheater" identity prime. However, in Experiment 2 we find that high SDE people who compartmentalize cheat more than others under conditions of greater temptation (money prime). Self-deceptive people may have greater sensitivity to situational temptations. As a result, the money background puts these people in an economic mindset where maximum financial benefit motivates behavior. The combination of an avoidance of negative implications for the self and chronic self-enhancement may motivate these people to scour carefully

their situation for any rationalizations (or temptations) to justify unethical behavior. In this case, money may motivate them to receive extra money regardless of ethicality. These results highlight how participants' responses are affected by only small variations to the situation.

Future Directions

A dynamic self-structure. One avenue that future research might pursue is whether unethical behavior predicts changes to self-structure. For instance, after unethical behavior people may respond defensively and compartmentalize. A compartmentalized response could protect the self from negative implications of cheating if a person can rely only on the positive compartments. The result that people who positively compartmentalize cheat more than people who positively integrate suggests such a defensive response (Experiment 2). Conversely, honest behavior may affirm the self and promote the acknowledgment of negative self-beliefs, resulting in greater integration. It would be interesting to explore whether a self-awareness prime results in the explicit creation of a "moral" or "honest" self-aspect for people who behave honestly and then integrate. Many researchers suggest that people maintain some type of moral self, but those researchers do not assess the associated self-attributes (*cf.* Monin & Jordan, 2009). The self-structure procedure could provide evidence for specific self-attributes people use to describe their moral self. In the case of integration, the moral self-aspect may emerge in people who acknowledge potential negatives by behaving honestly. Maybe these people feel taken advantage of or underappreciated for their honesty.

Haidt's social intuitionist and moral foundations theory. Another intriguing direction in which researchers could extend the self-structure framework is Haidt's (2001) social intuitionist model of morality. Haidt suggests that people use automatic moral intuitions (e.g., feelings of good-bad) to guide moral judgments. A rational, controlled moral reasoning process, akin to Kohlberg's (1984a) notion of reasoning sophistication, occurs only after the initial moral intuition (and possibly not at all). Haidt and colleagues suggest 5 moral foundations upon which people across all cultures intuitively rely when making ethical or unethical choices. Each of the foundations is an evolved psychological mechanism that represents culture-free moral regulation and virtue (Graham, Nosek, Haidt, Iyer, Spassena, et al., 2011). Two of the foundations -- Harm/Care and Fairness/Reciprocity -- focus on individual autonomy (*individualizing foundations*). The other three foundations -- Ingroup/Loyalty, Authority/Respect, and Purity/Sanctity -- focus on the formation of larger groups or institutions (*binding foundations*). Importantly, different people may rely on different foundations to guide ethical behavior. For instance, people who self-report as politically more liberal more often use the individualizing foundations of Harm and Fairness. On the other hand, people who self-report as politically more conservative tend to use all 5 foundations equally (Graham, Haidt, & Nosek, 2009).

It seems plausible that how a person manages negative self-beliefs may relate to the moral intuitions they tend to use. People who compartmentalize may rely on certain foundations that facilitate avoiding processing unethical behavior negatively. If this is the case, priming the less defensive foundations may promote greater honesty. Therefore, researchers should directly test the association between self-structure and

Haidt's moral foundations. People who compartmentalize may deny negative implications for behavior to remain pure and free of sin (Purity/Sanctity foundation; Graham et al., 2009). On the other hand, people who integrate may rely on purity to a lesser degree as they remain open about flaws and negative self-beliefs. Similarly, it seems reasonable to predict that concerns of fairness may require only taking what you earn, which would promote ethical behavior. In this way, people who integrate and confront the implications of behaving unfairly may rely more heavily on this foundation.

Conclusions

The purpose of the current experiments was to provide further evidence for a model of defensive self-structure (Thomas, Ditzfeld, & Showers, 2013) predicting unethical behavior. Previous research established a positive association between compartmentalization and unethical behavior under neutral conditions (Showers et al., 2014; Thomas, 2015). Across two experiments, we find evidence supporting the previous relationship between compartmentalization and unethical behavior. These results suggest that people who compartmentalize avoid or deny negative implications for unethical behavior. In addition, the current experiments extend these findings using a different procedure to assess unethical behavior outside of a laboratory setting. The online coin flip task in the current experiments eliminates any previous academic performance concerns and can be completed in a private, comfortable setting of the participant's choice. Thus, a model of defensive self-structure predicting unethical behavior (Thomas, Ditzfeld, & Showers, 2013) appears robust and consistent across numerous contexts.

The current experiments also determine various priming conditions under which people who integrate remain resilient against temptation. After a "cheater" identity prime, people who integrate behave with more honesty and people who compartmentalize behave with more cheating. Even under conditions that heighten awareness of a dishonest framing for the behavior, people who compartmentalize minimize the negative implications for unethical behavior. They may instead rationalize their behavior as normative or construe it in self-enhancing terms to maintain an overly positive self-view. Moreover, integrative people remain relatively honest under multiple conditions. Their confrontation of the negative consequences of potential unethical behavior seems to mitigate a more general tendency to self-enhance. Thus, the current experiments suggest that a reduction in defensive responding is one process to promote more honest, ethical behavior. When people acknowledge and confront the potentially negative implications for their behavior, they remain resilient against temptations to cheat.

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Appendix A: Footnotes

[1] There was an issue of whether the coin flip data could be treated as a continuous variable because the data was a series of discrete outcomes. The present analyses assume that the 10 trials were large enough for the distribution of outcomes to approximate a normal distribution (Wadsworth, 1960). Thus the coin flip outcomes were treated as a continuous variable for analysis.

[2] Measures included in the Experiment 1 not discussed further, in order presented, are as follows for the laboratory session: Rosenberg Self-esteem Scale (Rosenberg, 1965), Beck Depression Inventory – II (Beck, Steer, & Brown, 1996b), Personal Need for Structure (Neuberg & Newsom, 1993), Implicit Theories (Dweck, Chiu, & Hong, 1995), Dichotomous Thinking Inventory (Oshio, 2009), Better than Average Trait Ratings (Alicke et al., 1995), Remote Associates Task (Gino & Ariely, 2012), Gough Personality Scale (Gough, 1979), Disgust Scale-Revised (Olatunji et al., 2007), and Creative Behavior Inventory (Hocevar, 1980). Experiment 1 online session measures not discussed further, in order presented: Transaction Loss Frame (Kern & Chugh, 2009), Goal Orientation at Work (VandeWalle, 1997), Threat Orientation Scale (Thompson & Schlehofer, 2008), Mechanisms of Moral Disengagement (Bandura, Barbaranelli, Capara, & Pastorelli, 1996), age, sex, education level, relationship status, comfort with the English language, and feedback items about the study (Appendix A).

[3] An alternative approach to the regression analysis used dummy coding to include all 3 instruction conditions in the same model. The following dummy coding scheme was used: c1 (cheater = 1, cheating and no instruction = 0); c2 (cheating = 1, cheater and no instruction = 0). The no instruction condition was the reference group.

The c1 and c2 terms were predictors in the basic model (instead of the paired instruction variable). The model was the same otherwise with all main effects on Step 1 and all two-way interactions on Step 2. Note that this coding does not directly test the instruction condition comparison significant in the main text results, namely cheater versus cheating. The results of this model yield conceptually similar results as those reported. There was a significant DI main effect, $\beta = -.22$, $t(95) = -2.01$, $p = .05$, $sr^2 = .04$ and marginally significant phi main effect, $\beta = .23$, $t(95) = 1.79$, $p = .08$, $sr^2 = .03$. The main effects were qualified by a significant Phi x Cheater Instruction (c1) interaction, $\beta = .20$, $t(94) = 2.01$, $p = .05$, $sr^2 = .04$. This interaction was significant within the excluded variable model, which entered only the Phi x Cheater Instruction term on Step 2 of the model. These results suggested that, when phi was included, the cheater condition remained different when including terms for both the cheating and no instruction conditions in the model. Furthermore, the phi main effect was present when including the entire sample, and given the prediction we had an a priori significant effect with a one-way analysis.

[4] The same additional measures were included in Experiment 2's laboratory session as in Experiment 1. The same additional measures were included in Experiment 2's online session as in Experiment 1 except for additional feedback items about the study (Appendix B) and the removal of the Transaction Loss Frame (Kern & Chugh, 2009; see Footnote 2).

Appendix B: Tables

Table 1
Experiment 1 & 2 Example Card Sort of Compartmentalized and Integrative Organization of the Self

Panel A: Compartmentalized organization (proportion of negatives = 17%, phi = .91)

At School	At Home	With Friends	Helping Special Needs Kids	With People I Don't Know
+Interested	+Comfortable	+Outgoing	+Happy	-Insecure
+Intelligent	+Communicative	+Comfortable	+Energetic	-Not the "real me"
+Capable	+Lovable	+Communicative	+Needed	-Uncomfortable
+Confident	+Fun & Entertaining	+Lovable	+Successful	-Isolated
+Hardworking	+Happy	+Fun & Entertaining	+Outgoing	-Tense
+Mature	+Needed	+Interested	+Communicative	
+Successful	-Lazy		+ Comfortable	
+Independent			+Lovable	
+Organized			+Hardworking	

Panel B: Integrative organization (proportion of negatives = 40%, phi = .23)

Family	Friends	School	Love Life
+Lovable	+Giving	+Capable	+Optimistic
+Independent	+Outgoing	-Tense	-Insecure
+Comfortable	+Friendly	+Hardworking	-Indecisive
-Like a Failure	+Fun & Entertaining	-Disorganized	-Unloved
+Intelligent	-Disagreeing	-Uncomfortable	+Giving
	-Isolated	+Independent	+Friendly
	-Not the "real me"		
	+Mature		

Note. +/- denotes attribute valence. Each card sort and aspect label was generated by an actual participant in this study.

Table 2

Experiment 1: Reported Heads and Regression Variable Intercorrelations and Descriptive Statistics

Variable	*1*	*2*	*3*	*4*	*5*	*6*
1. Reported heads	--	.13	-.13	-.01	-.03	-.14
2. Compartmentalization	.15	--	.49*	.53*	-.08	-.23†
3. Differential importance	-.10	.24*	--	.25*	.22†	.02
4. Proportion of negative attributes	-.02	.52*	-.03	--	.01	-.26*
5. Narcissism	.10	-.20	.12	-.19	--	.19
6. Self-deceptive enhancement	.02	-.06	-.10	-.17	.03	--
Cheater and No Instruction Sample (Upper Diagonal)						
M	5.71	.64	.47	.25	12.25	4.99
SD	1.84	.27	.47	.14	6.63	3.04
Skew	-.09	-.28	-1.22	.17	.41	.72
Cheater and Cheating Sample (Lower Diagonal)						
M	5.68	.68	.57	.23	12.69	4.67
SD	1.76	.26	.40	.14	6.58	2.43
Skew	.02	-.57	-1.40	.28	.01	-.11

Variable	*1*	*2*	*3*	*4*
1. Reported heads	--			
2. Compartmentalization	-.16	--		
3. Differential importance	-.29*	.47*	--	
4. Proportion of negative attributes	-.11	.57*	.06	--
Cheating and No Instruction Sample				
M	5.74	.69	.49	.25
SD	1.80	.25	.46	.15
Skew	.11	-.55	-1.17	.04

Note. With Phi in analysis: cheating/no instruction sample $n = 71$, cheater/cheating sample $n = 66$, and cheating/no instruction sample $n = 65$.

†$p < .10$; *$p < .05$.

Table 3

Comparison of Reported Heads of the Current Experiments and Bryan et al. (2013)

	Current Experiments		Bryan et al. (2013)	
Condition	Experiment 1	Experiment 2	Experiment 2	*Experiment 3*
Cheater	5.65 (1.82)	5.52 (1.47)	4.88 (1.38)	5.23 (1.18)
Cheating	5.70 (1.71)	--	5.49 (1.25)	6.22 (1.55)
No Instruction	5.77 (1.88)	6.14 (1.61)	--	6.31 (1.72)

Note. The standard deviations are presented in the parentheses.

Table 4

Experiment 1: Hierarchical Regression Effect Sizes for Reported Heads onto Compartmentalization (Phi), Differential Importance (DI), Proportion of Negative Attributes (Neg), and Instruction

		Cheater and No Instruction (n = 71)			
		Cumulative R^2	Increase in R^2	sr^2	sr
Step 1		.07	.07		
	Compartmentalization (phi)			.05†	.23†
	Differential importance (DI)			.03	-.16
	Proportion of negative attributes (neg)			.02	-.13
	Instruction			.00	.03
Step 2		.15	.08		
	Phi x DI			.00	.03
	Phi x Neg			.01	.09
	Phi x Instruction			.01	-.08
	DI x Neg			.00	.05
	DI x Instruction			.01	-.11
	Neg x Instruction			.00	-.02
		Cheater and Cheating (n = 66)			
		Cumulative R^2	Increase in R^2	sr^2	sr
Step 1		.06	.06		
	Compartmentalization (phi)			.04†	.21†
	Differential importance (DI)			.02	-.15
	Proportion of negative attributes (neg)			.02	-.16
	Instruction			.00	-.02
Step 2		.13*	.07*		
	Phi x Instruction			.07*	-.27*
		Cheating and No Instruction (n = 65)			
		Cumulative R^2	Increase in R^2	sr^2	sr
Step 1		.12†	.12†		
	Compartmentalization (phi)			.01	.09
	Differential importance (DI)			.08*	-.28*
	Proportion of negative attributes (neg)			.03	-.18
	Instruction			.00	.01
Step 2		.18	.06		
	Phi x DI			.01	.11
	Phi x Neg			.00	.07
	Phi x Instruction			.00	.06
	DI x Neg			.00	.00
	DI x Instruction			.02	.13
	Neg x Instruction			.00	.07

Note. sr^2 is the proportion of unique variance of each predictor, beyond the variance of all other variables on that step. The sign of sr signifies the direction of the association between the predictor and criterion. Instruction variable is coded for each model respectively as follows: cheater = 0, no instruction = 1, cheater = 0, cheating = 1, cheating = 0, no instruction = 1.

†$p < .10$; *$p < .05$.

Table 5

Experiment 1: Hierarchical Regression Effect Sizes for Reported Heads onto Compartmentalization (Phi), Instruction, and Narcissism controlling for Differential Importance (DI) and Proportion of Negative Attributes (Neg)

		Cheater and No Instruction (n = 64)			
		Cumulative R^2	Increase in R^2	sr^2	sr
Step 1		.01	.01		
	Differential importance (DI)			.01	-.11
	Proportion of negative attributes (neg)			.00	-.05
Step 2		.08	.06		
	Compartmentalization (phi)			.06†	.25†
	Instruction			.00	.04
	Narcissism			.00	.06
Step 2		.18†	.10†		
	Phi x Instruction			.04	-.19
	Phi x Narcissism			.07*	.27*
	Instruction x Narcissism			.01	.10

		Cheater and Cheating (n = 59)			
		Cumulative R^2	Increase in R^2	sr^2	sr
Step 1		.01	.01		
	Differential importance (DI)			.01	-.11
	Proportion of negative attributes (neg)			.00	-.04
Step 2		.09	.08		
	Compartmentalization (phi)			.06†	.25†
	Instruction			.00	-.03
	Narcissism			.03	.17
Step 2		.21†	.12†		
	Phi x Instruction			.06†	-.24†
	Phi x Narcissism			.03	.18
	Instruction x Narcissism			.02	.15

Note. sr^2 is the proportion of unique variance of each predictor, beyond the variance of all other variables on that step. The sign of sr signifies the direction of the association between the predictor and criterion. Instruction variable is coded for each model respectively as follows: cheater = 0, no instruction = 1; and cheater = 0, cheating = 1.
$^{\dagger}p < .10$; $*p < .05$.

Table 6

Experiment 1: Hierarchical Regression Effect Sizes for Reported Heads onto Compartmentalization (Phi), Instruction, and Self-deceptive Enhancement (SDE) controlling for Differential Importance (DI) and Proportion of Negative Attributes (Neg)

		Cheater and No Instruction (n = 62)			
		Cumulative R^2	Increase in R^2	sr^2	sr
Step 1		.04	.04		
	Differential importance (DI)			.03	-.18
	Proportion of negative attributes (neg)			.00	-.02
Step 2		.14†	.11†		
	Compartmentalization (phi)			.08*	.29*
	Instruction			.00	.02
	Self-deceptive enhancement (SDE)			.02	-.12
Step 2		.26*	.12*		
	Phi x Instruction			.07*	-.27*
	Phi x SDE			.05†	-.23†
	Instruction x SDE			.05	-.22

		Cheater and Cheating (n = 59)			
		Cumulative R^2	Increase in R^2	sr^2	sr
Step 1		.05	.05		
	Differential importance (DI)			.04	-.21
	Proportion of negative attributes (neg)			.01	-.08
Step 2		.13	.08		
	Compartmentalization (phi)			.08*	.29*
	Instruction			.00	.01
	Self-deceptive enhancement (SDE)			.00	-.00
Step 2		.27*	.14*		
	Phi x Instruction			.13*	-.37*
	Phi x SDE			.07†	-.26†
	Instruction x SDE			.00	.01

Note. sr^2 is the proportion of unique variance of each predictor, beyond the variance of all other variables on that step. The sign of sr signifies the direction of the association between the predictor and criterion. Instruction variable is coded for each model respectively as follows: cheater = 0, no instruction = 1 and cheater = 0, cheating = 1.
$^{\dagger}p < .10$; $^{*}p < .05$.

Table 7
Experiment 2: Reported Heads and Regression Model Variables Intercorrelations and Descriptive Statistics

Variable		*1*	*2*	*3*	*4*	*5*	*6*	*7*
1. Reported heads		--	.10	.13*	-.15*	-.15*	-.01	.06
2. Compartmentalization		.12	--	.19*	.36*	.10	-.07	-.04
3. Differential importance		.16*	.12	--	-.12*	-.14*	-.09	.06
4. Proportion of negative attributes		-.14*	.36*	-.14*	--	.25*	-.14*	-.08
5. Shame proneness		-.20*	.13†	-.11	.22*	--	-.18*	-.16*
6. Self-deceptive enhancement		-.04	-.09	-.11	-.09	-.26*	--	-.05
7. Fairness in free market outcome		.10	-.06	.08	-.13†	-.14†	-.04	--
Overall Sample								
	M	5.82	.73	.46	.27	33.99	3.86	6.98
	SD	1.57	.25	.49	.15	7.01	2.92	1.49
	Skew	.44	-.81	-.98	-.03	-.23	.84	.29
Time and Money Conditions Sample								
	M	5.85	.74	.44	.27	33.93	4.02	6.87
	SD	1.63	.26	.50	.16	7.08	2.96	1.54
	Skew	.38	-.85	-.94	-.01	-.23	.94	.23

Note. All conditions sample on the upper diagonal, time and money conditions sample on the lower diagonal. With Phi in analysis: overall sample, $n = 245$, time and money conditions sample $n = 170$.
†$p < .10$; *$p < .05$.

Table 8

Experiment 2: Descriptive Statistics and 2 (Instruction) x 3 (Background) ANOVA for Reported Heads for the Sum of All Ten Trials

	Instruction Condition			
Background Condition	Cheater	No instruction	Background main effect	*n*
Money	5.78 (1.87)	6.13 (1.57)	5.95 (1.73)	98
Time	5.39 (1.13)	6.11 (1.88)	5.75 (1.52)	92
Gray	5.36 (1.28)	6.20 (1.49)	5.75 (1.57)	88
Instruction main effect	5.52 (1.47)	6.14 (1.61)		
n	143	135		278

Source	SS	df	MS	F
Instruction	27.65	1	27.65	11.60*
Background	2.29	2	1.14	.48
Instruction x Background	3.07	2	1.53	.64
Error	648.53	272	2.38	

Note. $R^2 = .05$. The standard deviations are presented in parentheses.

†$p < .10$; *$p < .05$.

Table 9

Experiment 2: Descriptive Statistics and 2 (Instruction) x 3 (Background) ANOVA for Reported Heads for Trials 1 and 2.

	Instruction Condition			
Background Condition	Cheater	No instruction	Background main effect	*n*
Money	1.20 (.67)	1.17 (.69)	1.18 (.68)	98
Time	1.02 (.64)	1.41 (.65)	1.22 (.68)	92
Gray	1.19 (.61)	1.41 (.71)	1.30 (.66)	88
Instruction main effect	1.14 (.65)	1.33 (.69)		
n	143	135		278

Source	SS	df	MS	F
Instruction	2.60	1	2.60	5.89*
Background	.69	2	.35	.79
Instruction x Background	2.20	2	1.09	2.47†
Error	120.02	272	.44	

Note. $R^2 = .04$. The standard deviations are presented in parentheses.

†$p < .10$; *$p < .05$.

Table 10

Experiment 2: Descriptive Statistics and 2 (Instruction) x 3 (Background) ANOVA for Reported Heads for Trials 6 and 7.

	Instruction Condition			
Background Condition	Cheater	No instruction	Background main effect	*n*
Money	1.04 (.73)	1.21 (.62)	1.12 (.68)	98
Time	1.26 (.61)	.94 (.74)	1.10 (.70)	92
Gray	1.02 (.61)	.95 (.71)	.99 (.65)	88
Instruction main effect	1.14 (.65)	1.33 (.69)		
n	143	135		278

Source	SS	df	MS	F
Instruction	.40	1	.40	.89
Background	.97	2	.49	1.08
Instruction x Background	2.90	2	1.45	3.22*
Error	122.39	272	.45	

Note. $R^2 = .03$. The standard deviations are presented in parentheses.

†$p < .10$; *$p < .05$.

Table 11

Experiment 2 (Money/Time vs. Gray): Trimmed Hierarchical Regression Effect Sizes for Reported Heads onto Compartmentalization (Phi), Differential Importance (DI), Proportion of Negative Attributes (Neg), Instruction, and Background

		Cumulative R^2	Increase in R^2	sr^2	sr
Step 1		.09*	.09*		
	Compartmentalization (phi)			.01†	.11†
	Differential importance (DI)			.01	.10
	Proportion of negative attributes (neg)			.02*	-.13*
	Instruction			.05*	.23*
	Background			.00	-.01
Step 2		.11	.02		
	Phi x DI			.00	-.02
	Phi x Neg			.02*	-.13*
	DI x Neg			.00	.02
Step 3		.12	.01		
	Phi x DI x Neg			.01	-.11

Note. $n = 245$. sr^2 is the proportion of unique variance of each predictor, beyond the variance of all other variables on that step. The sign of sr signifies the direction of the association between the predictor and criterion. The instruction variable is coded as cheater condition = 0, no instruction condition = 1. The background variable is coded as money or time conditions = 0, gray condition = 1.

†$p < .10$; *$p < .05$.

Table 12

Experiment 2 (Money vs. Time): Untrimmed Hierarchical Regression Effect Sizes for Reported Heads onto Compartmentalization (Phi), Differential Importance (DI), Proportion of Negative Attributes (Neg), Instruction Condition, and Background

		Cumulative R^2	Increase in R^2	sr^2	sr
Step 1		.09*	.09*		
	Compartmentalization (phi)			.02†	.14†
	Differential importance (DI)			.02†	.15†
	Proportion of negative attributes (neg)			.02†	-.13†
	Instruction			.04*	.20*
	Background			.00	.04
Step 2		.11	.02		
	Phi x DI			.00	-.02
	Phi x Neg			.00	-.05
	Phi x Instruction			.00	-.02
	Phi x Background			.00	.05
	DI x Neg			.00	.02
	DI x Instruction			.00	-.00
	DI x Background			.00	-.00
	Neg x Instruction			.01	.08
	Neg x Background			.01	.08
	Instruction x Background			.00	-.04
Step 3		.19	.07		
	Phi x DI x Neg			.03*	-.17*
	Phi x DI x Instruction			.00	.06
	Phi x DI x Background			.00	.00
	Phi x Neg x Instruction			.00	-.05
	Phi x Neg x Background			.01	.09
	Phi x Instruction x Background			.00	-.06
	DI x Neg x Instruction			.00	-.00
	DI x Neg x Background			.01	.12
	DI x Instruction x Background			.01	-.10
	Neg x Instruction x Background			.00	.06

Note. $n = 170$. sr^2 is the proportion of unique variance of each predictor, beyond the variance of all other variables on that step. The sign of sr signifies the direction of the association between the predictor and criterion. The instruction variable is coded as cheater = 0, no instruction = 1. The background variable is coded as time condition = 0, money condition = 1.

†$p < .10$; *$p < .05$.

Table 13

Experiment 2 (Money vs. Time): Untrimmed Hierarchical Regression Effect Sizes for Reported Heads onto Compartmentalization (Phi), Proportion of Negative Attributes (Neg), Instruction Condition, Background, and Self-deceptive Enhancement controlling for Differential Importance (DI)

		Cumulative R^2	Increase in R^2	sr^2	sr
Step 1		.04*	.04*		
	Differential importance (DI)			.04*	.20*
Step 2		.11*	.07*		
	Compartmentalization (phi)			.02†	.14†
	Proportion of negative attributes (neg)			.02†	-.15
	Instruction			.04*	.20*
	Background			.00	.02
	Self-deceptive enhancement (SDE)			.00	-.03
Step 3		.19	.08		
	Phi x Neg			.02	-.14
	Phi x Instruction			.00	-.01
	Phi x Background			.01	.11
	Phi x SDE			.01	.09
	Neg x Instruction			.02	.13
	Neg x Background			.00	.06
	Neg x SDE			.04*	-.20*
	Instruction x Background			.02†	-.15†
	Instruction x SDE			.00	.05
	Background x SDE			.02†	.15†
Step 4		.25	.06		
	Phi x Neg x Instruction			.00	.03
	Phi x Neg x Background			.01	.09
	Phi x Neg x SDE			.01	.07
	Phi x Instruction x Background			.00	-.04
	Phi x Instruction x SDE			.01	-.09
	Phi x Background x SDE			.04*	.20*
	Neg x Instruction x Background			.00	-.01
	Neg x Instruction x SDE			.00	.07
	Neg x Background x SDE			.01	-.10
	Instruction x Background x SDE			.01	.10

Note. $n = 150$. sr^2 is the proportion of unique variance of each predictor, beyond the variance of all other variables on that step. The sign of sr signifies the direction of the association between the predictor and criterion. The instruction variable is coded as cheater condition = 0, no instruction condition = 1. The background variable is coded as time condition = 0, money condition = 1.

†$p < .10$; *$p < .05$.

Table 14

Experiment 2 (Money vs. Time): Trimmed Hierarchical Regression Effect Sizes for Reported Heads onto Compartmentalization (Phi), Proportion of Negative Attributes (Neg), Instruction Condition, Background, and Shame controlling for Differential Importance (DI)

		Cumulative R^2	Increase in R^2	sr^2	sr
Step 1		.02*	.02*		
	Differential importance (DI)			.02*	.15*
Step 2		.13*	.10*		
	Compartmentalization (phi)			.03*	.16*
	Proportion of negative attributes (neg)			.01	-.11
	Instruction			.05*	.22*
	Background			.00	.05
	Shame			.04*	-.20*

Note. $n = 170$. sr^2 is the proportion of unique variance of each predictor, beyond the variance of all other variables on that step. The sign of *sr* signifies the direction of the association between the predictor and criterion. The instruction variable is coded as cheater condition = 0, no instruction condition = 1. The background variable is coded as time condition = 0, money condition = 1.

$^{\dagger}p < .10$; $^{*}p < .05$.

Table 15

Experiment 2 (Money vs. Time): Untrimmed Hierarchical Regression Effect Sizes for Reported Heads onto Compartmentalization (Phi), Proportion of Negative Attributes (Neg), Instruction Condition, Background, and Free Market Outcome Fairness controlling for Differential Importance (DI)

		Cumulative R^2	Increase in R^2	sr^2	sr
Step 1		.02*	.02*		
	Differential importance (DI)			.02*	.15*
Step 2		.10*	.08*		
	Compartmentalization (phi)			.02†	.14†
	Proportion of negative attributes (neg)			.02	-.13
	Instruction			.04*	.21*
	Background			.00	.04
	Free market outcome fairness (FMOF)			.01	.09
Step 3		.13	.03		
	Phi x Neg			.00	-.04
	Phi x Instruction			.00	-.03
	Phi x Background			.00	.06
	Phi x FMOF			.01	-.07
	Neg x Instruction			.01	.08
	Neg x Background			.01	.10
	Neg x FMOF			.00	-.01
	Instruction x Background			.00	-.03
	Instruction x FMOF			.00	-.04
	Background x FMOF			.00	-.02
Step 4		.18	.06		
	Phi x Neg x Instruction			.00	.03
	Phi x Neg x Background			.01	.08
	Phi x Neg x FMOF			.00	-.04
	Phi x Instruction x Background			.01	-.11
	Phi x Instruction x FMOF			.00	.06
	Phi x Background x FMOF			.02	-.13
	Neg x Instruction x Background			.00	.07
	Neg x Instruction x FMOF			.00	.05
	Neg x Background x FMOF			.00	.05
	Instruction x Background x FMOF			.03*	-.17*

Note. $n = 170$. sr^2 is the proportion of unique variance of each predictor, beyond the variance of all other variables on that step. The sign of sr signifies the direction of the association between the predictor and criterion. The instruction variable is coded as cheater condition = 0, no instruction condition = 1. The background variable is coded as time condition = 0, money condition = 1.

†$p < .10$; *$p < .05$.

Appendix C: Figures

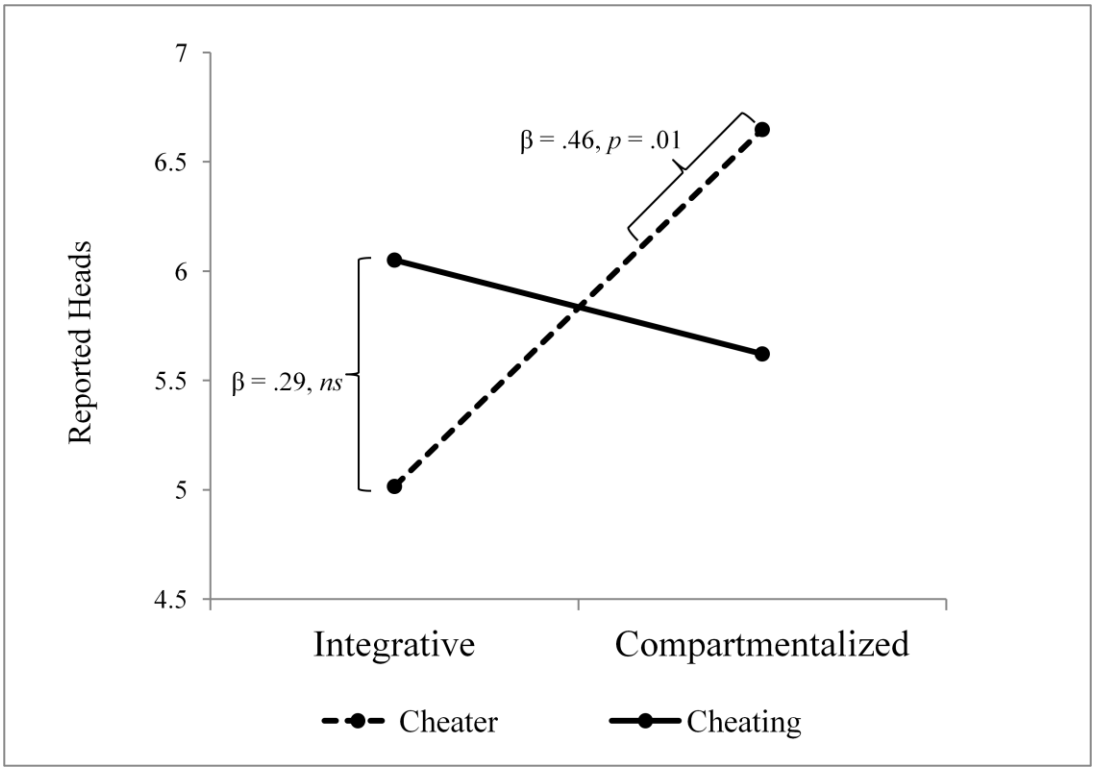


Figure 1. Experiment 1: Predicted values and simple slopes analysis for reported heads, illustrating the interaction of compartmentalization (phi) and instruction at values 1 standard deviation above and below the means. $n = 66$.

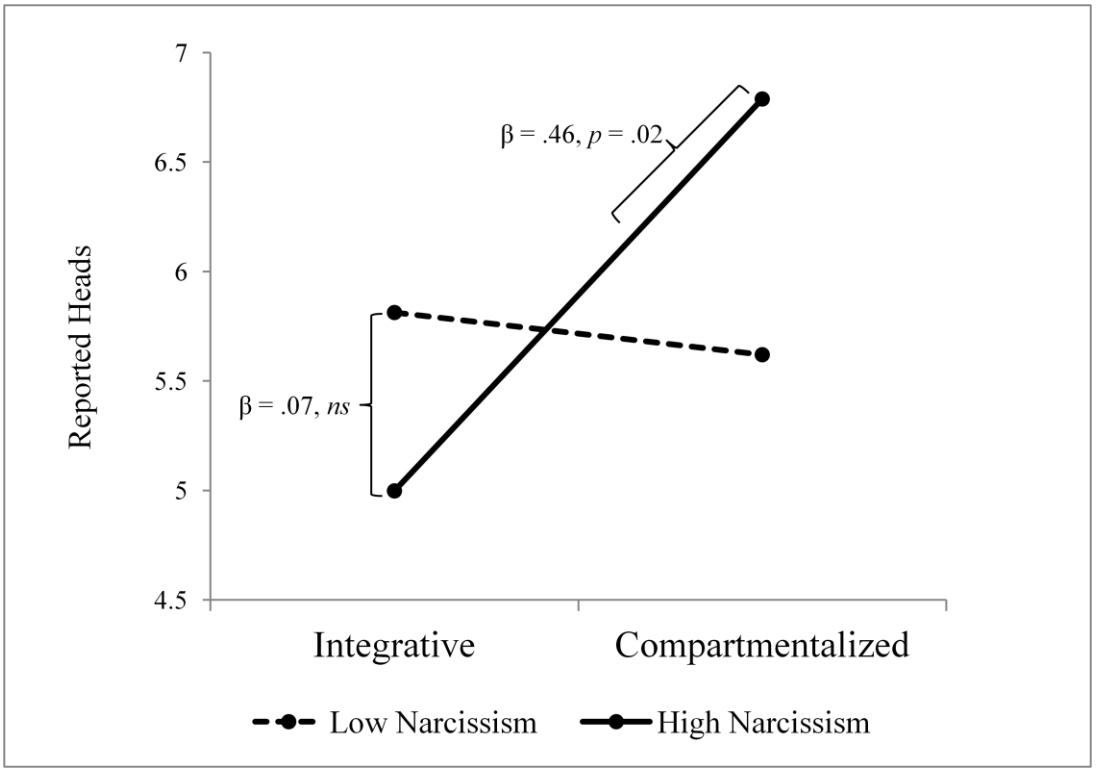
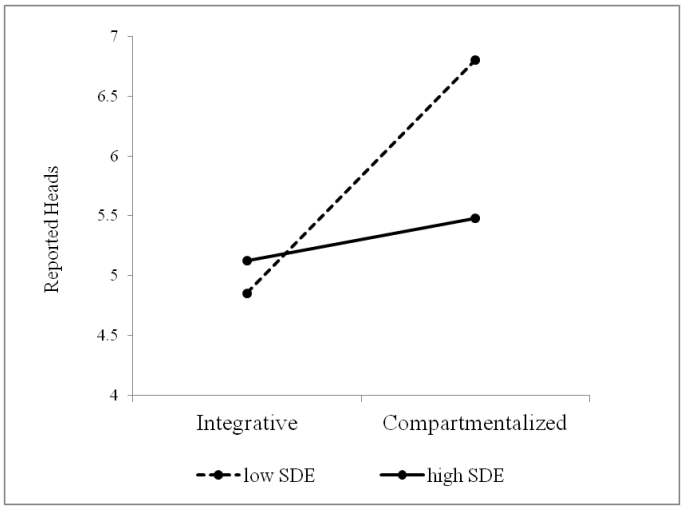
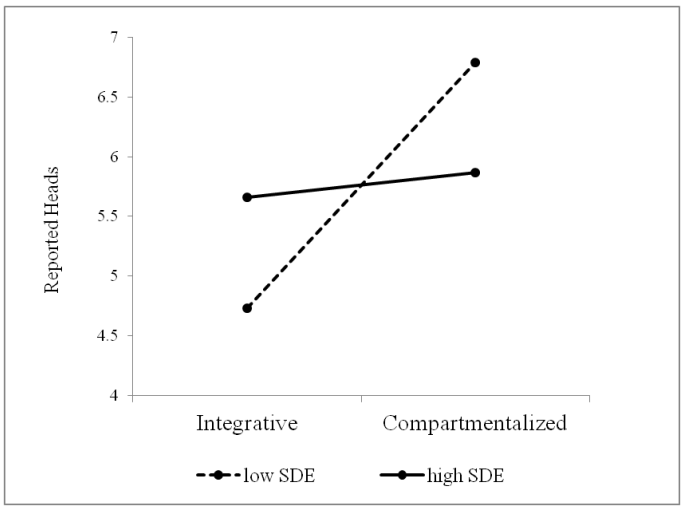


Figure 2. Experiment 1 (Cheater vs. No Instruction): Predicted values and simple slopes analysis for reported heads, illustrating the interaction of compartmentalization (phi) and narcissism (NPI Total) total at values 1 standard deviation above and below the means. $n = 64$.



Panel A. Cheater versus No Instruction.



Panel B. Cheater versus Cheating.

Figure 3. Experiment 1: Predicted values analysis for reported heads, illustrating the interaction of compartmentalization (phi) and self-deceptive enhancement (SDE) total at values 1 standard deviation above and below the means. Panel A, n = 62; Panel B, n = 59.



Panel A. Money Background.

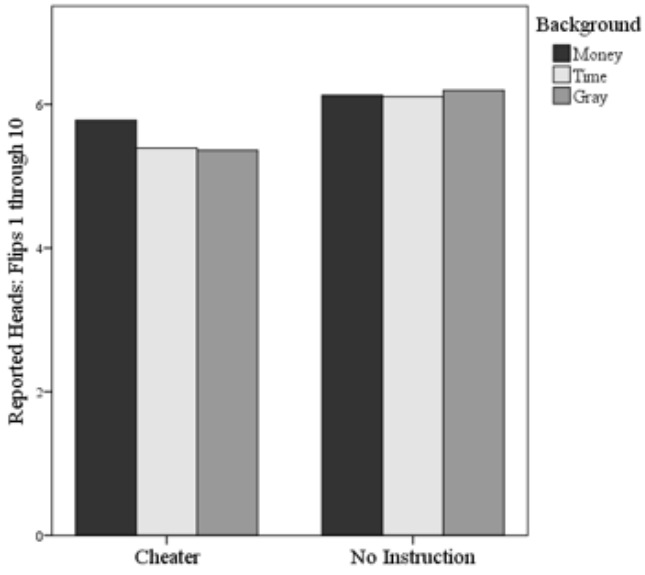


Panel B. Time Background.

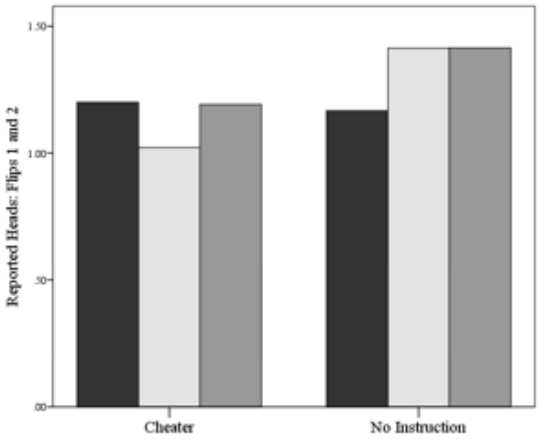


Panel C. Gray Background.

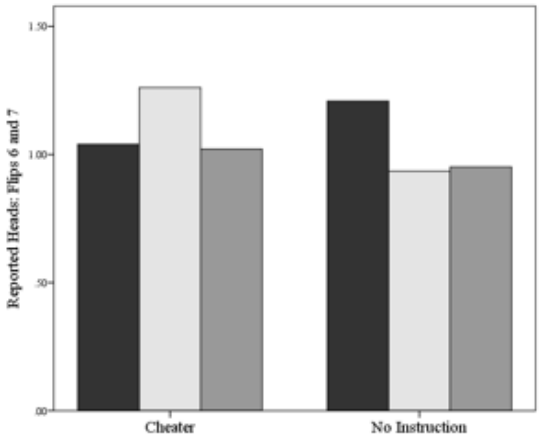
Figure 4. Background image manipulations used in Experiment 2.



Panel A. Mean reported heads for all 10 flips.

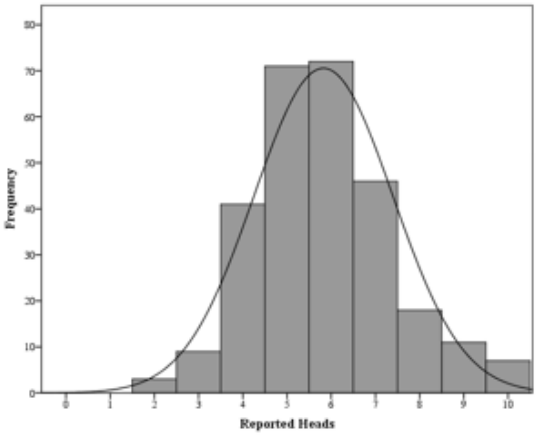


Panel B. Mean reported heads for flips 1 and 2.

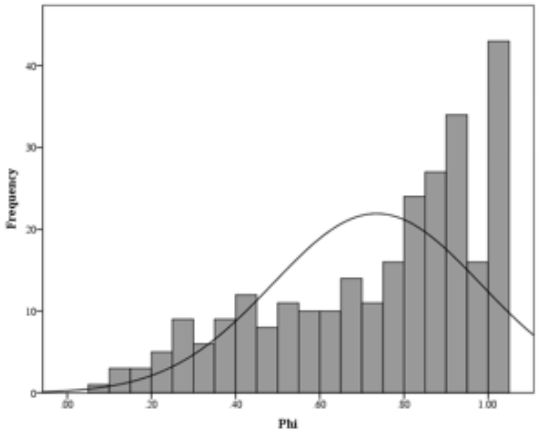


Panel C. Mean reported heads for flips 6 and 7.

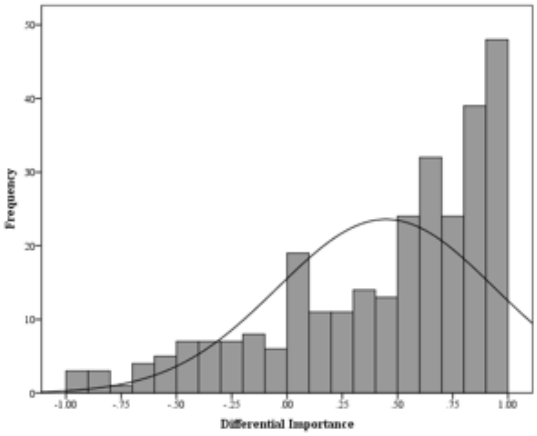
Figure 5. Experiment 2: Mean reported heads by condition.



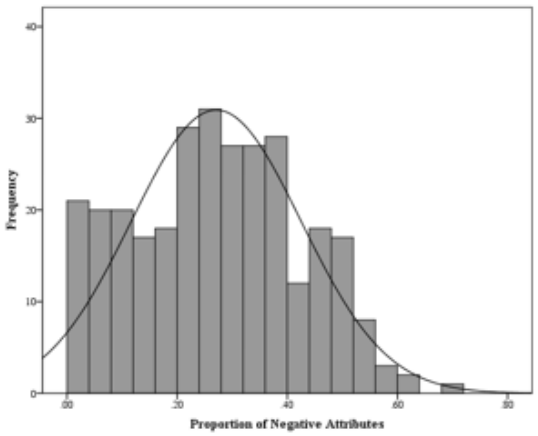
Panel A. Distribution of reported heads for all ten trials.



Panel B. Distribution of phi values.



Panel C. Distribution of DI values.



Panel D. Distribution of neg values.

Figure 6. Experiment 2: Distribution of total reported heads and self-structure predictor variables for the entire sample.

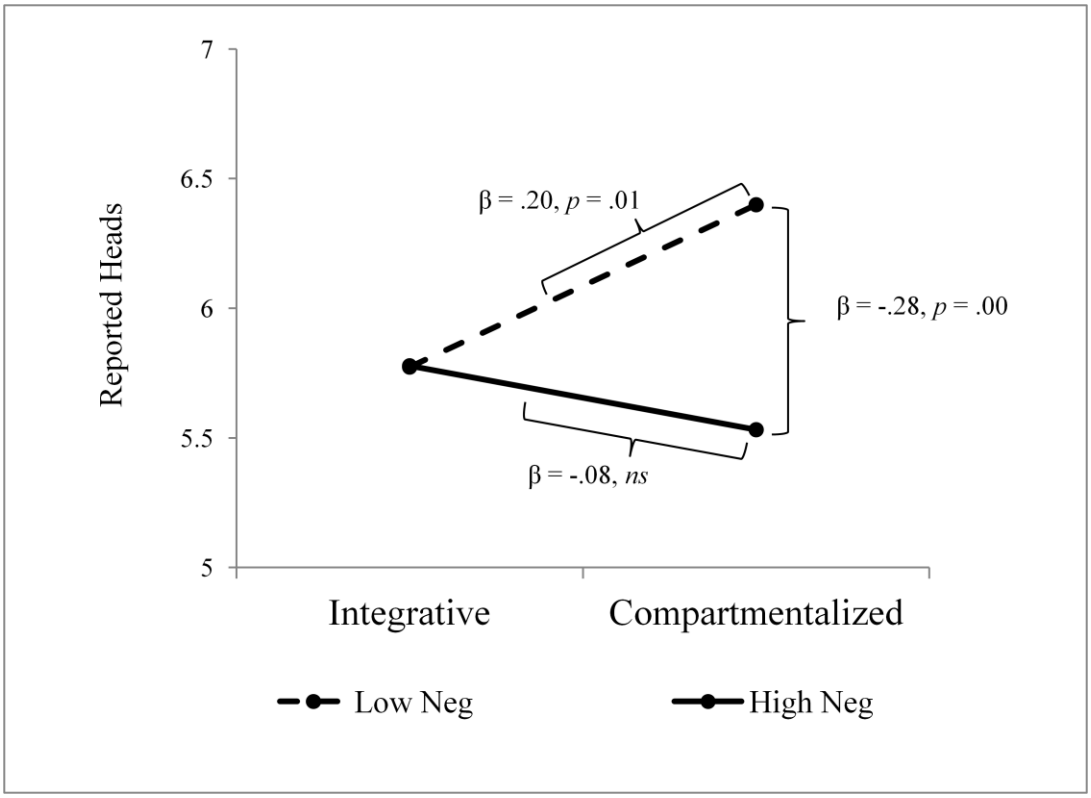


Figure 7. Experiment 2 (Money/Time vs. Gray, Trimmed Model): Predicted values and simple slopes analysis for reported heads, illustrating the interaction of compartmentalization (phi) and proportion of negative self-attributes (neg) at values 1 standard deviation above and below the means. n = 245.

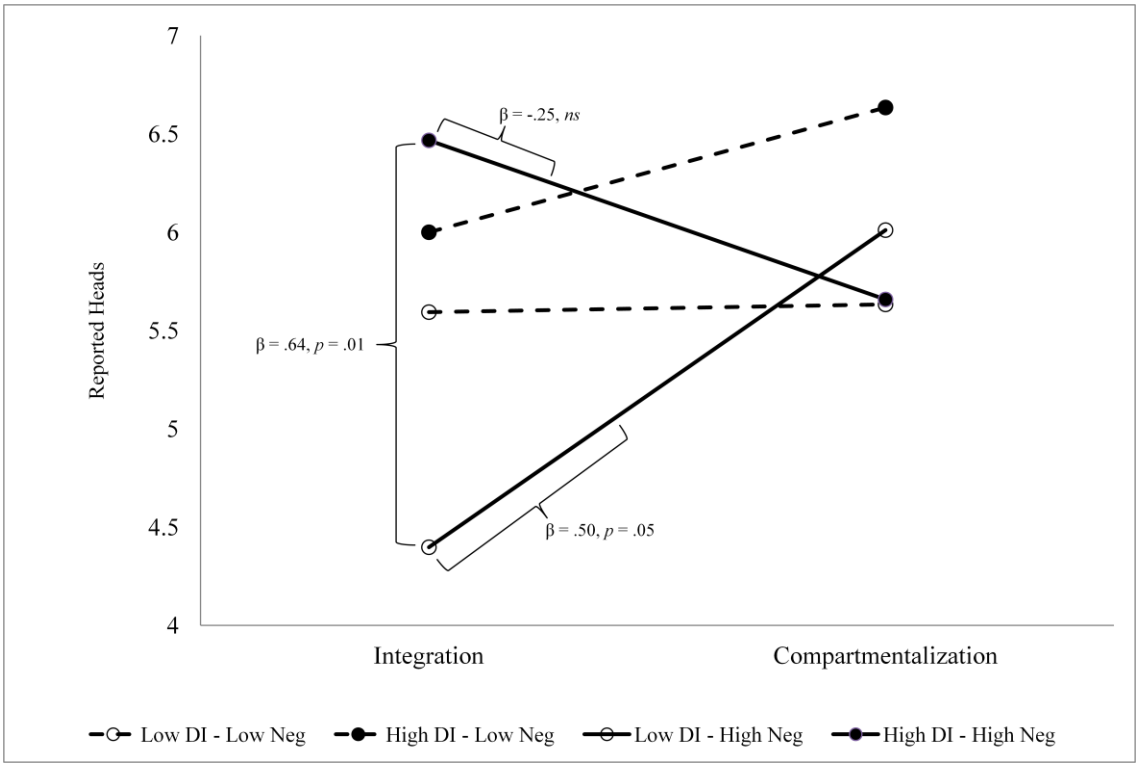


Figure 8. Experiment 2 (Money vs. Time, Untrimmed Model): Predicted values and simple slopes analysis for reported heads, illustrating the interaction of compartmentalization (phi), differential importance (DI), and proportion of negative self-attributes (neg) at values 1 standard deviation above and below the means. n = 170.

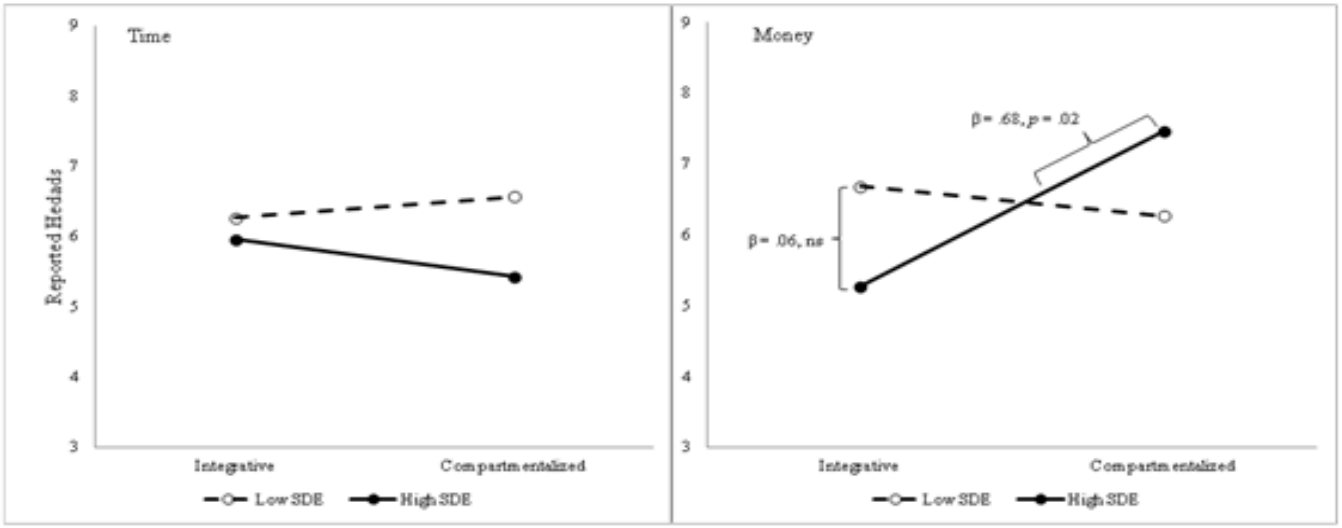


Figure 9. Experiment 2 (Money vs. Time, Untrimmed Model): Predicted values and simple slopes analysis for reported heads, illustrating the interaction of compartmentalization (phi), background, and self-deceptive enhancement (SDE) at values 1 standard deviation above and below the means. $n = 150$.

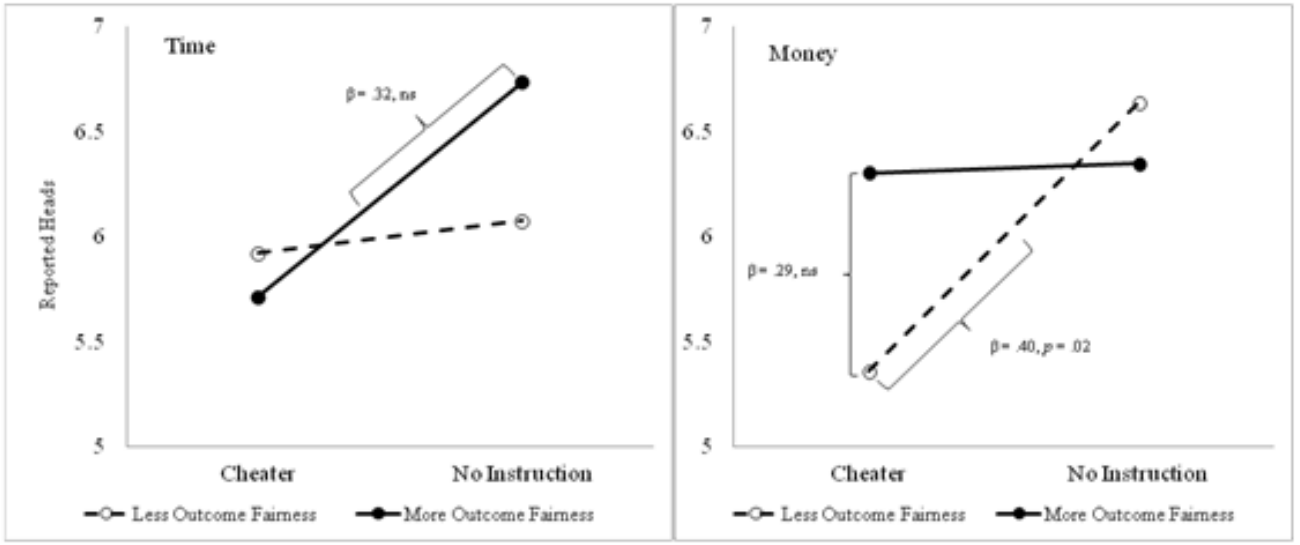


Figure 10. Experiment 2 (Money vs. Time, Untrimmed Model): Predicted values and simple slopes analysis for reported heads, illustrating the interaction of instruction condition, background, and free market outcome fairness (FMOF) at values 1 standard deviation above and below the means. n = 170.

Appendix D: Experiment 1 Feedback Items

1a. Did you discuss this study with anyone else before coming to the session? Yes or No

1b. If yes, what additional information did you learn about the study's procedure or purpose (open ended)?

2. What did you think was the purpose of the coin flipping task (open ended)?

3. What did you think was the purpose of this entire study including the first session (open ended)?

Appendix E: Experiment 2 Feedback Items

1a. Did you discuss this study with anyone else before coming to the session? Yes or No

1b. If yes, what additional information did you learn about the study's procedure or purpose (open ended)?

2. For this research you have completed the following kinds of tasks:

Session 1 (Dale Hall basement): self-descriptive card sorting task, in-lab questionnaires;

Session 2 (Online): coin flip task, online questionnaires.

Which 2 questionnaires or tasks were most important for the purpose of the study? Please identify 2 specific questionnaires or tasks below and write what you believe to be the purpose of each (open ended).

3. How much effort did you personally put into each of the following tasks? Use the scale below each item to respond by selecting the appropriate number from 1 (*not very much effort*) to 7 (*very much effort*):

a. Describing yourself during the card sorting task

b. Trying to influence the coin flip

c. Answering the in-lab questionnaire items

d. Answering the online questionnaire items

e. Elaborate on your above responses (open ended)

4. Using the scale below from 1 (*not at all important*) to 7 (*extremely important*), respond to each item by clicking a number. While participating in this research, how important was it to you:

a. To put effort into the tasks

b. To provide honest and accurate answers

c. To learn about psychological research

d. To earn credit for your class

e. To learn about yourself through introspection

f. To earn money from the coin flips

g. To influence the coin flip

Appendix F: Untrimmed Basic Model Regression Analysis (Money or Time vs. Gray)

Table 1-F

Experiment 2 (Money/Time vs. Gray): Untrimmed Hierarchical Regression Effect Sizes for Reported Heads onto Compartmentalization (Phi), Differential Importance (DI), Proportion of Negative Attributes (Neg), Instruction, and Background

		Cumulative R^2	Increase in R^2	sr^2	sr
Step 1		.09*	.09*		
	Compartmentalization (phi)			.01†	.11†
	Differential importance (DI)			.01	.10
	Proportion of negative attributes (neg)			.02*	-.13*
	Instruction			.05*	.23*
	Background			.00	-.01
Step 2		.12	.02		
	Phi x DI			.00	-.03
	Phi x Neg			.01†	-.12†
	Phi x Instruction			.00	.02
	Phi x Background			.00	-.01
	DI x Neg			.00	.02
	DI x Instruction			.00	-.03
	DI x Background			.00	-.06
	Neg x Instruction			.00	-.00
	Neg x Background			.00	-.00
	Instruction x Background			.00	.05
Step 3		.17	.05		
	Phi x DI x Neg			.02*	-.14*
	Phi x DI x Instruction			.01	.10
	Phi x DI x Background			.00	-.06
	Phi x Neg x Instruction			.00	-.03
	Phi x Neg x Background			.02†	-.13†
	Phi x Instruction x Background			.00	.06
	DI x Neg x Instruction			.00	-.02
	DI x Neg x Background			.00	.04
	DI x Instruction x Background			.00	.00
	Neg x Instruction x Background			.01	-.08

Note. $n = 245$. sr^2 is the proportion of unique variance of each predictor, beyond the variance of all other variables on that step. The sign of sr signifies the direction of the association between the predictor and criterion. The instruction variable is coded as cheater condition = 0, no instruction condition = 1. The background variable is coded as money and time conditions = 0, gray condition = 1.

†$p < .10$; *$p < .05$.

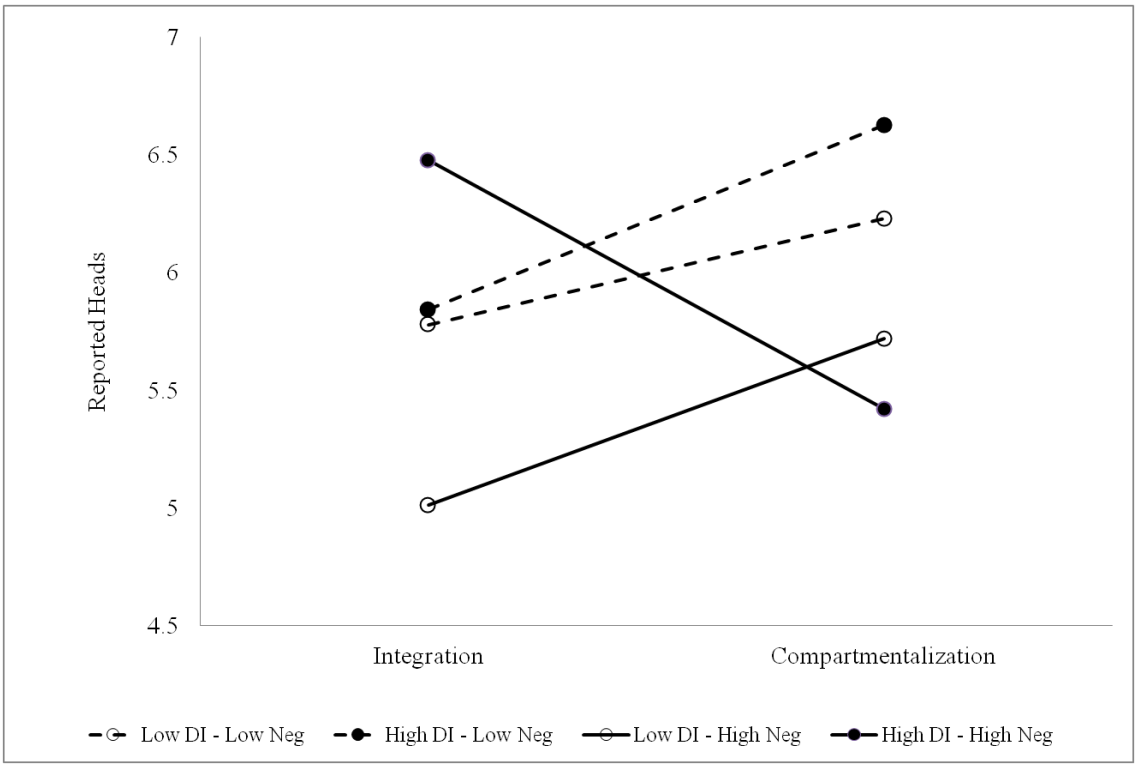


Figure 1-F. Experiment 2 (Money/Time vs. Gray, Untrimmed Model): Predicted values for reported heads, illustrating the interaction of compartmentalization (phi), differential importance (DI), and proportion of negative self-attributes (neg) at values 1 standard deviation above and below the means. n = 245.

Appendix G: Trimmed Basic Model Regression Analysis (Money vs. Time)

Table 1-G

Experiment 2 (Money vs. Time): Trimmed Model Hierarchical Regression Effect Sizes for Reported Heads onto Compartmentalization (Phi), Differential Importance (DI), Proportion of Negative Attributes (Neg), Instruction Condition, and Background

		Cumulative R^2	Increase in R^2	sr^2	sr
Step 1		.09*	.09*		
	Compartmentalization (phi)			.02†	.14†
	Differential importance (DI)			.02†	.15†
	Proportion of negative attributes (neg)			.02†	-.13†
	Instruction			.04*	.20*
	Background			.00	.04
Step 2		.09	.00		
	Phi x DI			.00	.00
	Phi x Neg			.00	-.06
	DI x Neg			.00	-.01
Step 3		.12*	.02*		
	Phi x DI x Neg			.03*	-.16*

Note. $n = 170$. sr^2 is the proportion of unique variance of each predictor, beyond the variance of all other variables on that step. The sign of sr signifies the direction of the association between the predictor and criterion. The instruction variable is coded as cheater = 0, no instruction = 1. The background variable is coded as time condition = 0, money condition = 1.

†$p < .10$; *$p < .05$.

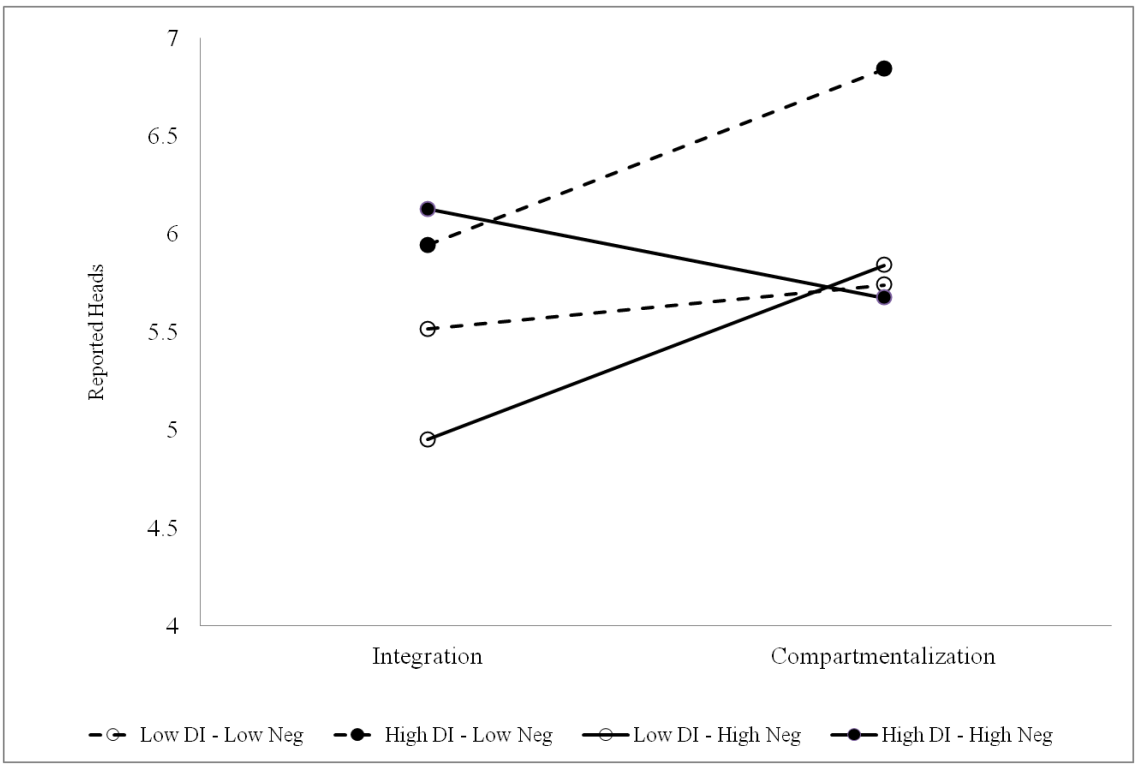


Figure 1-G. Experiment 2 (Money vs. Time, Trimmed Model): Predicted values for reported heads, illustrating the interaction of compartmentalization (phi), differential importance (DI), and proportion of negative self-attributes (neg) at values 1 standard deviation above and below the means. n = 170.

Appendix H: SDE Regression Analysis (Money vs. Time)

Table 1-H

Experiment 2 (Money vs. Time): Trimmed Model Hierarchical Regression Effect Sizes for Reported Heads onto Compartmentalization (Phi), Proportion of Negative Attributes (Neg), Instruction Condition, Background, and Self-deceptive Enhancement controlling for Differential Importance (DI)

		Cumulative R^2	Increase in R^2	sr^2	sr
Step 1		.04*	.04*		
	Differential importance (DI)			.04*	.20*
Step 2		.11*	.07*		
	Compartmentalization (phi)			.02†	.14†
	Proportion of negative attributes (neg)			.02†	-.15
	Instruction			.04*	.20*
	Background			.00	.02
	Self-deceptive enhancement (SDE)			.00	-.03
Step 3		.16	.05		
	Phi x Neg			.01	-.11
	Phi x Background			.01	.09
	Phi x SDE			.00	.03
	Neg x Background			.00	.04
	Neg x SDE			.03*	-.16*
	Background x SDE			.01	.11
Step 4		.19	.04		
	Phi x Neg x Background			.01	.10
	Phi x Neg x SDE			.00	.02
	Phi x Background x SDE			.02†	.15†
	Neg x Background x SDE			.01	-.11

Note. $n = 150$. sr^2 is the proportion of unique variance of each predictor, beyond the variance of all other variables on that step. The sign of sr signifies the direction of the association between the predictor and criterion. The instruction variable is coded as cheater condition = 0, no instruction condition = 1. The background variable is coded as time condition = 0, money condition = 1.

†$p < .10$; *$p < .05$.

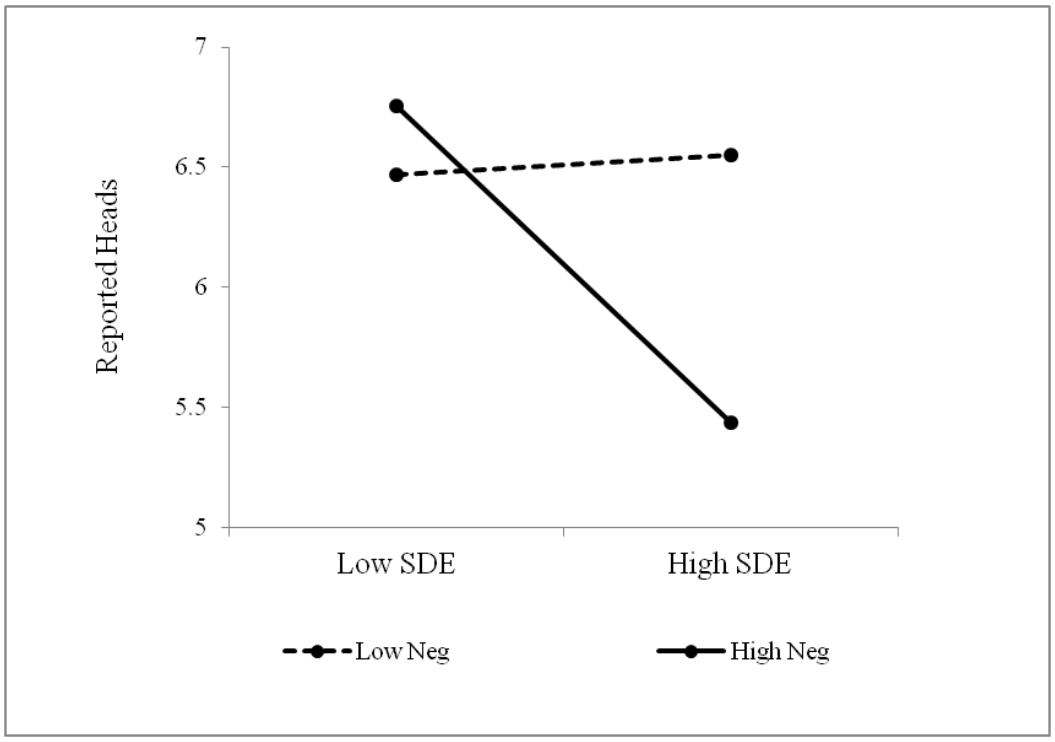


Figure 1-H. Experiment 2 (Money vs. Time, Untrimmed Model): Predicted values for reported heads, illustrating the interaction of SDE and proportion of negative self-attributes (neg) at values 1 standard deviation above and below the means. n = 150.

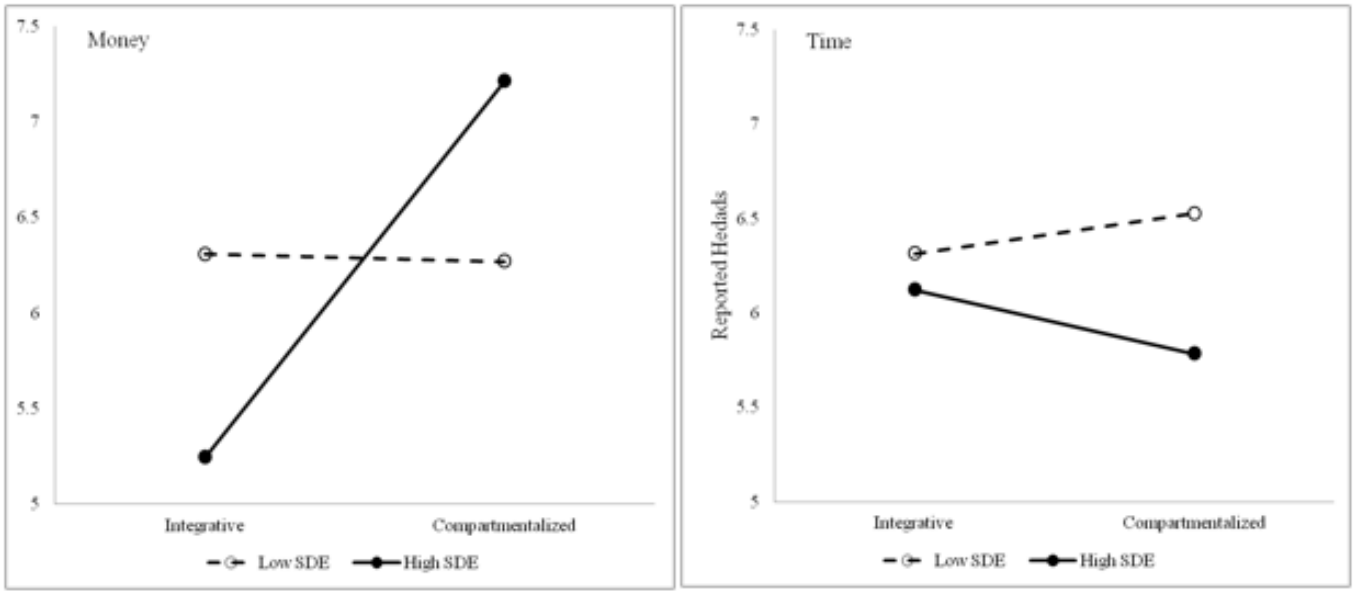


Figure 2-H. Experiment 2 (Money vs. Time): Predicted values for reported heads, illustrating the interaction of compartmentalization (phi), background, and self-deceptive enhancement (SDE) at values 1 standard deviation above and below the means. n = 150.

Appendix I: Trimmed Outcome Fairness Regression Analysis (Money vs. Time)

Table 1-I

Experiment 2 (Money vs. Time): Trimmed Model Hierarchical Regression Effect Sizes for Reported Heads onto Compartmentalization (Phi), Proportion of Negative Attributes (Neg), Instruction Condition, Background, and Free Market Outcome Fairness controlling for Differential Importance (DI)

		Cumulative R^2	Increase in R^2	sr^2	sr
Step 1		.02*	.02*		
	Differential importance (DI)			.02*	.15*
Step 2		.10*	.08*		
	Compartmentalization (phi)			.02†	.11†
	Proportion of negative attributes (neg)			.02	-.13
	Instruction			.04*	.21*
	Background			.00	.00
	Free market outcome fairness (FMOF)			.01	.09
Step 3		.10	.00		
	Instruction x Background			.00	-.03
	Instruction x FMOF			.00	-.03
	Background x FMOF			.00	-.02
Step 4		.12†	.02†		
	Instruction x Background x FMOF			.02†	-.15†

Note. $n = 170$. sr^2 is the proportion of unique variance of each predictor, beyond the variance of all other variables on that step. The sign of sr signifies the direction of the association between the predictor and criterion. The instruction variable is coded as cheater condition = 0, no instruction condition = 1. The background variable is coded as time condition = 0, money condition = 1.

†$p < .10$; *$p < .05$.

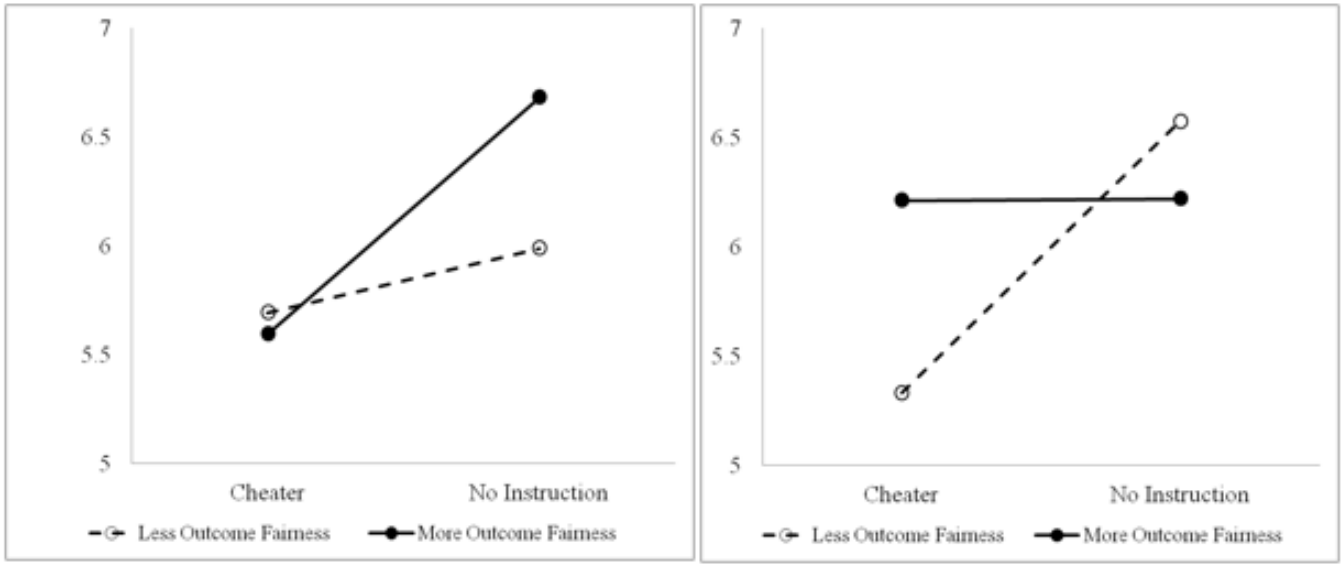


Figure 1-I. Experiment 2 (Money vs. Time): Predicted values for reported heads, illustrating the interaction of instruction condition, background, and free market outcome fairness at values 1 standard deviation above and below the means. $n = 170$.