

FAKING IT EVEN AFTER YOU MAKE IT?  
EXPLORING HOW ORGANIZATIONAL LAY THEORIES OF INTELLIGENCE  
IMPACT CHEATING ON DIFFICULT TASKS

Katherine T. U. Emerson

Submitted to the faculty of the University Graduate School  
in partial fulfillment of the requirements  
for the degree Doctor of Philosophy  
in the Department of Psychological and Brain Sciences,  
Indiana University

June 2015

Accepted by the Graduate Faculty, Indiana University, in partial fulfillment of the requirements  
for the degree of Doctor of Philosophy.

Doctoral Committee

---

Mary C. Murphy, Ph.D.

---

Edward R. Hirt, Ph.D.

---

Michael N. Jones, Ph.D.

---

Robert J. Rydell, Ph.D.

---

Eliot R. Smith, Ph.D.

June 9, 2015

© 2015

Katherine T. U. Emerson

## Acknowledgements

Being a social psychologist, I would be remiss if I did not recognize the people in my social context who made it possible for me to complete this dissertation. They have all played an important part in forming who I am as a person and a scholar, and no amount of words could adequately express how much I cherish their support (but I am going to try anyway).

First, I would like to thank my dissertation committee—Drs. Mary Murphy, Eliot Smith, Ed Hirt, B.J. Rydell, and Mike Jones. Your insight and guidance made this project’s methods more precise, its results more compelling, and its implications further reaching. Moreover, your roles as mentors, teachers, advocates, letter writers, and even statistics troubleshooters made my time at IU both memorable and invaluable. In particular, I’d like to thank Mary, my faculty advisor. Who I am as a social psychologist has been shaped most profoundly by your mentorship, teaching, and friendship. It has been a privilege building your lab with you—first at UIC and then at IU—and I look forward to seeing all of the innovative and meaningful research that the Mind and Identity in Context lab generates for years to come.

I would also like to thank my surrogate families at UIC and IU—my lab mates and fellow students. It was with your help that I could relish the highs and recover from the lows of graduate school. The pep talks, nights on the town, and holidays spent together are some of my most cherished memories. In particular, to Evelyn Carter: we may be a year apart in school cohort, but I consider you my true lab twin. Particularly during the dissertation process, your feedback and support was second to none, and I could not have gotten through it without you. And to Megan Conrad and Hillary Rowe: you are two of the most brilliant, funny, and kind women I have ever known, and I am beyond grateful that we found each other. Although I know that life will take us

each in different directions, I am comforted in knowing that we will always be only a phone call or flight away.

I am also so thankful for my parents, Allan and Barbara Urbanic, without whom I may not have considered pursuing a Ph.D. in the first place. You have been invaluable role models and cheerleaders. It is because of your belief in me from such an early age that I was able to believe in myself. I feel so lucky to have been born to such loving, generous, and inspiring people. And last but not least, to Doug: you are the best thing in my life, and I am so honored to share this accomplishment with you. You have been a partner in the truest sense during this journey. When it felt like everything was in flux, you were my rock. In the moments when I doubted myself most and wanted to give up, you helped me find my strength. And in times of triumph, you applauded the loudest. Thank you for everything you do. I cannot wait for our next chapter.

Katherine T. U. Emerson

FAKING IT EVEN AFTER YOU MAKE IT?  
EXPLORING HOW ORGANIZATIONAL LAY THEORIES OF INTELLIGENCE  
IMPACT CHEATING ON DIFFICULT TASKS

*Organizational lay theories of intelligence* (i.e., beliefs shared within an organization about the nature of intelligence) have been found to play an important role in shaping people’s experiences and behavior within particular settings (Emerson & Murphy, 2015a; Murphy & Dweck, 2010). In three studies, I investigated whether an organization’s *entity* (i.e., intelligence is fixed) or *incremental* (i.e., intelligence is malleable) lay theory might impact people’s cheating behavior in a demanding testing context. Results revealed that people tended to cheat more in the entity (vs. incremental) environment after failing to meet a high performance standard. In Study 2, participants perceived cheating to be more common in the entity (vs. incremental) organization and that the entity organization endorsed performance-avoidance goals more and mastery goals less; yet, these perceptions did not statistically mediate participants’ cheating. In Study 3, participants cheated more in the entity (vs. incremental) context even after being praised for their past performance; notably, the type of praise that participants received influenced the particular cheating strategy they employed.

---

Mary C. Murphy, Ph.D.

---

Edward R. Hirt, Ph.D.

---

Michael N. Jones, Ph.D.

---

Robert J. Rydell, Ph.D.

---

Eliot R. Smith, Ph.D.

## Table of Contents

<u>Section</u>	<u>Page</u>
Title Page	i
Acceptance Page	ii
Copyright Page	iii
Acknowledgements	iv
Abstract	vi
Table of Contents	vii
List of Tables	ix
List of Figures	x
I. Introduction	1
a. Cheating behavior: A new frontier for organizational lay theories research	3
b. Personal lay theories of intelligence & cheating behavior	5
c. Cheating in entity and incremental organizations: Theory and preliminary evidence	8
d. The present studies	11
II. Study 1	12
a. Method	13
i. Participants	13
ii. Procedure	14
iii. Materials	15
iv. Primary measures	18
v. Control measures	21
b. Results	22
i. Research design and analysis overview	22
ii. Manipulation checks	22
iii. Actual performance and number attempted	23
iv. Cheating measures	24
c. Discussion	25
III. Study 2	27
a. Method	30
i. Participants	30
ii. Procedure	31
iii. Materials	31
iv. Primary measures	32
b. Results	34
i. Research design and analysis overview	34
ii. Manipulation checks	34
iii. Actual performance and number attempted	34
iv. Perceived organizational goals	35
v. Perceived organizational cheating norms	36
vi. Performance-contingent self-worth and state self-esteem	37
vii. Cheating measures	37
viii. Mediation analyses: What drives cheating behavior in entity and	39

	incremental contexts?	
	ix. Liking of the club: An alternative hypothesis	40
	c. Discussion	41
IV.	Study 3	43
	a. Method	47
	i. Participants	47
	ii. Procedure	48
	iii. Materials	49
	iv. Primary measures	50
	b. Results	51
	i. Research design and analysis overview	51
	ii. Manipulation checks	51
	iii. Actual performance and number attempted	52
	iv. Cheating measures	53
	v. Task persistence	57
	c. Discussion	57
V.	General Discussion	59
	a. Theoretical & practical implications	64
	b. Limitations & future directions	66
	c. Concluding remarks	70
VI.	References	71
VII.	Tables	83
VIII.	Figures	96
IX.	Appendix	99
X.	Curriculum Vita	



## **List of Tables**

Table 1. Study 1: Actual number correct (with covariates): Means and standard deviations (SDs).

Table 2. Study 1: Actual number attempted (with covariates): Means and SDs.

Table 3. Study 1: Performance—degree of cheating (with covariates): Means and SDs

Table 4. Study 1: Number of items attempted—degree of cheating (with covariates): Means and SDs.

Table 5. Study 2: Bivariate correlations ( $r$ ) between all mediators.

Table 6. Study 2: Perceived descriptive and injunctive norms about cheating (with covariates): Means and SDs.

Table 7. Study 2: Perceived performance and mastery goals (with covariates): Means and SDs.

Table 8. Study 2: Performance—degree of cheating: 95% confidence intervals of indirect effects.

Table 9. Study 2: Liking of the club (with covariates): Means and SDs.

Table 10. Study 3: Actual number correct (with covariates): Means and SDs.

Table 11. Study 3: Actual number attempted (with covariates): Means and SDs.

Table 12. Study 3: Performance—degree of cheating (with covariates): Means and SDs.

Table 13. Study 3: Number of items attempted—degree of cheating (with covariates): Means and SDs.

## **List of Figures**

Figure 1. Actual number attempted (out of 18) by condition, Study 3.

Figure 2. Degree of cheating about one's performance, by organizational lay theory and praise type conditions, Study 3.

Figure 3. Degree of cheating about one's number of items attempted, by organizational lay theory and praise type conditions, Study 3.

## Faking it Even After you Make it? Exploring How Organizational Lay Theories of Intelligence

### Impact Cheating on Difficult Tasks

It was a company that prized “sheer brainpower” above all else, where the task of sorting out “intellectual stars” from the “merely super-bright” was the top priority when making hires and promotions. It was an environment where one of the most powerful executives was described as being “so sure that he was the smartest guy in the room that anyone who disagreed with him was summarily dismissed as *just not bright enough* to ‘get it.’

–Description of Enron (McLean & Elkind, 2003)

[CEO Lou] Gerstner disbanded the management committee and often went outside the upper echelons for expertise. “Let’s put together in meetings the people who can help solve a problem, regardless of position.” The message: We’re not looking to crown a few princes; we need to work as a team. Gerstner was also appalled by the endless failure to follow through on deals and decisions, and the company’s unlimited tolerance of it. He demanded and inspired better execution. Message: Genius is not enough; we need to get the job done.

–Description of IBM (Dweck, 2006)

The above descriptions of the organizational cultures at Enron and IBM reflect strikingly different perspectives on human intelligence, ability, and potential. Enron endorsed a culture that prized genius and talent above all else and aimed to identify and promote those who they believed possessed these valued traits. Alternatively, IBM believed that hard work and effort were key contributors to success, and subsequently sought to cultivate intelligence and ability through effort, training, and growth.

Researchers describe these distinct approaches to organizational culture as reflecting differences in *organizational lay theories of intelligence*—the shared beliefs of people within a setting—such as a school, company, or workgroup—about the nature of intelligence and ability (Emerson & Murphy, 2015a; 2015c; Murphy & Dweck, 2010). Some organizations espouse an *entity theory*, in which intelligence and ability are believed to be fixed traits that only some people possess (Murphy & Dweck, 2010). Other organizations espouse an *incremental theory*, in

which intelligence and ability are viewed as malleable attributes that can be cultivated through effort (Murphy & Dweck, 2010). These theories extend decades of research on personal lay theories of intelligence (for a review, see Dweck, 1999) to refer to an organization's norms and values, often conveyed through its materials (e.g., mission statements, brochures), policies and practices (e.g., hiring and evaluation decisions), or directly by its leaders.

Early research on organizational lay theories of intelligence demonstrated that people experience entity and incremental environments very differently. In their seminal work, Murphy and Dweck (2010) had participants read about and apply to an attractive entity or incremental academic club. Results revealed that participants were more likely to call attention to the quality they believed the club valued; people who applied to the entity club were more likely to highlight their smarts (i.e., their GPA and test scores) whereas people who applied to the incremental club were more likely to emphasize their motivation (i.e., their passion for learning). Moreover, the organizations' beliefs influenced participants' self-concepts, such that people reported valuing their own smarts (vs. motivation) more when applying to the entity (vs. incremental) club. Notably, the organizational lay theory that participants were exposed to had a "sticky" effect during an ostensibly unrelated hiring task. Participants who had previously applied to the entity club preferred an applicant who demonstrated her smarts 78% of the time; conversely, participants who had applied to the incremental club preferred an applicant who stressed her motivation 92% of the time.

In sum, people appear to be able to distinguish between entity and incremental organizations, and their perceptions of these organizational lay theories can guide their behavior, including whether they accentuate, personally value, and even make decisions based on the attributes that are prized by the organization. What other behaviors might these organizational

lay theories influence? In the current research, I explored whether an organization's beliefs about intelligence might impact an important organizational outcome that is often tied to beliefs about intelligence and ability—cheating behavior.

### **Cheating Behavior: A New Frontier for Organizational Lay Theories Research**

Understanding how organizational lay theories of intelligence might shape cheating behavior is valuable because cheating in school—and academic dishonesty more broadly—is a prevalent and persistent problem. As many as 70% of American students are estimated to have cheated at some point during their college career, about 50% higher than rates in the 1950s and 1960s (Baird, 1980; Davis & Ludvigson, 1995; Goldsen, Rosenberg, Williams, & Suchman, 1960; Jendrek, 1992; McCabe, Trevino, & Butterfield, 2001). Moreover, academic cheating has important consequences beyond the act itself. Students who cheat successfully are more likely to continue cheating, both in school (Hollinger & Lanza-Kaduce, 1996; McCabe & Trevino, 1997) and in other contexts, like work (Carpenter, Harding, Finelli, & Passow, 2004; Nonis & Swift, 2001). In other words, cheating is a pervasive societal issue—and one that does not appear to be going away any time soon.

Traditionally, cheating researchers searched for personal attributes that lead some students, and not others, to cheat. These researchers attempted to create profiles of “cheaters,” whom they described as male (Davis, Grover, Becker, & McGregor, 1992; Koul, 2012; Rettinger, Jordan, & Peschiera, 2004), low in ability (Finn & Frone, 2004; Newstead, Franklyn-Stokes, & Armstead, 1996), and younger (Antion & Michael, 1983; Haines, Diekhoff, LaBeff, & Clark, 1986; Lipson & McGavern, 1993). Psychologically, “cheaters” are more likely to believe that cheating is acceptable (Cizek, 1999; Evans & Craig, 1990; Rettinger & Kramer, 2009; Schab, 1991), endorse performance goals (vs. mastery) goals (Bong, 2008; Murdock, Hale, & Weber,

2001; Rettinger & Jordan, 2005) and report high need for approval from others (Jacobson, Berger, & Millham, 1970; Lobel & Levanon, 1988; Millham, 1974). Yet, the limitations of this individualistic perspective have been discussed at length, particularly in light of mixed support for these profiles (for a review, see Jordan, 2001; McCabe & Trevino, 1997; Whitley, 1998).

In response to these limitations, there has been a shift toward also examining cultural, structural, and contextual factors that might affect cheating (Jordan, 2001; McCabe et al., 2001; Murdock & Anderman, 2006; Murdock, Miller, & Kohlhardt, 2004). For instance, cheating is less common in institutions with explicit, well-known honor codes (Jordan, 2001; McCabe & Trevino, 1993) and with severe penalties for cheating (Michaels & Miethe, 1989; Whitley, 1998). Bolstering this perspective, McCabe and Trevino (1997) found that whereas individual factors predicted 9% of the variance in self-reported cheating behavior among their participants, situational factors predicted 21% of the variance.

Importantly, these contextual cues can shape cheating behavior without addressing cheating overtly. Researchers have found that cheating is more common in competitive environments (Perry, Kane, Bernesser, & Spicker, 1990; Taylor, Pogrebin, & Dodge, 2002) and in contexts where teachers are perceived to value performance over mastery (Anderman, Griesinger, & Westerfield, 1998; Bong, 2008; Roeser, Midgley, & Urdan, 1996; Urdan, Midgley, & Anderman, 1998). These situational cues are thought to influence cheating because they provide information about how these institutions construe success and failure, which in turn affects people's experiences there—including the goals they strive toward, the norms they perceive, whether they feel valued in the organization, and whether or not they cheat. Building upon this burgeoning literature, a primary goal of the current research was to investigate whether an organization's lay theory of intelligence might also be a contextual cue that influences

people's cheating behavior. Even though these organizational beliefs do not reference cheating directly, they nonetheless may moderate students' academic cheating behavior because they provide information about how the organization perceives success and failure, hard work, and human potential.

Why and how might organizational lay theories shape people's cheating behavior? The current work is the first to explore this specific question; however, research on *personal* lay theories of intelligence—or an *individual's* beliefs about the fixed or malleable nature of intelligence—provides a theoretical foundation that can be extended to understand the relationship between cheating behavior and beliefs about intelligence held at the *group*-level.

### **Personal Lay Theories of Intelligence & Cheating Behavior**

Research spanning more than 30 years has elucidated the different ways that people who *personally* endorse entity and incremental theories construe academic performance tasks (for a review, see Dweck, 1999). Entity theorists believe that intelligence is a trait that is relatively fixed over the lifespan. Because intelligence cannot be changed much, it is a quality that only some people possess—people either are smart, talented, or gifted, or they are not. Moreover, because entity theorists believe that intelligence is an attribute that can be measured and identified, they tend to be driven by performance goals (Dweck, 1986; 1991; Dweck & Leggett, 1988). In other words, if only some people are talented or smart, entity theorists are motivated to show themselves and others that they possess these traits.

When a task is easy, entity theorists are able to perform well and often report feeling successful (Dweck & Elliott, 1983; Elliott & Dweck, 1988; Henderson & Dweck, 1990). However, when a task is at the frontier of their abilities and failure is a possibility, they become uncomfortable. For entity theorists, failure indicts their abilities and suggests that they may not

possess intelligence (Diener & Dweck, 1978; 1980; Hong, Chiu, Dweck, Lin & Wan, 1999). Therefore, they believe they must consistently prove their intelligence to avoid revealing to themselves or others that they lack talent or ability. Difficulty and failure also depress entity theorists' more global self-judgments. Indeed, research has found that entity theorists link their performance to their general sense of self-worth (Burhans & Dweck, 1995; Henderson & Dweck, 1990; Nussbaum & Dweck, 2008); they view themselves as worthy or valued only when they perform well and as worthless or deficient when they perform poorly. In sum, potential failure has substantial negative implications for entity theorists' beliefs about both their abilities and their self-worth. For this reason, one might expect entity theorists to strive to preserve their self-worth by demonstrating competence at any cost, including by potentially cheating on difficult tasks.

Incremental theorists differ dramatically from entity theorists in how they experience performance and achievement. They believe that intelligence is a malleable quality that can be significantly expanded over time by anyone who puts in a lot of effort. For this reason, incremental theorists are driven by mastery goals (Dweck & Elliott, 1983; Elliott & Dweck, 1988). Importantly, they want to succeed, just as entity theorists do. However, entity and incremental theorists measure success in different ways; whereas entity theorists consider success to be effortless high performance, incremental theorists measure success primarily in terms of learning over time and persistence in the face of challenges and setbacks.

When tasks are easy, incremental theorists—like entity theorists—are able to complete tasks confidently and successfully (Dweck & Elliott, 1983; Elliott & Dweck, 1988; Henderson & Dweck, 1990). However, they diverge noticeably from entity theorists in their response to difficult tasks. Although incremental theorists acknowledge that facing challenges may lead to



failure, they are less threatened by the potential of poor performance because it is not viewed as indicting their abilities. Instead, difficulty is construed as a challenge to overcome or as a signal that more effort or a different strategy is needed (Diener & Dweck, 1978; 1980; Hong et al., 1999). Because they do not view intelligence as fixed, incremental theorists are likely to feel most valuable when they improve over time (Burhans & Dweck, 1995; Henderson & Dweck, 1990; Nussbaum & Dweck, 2008). In sum, if incremental (vs. entity) theorists are less likely to tie their self-worth to their ability to sustain high effortless performance, we might expect them to also cheat less on demanding tasks.

Empirical tests of the association between personal lay theories and cheating have measured participants' lay theories and tested whether these beliefs are related to their cheating beliefs or self-reported cheating behavior (e.g., Blackwell, Trzesniewski, & Dweck, 2007; Corrion et al., 2010; Dweck & Sorich, 1999). These studies found that, relative to incremental theorists, entity theorists view cheating as more acceptable and report more past cheating behavior. In the most direct test of a causal relationship, Blackwell and colleagues (2007) measured middle school participants' personal lay theories and then asked them to imagine failing an important quiz. They then indicated how they would cope with the failure, including whether they would use negative, effort-avoidant strategies like cheating. Results revealed that participants who endorsed an entity theory were more likely to consider using negative strategies—including cheating—after hypothetical failure compared to those who endorsed an incremental theory. Taken together, previous research suggests that personally endorsing more fixed beliefs about intelligence may lead people to cheat when faced with a difficult task.

Although researchers have yet to examine the causal role of personal lay theories of intelligence on cheating behavior, studies that have manipulated participants' lay theories have

found that they can shape whether people display other defensive behaviors (e.g., Dweck & Leggett, 1988; Nussbaum & Dweck, 2008). In one set of studies, participants who were primed with an entity theory were more likely to disengage when faced with a challenging language task—they expressed a greater desire to discontinue with the task and avoid it in the future (Hong et al., 1999). Those primed with an incremental theory, on the other hand, were more likely to face the challenge head on, indicating a desire to retry the difficult task and devote more time and energy to it in the future. Thus, exposure to an entity theory can lead people to take more defensive actions—actions related to cheating—in the face of difficulty. However, researchers have yet to directly test whether being exposed to an *organization's* lay theory may moderate people's actual cheating behavior—the focus of the current studies.

### **Cheating in Entity and Incremental Organizations: Theory & Preliminary Evidence**

Past research has provided important insights into how *personal* beliefs about the fixed or malleable nature of intelligence can influence people's behavior. Yet, a central feature of human existence is that people exist within the context of groups. Indeed, many have theorized that being accepted by attractive and valued groups is a fundamental human motivation (Baumeister & Leary, 1995; Swann & Bosson, 2010). Importantly, groups can espouse their own beliefs about human intelligence and ability—beliefs that can independently shape the behavior of people within them. The current work seeks to explore how fixed and malleable beliefs espoused at the *group* level influence how these environments are perceived and how people behave within them. Moreover, by considering organizational lay theories of intelligence, I am able to consider the role of factors that are unique to groups—like organizational norms—in people's cheating behavior (Jordan, 2001).

How do people perceive entity and incremental organizations? And how might these perceptions shape people's cheating behavior? Entity organizations believe that people are either competent and able, or they are not—and those with talent can be identified through their performance for hiring and promotion (Emerson & Murphy, 2015a; Murphy & Dweck, 2010). Just as entity theorists are concerned with performing well, people in entity organizations may feel they have to prove their intelligence and abilities. Indeed, they may worry that performing poorly will be interpreted by the entity organization as evidence that they are not smart or gifted enough to succeed there. Moreover, people's perceived worth may become tied to their performance in an entity context—they may expect to be valued by the organization only when they are performing well. When faced with an easy task, people may feel sufficiently confident in their ability to perform well. However, when faced with a demanding task, concerns about performing well may lead people in entity organizations to take drastic measures to show that they “have it”—like cheating.

Incremental organizations value effort and persistence in the face of challenges over easy tasks that engender effortless high performance (Emerson & Murphy, 2015a; Murphy & Dweck, 2010). Although incremental organizations value intelligence, they believe that people can develop their abilities over time if motivated to do so and therefore seek out people who work hard, face challenges head on, and persist in the face of setbacks. Furthermore, incremental organizations construe difficulty and failure as an opportunity to learn something new and stretch one's potential. In response, people may worry less about performing perfectly in incremental environments, instead focusing their energy on pursuing challenges and improving themselves. Additionally, they may tie their perceived worth to their personal growth rather than effortless performance. For these reasons, when faced with an easy task, people in incremental contexts—

like those in entity contexts —may feel confident in their ability to perform well. In contrast, when faced with a difficult task, people in incremental environments may be driven to persevere and grow rather than avoid failure—and thus may cheat less.

Preliminary evidence suggests that organizational lay theories of intelligence do in fact influence cheating behavior. In one study, employees at seven Fortune 1000 companies completed a survey about their perceptions of their organizations’ beliefs and values. Results revealed that employees who perceived that their company endorsed an entity theory reported higher levels of unethical behavior in their organization, including cheating (Emerson, Murphy, Dweck, Chatman, & Kray, 2014). In another study (Emerson & Murphy, 2015b), independent coders rated the perceived organizational lay theory of all companies in the Fortune 500 based on their mission and values statements. The same statements were run through linguistic analysis software to identify underlying themes (Linguistic Inquiry Word Count; Pennebaker, Chung, Ireland, Gonzales, & Booth, 2007). A negative relationship emerged between entity theory ratings and the use of ethics-related words like “integrity,” “ethics,” and “transparency” in the mission statements—the more that a company was perceived to endorse an entity theory, the less likely it was to highlight ethics and integrity in its mission and values statement.

Though correlational, this research points to another important difference that may exist between entity and incremental organizations—organizational norms about cheating. Norms research distinguishes between *descriptive norms* (i.e., norms about what behavior is *typically* exhibited) and *injunctive norms* (i.e., norms about what behavior is *acceptable* or *preferred*; Cialdini, Kallgren, & Reno, 1991; Cialdini, Reno, & Kallgren, 1990). If people are motivated to avoid poor performance at all costs in entity (vs. incremental) organizations, they may perceive that others are similarly motivated, and thus that cheating is more widespread there (i.e., a pro-

cheating descriptive norm). Furthermore, people may perceive that entity organizations desire performance and results by any means necessary and are more accepting of unethical strategies like cheating to achieve these goals (i.e., a pro-cheating injunctive norm). Importantly, empirical evidence suggests that descriptive and injunctive norms can be independent predictors of intention and behavior (Jacobson, Mortensen, & Cialdini, 2011; Kredentser, Fabrigar, Smith, & Fulton, 2012; White, Smith, Terry, Greenslade, & McKimmie, 2009). Building upon these findings, the current work sought to examine whether entity and incremental organizations are perceived to differ in their descriptive and injunctive cheating norms, and whether these perceptions might explain people's cheating behavior in the two environments.

### **The Present Studies**

In three studies, participants performed for an organization (via a problem-solving task) after learning about its entity or incremental lay theory. At the end of the task, participants were given the opportunity to cheat—to misreport their task performance and number of items attempted to the organization. The goal of the first study was to explore the relationship between organizational lay theories of intelligence and cheating behavior. When participants perceived that they performed poorly (vs. well) on the task, did they self-enhance by cheating more in the entity (vs. incremental) context? In the second study, I explored *why* people cheated more on difficult tasks in entity organizations than in incremental ones. Specifically, I examined the extent to which participants' cheating behavior was mediated by their perceptions of the club (i.e., perceived cheating norms and performance vs. mastery goals) or by their self-judgments (i.e., self-worth and self-esteem). Finally, in the third study, I investigated whether being praised by the club for their prior success would moderate participants' cheating behavior. In particular,

would people in the entity (vs. incremental) club self-enhance by cheating more on a demanding task even when affirmed by their past performance?

### **Study 1**

The goal of Study 1 was to establish whether organizational lay theories of intelligence influence people's cheating behavior. Participants were told that the purpose of the study was to understand how people apply to organizations. As part of this investigation, participants were informed that they would learn about and be asked to apply to an attractive and prestigious academic tutoring club at their university. They learned about the club by reading a sample of the club's meeting minutes (in which the organizational lay theory manipulation was embedded). They then completed the application process, which consisted of a member application and a problem-solving task. A high or low performance standard was provided before completion of the task to manipulate participants' perception of their performance. Thus, the study was a 3 (organizational lay theory: entity, incremental, control) X 2 (performance standard: low, high) between-subjects design. After they completed the problem-solving task, they were asked to self-report their performance and number of items attempted—the measures of cheating behavior.

When the performance standard was low—and thus attainable—I predicted that participants in both the entity and incremental contexts would feel successful and thus not cheat about their performance or number of items attempted on the task. However, I predicted differences between the two contexts when participants could not meet the standard. In an entity environment, I expected participants to worry that not meeting the standard would signal to the club that they lack the natural smarts and talent that are prized there. In contrast, I expected that participants in the incremental context would be less concerned about effortless high performance and more with working hard and improving. For these reasons, when faced with a

high performance standard, I predicted that participants would be more likely to self-enhance in the entity (vs. incremental) context by inflating their performance and downplaying their number of items attempted.<sup>1</sup>

## **Study 1 Method**

### **Participants**

Three hundred undergraduate participants were recruited from introductory psychology courses at a large public Midwestern university and participated in exchange for partial course credit. Participants were excluded from analysis if they met either of two criteria. First, participants were excluded if they did not follow directions by writing their responses to the problem-solving task on the paper answer sheet ( $n = 16$ ). Those who did not write down their response could not self-score them, and therefore could not complete the primary outcome of Study 1 (i.e., (mis)reporting their performance and number attempted). Second, participants were excluded if they did not experience the performance standard condition as it was intended. Because the purpose of the low standard condition was for participants to meet the standard, they were excluded if they failed to meet it (i.e., completed fewer than 3 items correctly;  $n = 29$ ). In contrast, the purpose of the high standard condition was for participants to fail to meet the standard; thus, participants in this condition were excluded if they met or exceeded the standard

---

<sup>1</sup> One might hypothesize that because incremental organizations highly value effort and persistence, people in these contexts instead might be more likely to cheat about their number of items attempted on a difficult task. However, because incremental organizations place more emphasis on self-improvement rather than demonstrating a “natural” talent or ability, I predicted that people in these organizations would be less concerned about being evaluated against some external metric than people in entity organizations, and thus would strive to grow over time rather than cheat to look like they performed better and more effortlessly than other people in the organization.

(i.e., completed 10 or more items correctly;  $n = 16$ ).<sup>2</sup> Based on these criteria, two hundred and forty participants remained in the sample for all analyses. (Cell sizes ranged from 36 to 43.)

One hundred and sixty five participants self-identified as female and 73 self-identified as male (2 did not self-identify their gender). Additionally, 180 participants self-identified as White/Caucasian, 9 as Black/African American, 12 as Asian American/Pacific Islander, 6 as Latino/a, 3 as Middle Eastern, 1 as Native American, and 16 as more than one racial group (13 did not self-identify their race). Finally, the sample consisted of 141 freshmen, 57 sophomores, 26 juniors, and 13 seniors (3 did not self-identify their year in school).

### **Procedure**

Upon arrival to the lab, participants were led into individual rooms and told that they would be participating in two separate studies. The first study was described as part of a larger project assessing undergraduates' opinions and experiences. Participants completed a series of questionnaires that included the measure of personal beliefs about cheating.

The procedure for the second study was adapted from past research (Emerson & Murphy, 2015c; Murphy & Dweck, 2010). The experimenter informed participants that the goal of the study was to examine how people apply to organizations. Participants learned about the XYZ club, an ostensible tutoring and volunteering organization at their university. They were told about the club's prestige and attractiveness and were asked to imagine that they would like to join the club. Next, they read a sample of the club's meeting minutes, which contained the organizational lay theory of intelligence manipulation (described below). After reading the meeting minutes, participants were asked to complete a member application (via paper and

---

<sup>2</sup> All analyses in Study 1 were also conducted including participants who did not experience the performance standard manipulation as it was intended (i.e., the second exclusion criteria). The pattern of results of these analyses did not differ from the results reported for Study 1, and are thus not discussed further.



pencil) and problem-solving task (via computer). Participants were informed that the club's selection committee used the application and task to make acceptance and rejection decisions.

Before completing the problem-solving task, participants were provided with the ostensible average performance of current club members, which served as the performance standard manipulation (described in greater detail below). They also were told that the computer program had been having technical problems; therefore, they would be asked to indicate their responses to the items both on the computer and on a separate paper answer sheet as a back up. Participants were left alone to complete the problem-solving task. At the end of the task, all participants received an error message indicating that their responses may not have been recorded. However, the computer in fact recorded the actual number of items that participants attempted to answer and their responses to those items.

Due to the ostensible computer malfunction, the experimenter asked participants to hand-score their own responses. They were given an answer key to compare to their responses. On a separate form, they were asked to indicate the number of items they answered correctly and the number they attempted to answer. They then shredded their original answer sheet. Finally, participants completed some survey items—including measures of their personal lay theory of intelligence and liking of the club—before being probed for suspicion, debriefed, and excused.

## **Materials**

**Meeting minutes.** The sample meeting minutes that participants read when learning about the XYZ club were adapted from Murphy and Dweck (2010) and Emerson and Murphy (2015c). Participants were randomly assigned to one of three organizational lay theory conditions: an entity condition, an incremental condition, or a control condition.

In the entity condition, participants learned about the club’s support of and future plans to work with “Project Smart.” Project Smart endorsed the belief that intelligence and ability are innate characteristics that are relatively fixed over the lifespan. For this reason, the goal of Project Smart was to identify students’ natural ability and match work to their skill level—that is, to give harder work to “smarter” students and easier work to low-performing students. In the incremental condition, participants learned about the club’s support of and plans to work with “Project Learn.” Project Learn endorsed the belief that intelligence and ability can be significantly expanded over the lifespan. For this reason, the goal of Project Learn was to provide all students with challenging work so that they may develop, learn, and discover new things. Finally, in the control condition, participants learned about the club’s support of and plans to work with “Project Tech.” The description of Project Tech did not mention beliefs about intelligence at all; instead, Project Tech believed that people could best be tutored if they are provided with the opportunity to use different types of technology. For this reason, the goal of Project Tech was to integrate various forms of technology into classrooms and tutoring sites to educate students in an increasingly high-tech world (see the Appendix for the full text of all study materials and measures).

In all three conditions, club members expressed agreement with the Project’s beliefs based on their experiences with tutees. For example, members of the entity club reported observing that the initial performance of their tutees predicted their later grades. In contrast, members of the incremental club reported observing that tutees’ grades reflected their improvement over time. Finally, members of the control club reported observing that tutees differed in their experience with new technology.

**Member application.** The member application requested demographic information from the participant (e.g., year in school, gender, race, majors considering, SAT/ACT score) and information about clubs or organizations that they were currently in or hoped to join. Participants also were asked to list some personal characteristics (including grades and stories of personal improvements) that they would like to discuss in their application. The primary purpose of the member application was to strengthen the cover story that they were applying to the XYZ club.

**Performance standard information.** Immediately before completing the problem-solving task, participants learned about the average performance on the task by current club members (i.e., the performance standard). In the low standard condition, participants were informed that the task was very difficult and that, on average, current members answered three to five (out of 18) items correctly in 20 minutes. This number was selected because past work has found that participants typically complete four or five items correctly in the time allotted on this specific test (Emerson & Murphy, 2015c). Thus, most participants in the low standard condition were expected to be able to meet the standard. In the high standard condition, participants were informed that the task was very difficult and that, on average, current members answered 10 to 12 items correctly. This range is approximately two standard deviations above the actual average performance on this task (Emerson & Murphy, 2015c); therefore, most participants in the high standard condition were expected to fail to meet the standard.

**Problem-solving task.** Participants completed Raven's Advanced Progressive Matrices (Raven, 1982). The test is considered a measure of general intelligence that asks participants to complete a pattern using a missing element. Participants had 20 minutes to complete 18 progressively difficult items. This task has been used to assess children's cheating behavior after

receiving smarts or effort-related praise (Mueller & Dweck, 1998) and to examine performance differences in entity and incremental organizations (Emerson & Murphy, 2015c).

### **Primary Measures**

**Manipulation checks.** To assess participants' perceptions that the XYZ club endorsed an entity or incremental lay theory of intelligence, they completed Emerson and Murphy's (2015a) Organizational Lay Theories scale. The scale included 4 items, rated on a 6-point scale (strongly agree to strongly disagree). A sample item includes, "*The XYZ club seems to believe that people have a certain amount of intelligence, and they can't really do much to change it.*" Items were reverse-coded as necessary and averaged so that higher scores indicated perceptions that the organization endorsed entity beliefs and lower scores indicated perceptions that the organization endorsed incremental beliefs ( $\alpha = .96$ ).

At the end of the study, participants' memory for the two manipulations was assessed. Participants were asked to indicate the project discussed in the meeting minutes (i.e., *Project Smart, Project Tech, Project Learn*) as well as the average number of items answered correctly on the problem-solving task by current members (i.e., *0-2, 3-5, 6-9, 10-12, 13-15, 16-18*).

**Actual performance and number attempted.** Participants' responses on the problem-solving task were recorded by the computer (via MediaLab). Participants' actual performance was calculated by summing the number of correct responses; their actual number attempted was calculated by summing the number of items for which participants provided any answer. The number of items attempted by participants was considered as a proxy for their effort on the task—the more items that participants attempted, the more presumed effort that they applied to the task. Thus, I was able to examine whether the organizations' beliefs about intelligence or

performance standard influenced participants' actual performance (i.e., the number of items answered correctly) or effort (i.e., the number of items attempted).

**Measures of cheating degree.** Two cheating indexes were calculated for each participant to assess *how much* they cheated about their performance and number attempted—the primary measure of cheating. Degree of cheating has been used in past work to assess how personal lay theories of intelligence and performance (vs. mastery) goals impact cheating behavior (Vohs & Schooler, 2008; Van Yperen, Hamstra, & van der Klauw, 2011). To investigate whether participants self-enhanced by inflating their performance more in the entity (vs. incremental) context, a variable was calculated in which their actual number correct was subtracted from their reported number correct. A score of zero on this variable indicated an absence of misreporting their performance, whereas scores further from zero indicated a greater degree of misreporting. Positive scores indicated that participants reported performing *better* than they actually did (i.e., inflated their performance); in contrast, negative scores indicated that participants reported performing worse than they actually did (i.e., downplayed their performance).

To explore whether participants also downplayed their number attempted in entity (vs. incremental) contexts, a second variable was calculated in which participants' actual number attempted was subtracted from their reported number attempted. A score of zero indicated an absence of misreporting their attempts; scores further from zero indicated a greater degree of misreporting. Positive scores indicated that participants reported attempting *more* items than they actually did (i.e., inflated their attempts); negative scores indicated that participants reported attempting *fewer* items than they actually did (i.e., downplayed their attempts).

**Measures of cheating frequency.** Separate variables were created to identify *whether or not* participants cheated about their number correct or number attempted—distinct from their

*degree* of cheating. Multiple researchers have found that most people tend to cheat by only a small amount, presumably to maintain a balance between economic gain and preserving a positive view of themselves as moral and honest (Ariely, 2012; Mazar, Amir, & Ariely, 2008; Shalvi, Handgraaf, & De Dreu, 2011). If this were the case, measures of cheating degree might not achieve sufficient variability to detect an effect. By including measures of cheating frequency, I was also able to explore whether participants would be *more likely* to inflate their performance and downplay their attempts in an entity organization compared to an incremental one.

Three variables were calculated to assess cheating frequency. First, a variable was created to measure whether participants cheated by inflating their performance by at least one item (0 = no, 1 = yes). A second variable was created to identify whether participants downplayed their number attempted by claiming to have attempted at least one item *fewer* than they actually did (0 = no, 1 = yes). Downplaying their number attempted could serve two purposes. If participants performed well, they might opt to under-report their number attempted to demonstrate that they could perform well *with little effort*. However, if participants performed poorly, under-reporting their number attempted could serve a self-handicapping function—that is, it could preserve the possibility that they could have performed better if they had completed additional items.

Finally, a variable was created to identify whether participants inflated their number attempted by claiming to attempt at least one *more* item than they actually did (0 = no, 1 = yes). Including this variable allowed for the possibility that participants might self-enhance by claiming that they exerted *more effort* on the task than they actually did.

Importantly, most participants did not misreport their task performance or number attempted (reported separately for each study). Thus, any statistical analyses that included the cheating frequency variables were noticeably underpowered. Due to this power concern, and

because I did not predict the pattern of participants' degree and frequency of cheating to differ in any meaningful way, I included all cheating frequency results as footnotes and focused my discussion on the results of the cheating degree measures.

**Demographics.** Participants' gender, race, year in school, and majors were collected as part of the member application and/or the unrelated first study.

### **Control Measures**

Three variables were included as covariates in analyses to establish that organizational lay theories of intelligence—above and beyond these variables—caused observable differences in cheating. In particular, participants' personal beliefs about cheating acceptability, personal lay theories of intelligence, and ACT/SAT scores were assessed. These covariates were selected because personally believing that cheating is acceptable, espousing that intelligence is fixed, and demonstrating lower past academic performance have all been linked robustly to higher rates of cheating (e.g., Blackwell et al., 2007; Finn & Frone, 2004; Rettinger & Kramer, 2009). Because the goal of the current work was to examine the effect of a *group-level* variable (i.e., organizational lay theories) on cheating behavior, it was important for Study 1 to establish that any differences in cheating behavior were not due only to *individual* factors.

**Personal beliefs about cheating acceptability.** Three items assessed participants' beliefs about the acceptability of cheating (Anderman et al., 1998). Each item was rated on a 5-point scale (not at all to very true of me). A sample item is, "*It is okay to cheat on schoolwork.*" Items were reverse-coded as necessary and averaged so that higher scores indicated the personal belief that cheating is more acceptable ( $\alpha = .81$ ).

**Personal lay theory of intelligence.** To measure participants' personal beliefs about intelligence, they completed Dweck's (1999) Theories of Intelligence scale. The scale included 4

items rated on a 6-point scale (strongly agree to strongly disagree). A sample item includes, “*You have a certain amount of intelligence, and you can’t really do much to change it.*” Items were reverse-coded as necessary and averaged so that higher scores indicated endorsement of entity beliefs and lower scores indicated endorsement of incremental beliefs ( $\alpha = .85$ ).

**Past academic performance.** Participants were asked to provide their SAT/ACT scores. These scores were standardized to create an index of past academic performance.<sup>3</sup>

## Study 1 Results

### Research Design and Analysis Overview

The study was a 3 (organizational lay theory: control, entity, incremental) X 2 (performance standard: low, high) between-subjects design. For each outcome, two separate analyses were conducted—one without covariates (a 3 X 2 analysis of variance (ANOVA)) and one with covariates (a 3 X 2 analysis of covariance (ANCOVA)).<sup>4</sup>

### Manipulation Checks

The results of the primary manipulation check provided evidence that the organizational lay theory manipulation had its intended effect. Only the predicted main effect of organizational lay theory emerged,  $F(2, 232^5) = 105.53, p < .001, \eta^2_p = .48$ . In particular, the entity club was perceived as endorsing more entity beliefs ( $M = 3.88, SD = 1.62$ ) than the incremental club ( $M = 1.54, SD = 0.49$ ),  $p < .001$ . Interestingly, the control club ( $M = 2.02, SD = 0.76$ ) fell between the

---

<sup>3</sup> Inspection of the data revealed that many participants across the three studies did not self-report their SAT/ACT score; thus, the sample sizes used in analyses with covariates are much smaller. The implications of these reduced sample sizes for interpreting the results are discussed in the manuscript where relevant.

<sup>4</sup> For all analyses of cheating frequency, a 3 X 2 generalized linear model test (GLM; with a logit link function and binomial probability distribution) was conducted without covariates.

<sup>5</sup> Any differences in degrees of freedom here and in subsequent analyses reflect missing data on the part of participants.



two other clubs and significantly differed from each: it was perceived as endorsing entity beliefs less than the entity club,  $p < .001$ , but more than the incremental club,  $p = .004$ .

Generally, participants also accurately recalled the conditions to which they had been assigned. Only 5 participants (2.09%) did not correctly recall the Project (i.e., Tech, Smart, or Learn) they had read about in the meeting minutes. Thirteen participants (5.44%) in the low standard condition and 16 participants (6.69%) in the higher standard condition did not correctly identify the performance standard (i.e., the club member average) provided to them.<sup>6</sup>

### **Actual Performance and Number Attempted**

Consistent with past research (Emerson & Murphy, 2015c), participants answered five items correctly on the problem-solving task ( $M = 4.93$ ,  $SD = 2.53$ , range: 0-17). Additionally, most participants attempted to answer nearly all of the items ( $M = 17.48$ ,  $SD = 1.55$ , range: 8-18).

I next examined whether participants' actual performance was influenced by the organizations' lay theory and performance standard. Results revealed only a main effect of performance standard,  $F(1, 234) = 27.70$ ,  $p < .001$ ,  $\eta^2_p = .11$ . Specifically, participants in the low standard condition ( $M = 5.78$ ,  $SD = 2.55$ ) performed better (i.e., answered more items correctly) than did participants in the high standard condition ( $M = 4.14$ ,  $SD = 2.25$ ). No other effects were significant, all  $ps > .80$ . This main effect remained significant when including covariates,  $F(1, 174) = 14.85^7$ ,  $p < .001$ ,  $\eta^2_p = .08$  (see Table 1 for means).

Regarding participants' number attempted, two main effects emerged. First, participants in the low standard condition ( $M = 17.27$ ,  $SD = 1.87$ ) attempted marginally fewer items than did

---

<sup>6</sup> All analyses were also run excluding participants who failed at least one of the manipulation checks. Because results did not differ with this additional exclusion criterion, all reported analyses included these participants.

<sup>7</sup> A main effect of past performance also emerged,  $F(1, 174) = 13.23$ ,  $p < .001$ ,  $\eta^2_p = .07$ : participants with higher SAT/ACT scores performed better on the problem-solving task.

participants in the high standard condition ( $M = 17.67$ ,  $SD = 1.15$ ),  $F(1, 234) = 3.839$ ,  $p = .051$ ,  $\eta^2_p = .016$ . Second, a main effect of organizational lay theory was significant,  $F(2, 234) = 5.080$ ,  $p = .007$ ,  $\eta^2_p = .042$ . Participants in the incremental condition ( $M = 17.06$ ,  $SD = 2.10$ ) attempted fewer items than did participants in the control and entity conditions ( $M = 17.74$ ,  $SD = 0.96$ ,  $p = .004$  and  $M = 17.67$ ,  $SD = 1.20$ ,  $p = .010$ , respectively). The number of items attempted by participants in the control and entity conditions did not differ,  $p = .795$ . The organizational lay theory X performance standard interaction was not significant,  $p = .331$ . When including all covariates, only the main effect of organizational lay theory remained,  $F(2, 174) = 2.99^8$ ,  $p = .05$ ,  $\eta^2_p = .03$ . (The pattern of pairwise comparisons did not change—see Table 2 for means.)

In sum, participants performed better but tended to attempt fewer items when the performance standard was low (vs. high). Moreover, participants attempted fewer items when they were applying to the incremental (vs. entity or control) organization. Yet, the organization's lay theory and performance standard did not interact to predict participants' actual performance or number attempted.

### **Cheating Measures**

**Descriptive statistics.** Approximately 30% of participants ( $n = 71$ ) misreported their performance. In particular, 18% of participants ( $n = 43$ ) *inflated* their performance by over-reporting the number of items they answered correctly by at least one item. In contrast, fewer than 9% of participants ( $n = 20$ ) misreported their number attempted. Less than 4% of participants ( $n = 8$ ) *inflated* the number of items they attempted, whereas 5% of participants ( $n = 12$ ) *downplayed* their number attempted. Thus, whereas few participants misreported their effort

---

<sup>8</sup> A marginal main effect of past performance also emerged,  $F(1, 174) = 2.77$ ,  $p = .10$ ,  $\eta^2_p = .02$ : participants with higher SAT/ACT scores attempted fewer items on the task.

(i.e., number attempted), a sizeable portion of participants (almost 20%) self-enhanced by inflating their performance.

**Cheating about performance.** Did an organization's lay theory and performance standard impact the extent to which participants cheated about their performance? Results revealed only a main effect of performance standard condition,  $F(1, 234) = 9.36, p = .002, \eta^2_p = .04$ . Participants misreported their performance to a greater degree—specifically, by *inflating* their performance—when the standard was high ( $M = 0.58, SD = 2.10$ ) compared to when it was low ( $M = -0.09, SD = 0.96$ ). No other effects were significant, all  $ps > .46$ . This main effect remained significant after including covariates,  $F(1, 174) = 9.51^9, p = .002, \eta^2_p = .05$  (see Table 3 for means). In other words, people cheated more about their performance when the performance standard was high; however, the degree to which participants cheated about their performance was not influenced by the organization's lay theory.<sup>10</sup>

**Cheating about number attempted.** Next, I examined whether the organization's lay theory or performance standard influenced how much participants cheated about their number attempted (i.e., their effort). The ANOVA revealed only a marginal main effect of performance standard,  $F(1, 234) = 3.71, p = .06, \eta^2_p = .02$ . Participants *downplayed* their number attempted more when the performance standard was high ( $M = -0.46, SD = 2.51$ ) compared to low ( $M = -0.01, SD = 0.49$ ). No other effects were significant, all  $ps > .64$ . When including covariates, the marginal performance standard main effect remained,  $F(1, 174) = 3.26, p = .073, \eta^2_p = .018$  (see

---

<sup>9</sup> A marginal main effect of participant's lay theory also emerged,  $F(1, 174) = 3.03, p = .08, \eta^2_p = .02$ : consistent with past work, entity theorists cheated more about their performance.

<sup>10</sup> Forty-three participants inflated their performance on the problem-solving task (cell size ranges: 2-13). The only significant effect to emerge in the GLM test was a main effect of performance standard,  $\chi^2(1) = 11.572, p = .001$ . Specifically, participants were more likely to self-enhance by inflating their performance when the performance standard was high ( $n = 33$ ) vs. low ( $n = 10$ ). No other effects were significant, all  $ps > .34$ .

Table 4 for means). No other effects were significant, all  $ps > .185$ . In sum, participants were more likely to *downplay* their number attempted when the performance standard was high.<sup>11</sup>

### Study 1 Discussion

The results of Study 1 suggest that an organization's performance standard—and not their beliefs about intelligence—influenced participants' cheating behavior. When the club had a high performance standard—a standard that they could not attain—participants inflated their performance (i.e., over-reported their number correct) and downplayed their number attempted. Importantly, both of these actions can serve as self-enhancing strategies. Over-reporting one's number correct can inflate one's perceived performance. On the other hand, under-reporting one's number attempted can be used as a form of self-handicapping; by claiming to have not attempted all of the items, participants can argue that they would have performed better if they had more time or had put forth more effort on the task.

Contrary to predictions, organizational lay theories of intelligence did not influence participants' cheating behavior. However, fewer than 50 participants cheated about their performance, and fewer than 20 participants misreported their number attempted in either direction. Therefore, the lack of significant effect of organizational lay theory or interaction effects may have been due to a lack of statistical power. Prior to data collection, a power analysis was conducted on past work to determine the desired number of participants. Because the current work is the first to examine the role of organizational lay theories of intelligence on people's actual cheating behavior, I was limited to conducting separate power analyses on past research that a) explored the role of organizational lay theories of intelligence on people's behavior and

---

<sup>11</sup> Only 8 participants inflated and 12 participants downplayed their number attempted on the task (cell size ranges: 0-4 and 0-3, respectively). Neither GLM test revealed any significant effects, all  $ps > .998$  and  $.600$ , respectively.

that b) examined actual cheating behavior. Results of these analyses suggested that 30 to 50 participants per cell would be sufficient to obtain 80% power, and thus the high end of this range was used as a stopping rule for data collection in Study 1. However, because of the novelty of Study 1's research question, this cutoff may not have been adequate to find an effect. To address this concern, the desired sample size was doubled in Study 2.

## **Study 2**

The primary goal of Study 2 was to again investigate whether organizational lay theories of intelligence influenced people's cheating behavior. To deal with the feasibility issues that accompany the doubling of a study's sample size, I simplified the design for Study 2. My key prediction was that people would only cheat more in the entity (vs. incremental) club when the testing context was sufficiently demanding and concerns about failure were high. Therefore, all participants learned about either an entity or incremental club with a high performance standard. The study consisted of a single independent variable (i.e., organizational lay theory) with two levels (i.e., entity and incremental).

In Study 2, I also sought to explore *how* organizational lay theories influence cheating about one's performance and effort. Three sets of mechanisms were tested: perceptions of the organization's goals, perceptions of its cheating norms, and participants' self-judgments.

An entity organization's belief that intelligence is an innate human trait might influence people's perceptions of its goals and norms. In an entity environment, only some people are thought to have the natural talent and giftedness that are so highly prized. People may worry that they have to perform well (and with little effort) to prove that they have these valued traits, which may lead them to cheat when faced with potential failure. Moreover, they may believe that *everyone* in the organization is worried about proving themselves, and thus that others frequently

cheat to avoid the consequences of poor performance (i.e., a pro-cheating descriptive norm). People might even believe that an entity organization is more *accepting* of cheating. If an entity organization want results and success, they might encourage their members to achieve these goals by any means necessary, even at the expense of behaving ethically (i.e., a pro-cheating injunctive norm). Perceiving that an entity organization espouses these performance goals and pro-cheating norms may in turn lead people to cheat when faced with a difficult task.

Given that incremental organizations values self-improvement and mastery—the “potential” for increasing success over time—people may perceive them to have very different goals and norms than entity organizations. People may perceive that an incremental organization endorses mastery goals, and that personal growth (rather than perfection) is more valued there. To the extent that people perceive that an incremental organization views failure as a temporary setback (rather than as an indictment of one’s abilities), they may avoid cheating on even the most demanding tasks. Moreover, if cheating is perceived as counter-productive to personal growth, then people may likewise expect that *others* will cheat less in incremental environments and that defensive strategies like cheating would be particularly *unaccepted* there—additional factors that may cause people to cheat less in incremental organizations compared to entity ones.

In sum, people may cheat more in entity (compared to incremental) organizations because of differences in the organizations’ perceived norms and goals. First, people may perceive entity organizations to endorse performance goals more and mastery goals less compared to incremental organizations. Moreover, cheating may be perceived as relatively widespread and accepted in an entity context and as relatively uncommon and unaccepted in an incremental context. These latter predictions are particularly noteworthy because past work on lay theories of intelligence and cheating has focused on people’s personal beliefs, and thus has

been unable to look at the role of norms—a uniquely group-level variable. By focusing on *organizational* lay theories of intelligence, the current study was the first to directly test whether group-level beliefs about intelligence can shape the perceived norms of that environment.

In addition to the effect of perceived organizational goals and norms, people may cheat more in entity (vs. incremental) contexts because of how these environments influence their perceived worth and self-esteem. Particularly when faced with a demanding task, people may experience greater self-doubt in an entity environment compared to an incremental one. In particular, people may report lower levels of self-esteem in an entity context and that their actual self-worth is tied to their ability to perform well on the demanding task. Yet, some research suggests that merely performing in an entity environment is not sufficient to elicit negative self-views. Indeed, entity theorists only report dips in self-esteem and self-worth *after* poor performance or negative feedback (Elliott & Dweck, 1988; Henderson & Dweck, 1990; Hong et al., 2009; Nussbaum & Dweck, 2008). To explore this question further, Study 2 examined whether participants would report higher levels of performance-contingent self-worth and lower levels of self-esteem when faced with a challenging task in an entity (vs. incremental) organization, and whether these negative self-judgments, in turn, might cause participants to cheat more in entity contexts.

A final goal of Study 2 was to rule out an alternative hypothesis—namely, that people simply like entity contexts less than incremental ones, and that this overall negativity bias toward the entity organization might be the primary reason for cheating behavior. This hypothesis is consistent with past research showing that people tend to prefer incremental contexts to entity ones (Emerson & Murphy, 2015a; Emerson et al., 2014; Murphy & Dweck, 2010). In other words, can people’s perceptions of the organizations’ norms and goals and their self-judgments

simply be reduced down to differences in how much they like the organization? To investigate this possibility, I examined whether any observed relationship between an organization's lay theory of intelligence, its perceived norms and goals, and participants' self-judgments and cheating behavior would emerge above and beyond differences in participants' preference for the incremental over the entity organization.

## **Study 2 Method**

### **Participants**

Two hundred and thirty seven undergraduate participants were recruited from introductory psychology courses at Indiana University and participated in exchange for partial course credit. Participants were excluded from analysis if they met either of the two criteria outlined in Study 1. Eighteen participants were excluded who did not write their responses to the problem-solving task on the paper answer sheet because they could not complete the primary dependent variable. Twenty-three participants were excluded because they completed 10 or more items correctly, and thus did not experience the task as sufficiently demanding.<sup>12</sup> Thus, 198 participants remained in the sample for all analyses. (Cell sizes were 97 and 101.)

Ninety-six participants self-identified as female and 100 self-identified as male (2 did not provide gender information). Additionally, 157 participants self-identified as White/Caucasian, 18 as Black/African American, 9 as Asian American/Pacific Islander, 2 as Latino/a, 1 as Middle Eastern, 1 as Native American, and 8 as Bi/Multiracial (2 did not provide race information). Finally, the sample consisted of 119 freshmen, 53 sophomores, 12 juniors, and 14 seniors.

---

<sup>12</sup> No participants were excluded for correctly answering fewer than three items because the low performance standard (i.e., 3-5) condition was not included in Study 2.



## **Procedure**

The procedure for Study 2 mirrored that used in Study 1, with three primary exceptions. First, to create a sufficiently demanding testing context—the context in which I expected cheating differences—all participants were exposed to the high performance standard condition used in Study 1. Second, immediately after learning about the organization, participants completed a series of measures assessing their impressions of the club. These measures included perceptions of the club’s descriptive and injunctive norms about cheating, perceptions that the club valued performance (vs. mastery), participants’ performance-contingent self-worth, and their state self-esteem. Finally, at the end of the study, participants completed a measure that assessed their liking of the club.

## **Materials**

**Meeting minutes.** The same meeting minutes from Study 1 were used in Study 2. However, only the entity and incremental organization conditions (“Project Smart” and “Project Learn,” respectively) were included.

**Member application.** The same member application from Study 1 was used.

**Performance standard information.** As in Study 1, participants learned about the average performance on the task by current club members (i.e., the performance standard) before completing the problem-solving task. However, given that participants were only expected to cheat in a demanding testing context (i.e., when the performance standard was high), all participants were informed that, on average, past members answered 10 to 12 items correctly.

**Problem-solving task.** Like Study 1, Raven’s Advanced Progressive Matrices was used as the problem-solving task in Study 2.

## Primary Measures

**Measures from Study 1.** The following measures and calculations were again used in Study 2: organizational lay theory manipulation checks (perceived organizational lay theory:  $\alpha = .97$ ), demographic information, computer-recorded number correct and number attempted, measures of cheating degree, and measures of cheating frequency. Additionally, the same control measures from Study 1 were included in Study 2: personal lay theory of intelligence ( $\alpha = .92$ ), SAT/ACT score, and personal beliefs about cheating acceptability ( $\alpha = .79$ ).

**Perceived organizational goals.** To assess perceptions that the XYZ club endorsed performance or mastery goals, participants completed an adapted version of the Patterns of Adaptive Learning Scale (PALS; Midgley et al., 2000). Five items<sup>13</sup> measured beliefs that the organization valued mastery goals (e.g., *In the XYZ club, it's okay to make mistakes as long as you are learning.*). Five items measured beliefs that the organization valued avoiding failure (i.e., avoidance-oriented performance goals; e.g., *In the XYZ club, one of the main goals is to avoid looking like you can't do the work.*), and three items measured beliefs that the organization valued achieving success (i.e., approach-oriented performance goals; e.g., *In the XYZ club, getting right answers is very important.*). Each item was rated on a 5-point scale (not at all to very true) and the scores were averaged to create three composites: a mastery goals composite ( $\alpha = .70$ ), a performance-avoidance goals composite ( $\alpha = .91$ ), and a performance-approach goals composite ( $\alpha = .85$ ).

The distinction between performance-avoidance and performance-approach goals was important to establish. Whereas some researchers have argued that entity beliefs are associated

---

<sup>13</sup> Participants completed the entire six-item mastery goals subscale developed by Midgley and colleagues (2000). However, the reliability of the six items was very low ( $\alpha = .38$ ). Examination of the factor loadings revealed that a single item did not adequately load with the others and thus was removed; therefore, a five-item composite was used throughout the analyses.

with both types of performance goals (e.g., Dweck, 1986; Elliott & Dweck, 1988), there is literature to suggest that performance-avoidance goals—that is, a fear of failure—may be particularly associated with both entity beliefs and cheating behavior (Butler & Shibaz, 2008; Elliot, 1999; Schab, 1991). Thus, an additional goal of the current work was to establish whether entity organizations were associated more with performance-avoidant and performance-approach goals, and which of these types of performance goals mediated cheating behavior.

**Perceived organizational cheating norms.** Participants' perceptions of the XYZ club's descriptive and injunctive cheating norms were assessed among a host of filler norms. For the descriptive norm measure, participants were asked the extent to which they thought members of the XYZ club *typically* “cheat”, “lie,” “behave ethically” (reverse-coded), and “are honest” (reverse-coded). For the injunctive norm measure, participants were asked the extent to which they thought the club *accepts* that its members do the same behaviors. All items will be rated on a 6-point scale (not at all to extremely) and averaged into two subscales, with higher scores indicating more pro-cheating descriptive ( $\alpha = .71$ ) and injunctive ( $\alpha = .60$ ) norms.

**Performance-contingent self-worth.** Participants completed the academic competence subscale of the Contingencies of Self-Worth scale (Crocker, Luhtanen, Cooper, & Bouvrette, 2003). They completed five items rated on a 7-point scale (strongly disagree to strongly agree). The items were adapted to reflect how participants currently felt. A sample item is, “*Right now, I feel bad about myself if my academic performance is lacking.*” Items were reverse-coded as necessary so that higher scores indicated greater performance-contingent self-worth ( $\alpha = .69$ ).

**State self-esteem.** State self-esteem was assessed using the performance component of Heatherton and Polivy's (1991) State Self-Esteem scale. This measure consisted of seven items rated on a 5-point scale (not at all to extremely) (e.g., “*At this moment, I feel confident about my*

*abilities*”). Items were reverse-coded as necessary so that higher scores indicated more positive state self-esteem ( $\alpha = .85$ ).

**Liking of the club.** Participants were asked to indicate their liking of the XYZ club via six items: how *appealing* and *desirable* they found the club, how *interested in* and *motivated* they were to join the club, and how likely they would be to recommend the club to a friend who *needed tutoring* or who *wanted to be a tutor*. All items were rated on a 5-point scale (not at all to extremely) and averaged such that higher scores indicated greater liking of the club ( $\alpha = .88$ ). (See Table 6 for the correlation coefficients between all mediators included in Study 2.)

## Study 2 Results

### Research Design and Analysis Overview

The study consisted of a single independent variable with two levels (organizational lay theory of intelligence: entity and incremental). Two separate analyses (i.e., excluding vs. including covariates) were conducted for all primary measures: an independent-samples t-test and one-way ANCOVA.<sup>14</sup>

### Manipulation Checks

As in Study 1, participants accurately perceived the clubs’ lay theory of intelligence. In particular, the entity club was perceived as endorsing more entity beliefs ( $M = 3.68$ ,  $SD = 1.45$ ) than the incremental club ( $M = 1.69$ ,  $SD = 0.64$ ),  $t(196) = 12.42$ ,  $p < .001$ ,  $d = 1.78$ . Also, participants generally were able to accurately recall the organizational lay theory condition to which they had been assigned. More than 90% of participants ( $n = 180$ ) correctly remembered the Project (Smart or Learn) that had been presented in the meeting minutes.

### Actual Performance and Number Attempted

---

<sup>14</sup> For the measures of cheating frequency, a chi-square test was conducted, excluding covariates.

Similar to Study 1, participants completed approximately 5 items correctly on the problem-solving task ( $M = 4.30$ ,  $SD = 2.27$ , range: 0-9). Furthermore, participants generally attempted virtually all of the items ( $M = 17.10$ ,  $SD = 2.20$ , range: 7-18).

New to Study 2, participants who learned about the entity and incremental contexts did not significantly differ in their actual performance or number attempted on the problem-solving task. Learning about the entity or incremental organization did not influence the number of items participants actually answered correctly (without covariates:  $t(196) = -.54$ ,  $p = .59$ ,  $d = .07$ ; with covariates:  $F(1, 171) = .67^{15}$ ,  $p = .72$ ,  $\eta^2_p = .001$ ). Similarly, the organization's lay beliefs about intelligence did not impact the number of items that participants attempted (without covariates:  $t(196) = -.56$ ,  $p = .58$ ,  $d = .08$ ; with covariates:  $F(1, 171) = .51^{16}$ ,  $p = .48$ ,  $\eta^2_p = .003$ ).

### **Perceived Organizational Goals**

Next, I explored whether the two organizations were perceived to value performance and mastery goals differently. Results were generally consistent with hypotheses. First, participants perceived the entity club ( $M = 1.50$ ,  $SD = 1.01$ ) to endorse performance-avoidant goals (i.e., avoiding failure) more than the incremental club ( $M = 1.13$ ,  $SD = 0.89$ ),  $t(196) = 2.71$ ,  $p = .007$ ,  $d = .39$  (with covariates:  $F(1, 171) = 5.49$ ,  $p = .02$ ,  $\eta^2_p = .03$ , see Table 7 for means). Also, participants perceived the two clubs as similarly valuing performance-approach goals (i.e., achieving success), (without covariates:  $t(196) = 1.18$ ,  $p = .24$ ,  $d = .16$ ; with covariates:  $F(1, 171) = 2.63^{17}$ ,  $p = .11$ ,  $\eta^2_p = .02$ ). Finally, as predicted, the incremental organization ( $M = 3.41$ ,  $SD =$

---

<sup>15</sup> There was a marginal main effect of cheating beliefs,  $F(1, 171) = 3.37$ ,  $p = .07$ ,  $\eta^2_p = .02$ : people who believed that cheating was more acceptable performed worse on the task.

<sup>16</sup> A main effect of past performance also emerged,  $F(1, 171) = 6.18$ ,  $p = .01$ ,  $\eta^2_p = .04$ , such that participants who performed better in the past attempted fewer items on the task.

<sup>17</sup> A marginal main effect of past performance emerged,  $F(1, 171) = 3.74$ ,  $p = .06$ ,  $\eta^2_p = .02$ , such that those with lower past performance perceived that the organization valued performance-approach goals more.

0.43) was perceived as endorsing mastery goals more compared to the entity one ( $M = 3.19$ ,  $SD = 0.59$ ),  $t(196) = -2.94$ ,  $p = .004$ ,  $d = .43$  (with covariates:  $F(1, 171) = 4.95^{18}$ ,  $p = .03$ ,  $\eta^2_p = .03$ ; see Table 7 for means).

In sum, participants perceived the entity and incremental clubs as endorsing very different goals. As hypothesized, the entity club was viewed as valuing performance more than the incremental one; in contrast, the incremental club was perceived as valuing mastery more than the entity one. Moreover, these results suggest that distinguishing between performance-avoidance and performance-approach goals may be important (Elliot, 1999). In particular, participants perceived the entity club as concerned more with avoiding failure—but not necessarily with achieving success—compared to the incremental club.

### **Perceived Organizational Cheating Norms**

Did people also believe that the entity and incremental clubs had different norms about cheating? To test this possibility, I separately examined whether participants perceived the entity and incremental clubs as differing in how common cheating *tended to be* among its members (i.e., a pro-cheating descriptive norm) and how *accepting* the clubs were of cheating (i.e., a pro-cheating injunctive norm).

Consistent with hypotheses, participants perceived cheating to be more common in the entity club ( $M = 0.66$ ,  $SD = 0.50$ ) compared to the incremental club ( $M = 0.49$ ,  $SD = 0.48$ ),  $t(196) = 2.40$ ,  $p = .02$ ,  $d = .35$ . This effect remained significant when including covariates,  $F(1, 171) = 4.67$ ,  $p = .03$ ,  $\eta^2_p = .03$  (see Table 6 for means). In contrast, participants perceived the two clubs as similarly (un)accepting of cheating,  $t(196) = 1.45$ ,  $p = .15$ ,  $d = .21$  (with covariates:  $F(1, 171) = 2.49$ ,  $p = .12$ ,  $\eta^2_p = .01$ ; see Table 6 for means). Taken together, both clubs were

---

<sup>18</sup> There was also a marginal effect of personal lay theory,  $F(1, 171) = 2.79$ ,  $p = .10$ ,  $\eta^2_p = .02$ : entity theorists perceived that the club valued mastery less.

perceived to be similarly unaccepting of cheating; yet, as hypothesized, cheating was perceived as significantly more common in the entity (vs. incremental) club.

### **Performance-Contingent Self-Worth and State Self-Esteem**

Did the organizations' beliefs about intelligence influence how participants viewed *themselves* in the moment? More specifically, did participants report more self-doubt (i.e., greater performance-contingent self-worth and lower state self-esteem) when considering the entity (vs. incremental) organization? Results revealed that participants did not differ in their performance-contingent self-worth,  $t(196) = -.93, p = .36, d = .14$ , or state-self esteem,  $t(196) = .01, p = .99, d < .001$ , after learning about the entity and incremental organizations. Moreover, these effects remained nonsignificant when covariates were included (performance-contingent self-worth:  $F(1, 171) = 2.00, p = .16, \eta^2_p = .01$ ; state self-esteem:  $F(1, 171) = .04^{19}, p = .84, \eta^2_p < .001$ ). In sum, merely being exposed to the organizations' beliefs about intelligence did not negatively impact participants' self-worth and self-esteem.

### **Cheating Measures**

**Descriptive statistics.** Approximately 38% of participants ( $n = 75$ ) misreported their *performance* on the task—somewhat more than in Study 1 (30%). Moreover, approximately 26% of participants ( $n = 51$ ) self-enhanced by *inflating* their performance on the task—a noticeable increase from Study 1 (18%). Additionally, fewer than 12% of participants ( $n = 23$ ) misreported their *number attempted* on the task. Specifically, approximately 6.5% of participants ( $n = 13$ ) *inflated* the number of items they attempted, whereas 5% of participants ( $n = 10$ ) *downplayed* their number attempted. In sum, although few participants misreported their effort on the task, nearly 40% of participants cheated on the task to enhance their perceived performance.

---

<sup>19</sup> A main effect of cheating beliefs did emerge:  $F(1, 171) = 8.48, p = .004, \eta^2_p = .05$ , such that participants who believed that cheating was more acceptable reported lower state self-esteem.

**Cheating about performance.** Did participants cheat more when the club endorsed an entity (vs. incremental) lay theory? Consistent with hypotheses, participants inflated their performance to a marginally greater extent after learning about the entity club ( $M = 0.72$ ,  $SD = 2.18$ ) compared to those who learned about the incremental club ( $M = 0.26$ ,  $SD = 1.68$ ),  $t(196) = 1.68$ ,  $p = .10$ ,  $d = .24$ . When covariates were included in the analysis, this difference became nonsignificant,  $F(1, 171) = 1.72$ ,  $p = .19$ ,  $\eta^2_p = .01$ . Importantly, no covariates significantly predicted the outcome, all  $ps > .14$ ; thus this change in significance was likely due to reduced statistical power, perhaps due to participants' limited reporting of SAT/ACT score. In summary, Study 2 revealed marginal support for the hypothesis that people cheat more about their performance in entity (vs. incremental) contexts when faced with a difficult task. In particular, participants in the entity condition cheated marginally more than those in the incremental condition; however, this effect only emerged when covariates were not included in the analyses.<sup>20</sup>

**Cheating about number attempted.** Next, I examined whether the organization's lay theory impacted participants' degree of cheating about their number attempted. Results revealed that participants who learned about the two clubs did not differ in their number of items attempted (without covariates:  $t(196) = -.31$ ,  $p = .76$ ,  $d = .05$ ; with covariates:  $F(1, 171) = 0.38$ ,  $p = .54$ ,  $\eta^2_p = .002$ ). In other words, when faced with a demanding task, participants did not self-enhance by downplaying their number attempted more when performing for the entity (vs. incremental) club.<sup>21</sup>

---

<sup>20</sup> Fifty-one participants inflated their performance on the task (cell size ranges: 21-30). Importantly, the main effect of organizational lay theory was not significant,  $\chi^2(1) = 1.68$ ,  $p = .20$ . That is, participants self-enhanced at similar rates in the two contexts.

<sup>21</sup> Only 13 participants inflated and 10 participants downplayed their number attempted on the problem-solving task (cell size ranges: 5-8 and 3-7, respectively). The chi-square tests did not



## Mediation Analyses: What Drives Cheating Behavior in Entity and Incremental Contexts?

Finally, I investigated whether an organization's perceived norms and goals explained participants' cheating behavior.<sup>22</sup> To do so, I used Hayes's (2013) PROCESS macro (Model 4). Use of this macro allowed me to test whether participants inflated their performance marginally more in the entity (vs. incremental) environment *because* they perceived cheating to be more common (and marginally more accepted) there and/or because they perceived the organization to endorse performance-avoidance goals more and mastery goals less. For each analysis, the organization's lay theory was entered as the independent variable (X); perceptions of the organization's descriptive norms, injunctive norms, performance-avoidance goals, performance-approach goals, and mastery goals were entered simultaneously as mediators<sup>23</sup> (M). Finally, participants' degree of cheating about their performance was entered as the dependent variable (Y). Because of power concerns, no covariates were included. All analyses included 10,000 bootstrapped samples; 95% bias-corrected confidence intervals are reported.

Consistent with the t-test results reported previously, the club's lay theory was a significant predictor of its perceived descriptive norms ( $p = .02$ ), performance-avoidance goals ( $p = .007$ ), and mastery goals ( $p = .004$ ) but not its perceived injunctive norms ( $p = .15$ ) or performance-approach goals ( $p = .24$ ). Results also revealed that only the organizational lay theory condition—and none of the mediators—predicted participants' degree of cheating ( $p = .05$ ; all mediators  $ps > .13$ ). Moreover, none of the indirect effects through any of the

---

reveal any significant effects when separately exploring participants' inflation and downplaying of their number attempted,  $p = .43$  and  $.17$ , respectively.

<sup>22</sup> Participants' self-judgments were not included in the mediation model because they were not consistently affected by the organizational lay theory manipulation. Notably, inclusion of them in the mediation model did not change the pattern of results reported.

<sup>23</sup> Analyses were also conducted to test the indirect effect for each mediating variable separately. These results did not differ from the analyses that tested the mediating variables simultaneously.

mediators were significant (see Table 8 for 95% confidence intervals). In other words, although the organization's lay theory predicted their perceived norms, goals, and participants' cheating behavior, perceptions of the organizations' norms and goals did not explain why people cheated more about their performance in the entity (vs. incremental) context.

### **Liking of the Club: An Alternative Hypothesis**

Finally, I tested an alternative hypothesis—that differences in cheating behavior in the entity and incremental contexts were instead driven primarily by a negativity bias toward the entity club. First, I sought to replicate past research that demonstrated that people preferred incremental organizations to entity ones (Emerson & Murphy, 2015a; Murphy & Dweck, 2010). Mirroring this work, results revealed that participants preferred the incremental club ( $M = 2.29$ ,  $SD = 0.63$ ) to the entity one ( $M = 1.95$ ,  $SD = 0.81$ ),  $t(196) = -3.22$ ,  $p = .001$ ,  $d = .47$  (with covariates:  $F(1, 171) = 6.49$ ,  $p = .01$ ,<sup>24</sup>  $\eta^2_p = .04$ ; see Table 9 for means).

I next examined whether people cheated more in the entity context *because* they preferred it less. Given that none of the proposed mediators statistically mediated participants' cheating, it was possible instead that people cheated more in the entity (vs. incremental) club because they liked it less. However, liking of the club did not predict participants' degree of cheating about their performance ( $p > .99$ ), nor did it mediate the relationship between the organization's lay theory and participants' degree of cheating about their performance (effect = .0003,  $SE = .09$ , 95% CI: = -.22 to .16). Taken together, the results provided no support for the alternative explanation that people cheated more frequently and to a greater degree in entity contexts simply because they perceived it more negatively than they did the incremental one.

---

<sup>24</sup> A marginal main effect of cheating beliefs also emerged,  $F(1, 171) = 3.78$ ,  $p = .05$ ,  $\eta^2_p = .02$ , such that participants who were more accepting of cheating liked the organization less.

## Study 2 Discussion

Study 2 extended the results of Study 1 in several meaningful ways. First, I found marginal support for my primary hypothesis: when faced with a demanding task, participants who learned about the entity club tended to self-enhance by inflating their performance more compared to those who learned about the incremental club. This finding suggests that the null results in Study 1 may have resulted from a lack of statistical power. By doubling the sample size in Study 2, the predicted effect marginally emerged.

Study 2 was also the first known research to establish how people perceive entity and incremental organizations. As hypothesized, participants perceived the entity (vs. incremental) club as endorsing performance goals more—in particular, performance-avoidance goals—and perceived the incremental (vs. entity) club as endorsing mastery goals more. These findings suggest that the entity club's belief that intelligence and ability are fixed traits led participants to view the club as more focused on performance and results, and, in particular, with people avoiding failure—a sure sign, according to an entity organization, that a person lacks smarts and natural talent. The incremental club, on the other hand, was perceived to value self-improvement and mastery; qualities that an organization might be expected to value when it believes that intelligence can be expanded over time with sufficient effort and motivation.

The results underscored the value of separately examining the relationship between organizational lay theories and performance-avoidant and performance-approach goals. Despite the theoretical distinction in coping and self-esteem patterns that is associated with these types of performance goals (Elliot, 1999), much of lay theories research has measured only one type of performance goal (e.g., Bong, 2008) or has conceptualized these goals as interchangeable (Dweck & Leggett, 1988; Elliott & Dweck, 1988). By examining the relationship between

organizational lay theories and performance-avoidance and performance-approach goals separately, I found that the entity and incremental organizations were viewed as differing more in their value of avoiding failure rather than of achieving success.

The current study was also the first to examine the effects of organizational lay theories of intelligence on perceived norms—a *group-level* phenomenon that could not previously be examined in research on *personal* lay theories of intelligence. Although cheating was perceived as *unaccepted* in both the entity and incremental clubs, it was perceived as more *common* in the entity (vs. incremental) club. In other words, participants seemed to believe that an entity organization's fixed beliefs about intelligence and demonstrating success did not necessarily *condone* cheating; yet, these beliefs were perceived as leading others in the organization to cheat as a defensive self-enhancement strategy when faced with a difficult task.

The results of Study 2 did not provide support for the position that merely learning about an entity organization leads to greater self-doubt. Indeed, organizational lay theories of intelligence did not predict participants' self-judgments—people reported similar levels of performance-contingent self-worth and self-esteem after learning about the entity and incremental clubs. These findings suggest that people may only experience drops in self-worth and self-esteem after failure, a possibility that is mirrored in past work on entity theorists (Hong et al., 2009; Nussbaum & Dweck, 2008). Taken together, the results of Study 2 suggest that perceptions of an organization's norms and goals—rather than feelings of personal self-worth—are influenced by exposure to an organization's fixed or malleable views of intelligence.

Finally, no evidence emerged to suggest that differences in the psychological mechanisms assessed in Study 2 *explained* the increased levels of cheating in the entity (vs. incremental) organization. The entity (vs. incremental) club was liked less by participants, was

perceived as endorsing performance-avoidance goals more and mastery goals less, and was an environment in which cheating was perceived to be more common. However, the mediation results would suggest that other psychological processes may underlie the cheating behavior. This possibility is considered further in the general discussion. Nevertheless, Study 2 revealed important differences in how people perceive and behave in entity and incremental organizations.

### **Study 3**

In Study 2, I found preliminary evidence that participants self-enhanced by cheating more after applying to an entity, compared to an incremental, organization when faced with a demanding task. However, what might happen if their future in the organization were less tenuous—that is, would participants still cheat after being told that they had already performed well and were admitted into the club?

One possibility is that people would cheat less after being accepted into the club, regardless of its beliefs about intelligence. Perceiving that attractive others accept us is affirming, and has been shown to boost feelings of belonging, temper perceptions of threat, buffer against stress, and reduce defensive responding (Creswell et al., 2005; Sherman & Cohen, 2002; Sherman, Nelson, & Steele, 2000; Steele, 1988). Being admitted into the club based on one's past performance may temper participants' evaluative concerns—even when they do not meet the high performance standard of a new task. Thus, to the extent that being accepted by the club is affirming, we might expect little to no cheating among participants after they have been accepted into the club.

Yet, affirmation may not be enough for people to feel comfortable in entity contexts. Entity theorists and those with performance goals exhibit defensive actions when they experience a single failure, even after a string of successes (e.g., Hong et al., 1999; Mueller & Dweck, 1998;

Sideridis & Kaplan, 2011). Likewise, people in an entity organization might cheat when faced with a demanding task even after success because of how they expect the organization to construe failure. According to an entity theory, if one possesses intelligence, they should always perform well—and any instance of low performance may indicate that they lack ability (e.g., Diener & Dweck, 1978; 1980; Hong et al., 1999). Therefore, people in an entity context may never feel fully affirmed—they may believe that the only way to demonstrate that they are smart and talented is by performing well, and might worry that even a single instance of struggle will be interpreted by the entity organization as evidence that they lack ability.

People in incremental environments may be significantly less affected by feedback—be it positive or negative. Why might this be? Because of an incremental organization's emphasis on self-improvement and mastery, people in incremental (vs. entity) organizations may be less concerned with appearing smart to others and instead may be more driven to grow and improve over time (Murphy & Dweck, 2010; Study 2 of the current work). Indeed, research with incremental theorists and those with mastery goals has shown that this focus on self-improvement leads them to respond with more remedial actions after failure, such as putting in more time and attempting to learn from their mistakes rather than simply inflating their performance for self-enhancement and self-presentation purposes (e.g., Blackwell et al., 2007; Nussbaum & Dweck, 2008; Study 2 of the current work). Moreover, even after success, incremental theorists tend to show sustained motivation and persistence rather than rest on the laurels of their past achievements (Sideridis & Kaplan, 2011). Likewise, people in incremental organizations may be more driven to show growth on difficult tasks over time rather than self-enhance to create the illusion of sustained high performance. In sum, we might expect that

people would cheat more when faced with difficulty in an entity (vs. incremental) context even after receiving praise from the organization.

Importantly, research on praise suggests that the type of positive affirmation that people receive can also impact their cheating behavior. One type of praise, *person praise*, focuses on people's traits and abilities (Henderlong & Lepper, 2002; Kamins & Dweck, 1999). Person praise attributes a person's single good performance to a more global trait within them. That is, when one performs well, they are extolled as "smart" or "gifted;" in contrast, when they perform poorly, they are deemed "unintelligent" or, like at Enron, "not bright enough to get it." Person praise, particularly from esteemed or attractive groups, leads to high levels of self-doubt and discomfort because one may worry that they will be seen as lacking ability—or even worth and value as a person—if they cannot maintain high performance (Kamins & Dweck, 1999; Skipper & Douglas, 2012; Zentall & Morris, 2012). Indeed, person praise has been linked to more helpless responding, including higher rates of cheating in the face of difficulty (Blackwell et al., 2007; Kamins & Dweck, 1999; Mueller & Dweck, 1998).

A very different form of praise, *process praise*, focuses on one's effort and strategies (Henderlong & Lepper, 2002; Kamins & Dweck, 1999). Instead of tying performance to internal traits, process praise attributes good performance to diligence, motivation, persistence, or the use of effective strategies. Similarly, poor performance is the result of insufficient effort, motivation, or appropriate strategies. Process praise links performance to qualities that are generally thought to be more controllable—thus, people can recover from setbacks and failure if they change their approach or ramp up their effort. Moreover, attractive or esteemed groups that praise hard work and motivation are perceived as less threatening, particularly because one expects the group to construe any subsequent failure as a challenge that can be overcome rather than as an indictment

of their abilities. In fact, research has shown that people who receive process praise work harder, persist, and cheat less in the face of later setbacks (Blackwell et al., 2007; Kamins & Dweck, 1999; Mueller & Dweck, 1998; Skipper & Douglas, 2012; Zentall & Morris, 2012).

Taken together, we might expect that participants who do not meet a performance standard in an entity organization may self-enhance by cheating more compared to those in an incremental organization. Yet, above and beyond this main effect, the primary goal of Study 3 was to examine how the type of praise that people receive might moderate their cheating behavior in entity and incremental contexts. In particular, if the goal of people in an entity context is to demonstrate their natural talent—even after positive feedback—*how* they demonstrate their talent may be influenced by the type of praise they receive. That is, if an entity organization perceives that abilities are fixed, then people in that environment may be more likely to self-enhance the trait that was praised to confirm that they possess it. After receiving person praise, people in entity environments may strive to continue to display their intelligence. Thus, they may be particularly likely to self-enhance by inflating their *performance* to prove that they have the talent that the organization originally praised. In contrast, after receiving process praise, people in entity environments may be more likely to inflate their *effort*; if an entity organization believes that people either “have it or they do not,” and they value effort and perseverance, then people may be driven to show that they possess these valued traits.

In summary, I predicted that people would still cheat more on a demanding task in an entity (vs. incremental) context, even after being affirmed by their past performance. However, I also hypothesized that the type of praise that people received from the entity context—but not the incremental context—would moderate the type of self-enhancing that they exhibited. Therefore, the study was a 2 (organizational lay theory: entity, incremental) X 2 (praise type:



process, person) between-subjects design. If people receive *person praise* from an entity organization, I hypothesized that they would be particularly likely to inflate their *performance*; yet, if people receive *process praise* from an entity organization, I hypothesized that they would be particularly likely to inflate their *number attempted*.

A final goal of Study 3 was to explore a downstream consequence of being in an incremental context. The focus of Studies 1 and 2 was on cheating—a behavior that people were predicted to do less in incremental, compared to entity, environments. Yet, what behavior might people exhibit *more* in incremental contexts? Both incremental theories and process praise have been linked to more positive, effortful strategies in response to difficulty or failure—like persistence—compared to entity theories and person praise (Mueller & Dweck, 1998; Nussbaum & Dweck, 2008; Skipper & Douglas, 2012). Thus, people in incremental environments may show greater task persistence in the face of difficulty than those in entity environments. I included a measure of persistence in Study 3: providing participants with the opportunity to spend additional time on the task. I expected that people who received process praise in the incremental organization would show the greatest persistence by opting to spend the most additional time on it. In contrast, I predicted that people who received person praise from the entity organization would want to downplay their persistence most and thus would opt to spend the least additional time on the problem-solving task.

### **Study 3 Method**

#### **Participants**

Two hundred fifty three undergraduate participants were recruited from introductory psychology courses at Indiana University and participated in exchange for partial course credit. A power analysis was conducted on the results of Study 2 to estimate the sample size needed to

replicate the result. This analysis suggested that approximately 550 participants (~275 per condition) be collected to find the predicted main effect of organizational lay theory to achieve 80% power; however, due to issues with time and participant availability, only approximately 250 participants in total could be recruited for Study 3.

The same exclusion criteria from Studies 1 and 2 were used in the current study. Sixteen participants did not write their responses to the problem-solving task on the paper answer sheet (i.e., did not provide a response on the primary dependent variable). Additionally, 18 participants completed 10 or more items correctly and thus did not experience the performance standard as intended. After excluding these participants, 221 participants remained in the sample. (Cell sizes ranged from 50 to 58.)

The sample contained 145 self-identified women and 75 self-identified men (1 did not self-identify their gender). The racial breakdown of the sample was: 170 White/Caucasian, 24 Black/African American, 6 Asian American/Pacific Islander, 2 Latino/a, 1 Middle Eastern, and 15 Bi/Multiracial (3 did indicate their race). The sample contained 122 freshmen, 55 sophomores, 25 juniors, 17 seniors, and 1 “other” (1 did not indicate their school year.)

## **Procedure**

The procedure from Study 1 was used in Study 3, with three noteworthy differences. Again, participants learned about the club (including its organizational lay theory) and completed the member application. However, first participants learned that they have already been accepted into the organization based on their responses to the mass-testing pre-screening survey. The reason for their acceptance served as the praise manipulation (described in greater detail below). To maintain the cover story, the in-lab member application and problem-solving tasks were described as “orientation tasks” that all new members do (rather than as application tasks). Thus,

participants in Study 3 completed the same primary tasks as in Studies 1 and 2; however, the ostensible purpose of the tasks was to follow the procedures of all new members into the club.

Second, as in Study 2, all participants learned that club members typically obtained high scores on the task (i.e., that the performance standard was high). Again, learning about this higher performance standard created a more demanding, higher-stakes testing context.

Finally, new to Study 3, participants completed two additional measures. They were given the opportunity to report whether they would like to continue working on the task—the measure of task persistence. Also, they completed a manipulation check to assess their memory of the praise manipulation (both described in more detail below).

## **Materials**

The meeting minutes, member application, performance standard information, and problem-solving task were identical to Study 2.

**Praise manipulation.** The praise manipulation was adapted from past work on the effects of praise on cheating and defensive behavior (Kamins & Dweck, 1999; Mueller & Dweck, 1998; Zentall & Morris, 2012). Before completing their member application, participants learned they had been accepted into the club, ostensibly based on their responses in the pre-screening survey. All participants were told that they were selected for admission into the XYZ club due to their past success on dimensions that are relevant to the club, including academics and/or volunteering. Critically, the praise manipulation was embedded in the attributions that were made for this acceptance. In the *person praise* condition, participants were told that their past academic performance indicated that they possess the “talent and natural ability” necessary to succeed in the XYZ club. In the *process praise* condition, participants were told that their past academic performance indicated that they possessed the “hard work and persistence” necessary

to succeed in the club. Thus, all participants were told that they had performed well in the past; however, the praise manipulation highlighted either their natural talent or their hard work as the reason for that good performance and, subsequently, their club acceptance.

### **Primary Measures**

All pre-measures (i.e., covariate measures) were identical to those described in Studies 1 and 2: personal lay theory of intelligence ( $\alpha = .91$ ), SAT/ACT score, and personal beliefs about cheating acceptability ( $\alpha = .80$ ). Additionally, the following study measures were the same as those described in Studies 1 and 2: organizational lay theory manipulation checks (perceived organizational lay theory:  $\alpha = .96$ ), demographic information, computer-recorded number correct and number attempted, measure of cheating degree, and measures of cheating frequency. Study 3 had two new measures: the praise manipulation check and the task persistence measure.

**Persistence measure.** Immediately after participants completed the problem-solving task they completed the new persistence measure. They were told that participants often finished the study with as many as 10 minutes left at the end of the session. The researcher explained that they might have the option to spend this additional time on the problem-solving task, either answering questions that they did not get to or reviewing the responses they had provided. Importantly, participants were told that even though they had received the error message, the researcher could restart the computer and thus they could continue the task by referencing the answers they had written down. The experimenter left participants alone to indicate on a sheet of paper the number of minutes (0-10) that they would like to spend on the task. After completing the persistence measure, participants were told that they would not have enough time to continue with the task, and proceeded with the rest of the study. Persistence was assessed as the number of additional minutes participants indicate wanting to work on the problem-solving task.

**Praise manipulation check.** At the conclusion of the study, participants were reminded that they were admitted to the club because of information that they provided during the pre-measure survey. They were asked to recall the explanation for their acceptance into the club. The responses that participants could select from were “talent and natural ability,” “hard work and persistence,” or “I was not selected for admission to the club.”

### **Study 3 Results**

#### **Research Design and Analysis Overview**

The study was a 2 (organizational lay theory: entity, incremental) X 2 (praise type: person, process) between-subjects design. As in Studies 1 and 2, separate analyses were conducted without and with covariates. Specifically, both a 2 X 2 between-subjects ANOVA and ANCOVA were conducted.<sup>25</sup>

#### **Manipulation Checks**

As in Studies 1 and 2, the manipulation had its intended effect—the entity organization was perceived as endorsing more entity beliefs ( $M = 3.87$ ,  $SD = 1.41$ ) compared to the incremental organization ( $M = 1.68$ ,  $SD = 0.66$ ),  $F(2, 217) = 215.16$ ,  $p < .001$ ,  $\eta^2_p = .50$ . No other effects were significant, all  $ps > .49$ . Participants were also able to accurately recall the organizational lay theory condition to which they had been assigned. Only 12 participants (or 5.43%) were unable to accurately recall the Project (i.e., Smart or Learn) that had been presented in the meeting minutes. Surprisingly, 81 participants (or 36.65%) did not correctly remember the

---

<sup>25</sup> For all analyses of cheating frequency, a 2 X 2 generalized linear model test (GLM; with a logit link function and binomial probability distribution) was conducted without covariates.

type of praise that they had received. This error rate was similar in the person praise ( $N = 44$ ) and process praise ( $N = 37$ ) conditions.<sup>26</sup>

### **Actual Performance and Number Attempted**

Similar to Studies 1 and 2, participants correctly answered approximately 5 items on the problem-solving task ( $M = 4.41$ ,  $SD = 2.31$ , range: 0-9) and generally attempted all of the items ( $M = 17.27$ ,  $SD = 1.88$ , range: 9-18).

New in this study, the organizations' lay theory of intelligence influenced participants' actual performance on the problem-solving task. Specifically, participants answered fewer items correctly (i.e., underperformed) after learning about the entity organization ( $M = 4.09$ ,  $SD = 2.16$ ) compared to the incremental one ( $M = 4.75$ ,  $SD = 2.42$ ),  $F(1, 217) = 4.69$ ,  $p = .03$ ,  $\eta^2_p = .02$ . No other effects were significant, all  $ps > .44$ . This main effect remained significant when including covariates,  $F(1, 184) = 4.37^{27}$ ,  $p = .04$ ,  $\eta^2_p = .02$  (see Table 10 for means).

For actual number attempted, the only effect that emerged was a marginal organizational lay theory x praise type interaction,  $F(1, 217) = 3.70$ ,  $p = .06$ ,  $\eta^2_p = .02$  (see Figure 1). Among participants in the entity context, those who received person praise attempted marginally more items ( $M = 17.60$ ,  $SD = 1.33$ ) than those who received process praise ( $M = 17.00$ ,  $SD = 2.38$ ),  $F(1, 217) = 2.86$ ,  $p = .09$ . Among participants who learned about the incremental club, praise type did not moderate participants' number attempted (person praise:  $M = 17.04$ ,  $SD = 2.12$ ; process praise:  $M = 17.41$ ,  $SD = 1.49$ ),  $F(1, 217) = 1.04$ ,  $p = .31$ . Decomposing the interaction

---

<sup>26</sup> Because of the large number of participants that failed the praise manipulation check, all primary analyses were conducted both including and excluding people who failed at least one manipulation check. Generally, results did not differ; however, in some instances, excluding the participants that failed caused significant effects to become nonsignificant. Because this change in significance likely occurred because of a reduction in power, I chose to report analyses that included these participants—mirroring the analyses in Studies 1 and 2.

<sup>27</sup> The only other effect to emerge was a main effect of past performance,  $F(1, 184) = 5.87$ ,  $p = .02$ ,  $\eta^2_p = .03$ : people with a higher SAT/ACT score performed better on the task.

the other way revealed that people's number attempted in the entity and incremental clubs did not differ after receiving person praise,  $F(1, 217) = 2.38, p = .12$ , or after receiving process praise,  $F(1, 217) = 1.41, p = .24$ . No other effects were significant, all  $ps > .66$ . An examination of the means revealed that participants who received person praise from the entity organization attempted the most items. That is, participants appeared to have exerted the most effort when the implications of failure for their abilities was likely perceived to be the most severe—in the entity context after being praised for their “natural abilities.”

When all covariates were included, the marginal interaction remained,  $F(1, 184) = 3.48^{28}$ ,  $p = .06, \eta^2_p = .02$  (see Table 11 for means). Again, the only difference to emerge was among those who received person praise: within these conditions, those who read about the entity club persisted marginally more than those who read about the incremental club,  $F(1, 184) = 3.03, p = .08$ . Again, participants attempted the greatest number of items after receiving person praise from the entity organization. In sum, participants performed the best after learning about the incremental (vs. entity) organization. However, participants tended to attempt the most items in the entity organization following person praise.

### **Cheating Measures**

**Descriptive statistics.** Generally, participants cheated at similar rates as in Studies 1 and 2. Approximately 35% of participants ( $n = 78$ ) misreported their performance. Moreover, just over 24% of participants ( $n = 54$ ) self-enhanced by inflating their performance on the task (i.e., by claiming to have answered at least one *more* item correctly than they actually did). Mirroring Study 2, about 13% of participants ( $n = 29$ ) misreported their number attempted. Specifically,

---

<sup>28</sup> A marginal main effect of participant's lay theory also emerged,  $F(1, 184) = 3.96, p = .05, \eta^2_p = .02$ . Consistent with past work, participants who personally endorsed more fixed beliefs persisted less on the task.

about 5% ( $n = 11$ ) *inflated* their attempts, whereas just over 8% ( $n = 18$ ) *downplayed* their attempts. Like the first two studies, most participants accurately reported their number attempted; however, about 25% of participants inflated their performance on the task.

**Cheating about performance.** Did an organization's lay theory and praise type impact the degree to which participants misreported their performance? Results revealed a main effect of organizational lay theory,  $F(1, 217) = 4.49, p = .04, \eta^2_p = .02$ . As expected, participants inflated their performance more in entity club ( $M = 0.67, SD = 1.79$ ) compared to the incremental club ( $M = 0.19, SD = 1.81$ ). This main effect was qualified by the predicted interaction,  $F(1, 217) = 4.49, p = .04, \eta^2_p = .02$  (see Figure 2). Simple effects revealed that after learning about the entity club, participants inflated their performance marginally more after receiving person praise ( $M = 0.98, SD = 2.00$ ) compared to process praise ( $M = 0.38, SD = 1.53$ ),  $F(1, 217) = 3.07, p = .08$ . In contrast, after learning about the incremental club, participants cheated to a similar degree after receiving person ( $M = -.04, SD = 2.01$ ) and process praise ( $M = 0.38, SD = 1.61$ ),  $F(1, 217) = 1.22, p = .27$ .

Next, I decomposed the interaction the other way to examine the effects of praise condition. After receiving person praise, participants inflated their performance more in the entity (vs. incremental) club,  $F(1, 217) = 8.64, p = .004$ . However, after receiving process praise, participants misrepresented their performance at similar rates in the entity and incremental contexts,  $F(1, 217) = .001, p > .99$ . Consistent with predictions, participants self-enhanced by inflating their performance most (i.e., cheated most) after receiving person praise in the entity context. Participants cheated to a similar, lower degree in the other three conditions.



When covariates were included in the analysis, the organizational lay theory main effect became marginal,  $F(1, 184) = 3.52^{29}$ ,  $p = .06$ ,  $\eta^2_p = .02$ . Again, people cheated marginally more about their performance when they were told that club endorsed an entity (vs. incremental) lay theory of intelligence ( $M = 0.74$ ,  $SD = 1.83$  and  $M = 0.23$ ,  $SD = 1.88$ , respectively). Importantly, the organizational lay theory x praise type interaction remained significant,  $F(1, 184) = 5.90$ ,  $p = .02$ ,  $\eta^2_p = .03$ . Generally, the same pattern of effects emerged (see Table 12 for means). Participants in the entity context cheated marginally more after receiving person (vs. process) praise,  $F(1, 184) = 2.58$ ,  $p = .11$ . Unexpectedly, participants in the incremental context cheated marginally less after receiving person (vs. process) praise,  $F(1, 184) = 2.78$ ,  $p = .10$ . Also, participants who received person praise cheated more after learning about the entity (vs. incremental) club,  $F(1, 184) = 8.72$ ,  $p = .004$ ; conversely, those who received process praise cheated to a similar degree in the two contexts,  $F(1, 184) = 0.15$ ,  $p = .70$ . In conclusion, participants cheated to the greatest degree after receiving person praise in the entity context. However, participants also appeared to (marginally) cheat the least after receiving process praise in the incremental context.<sup>30</sup>

**Cheating about number attempted.** Next, I explored whether the organization's lay theory or praise type influenced participants' degree of cheating about their number attempted. The only effect to emerge was a marginal organizational lay theory x praise type interaction,  $F(1, 217) = 2.79$ ,  $p = .10$ ,  $\eta^2_p = .02$  (see Figure 3). Consistent with hypotheses, participants in the entity context who received process praise misreported their number attempted to a marginally greater degree ( $M = -0.72$ ,  $SD = 2.79$ ) compared to those in the same context who received

---

<sup>29</sup> A main effect of cheating beliefs also emerged,  $F(1, 184) = 5.73$ ,  $p = .02$ ,  $\eta^2_p = .03$ . As expected, participants who were more accepting of cheating inflated their performance more.

<sup>30</sup> Fifty-four participants inflated their performance on the problem-solving task (cell size ranges: 10-19). Results of the GLM test revealed no significant main effects or interaction, all  $ps > .19$ .

person praise ( $M = -0.11$ ,  $SD = 1.07$ ),  $F(1, 217) = 3.35$ ,  $p = .07$ . Interestingly, an examination of the means revealed that those who received process (vs. person) praise *under-reported* their number attempted more—they claimed that they attempted fewer items than they actually did. In contrast, among those who learned about the incremental organization, praise type did not influence participants' degree of cheating about their attempts (person praise:  $M = -0.40$ ,  $SD = 1.41$ ; process praise:  $M = -0.21$ ,  $SD = 1.29$ ),  $F(1, 217) = 0.34$ ,  $p = .56$ .

Decomposing the interaction the other way revealed that among those who received person praise, participants cheated to a similar degree in the entity and incremental clubs,  $F(1, 217) = 0.74$ ,  $p = .39$ . Similarly, among those who received process praise, participants cheated to a similar degree in the two contexts,  $F(1, 217) = 2.41$ ,  $p = .12$ .

When covariates were included in the analyses, the marginal interaction remained,  $F(1, 184) = 2.80$ ,  $p = .10$ ,  $\eta^2_p = .015$  (see Table 13 for means). Mirroring the pattern without covariates, praise marginally moderated participants' cheating in the entity context,  $F(1, 184) = 3.21$ ,  $p = .08$ , but not in the incremental context,  $F(1, 184) = 0.38$ ,  $p = .54$ . The cheating behavior of participants who received person praise was not affected by organizational lay theory,  $F(1, 184) = 0.46$ ,  $p = .50$ . However, new to this analysis—and consistent with predictions—participants who received process praise cheated to a greater degree about their number attempted in the entity (vs. incremental) context,  $F(1, 184) = 2.80$ ,  $p = .10$ . In sum, participants who received process praise in the entity context cheated about their number attempted to a greater degree than those in the other three conditions. Unexpectedly, participants in this condition actually *under-reported* their attempts to the greatest degree. That is, when participants'

hard work and perseverance were praised by the entity organization, they were most likely to downplay their number attempted.<sup>31</sup>

### **Task Persistence**

Study 3 included a new measure of task persistence—namely, how many additional minutes a participant could choose to spend on the problem-solving task. No effects emerged as significant, all  $ps > .24$ . This was likely due to a floor effect such that participants generally did not report wanting to spend more time on the task (all means  $< 2$  out of 10 minutes). These effects remained nonsignificant when covariates were included in analyses, all  $ps > .17$ . In sum, participants' willingness to spend additional time on the problem-solving task was not influenced by either the clubs' belief about intelligence or the type of praise that they received.

### **Study 3 Discussion**

Study 3 revealed that an organization's lay theory of intelligence shaped people's cheating behavior even after receiving praise. Consistent with a moderation hypothesis, participants who received person praise from an entity organization inflated their performance to a greater degree than participants who either received process praise or received praise from an incremental organization. In other words, when participants' smarts and talent were being praised by an organization that believed these traits were fixed, participants were most motivated to self-enhance their performance after failing to reach the performance standard.

---

<sup>31</sup> As reported above, 11 participants *inflated* and 18 *downplayed* their number attempted on the task (cell size ranges: 2-4 and 2-7, respectively). Neither manipulation nor their interaction predicted whether or not participants inflated their number attempted, all  $ps > .46$ . However, when considering only those who *downplayed* their number attempted, the predicted interaction was marginal,  $\chi^2(1) = 3.99, p = .05$ . In the entity context, more participants downplayed their number attempted after process (vs. person) praise,  $p = .05$ . Yet, in the incremental context, more participants did so after receiving person (vs. process) praise,  $p = .05$ . These results suggest that participants were more likely to downplay their number attempted when the organization's lay theory and praise type were incongruent. However, given that fewer than 20 total participants under-reported their number attempted, these results should be interpreted with extreme caution.

A more complex picture emerged around people's misrepresentation of their effort. As predicted, participants misreported their number attempted most after receiving process praise from the entity club. I had predicted that participants would be most likely to *inflate* their number attempted after it was praised by an organization that perceived human characteristics as fixed. Instead, the pattern that emerged was inconsistent with predictions—participants were actually most likely to *downplay* their number attempted in this club when faced with difficulty.

Why did participants choose this strategy? One possibility is that participants felt confused or suspicious after receiving process praise from an organization that clearly has fixed beliefs about intelligence. If the entity organization believes that smarts and talent are something that people either do or do not possess, then participants may have perceived being praised for one's "hard work and perseverance" as a euphemism for telling them that they lack smarts or talent. By under-reporting their number attempted, participants may have been trying to contradict the organization's impression of them by showing how well they could perform in a short time frame—thereby preserving the possibility that they could have done better if they had been able to complete all of the items. In other words, downplaying their effort on a demanding task may have been participants' attempt to self-handicap (i.e., "I could have done better!") in order to ultimately provide counter-evidence for the conciliatory process feedback (i.e., "I do possess the intelligence that you value!").

Importantly, neither praise type nor organizational lay theory impacted the measure of task persistence used in Study 3. Generally, participants did not express interest in spending additional time on the problem-solving task, regardless of the organization's beliefs about intelligence or the type of praise that they received from it. These results suggest that this measure of task persistence may not have been sufficiently sensitive to pick up differences in

participants' desire or willingness to engage with the task. It is possible that a different measure of task persistence, such as measuring the amount of time participants spent on a similar but unsolvable task, may have been more successful in picking up differences in the two contexts.

In sum, Study 3 was the first study to provide evidence for the moderating role of praise type on the relationship between organizational lay theories and cheating behavior. These results counter traditional notions about the direct, positive relationship between positive affirmation and defensive responding (Steele, 1988). Moreover, it suggests a more complicated picture than past research on praise type. Researchers have consistently shown that process praise leads to less cheating than person praise; yet, in Study 3, this pattern occurred only when assessing participants' degree of cheating about their performance in the entity context. An interesting implication of these findings is that the testing context typically used in praise research is perceived as an entity environment—as a context that values high performance without motivation and effort. Nevertheless, the results of Study 3 reveal that an organization's lay theory can influence how different types of praise are construed, and in turn how they affect people's cheating behavior in the face of difficulty.

### **General Discussion**

The current research was the first to investigate whether an organization's lay theory of intelligence shapes people's cheating behavior in a demanding testing environment. When participants failed to meet a high performance standard, I expected that they would worry that the entity organization might interpret their poor performance as evidence that they lack smarts and talent. This worry would in turn drive them to avoid failure at all costs, including by cheating on the high-stakes task. Conversely, I predicted that people would not experience these worries when faced with a demanding task in an incremental environment—an environment in

which self-improvement over time is particularly valued and failure is seen merely as a sign that one should put forth more effort or change one's strategies. Thus, the primary prediction of the current work was that people would self-enhance more after poor performance in the entity (vs. incremental) context in the face of difficulty. In two of the three studies (S2 and S3), this hypothesis was supported: when participants failed to attain a high performance standard, they were at least marginally more likely to self-enhance by inflating their performance when they were expecting to be evaluated by the entity (vs. incremental) organization.

In addition to inflating their performance on the demanding task, participants seeking to self-enhance could have chosen to misreport their effort, or number attempted, in the entity context. That is, participant could have self-handicapped by under-reporting their number attempted, thereby preserving the possibility that they could have done better had they completed more items. Yet, across the three studies, participants in the entity and incremental contexts cheated about their number attempted to a similar (low) degree. In other words, when faced with a demanding testing context in the entity (vs. incremental) organization, participants opted to self-enhance by inflating their performance rather than self-handicap by downplaying their number attempted.

The present work was also the first to explore how an organization's lay theory of intelligence influenced perceptions of the group's goals. Because entity organizations believe that smarts and giftedness are relatively stable, people might be concerned that a single failure would indicate to the organization that they lack these valued traits. Consistent with predictions, I found that participants perceived the entity organization to value avoiding failure (i.e., endorse performance-avoidance goals) more compared to the incremental organization. In contrast, incremental organizations believe that intelligence can be grown through motivation and effort,

and people in these contexts are driven to improve themselves and overcome challenges. As hypothesized, participants perceived the incremental organization to value learning new things (i.e., endorse mastery goals) more compared to the entity one. Notably, participants perceived that both contexts valued mastery more than performance—likely because the organization was an academic tutoring club. Nonetheless, the relative value that each organization was perceived to place on performance and mastery was consistent with its beliefs about intelligence.

By considering the role of lay theories at the *organizational* level, the present research was able to explore the unique role of lay theories in shaping an important *group*-level variable: organizational norms. If people perceived that the entity organization placed the utmost value on unwavering high performance—and that the incremental organization placed a higher value on personal growth and perseverance—they might also expect cheating on high-stakes tasks to be more common and more accepted in the entity (vs. incremental) organization (Emerson & Murphy, 2015b; Emerson et al., 2014). Results revealed partial support for these predictions. Participants perceived the two organizations as similarly (un)accepting of cheating; however, cheating was perceived as more common in the entity (vs. incremental) organization. In sum, the current work provides us with two very different images of how entity and incremental organizations are perceived. On the one hand, the entity organization was perceived as an environment in which performing poorly should be avoided at all costs, and where cheating was widespread. On the other hand, the incremental organization was perceived as an environment that valued growing and learning from mistakes and where cheating was relatively uncommon.

In addition to being perceived differently, entity and incremental organizations might also differ in the degree to which they elicit self-doubt. Indeed, much past work has found that entity (vs. incremental) theorists are more likely to tie their self-worth and self-esteem to their

performance because they believe that their ability to perform reflects an underlying trait that they do (or do not) possess (Burhans & Dweck, 1995; Henderson & Dweck, 1990; Nussbaum & Dweck, 2008). Likewise, it was possible that people would report higher levels of performance-contingent self-worth and lower self-esteem in a context that endorses these fixed (vs. malleable) beliefs. The results of the current work did not support this hypothesis: participants' self-worth and self-esteem were not affected by the organization's lay theory. Yet, some research suggests that entity theorists only experience drops in their self-esteem and self-worth after performing poorly or receiving negative feedback (Elliott & Dweck, 1988; Hong et al., 2009). Indeed, participants in the current study might not have shown the predicted differences because they had not performed yet when their self-worth and self-esteem were assessed. Thus, one question for future research is whether people who perform poorly in entity contexts *subsequently* experience decrements to their self-worth and self-esteem.

Despite differences in the entity and incremental organizations' perceived goals and norms, these perceptions were not found to statistically mediate participants' cheating behavior (S2). Moreover, there was no support for the alternative explanation that participants' mere preference for the incremental (vs. entity) organization explained their cheating. Although participants liked the incremental organization more than the entity one, this preference did not mediate how much participants cheated. Thus, it is likely that another mechanism—and not perceptions of the organization's norms or goals, or even participants' general liking of the club—is responsible for participants' cheating behavior, a point I return to later.

Finally, the current research explored whether acceptance by an organization—in this case, by an esteemed and attractive club at the participants' university—would moderate people's cheating behavior on difficult tasks. One possibility was that receiving affirmation of



any kind would buffer against threat, including the potential failure that accompanies a new, difficult task (Creswell et al., 2005; Sherman & Cohen, 2002; Sherman et al., 2000; Steele, 1988). Yet, past research also suggests that the type of praise one received might matter—that being praised for one’s effort and use of good strategies could function as a more effective buffer against threat and lead to less cheating than being praised for one’s smarts and talent (Henderlong & Lepper, 2002; Kamins & Dweck, 1999; Mueller & Dweck, 1998). However, in the current work, I hypothesized that the context in which the praise was received would moderate how it was construed, and thus how it impacted cheating. Because entity organizations believe that abilities are fixed, and that even a single failure can signal a lack of that ability, I expected that people would be likely to cheat more in entity (vs. incremental) organizations, even after praise. Furthermore, I predicted that, when cheating, people would be driven to self-enhance the quality that the entity organization praised to prove that they possessed the trait. In particular, I hypothesized that participants would self-enhance their *performance* more after being praised for their natural abilities and talent; by contrast, I predicted that people would self-enhance their *number attempted* more after being praised for their hard work and perseverance.

Consistent with predictions, the type of praise that participants received from the entity organization influenced the type of cheating that they exhibited. Participants inflated their performance most after receiving person praise (i.e., “smarts” praise) from the entity organization. Moreover, participants cheated about their number attempted to the greatest degree when they received process praise from the entity organization. Yet, unexpectedly, these participants actually *under-reported* their attempts on the problem-solving task. One reason for this downplaying of their effort is that participants may have been confused or suspicious about being praised for their “hard work and perseverance” by an organization that valued (fixed)

intelligence. Was their effort praised because the entity organization thought they lacked smarts? If so, they may have felt particularly driven to challenge this perception by under-reporting their number attempted. Moreover, downplaying their effort may have served a self-handicapping purpose. By not having completed the entire task, participants may have been trying to suggest to the organization that they could have done better if they had completed additional items.

In conclusion, I found support for my hypothesis that praise for one's past accomplishments does not always buffer against the threat that accompanies later poor performance. Rather, the type of praise that one receives can have different meanings in different contexts. In particular, praise might impact cheating behavior on high-stakes tasks more in an organization in which you have to prove that you are gifted compared to an organization where effort and motivation are the metric of success. Additionally, the most robust finding in the praise literature—that people cheat more about their performance after receiving person (vs. process) praise—was only observed in the entity context. This particular pattern of results introduces the novel possibility that people assume that demanding testing contexts endorse fixed beliefs about intelligence—an interesting question that should be explored in future research.

### **Theoretical & Practical Implications**

The present research contributes to the psychological and educational literatures in a host of important ways. First, it greatly expands our understanding of how organizations that espouse fixed or malleable beliefs of intelligence are perceived, and how these organizational lay theories can influence people's cheating behavior when faced with difficulty. For example, ample evidence has shown that entity and incremental theorists endorse performance and mastery goals, respectively; yet, this is the first research to date that has demonstrated that attractive entity and incremental organizations are actually perceived to value performance and mastery differently.

Moreover, by considering organizational (rather than personal) beliefs, I was able to explore perceptions that emerge only in group settings—specifically, perceptions of the organization’s norms about cheating. Participants perceived differences in the entity and incremental clubs’ descriptive and injunctive norms about cheating—a construct that underscores the distinctive role that others play in how we experience and behave in the world. In sum, the current work underscores the importance of further expanding our understanding of the unique psychological and behavioral consequences of being in an entity or incremental context.

The current work contributes to the literature on cheating and academic dishonesty by introducing an additional situational factor that predicts people’s cheating behavior. For one, few studies have examined the antecedents of actual cheating behavior, rather than self-reported or hypothetical cheating (e.g., Vohs & Schooler, 2008; Van Yperen et al., 2011). Additionally, whereas past research has focused primarily on individual factors that lead to cheating (see Jordan, 2001), the current studies provide support for the emerging perspective that even situational factors that do not explicitly address cheating—like an organization’s lay theory of intelligence—can nonetheless influence people’s cheating behavior in important ways. In fact, across all three studies, organizational lay theories of intelligence predicted perceptions of the organization’s goals and norms and participants’ cheating behavior, even after statistically controlling for important individual predictors of cheating. Why might situational factors influence cheating so strongly? One reason may be that belonging to valued groups is a central human motivation (Baumeister & Leary, 1995; Swann & Bosson, 2010). Therefore, how we behave—including whether we exhibit defensive and unethical behavior like cheating—may be particularly driven by our desire to be accepted into prestigious and attractive groups.

Study 3 also suggests that a more nuanced approach to understanding praise may give us a clearer picture of how receiving positive affirmation influences our behavior. Instead of concluding simply that process (vs. person) or incremental (vs. entity) lay theories reduce cheating, it may instead be the case that the type of praise that people receive and the context in which they receive it may interact to influence their cheating behavior. Building upon this work, future research is needed to create a more comprehensive picture on how different situational factors come together to shape cheating.

The current work also has noteworthy practical implications. By demonstrating the role that organizational lay theories play in people's cheating behavior, these three studies provide organizations—like schools or workplaces—with a potential avenue for reducing cheating. By focusing on individual attributes (such as attitudes toward cheating) that predict cheating, past research has generally left organizations with little guidance about what they can do to address this behavior. However, research (like the current work) that takes a more situational or contextual perspective provides concrete steps that settings can take to reduce cheating—for example, by endorsing an incremental lay theory of intelligence.

Notably, when an organization endorses an incremental lay theory of intelligence, it confers a host of other benefits, including boosting people's trust and comfort, diminishing defensive self-handicapping, and reducing stereotype threat underperformance (Emerson & Murphy, 2015a; 2015b; 2015c; Emerson et al., 2014). Thus, this research contributes to our understanding of an additional benefit of endorsing an incremental organizational lay theory—lower levels of cheating.

### **Limitations & Future Directions**

Despite the noteworthy contributions of the current research, it is not without limitations.

First, the studies were generally lacking in statistical power. Past research has never explored how organizational lay theories of intelligence influence cheating; thus, the power analysis conducted before the onset of data collection instead included all studies that used organizational lay theories as a predictor *or* actual cheating behavior as an outcome. This power analysis suggested that 30 to 50 participants would be sufficient to find a difference in cheating between the entity and incremental contexts.

In Study 2, the predicted main effect of organizational lay theory emerged. However, it was small ( $d = .24$ ), and a power analysis on the data from Study 2 suggested that finding the desired effect would require nearly 300 participants per group. Thus, I increased the desired sample size in Study 3; however, issues with time and participant recruitment prevented me from reaching this goal. Promisingly, the significant main effect in Study 3 was similar in size to the effect in Study 2 ( $d = .27$ ). Yet, the lack of power across the three studies prevented me from exploring particular ways of operationalizing cheating (i.e., cheating frequency) and may have contributed to nonsignificant effects (i.e., the lack of interactions in Study 1).

To address this power issue, future research should investigate how organizational lay theories impact cheating using study design strategies that might maximize the size of the effect. Building upon the results of my power analysis, researchers could simply include larger samples in their studies. Alternatively, researchers may want to consider ways of measuring cheating that maximize cheating rates. For example, instead of giving participants the opportunity to misreport their performance or effort, participants could be given the opportunity to copy answers from others or from an answer key, look up hints, or use prohibited scratch paper or calculators. A third option is to consider how organizational lay theories of intelligence influence other types of academic dishonesty (e.g., plagiarism, inappropriate help).

A second limitation concerns our understanding of the *direction* of change in perceptions and behavior across the three studies. For example, did performing for an entity organization *increase* people's cheating behavior, or did performing for an incremental organization *decrease* it? To address this question, Study 1 included a control group that did not specifically endorse any beliefs about intelligence. However, because this study was not sufficiently powered (and because no control group was included in Studies 2 and 3), I was unable to determine whether the entity or incremental organization (or both) played a bigger role in influencing people's cheating behavior. Thus, future research should include a control group in order to better understand *how* organizations' beliefs about intelligence shape people's perceptions of organizational norms and values, as well as their cheating behavior.

An additional limitation of the current work is the lack of statistical mediation found in Study 2. This study uncovered important differences in how the norms and goals of entity and incremental organizations are perceived. Yet, these differences in organizational perceptions did not mediate participants' cheating behavior, primarily because they did not directly predict participants' cheating behavior.

If participants' cheating is not due to perceptions or liking of the organization, what might explain why participants cheated more on the demanding task in the entity (vs. incremental) context? One possibility is that people in the entity (vs. incremental) context were particularly concerned about being negatively evaluated by members of that organization. In other words, instead of activating negative evaluations of the *self* (i.e., feelings about one's own ability), facing potential failure may have led to negative expected evaluations from *others* (e.g., evaluation apprehension, Cottrell, 1972). Future research should continue to investigate the psychological motives that underlie participants' cheating about their performance (and effort) in

entity contexts. As described above, one particularly fruitful direction may be to consider the role of evaluation concerns or apprehension (e.g., Fear of Negative Evaluation scale; Watson & Friend, 1969).

Finally, the current studies were limited in their ability to explore participants' actual and misreported effort and persistence. On the number attempted measure, most participants completed all of the items; thus, they generally could only under-report their effort. This restriction of range is particularly problematic because people who are motivated to cheat might do so by inflating *or* downplaying their number attempted. Whereas downplaying one's attempts can function to preserve the possibility of better performance with more time or effort, inflating one's attempts can demonstrate the hard work and effort that incremental environments value.

Furthermore, I did not find that participants exposed to an incremental context showed sustained persistence in the face of difficulty by spending more time on the task (S3). There are a number of reasons why this additional persistence measure may not have shown the predicted differences. It is possible that the error message was very frustrating to participants, that participants did not think that they had enough time, or they did not enjoy the task. For these reasons, future work may want to consider alternative ways of assessing task persistence. For example, participants could be asked to complete a problem-solving task that's end is dictated only by the participant (e.g., unsolvable anagrams task; Hiroto & Seligman, 1975); here, the amount of time participants spend on the task—and their self-reported time spent on the task—could serve as a measure of their actual (and alleged) task persistence. Alternatively, one could assess participants' decision to continue with the difficult task versus opt for an alternate, easier task (Hong et al., 1999). In Study 3, participants may have not have had any interest in spending additional time on the study; therefore, asking them to select between tasks (rather than select

between continuing with or ending the study) may be a better way of measuring their task persistence. Also, given that the primary purpose of this measure was to identify a behavior that is exhibited more in incremental (vs. entity) contexts, future research could consider different outcomes that may be demonstrated more by people in incremental environments. For example, similar to Murphy and Dweck (2010), participants in incremental environments may be particularly likely to pursue opportunities to demonstrate their enthusiasm and passion—rather than simply their IQ—to the organization. In fact, people may even be more likely to inflate these qualities (e.g., by lying about hours spend volunteering) in incremental (vs. entity) contexts.

### **Concluding Remarks**

Evidence is emerging to suggest that organizational lay theories of intelligence play an important role in how people perceive and experience group settings (Emerson & Murphy, 2015a; 2015b; 2015c; Emerson et al., 2014; Murphy & Dweck, 2010). The current work revealed that people who expect to be evaluated by an organization that endorses more fixed (vs. malleable) beliefs perceived that cheating was more common in the organization, and that the organization endorsed performance-avoidance goals more and mastery goals less. Moreover, people tended to cheat about their performance on a demanding task more in the entity (vs. incremental) context, even after being praised for their past performance. Entity contexts are common in educational settings (e.g., Mensa, gifted and talented programs, competitive entrance exams); thus, many academic settings may be unwittingly communicating values that propagate cheating behavior on high-stakes tasks. Fortunately, situational factors, like an organization's lay theory of intelligence, may be more malleable than people's own personal theories and attitudes. Therefore, organizations may want to pay particular attention to how their beliefs and values may contribute to cheating among their members.



## References

- Anderman, E. M., Griesinger, T., & Westerfield, G. (1998). Motivation and cheating during early adolescence. *Journal of Educational Psychology, 90*, 84-93. doi: 10.1037/0022-0663.90.1.84
- Antion, D. L., & Michael, W. B. (1983). Short-term predictive validity of demographic, affective, personal, and cognitive variables in relation to two criterion measures of cheating behavior. *Educational and Psychological Measurement, 43*, 467-482. doi: 10.1177/001316448304300216
- Ariely, D. (2012). *The (honest) truth about dishonesty: How we lie to everyone—especially ourselves*. New York, NY: HarperCollins.
- Baird, J. S., Jr. (1980). Current trends in college cheating. *Psychology in the Schools, 17*, 515-522. doi: 10.1002/1520-6807(198010)17:4<515::AID-PITS2310170417>3.0.CO;2-3
- Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin, 117*, 497-529. doi: 10.1037/0033-2909.117.3.497
- Blackwell, L. S., Trzesniewski, K. H., & Dweck, C. S. (2007). Implicit theories of intelligence predict achievement across an adolescent transition: A longitudinal study and an intervention. *Child Development, 78*, 246-263. doi: 10.1111/j.1467-8624.2007.00995.x
- Bong, M. (2008). Effects of parent-child relationships and classroom goal structures on motivation, help-seeking, avoidance, and cheating. *Journal of Experimental Education, 76*, 191-217. doi: 10.3200/JEXE.76.2.191-217
- Burhans, K. K., & Dweck, C. S. (1995). Helplessness in early childhood: The role of contingent worth. *Child Development, 66*, 1719-1738. doi: 10.1111/j.1467-8624.1995.tb00961.x

- Butler, R., & Shibaz, L. (2008). Achievement goals for teaching as predictors of students' perceptions of instructional practices and students' help seeking and cheating. *Learning and Instruction, 18*, 453-467. doi: 10.1016/j.learninstruc.2008.06.004
- Carpenter, D. D., Harding, T. S., Finelli, C. J., & Passow, H. J. (2004). Does academic dishonesty relate to unethical behavior in professional practice? An exploratory study. *Science and Engineering Ethics, 10*, 311-324. doi: 10.1007/s11948-004-0027-3
- Cialdini, R. B., Kallgren, C. A., & Reno, R. R. (1991). A focus theory of normative conduct: A theoretical refinement and reevaluation of the role of norms in human behavior. In M. P. Zanna (Ed.), *Advances in experimental social psychology (Vol. 24, pp. 201-234)*. San Diego, CA: Academic Press.
- Cialdini, R. B., Reno, R. R., & Kallgren, C. A. (1990). A focus theory of normative conduct: Recycling the concept of norms to reduce littering in public places. *Journal of Personality and Social Psychology, 58*, 1015-1026. doi: 10.1037/0022-3514.58.6.1015
- Cizek, G. J. (1999). *Cheating on tests: How to do it, detect it, and prevent it*. Mahwah, NJ: Lawrence Erlbaum.
- Corrion, K., D'Arripe-Longueville, F., Chalabaev, A., Schiano-Lomoriello, S., Roussel, P., & Cury, F. (2010). Effect of implicit theories on judgment of cheating acceptability in physical education: The mediating role of achievement goals. *Journal of Sports Sciences, 28*, 909-919. doi: 10.1080/02640414.2010.484065
- Cottrell, N. (1972). Social facilitation. In C. McClintock (Ed.), *Experimental social psychology* (pp. 185-236). New York, NY: Holt, Rinehart, & Winston.

- Creswell, J. D., Welch, W. T., Taylor, S. E., Sherman, D. K., Gruenewald, T. L., & Mann, T. (2005). Affirmation of personal values buffers neuroendocrine and psychological stress responses. *Psychological Science, 16*, 846-851. doi: 10.1111/j.1467-9280.2005.01624.x
- Crocker, J., Luhtanen, R. K., Cooper, M. L., & Bouvrette, A. (2003). Contingencies of self-worth in college students: Theory and measurement. *Journal of Personality and Social Psychology, 85*, 894-908. doi: 10.1037/0022-3514.85.5.894
- Davis, S. F., Grover, C. A., Becker, A. H., & McGregor, L. N. (1992). Academic dishonesty: Prevalence, determinants, techniques, and punishments. *Teaching of Psychology, 19*, 16-20. doi: 10.1207/s15328023top1901\_3
- Davis, S. F., & Ludvigson, H. W. (1995). Additional data on academic dishonesty and a proposal for remediation. *Teaching of Psychology, 22*, 119-121. doi: 10.1207/s15328023top2202\_6
- Diener, C. I., & Dweck, C. S. (1978). An analysis of learned helplessness: Continuous change in performance, strategy, and achievement cognitions following failure. *Journal of Personality and Social Psychology, 36*, 945-962. doi: 10.1037//0022-3514.36.5.451
- Diener, C. I., & Dweck, C. S. (1980). An analysis of learned helplessness: II. The processing of success. *Journal of Personality and Social Psychology, 39*, 940-952. doi: 10.1037/0022-3514.39.5.940
- Dweck, C. S. (1986). Motivational processes affecting learning. *American Psychologist, 41*, 1040-1048. doi: 10.1037/0003-066X.41.10.1040
- Dweck, C. S. (1991). Self-theories and goals: Their role in motivation, personality, and development. In R. Dienstbeir (Ed.), *Nebraska symposium on motivation: Vol. 38, perspectives on motivation* (pp. 199-235). Lincoln, NE: University of Nebraska Press.

- Dweck, C. S. (1999). *Self-theories: Their role in motivation, personality, and development*. Philadelphia, PA: Psychology Press.
- Dweck, C. S. (2006). *Mindset: The new psychology of success*. New York, NY: Ballantine Books.
- Dweck, C. S. & Elliott, E. S. (1983). Achievement motivation. In E. M. Hetherington (Ed.), *Socialization, personality, and social development* (pp. 643-691). New York, NY: Wiley.
- Dweck, C. S., & Leggett, E. L. (1988). A social-cognitive approach to motivation and personality. *Psychological Review*, *95*, 256-273. doi: 10.1037/0033-295X.95.2.256
- Dweck, C. S., & Sorich, L. A. (1999). Mastery-oriented thinking. In C. R. Snyder (Ed.), *Coping: The psychology of what works* (pp. 232-251). New York, NY: Oxford University Press.
- Elliot, A. J. (1999). Approach and avoidance motivation and achievement goals. *Educational Psychologist*, *34*, 169-189. doi: 10.1207/s15326985ep3403\_3
- Elliott, E. S., & Dweck, C. S. (1988). Goals: An approach to motivation and achievement. *Journal of Personality and Social Psychology*, *54*, 5-12. doi: 10.1037/0022-3514.54.1.5
- Emerson, K. T. U., & Murphy, M. C. (2015a). A company I can trust? Organizational lay theories moderate stereotype threat for women. *Personality and Social Psychology Bulletin*, *41*, 295-307. doi: 10.1177/0146167214564969
- Emerson, K. T. U., & Murphy, M. C. (2015b). [Linguistic cues to organizational lay theories of intelligence in the mission and value statements of Fortune 500 companies]. Unpublished manuscript.
- Emerson, K. T. U., & Murphy, M. C. (2015c). [Stereotype threat underperformance of racial and ethnic minorities in entity and incremental contexts]. Unpublished manuscript.

- Emerson, K. T. U., Murphy, M. C., Dweck, C. S., Chatman, J. A., & Kray, L. J. (2014). *Personal and organizational lay theories predict employee experiences in companies*. Paper presented at the meeting of the Midwestern Psychological Association, Chicago, IL.
- Evans, E. D., & Craig, D. (1990). Adolescent cognitions for academic cheating as a function of grade level and achievement status. *Journal of Adolescent Research, 5*, 325-345. doi: 10.1177/074355489053005
- Finn, K. V., & Frone, M. R. (2004). Academic performance and cheating: Moderating role of school identification and self-efficacy. *Journal of Educational Research, 97*, 115-121. doi: 10.3200/JOER.97.3.115-121
- Goldsen, R. K., Rosenberg, M., Williams, R. M., Jr., & Suchman, E. A. (1960). *What college students think*. Oxford, England: Van Nostrand.
- Haines, V. J., Diekhoff, G. M., LaBeff, E. E., & Clark, R. E. (1986). College cheating: Immaturity, lack of commitment, and the neutralizing attitude. *Research in Higher Education, 25*, 342-354. doi: 10.1007/BF00992130
- Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. New York, NY: Guilford.
- Heatherton, T. F., & Polivy, J. (1991). Development and validation of a scale for measuring state self-esteem. *Journal of Personality and Social Psychology, 60*, 895-910. doi: 10.1037/0022-3514.60.6.895
- Henderlong, J., & Lepper, M. R. (2002). The effects of praise on children's intrinsic motivation: A review and synthesis. *Psychological Bulletin, 128*, 774-795. doi: 10.1037//0033-2909.128.5.774

- Henderson, V. L., & Dweck, C. S. (1990). Motivation and achievement. In S. Feldman & G. R. Elliott (Eds.), *At the threshold: The developing adolescent* (pp. 308-329). Cambridge, MA: Harvard University Press.
- Hiroto, D., & Seligman, M. E. (1975). Generality of learned helplessness in man. *Journal of Personality and Social Psychology, 31*, 311-327. doi: 10.1037/h0076270
- Hollinger, R. C., & Lanza-Kaduce, L. (1996). Academic dishonesty and the perceived effectiveness of countermeasures: An empirical survey of cheating at a major public university. *NASPA Journal, 33*(4), 292-306. Retrieved from: <http://www.naspa.org/publications/journals>
- Hong, Y.-Y., Chiu, C.-Y., Dweck, C. S., Lin, D. M.-S., & Wan, W. (1999). Implicit theories, attributions, and coping: A meaning system approach. *Journal of Personality and Social Psychology, 77*, 588-599. doi: 10.1037/0022-3514.77.3.588
- Jacobson, L. I., Berger, S. E., & Millham, J. (1970). Individual differences in cheating during a temptation period when confronting failure. *Journal of Personality and Social Psychology, 15*, 48-56. doi: 10.1037/h0029204
- Jacobson, R. P., Mortensen, C. R., & Cialdini, R. B. (2011). Bodies obliged and unbound: Differentiated response tendencies for injunctive and descriptive social norms. *Journal of Personality and Social Psychology, 100*, 433-448. doi: 10.1037/a0021470
- Jendrek, M. P. (1992). Students' reactions to academic dishonesty. *Journal of College Student Development, 33*(3), 260-273. Retrieved from [http://www.press.jhu.edu/journals/journal\\_of\\_college\\_student\\_development/](http://www.press.jhu.edu/journals/journal_of_college_student_development/)

- Jordan, A. E. (2001). College student cheating: The role of motivation, perceived norms, attitudes, and knowledge of institutional policy. *Ethics & Behavior, 11*, 233-247. doi: 10.1207/S15327019EB1103\_3
- Kamins, M. L., & Dweck, C. S. (1999). Person versus process praise and criticism: Implications for contingent self-worth and coping. *Developmental Psychology, 35*, 835-847. doi: 10.1037/0012-1649.35.3.835
- Koul, R. (2012). Multiple motivational goals, values, and willingness to cheat. *International Journal of Educational Research, 56*, 1-9. doi: 10.1016/j.ijer.2012.10.002
- Kredentser, M. S., Fabrigar, L. R., Smith, S. M., & Fulton, K. (2012). Following what people think we should do versus what people actually do: Elaboration as a moderator of the impact of descriptive and injunctive norms. *Social Psychology & Personality Science, 3*, 341-347. doi: 10.1177/1948550611420481
- Lipson, A., & McGavern, N. (1993). *Undergraduate academic dishonesty at MIT: Results of a study of attitudes and behavior of undergraduates, faculty, and graduate teaching assistants*. Paper presented at the Annual Forum of the Association of Institutional Research, Chicago, IL. Retrieved from <http://files.eric.ed.gov/fulltext/ED368272.pdf>
- Lobel, T. E., & Levanon, I. (1988). Self-esteem, need for approval, and cheating behavior in children. *Journal of Educational Psychology, 80*, 122-123. doi: 10.1037/0022-0663.80.1.122
- Mazar, N., Amir, O., & Ariely, D. (2008). The dishonesty of honest people: A theory of self-concept maintenance. *Journal of Marketing Research, 45*, 633-644. doi: 10.1509/jmkr.45.6.633

- McCabe, D. L., & Trevino, L. K. (1993). Academic dishonesty: Honor codes and other contextual influences. *Journal of Higher Education, 64*, 522-538. doi: 10.2307/2959991
- McCabe, D. L., & Trevino, L. K. (1997). Individual and contextual influences on academic dishonesty: A multicampus investigation. *Research in Higher Education, 38*, 379-396. doi: 10.1023/A:1024954224675
- McCabe, D. L., Trevino, L. K., & Butterfield, K. D. (2001). Cheating in academic institutions: A decade of research. *Ethics & Behavior, 11*, 219-232. doi: 10.1207/S15327019EB1103\_2
- McLean, B., & Elkind, P. (2003). *Smartest guys in the room: The amazing rise and scandalous fall of Enron*. New York, NY: Penguin Group.
- Michaels, J. W., & Miethe, T. D. (1989). Applying theories of deviance to academic cheating. *Social Science Quarterly, 70*(4), 870-885. Retrieved from <http://socialsciencequarterly.org>
- Midgley, C., Maehr, M. L., Hruda, L. Z., Anderman, E., Anderman, L., Freeman, K. E., Gheen, M., Kaplan, A., Kumar, R., Middleton, M. J., Nelson, J., Roeser, R., & Urdan, T. (2000). *Manual for the Patterns of Adaptive Learning scales*. Ann Arbor, MI: University of Michigan.
- Millham, J. (1974). Two components of need for approval score and their relationship to cheating following success and failure. *Journal of Research in Personality, 8*, 378-392. doi: 10.1016/0092-6566(74)90028-2
- Mueller, C. M., & Dweck, C. S. (1998). Praise for intelligence can undermine children's motivation and performance. *Journal of Personality and Social Psychology, 75*, 33-52. doi: 10.1037/0022-3514.75.1.33



- Murdock, T. B., & Anderman, E. M. (2006). Motivational perspectives on student cheating: Toward an integrated model of academic dishonesty. *Educational Psychologist, 41*, 129-145. doi: 10.1207/s15326985ep4103\_1
- Murdock, T. B., Hale, N. M., & Weber, M. J. (2001). Predictors of cheating among early adolescents: Academic and social motivations. *Contemporary Educational Psychology, 26*, 96-115. doi: 10.1006/ceps.2000.1046
- Murdock, T. B., Miller, A., & Kohlhardt, J. (2004). Effects of classroom context variables on high school students' judgments of the acceptability and likelihood of cheating. *Journal of Educational Psychology, 96*, 765-777. doi: 10.1037/0022-0663.96.4.765
- Murphy, M. C. & Dweck, C. S. (2010). A culture of genius: How an organization's lay theory shapes people's cognition, affect, and behavior. *Personality and Psychology Bulletin, 36*, 283-296. doi:10.1177/0146167209347380.
- Newstead, S. E., Franklyn-Stokes, A., & Armstead, P. (1996). Individual differences in student cheating. *Journal of Educational Psychology, 88*, 229-241. doi: 10.1037/0022-0663.88.2.229
- Nonis, S., & Swift, C. O. (2001). An examination of the relationship between academic dishonesty and workplace dishonesty: A multicampus investigation. *Journal of Education for Business, 77*, 69-77. doi: 10.1080/08832320109599052
- Nussbaum, A. D. & Dweck, C. S. (2008). Defensiveness versus remediation: Self-theories and modes of self-esteem maintenance. *Personality and Social Psychology Bulletin, 34*, 599-612. doi: 10.1177/0146167207312960

- Pennebaker, J. W., Chung, C. K., Ireland, M., Gonzales, A., & Booth, R. J. (2007). *The development and psychometric properties of LIWC2007*. Retrieved from <http://www.LIWC.net>
- Perry, A. R., Kane, K. M., Bernesser, K. J., & Spicker, P. T. (1990). Type A behavior, competitive achievement-striving, and cheating among college students. *Psychological Reports, 66*, 459-465. doi: 10.2466/pr0.1990.66.2.459
- Raven, J. C. (1982). *Revised manual for Raven's Progressive Matrices and Vocabulary Scales*. San Antonio, TX: The Psychological Corporation.
- Rettinger, D. A., & Jordan, A. E. (2005). The relations among religion, motivation, and college cheating: A natural experiment. *Ethics & Behavior, 15*, 107-129. doi: 10.1207/s15327019eb1502\_2
- Rettinger, D. A., Jordan, A. E., & Peschiera, F. (2004). Evaluating the motivation of other students to cheat: A vignette experiment. *Research in Higher Education, 45*, 873-890. doi: 10.1007/s11162-004-5952-0
- Rettinger, D. A., & Kramer, Y. (2009). Situational and personal causes of student cheating. *Research in Higher Education, 50*, 293-313. doi: 10.1007/s11162-008-9116-5
- Roeser, R. W., Midgley, C., & Urdan, T. C. (1996). Perceptions of the school psychological environment and early adolescents' psychological and behavioral functioning in school: The mediating role of goals and belonging. *Journal of Educational Psychology, 88*, 408-422. doi: 10.1037/0022-0663.88.3.408
- Schab, F. (1991). Schooling without learning: Thirty years of cheating in high school. *Adolescence, 26*(104), 839-847. Retrieved from [http://www.vjf.cnrs.fr/clt/php/va/Page\\_revue.php?ValCodeRev=ADO](http://www.vjf.cnrs.fr/clt/php/va/Page_revue.php?ValCodeRev=ADO)

- Shalvi, S., Handgraaf, M. J. J., & De Dreu, C. K. W., (2011). Ethical manoeuvring: Why people avoid both major and minor lies. *British Journal of Management*, 22, S16-S27. doi: 10.1111/j.1467-8551.2010.00709.x
- Sherman, D. K., & Cohen. G. L. (2002). Accepting threatening information: Self-affirmation and the reduction of defensive biases. *Current Directions in Psychological Science*, 11, 119-123. doi: 10.1111/1467-8721.00182
- Sherman, D. K., Nelson, L. D., & Steele, C. M. (2000). Do messages about health risks threaten the self? Increasing the acceptance of threatening health messages via self-affirmation. *Personality and Social Psychology Bulltein*, 26, 1046-1058. doi: 10.1177/01461672002611003
- Sideridis, G. D., & Kaplan, A. (2011). Achievement goals and persistence across tasks: The roles of failure and success. *Journal of Experimental Education*, 79, 429-451. doi: 10.1080/00220973.2010.539634
- Skipper, Y., & Douglas, K. (2012). Is no praise good praise? Effects of positive feedback on children's and university students' responses to subsequent failures. *British Journal of Educational Psychology*, 82, 327-339. doi: 10.1111/j.2044-8279.2011.02028.x
- Steele, C. M. (1988). The psychology of self-affirmation: Sustaining the integrity of the self. *Advances in Experimental Social Psychology*, 21, 261-302. doi: 10.1016/S0065-2601(08)60229-4
- Swann, W.B., Jr., & Bosson, J. K. (2010). Self and identity. In S. T. Fiske, D. T. Gilbert, & G. Lindzey (Eds.), *Handbook of social psychology, volume 1* (pp. 589-628). Hoboken, NJ: John Wiley & Sons.

- Taylor, L., Pogrebin, M., & Dodge, M. (2002). Advanced placement-advanced pressures: Academic dishonesty among elite high school students. *Educational Studies, 33*, 389-421. doi: 10.1207/S15326993ES3304\_2
- Urduan, T., Midgley, C., & Anderman, E. M. (1998). The role of classroom goal structure in students' use of self-handicapping strategies. *American Educational Research Journal, 35*, 101-122. doi: 10.2307/1163453
- Van Yperen, N. W., Hamstra, M. R. W., & van der Klauw, M. (2011). To win, or not to lose, at any cost: The impact of achievement goals on cheating. *British Journal of Management, 22*, S5-S15. doi: 10.1111/j.1467-8551.2010.00702.x
- Vohs, K. D., & Schooler, J. W. (2008). The value of believing in free will: Encouraging a belief in determinism increases cheating. *Psychological Science, 19*, 49-54. doi: 10.1111/j.1467-9280.2008.02045.x
- Watson, D., & Friend, R. (1969). Measurement of social-evaluative anxiety. *Journal of Consulting and Clinical Psychology, 33*, 448-457. doi: 10.1037/h0027806
- White, K. M., Smith, J. R., Terry, D. J., Greenslade, J. H., & McKimmie, B. M. (2009). Social influence in the theory of planned behaviour: The role of descriptive, injunctive, and in-group norms. *British Journal of Social Psychology, 48*, 135-158. doi: 10.1348/014466608X295207
- Whitley, B. E. (1998). Factors associated with cheating among college students: A review. *Research in Higher Education, 39*, 235-274. doi: 10.1023/A:1018724900565
- Zentall, S. R., & Morris, B. J. (2012). A critical eye: Praise directed toward traits increases children's eye fixations on errors and decreases motivation. *Psychonomic Bulletin & Review, 19*, 1073-1077. doi: 10.3758/s13423-012-0294-y

**Table 1**

*Study 1: Actual Number Correct (with Covariates): Means and Standard Deviations (SDs).*<sup>32</sup>

Performance Standard Condition	<i>M (SD)</i>
Low Performance Standard	5.54 <sub>a</sub> (2.36)
High Performance Standard	4.15 <sub>b</sub> (2.33)

<sup>32</sup> Tables containing single subscripts denote significant effects in rows only ( $p < .05$ ). In tables that include multiple subscripts, each subscript indicates difference in rows and columns, respectively.

**Table 2**

*Study 1: Actual Number Attempted (with Covariates): Means and SDs.*

Organizational Lay Theory Condition	<i>M (SD)</i>
Control Condition	17.76 <sub>a</sub> (1.00)
Entity Condition	17.63 <sub>a</sub> (1.32)
Incremental Condition	17.08 <sub>b</sub> (1.99)

**Table 3**

*Study 1: Performance—Degree of Cheating (with Covariates): Means and SDs.*

Performance Standard Condition	<i>M (SD)</i>
Low Performance Standard	-0.10 <sub>a</sub> (1.04)
High Performance Standard	0.75 <sub>b</sub> (2.35)

**Table 4**

*Study 1: Number of Items Attempted—Degree of Cheating (with Covariates): Means and SDs.*

Performance Standard Condition	<i>M (SD)</i>
Low Performance Standard	-0.02 <sub>a</sub> (0.52)
High Performance Standard	-0.55 <sub>a</sub> (2.86)



**Table 5***Study 2: Bivariate Correlations (r) Between All Mediators.*

	(1)	(2)	(3)	(4)	(5)	(6)
(1) Descriptive Norms						
(2) Injunctive Norms	.41**					
(3) Perf.-Avoidant Goals	.43**	.38**				
(4) Perf.-Approach Goals	.09	.10	.45**			
(5) Mastery Goals	-.52**	-.41**	-.33**	.06		
(6) Perf.-Contingent Self-Worth	-.05	-.12 <sup>t</sup>	-.01	.16*	.14 <sup>t</sup>	
(7) State Self-Esteem	-.08	-.14 <sup>t</sup>	-.09	-.06	.03	-.10

Note: Significant correlations are indicated with \*\* ( $p < .01$ ), \* ( $p < .05$ ), or <sup>t</sup> ( $p < .10$ ).

**Table 6**

*Study 2: Perceived Descriptive and Injunctive Norm about Cheating (with Covariates): Means and SDs.*

Norm Type	Entity Condition <i>M (SD)</i>	Incremental Condition <i>M (SD)</i>
Descriptive Norm	0.67 <sub>a</sub> (0.52)	0.47 <sub>b</sub> (0.48)
Injunctive Norm	0.24 <sub>a</sub> (0.37)	0.14 <sub>a</sub> (0.27)

**Table 7**

*Study 2: Perceived Performance and Mastery Goals (with Covariates): Means and SDs.*

Goal Type	Entity Condition <i>M (SD)</i>	Incremental Condition <i>M (SD)</i>
Performance – Avoid	1.50 <sub>a</sub> (1.05)	1.13 <sub>b</sub> (0.91)
Performance – Approach	2.54 <sub>a</sub> (0.78)	2.41 <sub>a</sub> (0.83)
Mastery	3.19 <sub>a</sub> (0.59)	3.42 <sub>b</sub> (0.43)

**Table 8**

*Study 2: Performance—Degree of Cheating: 95% Confidence Intervals of Indirect Effects.*

---

Mediating Variable	Lower Limit	Upper Limit
Descriptive Norms	-.0124	.2078
Injunctive Norms	-.2111	.0104
Performance Goals – Avoid	-.0002	.2812
Performance Goals – Approach	-.2162	.0188
Mastery Goals	-.0561	.2020

---

**Table 9**

*Study 2: Liking of the Club (with Covariates): Means and SDs.*

Organizational Lay Theory Condition	<i>M (SD)</i>
Entity Condition	1.98 <sub>a</sub> (0.84)
Incremental Condition	2.30 <sub>b</sub> (0.64)

**Table 10**

*Study 3: Actual Number Correct (with Covariates): Means and SDs.*

Organization Lay Theory Condition	<i>M (SD)</i>
Entity Condition	4.13 <sub>a</sub> (2.13)
Incremental Condition	4.76 <sub>b</sub> (2.42)

**Table 11**

*Study 3: Actual Number Attempted (with Covariates): Means and SDs.*

---

	Person Praise	Process Praise
Entity Condition	17.53 <sub>a, a</sub> (1.46)	16.98 <sub>a, a</sub> (2.31)
Incremental Condition	16.93 <sub>a, b</sub> (2.21)	17.40 <sub>a, a</sub> (1.54)

---

**Table 12***Study 3: Performance—Degree of Cheating (with Covariates): Means and SDs.*

---

	Person Praise	Process Praise
Entity Condition	1.09 <sub>a, a</sub> (2.16)	0.42 <sub>a, a</sub> (1.40)
Incremental Condition	-0.04 <sub>a, b</sub> (2.12)	0.47 <sub>a, a</sub> (1.64)

---



**Table 13**

*Study 3: Number of Items Attempted—Degree of Cheating (with Covariates): Means and SDs.*

---

	Person Praise	Process Praise
Entity Condition	-0.13 <sub>a, a</sub> (1.18)	-0.85 <sub>a, a</sub> (3.05)
Incremental Condition	-0.44 <sub>a, a</sub> (1.49)	-0.25 <sub>a, a</sub> (1.34)

---

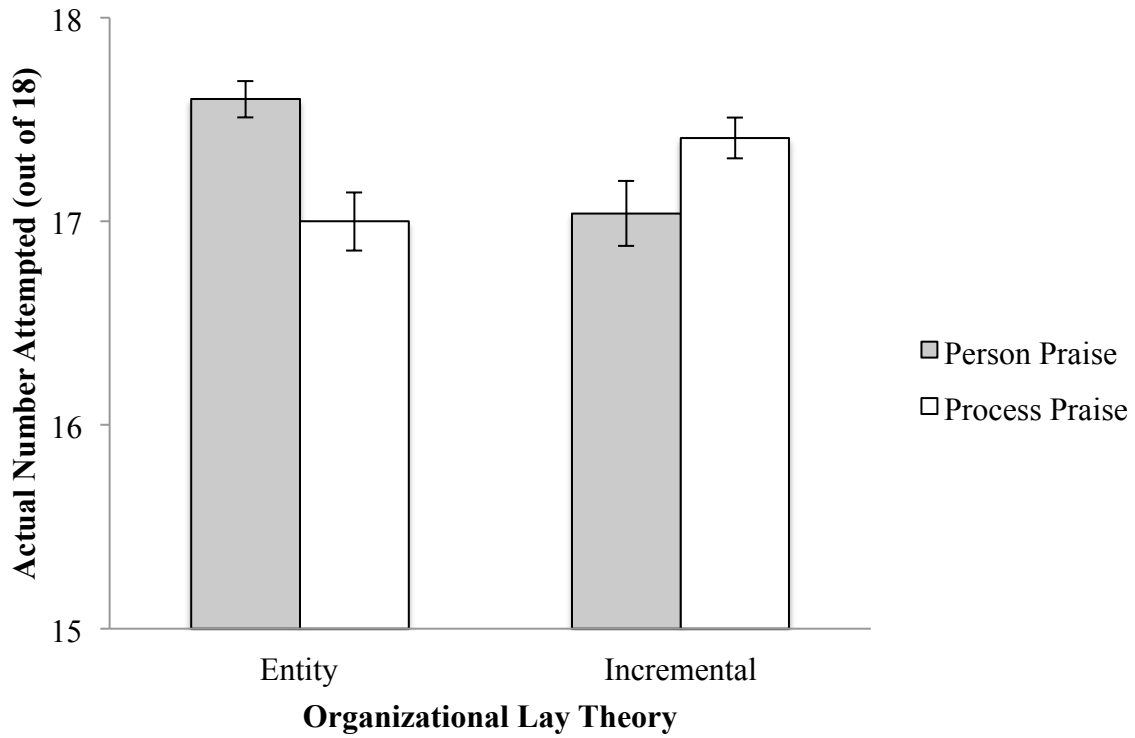
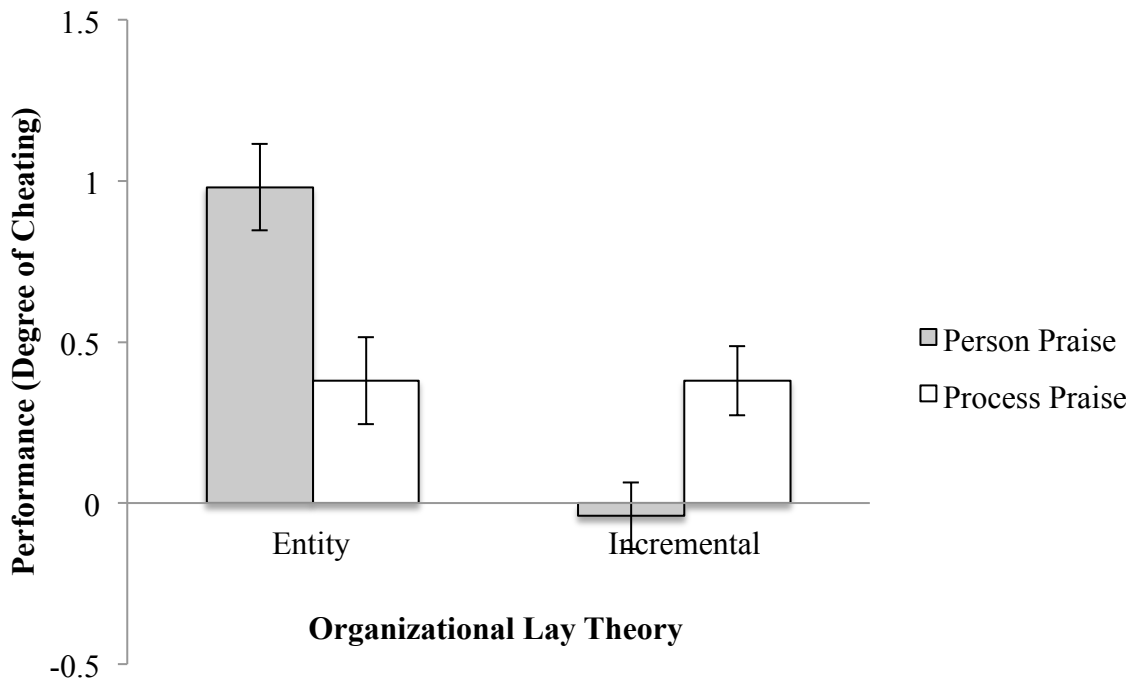
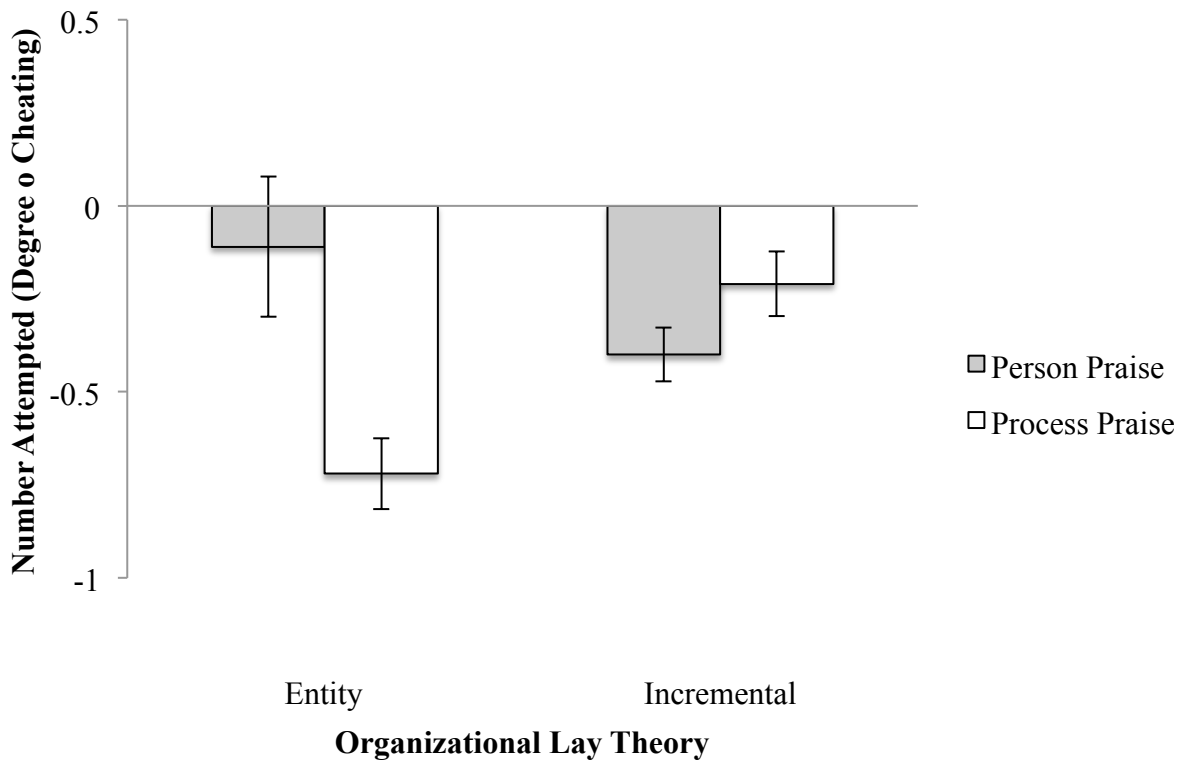


Figure 1. Actual number attempted (out of 18) by condition, Study 3.



*Figure 2.* Degree of cheating about one’s performance, by organizational lay theory and praise type conditions, Study 3. More positive scores indicate greater over-reporting of number of items answered correctly; more negative scores indicate greater under-reporting of number of items answered correctly.



*Figure 3.* Degree of cheating about one's number attempted, by organizational lay theory and praise type conditions, Study 3. More positive scores indicate greater over-reporting of number of items attempted; more negative scores indicate greater under-reporting of number of items attempted.

## Appendix: Manipulations & Measures

### Organizational Lay Theory Manipulation (Excerpts from Sample Meeting Minutes)

(Entity language bolded, incremental language underlined and in parentheses; control manipulation included separately below, language bolded)

#### XYZ club

Minutes- August 10, 2014

- I. Kevin discussed the first item on the agenda- a vote to invite special speaker, Tim, to speak at our next meeting. Tim is the head of **Project Smart (Project Learn)**- a group we are considering teaming up with for our next volunteer project.

Kevin then reviewed how **Project Smart (Project Learn)** came to the attention of the XYZ club: The club discussed a **Project Smart (Project Learn)** article distributed at last meeting. The article was about how best to tutor kids, **given that intelligence is largely hereditary and cannot be changed very much** (given that that the brain forms new connections over time and that intelligence increases over one's lifespan). Several members of the group (Sara, Max and Chris) were drawn to this mission advocated by **Project Smart's (Project Learn's)** article.

They introduced an item to the agenda last week to discuss **Project Smart's (Project Learn's)** mission and philosophy and how we might use it in our own ongoing projects, like tutoring. Because our goal is to help kids in the most informed and educated way possible, we want to be sure we are employing the best tutoring methods available.

- a) Kevin yielded the floor to Sara who briefly reviewed **Project Smart's (Project Learn's)** philosophy for the group. **The main philosophy advocated by Project Smart is that one-size-fits-all education is not effective. Education should be targeted to individuals and help to serve their unique needs, given their level of innate ability.** (The main philosophy advocated by Project Learn is that a person's intelligence can be increased substantially by environmental factors and effort.) **Project Smart (Project Learn)** focuses on adapting this view point and putting it into practice.
- b) **Sara said that Project Smart focuses on matching materials to abilities. They try to help young geniuses get the kind of challenging materials that match their talents. For kids who generally have more trouble, they find materials that are congruent with their skills.** (Sara said that Project Learn focuses on motivating children to find environments and learning strategies that will help them fulfill their true potential through effort, learning and discovery- building their intellectual

abilities.) Sara discussed ways that the XYZ club could take this viewpoint into consideration when we plan activities for the students we currently tutor.

- II. Kevin then opened the floor for Open Mic time to hear what members thought about this philosophy and about inviting the head of **Project Smart** (Project Learn) to give a talk about that group's viewpoint and to discuss the possible collaboration between **Project Smart** (Project Learn) and the XYZ club.
- a) Anna came up to the mic and described how much she liked this viewpoint and how it matched her own experiences.
  - b) Justin said that from his experience as a mentor to incoming freshmen, he believed the viewpoint was true and that **the goal of our tutoring should be to identify people's skills and provide tutoring tasks that match these skills** (the goal of our tutoring should be to find material that will help people increase their abilities.) He would like to hear more from the head of **Project Smart** (Project Learn) about how to do this.
  - c) Brenda agreed, saying that when she tutored students in Chemistry last year, **she was surprised by how much her student's either got the material initially or didn't** (she was surprised by how much her student's always seemed to improve and expand their abilities over time.) This seemed to really predict well their grades in the class.
  - d) Alex said that viewing intelligence as something that is pretty **stable** (flexible) over one's lifetime was important and that he was excited about implementing this philosophy in our tutoring program. Making this viewpoint explicit in our program might really help the people we tutor.
  - e) Joseph said that he thought this applied to both children and adults. That from his experience, it seems like qualities such as a person's intelligence is something that is **generally immutable** (can definitely be expanded upon) so it's important to keep this in mind when tutoring.

## XYZ club

Minutes- August 10, 2014

- I. Kevin discussed the first item on the agenda- a vote to invite special speaker, Tim, to speak at our next meeting. Tim is the head of **Project Tech**- a group we are considering teaming up with for our next volunteer project.

Kevin then reviewed how **Project Tech** came to the attention of the XYZ club: The club discussed a **Project Tech** article distributed at last meeting. The article was about how best to tutor kids, **given that new technology, from electronic polling to interactive whiteboards, is becoming increasingly common in classrooms**. Several members of the group (Sara, Max and Chris) were drawn to this mission advocated by **Project Tech's** article.

They introduced an item to the agenda last week to discuss **Project Tech's** mission and philosophy and how we might use it in our own ongoing projects, like tutoring. Because our goal is to help kids in the most informed and educated way possible, we want to be sure we are employing the best tutoring methods available.

- a) Kevin yielded the floor to Sara who briefly reviewed **Project Tech's** philosophy for the group. **The main philosophy advocated by Project Tech is that a person can best be tutored if he/she is provided with opportunities to use different types of technology. Project Tech** focuses on adapting this view point and putting it into practice.
- b) **Sara said that Project Tech focuses on integrating various forms of new technology into classrooms and tutoring sites, via an array of hardware and operating systems, to educate students in an increasingly high-tech world.** Sara discussed ways that the XYZ club could take this viewpoint into consideration when we plan activities for the students we currently tutor.

- II. Kevin then opened the floor for Open Mic time to hear what members thought about this philosophy and about inviting the head of **Project Tech** to give a talk about that group's viewpoint and to discuss the possible collaboration between **Project Tech** and the XYZ club.

- a) Anna came up to the mic and described how much she liked this viewpoint and how it matched her own experiences.
- b) Justin said that from his experience as a mentor to incoming freshmen, he believed the viewpoint was true and that **the goal of our tutoring should be to expose people to various forms of new technology.** He would like to hear more from the head of **Project Tech** about how to do this.

- c) Brenda agreed, saying that when she tutored students in Chemistry last year, **she was surprised by how much her students differed in their experience with new technology.**
- d) **Alex said that viewing new technology as something that is beneficial in the classroom was important** and that he was excited about implementing this philosophy in our tutoring program. Making this viewpoint explicit in our program might really help the people we tutor.
- e) Joseph said that he thought this applied to both children and adults. That from his experience, **it seems like new technology could help people as they learn so it's important to keep this in mind when tutoring.**



### Member Average Manipulation (S1)

(High member average language bolded, low member average language underlined and in parentheses)

The problem-solving task that you are about to complete is considered very difficult. On average, current members of the XYZ club have correctly answered **10-12 out of the 18 items** (3-5 out of the 18 items) within the 20 minutes allotted.

### Praise Manipulation (S3)

(Entity language bolded, incremental language underlined and in parentheses)

Dear Participant,

Congratulations!

You have been selected for admission into the XYZ club, an extracurricular club at IU founded on principles of leadership, volunteerism and serving the community.

The XYZ club is an award-winning club and was named IU's most outstanding student outreach organization last year. It has been on campus for over 15 years and has a reputation for being one of the most active tutoring and volunteer clubs at IU.

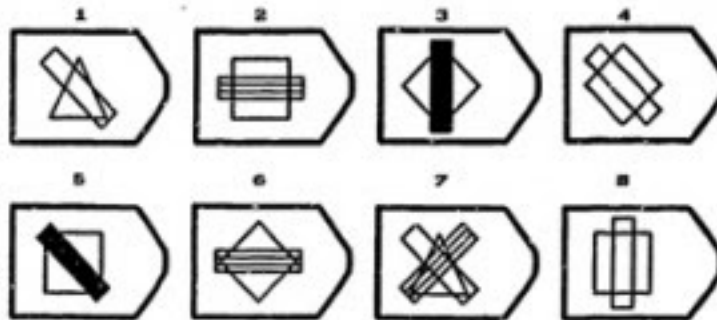
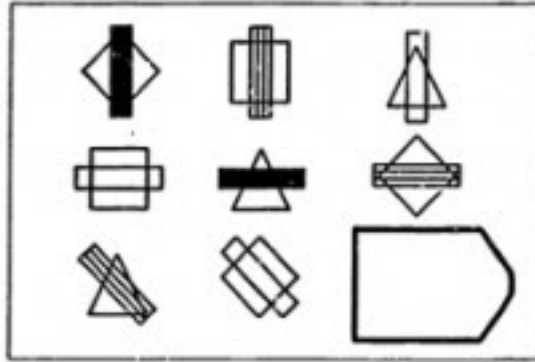
You have been selected to join this club because of your responses to particular questions in the pre-screening survey. Of all of the participants who completed the pre-screening, it was clear to members of the club that you demonstrated the **talent and natural ability** (hard work and perseverance) necessary to be an exceptionally strong addition to the XYZ club. We hope that you decide to join us!

Sincerely,

Kevin  
XYZ President

## Dependent Measures

### Sample Item from Raven's Advanced Progressive Matrices (S1 – S3; Ravens, 1982)



### Persistence Measure (S3)

Many participants take less than 60 minutes to complete the entire study. Time permitting, they may be allowed to continue working on the problem-solving task. This can include working on new questions or reviewing questions that they have already answered.

**PLEASE NOTE:** Because the problem-solving task can be restarted, **your ability to continue with this task is not affected by whether or not you received an error message during the task.**

Time permitting, **how many extra minutes** would you like to spend on the problem-solving task (maximum 10 minutes)?

\_\_\_\_\_ minutes

## Mediators (S2 only)

### Descriptive and Injunctive Cheating Norms of the XYZ club (items of interest only)

*Directions:* Using the scale provided, please indicate the extent to which you think members of the XYZ club typically do the following behaviors. [descriptive norm]

Not at all true 0	1	Somewhat true 2	3	Very true 4
----------------------	---	--------------------	---	----------------

I expect that members of the XYZ club typically:

- 1) Cheat
- 2) Lie
- 3) Behave ethically [reverse-coded]
- 4) Are honest [reverse-coded]

*Directions:* Using the scale provided, please indicate the extent to which you think the following behaviors are accepted or preferred at the XYZ club. [injunctive norm]

Not at all true 0	1	2	3	4	Extremely true 5
----------------------	---	---	---	---	---------------------

Generally, I think that the XYZ club accepts or prefers that its members...

- 1) Cheat
- 2) Lie
- 3) Behave ethically [reverse-coded]
- 4) Are honest [reverse-coded]

**Patterns of Adaptive Learning scale, Perception of Classroom Goal Structures subscale  
(Midgley et al., 2000)**

*Directions:* Using the scale provided, please respond to each of the following statements based upon your impressions of the XYZ club.

Not at all true 0	1	Somewhat true 2	3	Very true 4
----------------------	---	--------------------	---	----------------

Mastery Goals

- 1) In the XYZ club, trying hard is very important.
- 2) In the XYZ club, how much you improve is really important.
- 3) In the XYZ club, really understanding the material is the main goal.<sup>33</sup>
- 4) In the XYZ club, it's important to understand the work, not just memorize it.
- 5) In the XYZ club, learning new ideas and concepts is very important.
- 6) In the XYZ club, it's OK to make mistakes as long as you are learning.

Performance Goals

- 1) In the XYZ club, getting good grades is the main goal. [approach]
- 2) In the XYZ club, getting right answers is very important. [approach]
- 3) In the XYZ club, it's important to get high scores on tests. [approach]
- 4) In the XYZ club, showing others that you are not bad at tasks is really important. [avoid]
- 5) In the XYZ club, it's important that you don't make mistakes in front of everyone. [avoid]
- 6) In the XYZ club, it's important not to do worse than other students. [avoid]
- 7) In the XYZ club, it's very important not to look dumb. [avoid]
- 8) In the XYZ club, one of the main goals is to avoid looking like you can't do the work. [avoid]

---

<sup>33</sup> This item was excluded from analysis because it did not load reliably with the other items.

**Contingencies of Self-Worth scale, Academic Competence subscale (Crocker et al., 2003)**

*Directions:* Using the scale provided, please respond to each of the following statements concerning how you feel **right now**.

Strongly Disagree	Disagree	Disagree Somewhat	Neutral	Agree Somewhat	Agree	Strongly Agree
-------------------	----------	-------------------	---------	----------------	-------	----------------

- 1) Right now, my opinion about myself isn't tied to how well I do in school. [reverse-coded]
- 2) Right now, doing well in school gives me a sense of self-respect.
- 3) Right now, I feel better about myself if I know I'm doing well academically.
- 4) Right now, my self-esteem is influenced by my academic performance.
- 5) Right now, I feel bad about myself if my academic performance is lacking.

**State Self-Esteem scale, Performance Component (Heatherton & Polivy, 1991)**

*Direction:* Using the scale provided, please respond to each of the following statements concerning what you feel is true of yourself **at this moment**.

Not at all	A little bit	Somewhat	Very much	Extremely
------------	--------------	----------	-----------	-----------

- 1) At this moment, I feel confident about my abilities.
- 2) At this moment, I feel frustrated or rattled about my performance. [reverse-coded]
- 3) At this moment, I feel that I am having trouble understanding things that I read. [reverse-coded]
- 4) At this moment, I feel as smart as others.
- 5) At this moment, I feel confident that I understand things.
- 6) At this moment, I feel that I have less scholastic ability than others. [reverse-coded]
- 7) I feel like I'm not doing well. [reverse-coded]

## Other Measures

### Personal Lay Theories of Intelligence scale (S1 – S3; Dweck, 1999)

*Directions:* Using the scale provided, please respond to each of the following statements based upon your personal beliefs.

Strongly Agree	Agree	Agree Somewhat	Disagree Somewhat	Disagree	Strongly Disagree
----------------	-------	----------------	-------------------	----------	-------------------

1) You have a certain amount of intelligence, and you can't really do much to change it.

[reverse-coded]

2) No matter who you are, you can significantly change their intelligence level.

3) Intelligence is something about you that you can't change very much. [reverse-coded]

4) You can always substantially change how intelligent you are.

### Beliefs about the Acceptability of Cheating (S1 – S3; Anderman et al., 1998)

*Directions:* Using the scale provided, please respond to each of the following statements based upon your personal beliefs. Please note that your responses to these items, along with all other items, are completely anonymous and confidential.

Not at all true of me (0)	1	2	3	Very true of me (4)
------------------------------	---	---	---	------------------------

1) It is very serious if somebody cheats on schoolwork. [reverse-coded]

2) If I were sure I wouldn't get caught, I would cheat on my schoolwork.

3) It is okay to cheat on schoolwork.

**Organizational Lay Theory Manipulation Check (S1 – S3; Emerson & Murphy, 2015a)**

*Directions:* Using the scale provided, please respond to each of the following statements based upon your impressions of the XYZ club.

Strongly Agree	Agree	Agree Somewhat	Disagree Somewhat	Disagree	Strongly Disagree
----------------	-------	----------------	-------------------	----------	-------------------

- 1) The XYZ club seems to believe that people have a certain amount of intelligence, and they can't really do much to change it. [reverse-coded]
- 2) The XYZ club seems to believe that no matter who they are, people can significantly change their intelligence level.
- 3) The XYZ club seems to believe that intelligence is something about people that they can't change very much. [reverse-coded]
- 4) The XYZ club seems to believe that people can always substantially change how intelligent they are.

**Member Average Manipulation Check (S1)**

MEMORY CHECK: What was the average performance on the problem-solving task by current members of the XYZ club? (Circle one.)

0-2 items correct	3-5 items correct	6-9 items correct
10-12 items correct	13-15 items correct	16-18 items correct

**Praise Manipulation Check (S3)**

MEMORY CHECK: Please indicate why **YOU** were selected for admission into the XYZ club.

This information was provided to you in your packet at the beginning of the experiment. (Circle one).

Your talent and natural ability	Your hard work and perseverance	You were not selected for admission to the club
---------------------------------	---------------------------------	---

**Suspicion Probes (S1 – S3)**

- 1) Did anything about this study look familiar? [S1-S3]
- 2) Did anything about this study seem suspicious? [S1-S3]
- 3) Please describe the computer’s functionality when you completed the problem-solving task.  
[S1-S3]
- 4) What was your reaction to being accepted into the XYZ club? [S3]
- 5) Do you have anything feedback that you’d like to share with the researchers? [S1-S3]



# KATHERINE T. U. EMERSON

Department of Psychological and Brain Sciences  
Indiana University  
1101 E. 10<sup>th</sup> St.  
Bloomington, IN 47405  
Email: ktemerso@indiana.edu  
(773) 420-8398

## Education

---

### **Indiana University, 2012-present**

Ph.D., anticipated 2015  
Concentration: Social Psychology  
Minor: Statistics, Methods, and Measurement in Social Psychology  
Faculty Advisor: Mary C. Murphy, Ph.D.

### **University of Illinois at Chicago, 2009-2012**

M.A., 2011  
Concentration: Social Psychology  
Faculty Advisor: Mary C. Murphy, Ph.D.  
Thesis: *How Organizational Theories of Intelligence Influence Perceptions of Companies for Men and Women*

### **University of California, Berkeley, 2002-2006**

B.A., High Distinction in General Scholarship, Highest Honors in Psychology  
Major: Psychology  
Honors Thesis Advisor: Dacher Keltner, Ph.D.  
Honors Thesis: *What Doesn't Hurt You Makes You Stronger: Aspects of Affiliation, Development, Status, and Personality in the Teasing of Pre-Adolescent and Adolescent Groups*

## Honors and Awards

---

Society for Personality and Social Psychology 2014 Graduate Student Travel Award, \$500, 2014  
"Student Poster Award" winner, SPSP, 2013  
The Christopher B. Keys Award for Early Outstanding Research Achievement, \$500, 2011  
National Science Foundation Graduate Research Fellowship, Honorable Mention, 2011  
The University of Illinois President's Research in Diversity Award, \$500, 2010  
"All-Conference Best Poster," Society for the Psychological Study of Social Issues (SPSSI), 2010  
Robert C. Byrd Scholarship recipient, \$1,500 per year, 2002-2006

## University Travel Awards

---

IU Provost Travel Award for Women in Science, \$450, 2014  
IU Provost Travel Award for Women in Science, \$400, 2013  
UIC Graduate Student Council Travel Award, \$275, 2012  
UIC Department of Psychology Student Travel Award, \$300, 2012  
UIC College of Liberal Arts & Sciences PhD Student Travel Award, \$250, 2012  
UIC Department of Psychology Student Travel Award, \$200, 2011  
UIC Department of Psychology Student Travel Award, \$200, 2010  
UIC Graduate College Student Presenter Award, \$200, 2010

## Published Manuscripts

---

**Emerson, K. T. U.** & Murphy, M. C. (2015). A company I can trust? Organizational lay theories moderate stereotype threat for women. *Personality and Social Psychology Bulletin*, 41, 295-307. doi: 10.1177/0146167214564969

**Emerson, K. T. U.** & Murphy, M. C. (2014). Identity threat at work: How social identity threat and situational cues contribute to racial and ethnic disparities in the workplace. *Cultural Diversity and Ethnic Minority Psychology*, 20, 508-520. doi: 10.1037/a0035403

## Manuscripts Under Review

---

Carter, E. C., Murphy, M. C., & **Emerson, K. T. U.** Why try? Stereotype threat and incarceration status diminish Black men's attitudes and motivation toward education.

## Work in Progress

---

**Emerson, K. T. U.** & Murphy, M. C. (in prep-a). How organizational lay theories of intelligence impact the engagement and performance of White, Black, and Latino students. Manuscript in preparation.

**Emerson, K. T. U.** (in prep). When race is in the eye of the beholder: The role of motivation in Whites' categorization and treatment of racially ambiguous individuals. Manuscript in preparation.

**Emerson, K. T. U.,** & Murphy, M. C. (in prep-b). A contextual approach to exploring the treatment of racially ambiguous individuals. Follow-up data collection in progress.

**Emerson, K. T. U.,** Murphy, M. C., Dweck, C. S., Chatman, J., & Kray, L. (in prep). Organizational lay theories of intelligence in the Fortune 1000: How perceived organizational beliefs predict employees' business outcomes. Additional data analysis in progress.

**Emerson, K. T. U.,** & Murphy, M. C. (in progress). Examining how ingroup status threats impact Whites' prejudice against multiracial individuals. Follow-up data collection in progress.

**Emerson, K. T. U.** (in progress-a). Making sense of mission statements: How linguistic cues impact perceptions of Fortune 500 companies' lay theories of intelligence. Follow-up data collection in progress.

**Emerson, K. T. U.,** Boucher, K. L., & Murphy, M. C. (in progress-a). The threat of the "superwoman:" How male and female scientists' discussions of work-life balance influence women's career aspirations. Follow-up data collection in progress.

**Emerson, K. T. U.,** Boucher, K. L., & Murphy, M. C. (in progress-b). Regulatory focus and construal level when thinking about work-life balance moderate men and women's work and life satisfaction. Data analysis in progress.

**Emerson, K. T. U.,** Carter, E. R., & Murphy, M. C. (in progress). A large-scale study of the psychological and behavioral impact of belonging-focused interventions on the college experiences of students from stigmatized groups. Data analysis in progress.

**Emerson, K. T. U.** (in progress-b). Faking it until you make it? Exploring how organizational lay theories of intelligence impact cheating on difficult tasks. Data collection in progress.

**Emerson, K. T. U.,** Van Loo, K. J., Prasad, S., & Mehta, P. (in progress). Who kicks and who lifts? Dual-hormone profiles predict how women treat other women in the workplace. Data collection in progress.

## Invited Presentations and Symposia

---

**Emerson, K. T. U. & Murphy, M. C.** (2011, April). Determining when “smart” includes “me:” How organizational theories of intelligence influence perceptions of companies for members of underrepresented groups. Presented at the 4<sup>th</sup> Biannual University of Illinois Diversity Summit, Pontiac, IL.

## Chaired and Co-Chaired Symposia

---

Carter, E. R., **Emerson, K. T. U.,** & Murphy, M. C. (2012, June). Perceiving and managing the bias of people and places. Presented at the 9<sup>th</sup> Biennial Convention of the Society for the Psychological Study of Social Issues (SPSSI), Charlotte, NC.

## Conference Paper Talks and Symposia

---

**Emerson, K. T. U.,** Murphy, M. C., Dweck, C. S., Chatman, J. A., & Kray, L. (2014, May). Personal and organizational lay theories predict employee experiences in companies. Presented at the 86<sup>th</sup> Annual Meeting of the Midwestern Psychological Association (MPA), Chicago, IL.

**Emerson, K. T. U. & Murphy, M. C.** (2014, January). Organizational lay theories of intelligence moderate identity-context conflicts for women and racial minorities. Presented at the 14<sup>th</sup> annual Convention of the Society for Personality and Social Psychology (SPSP), Austin, TX.

**Emerson, K. T. U.** (2013, April). Organizational lay theories of intelligence outside of the lab. Presented at the Biennial Conference of the Social Psychologists of Indiana, Bloomington, IN.

**Emerson, K. T. U. & Murphy, M. C.** (2012, June). The role of organizational lay theories in social identity threat. Presented at the 9<sup>th</sup> Biennial Convention of the Society for the Psychological Study of Social Issues (SPSSI), Charlotte, NC.

**Emerson, K. T. U. & Murphy, M. C.** (2012, May). The role of organizational lay theories in motivating majority and minority group members. Presented at the 5<sup>th</sup> Annual Meeting of the Society for the Study of Motivation, Chicago, IL.

**Emerson, K. T. U. & Murphy, M. C.** (2012, May). How organizational lay theories of intelligence impact academic performance. Presented at the 84<sup>th</sup> Annual Meeting of the Midwestern Psychological Association (MPA), Chicago, IL.

**Emerson, K. T. U. & Murphy, M. C.** (2010, April). Organizational lay theories of intelligence as a cue to diversity, values, & status. Presented at the 1<sup>st</sup> Annual Chicago Psychology Graduate Student Research Symposium, Chicago, IL.

## Conference Poster Presentations

---

**Emerson, K. T. U.** & Murphy, M. C. (2015, February). Organizational lay theories impact women's engagement in business contexts. To be presented at the 15<sup>th</sup> Annual Convention of the Society for Personality and Social Psychology (SPSP), Long Beach, CA.

**Emerson, K. T. U.**, Murphy, M. C., Dweck, C. S., Chatman, J. A., & Kray, L. (2014, June). Personal and organizational lay theories predict employees' real-world company experiences. Presented at the 10<sup>th</sup> Biennial Convention of the Society for the Psychological Study of Social Issues (SPSSI), Portland, OR.

**Emerson, K. T. U.** & Murphy, M. C. (2013, January). Organizational lay theories moderate stereotype threat underperformance. Presented at the 13<sup>th</sup> Annual Convention of the Society for Personality and Social Psychology (SPSP), New Orleans, LA.

**Emerson, K. T. U.** & Murphy, M. C. (2012, May). Organizational lay theories of intelligence impact academic performance for Whites and non-Whites. Presented at the 24<sup>th</sup> Annual Convention of the Association for Psychological Science (APS), Chicago, IL.

Antonic, M. A., **Emerson, K. T. U.**, Mercurio, L. D., & Murphy, M. C. (2012, May). Dissecting stereotype threat: Understanding the elements of stereotype threat affecting women's interest in STEM fields. Presented at the 84<sup>th</sup> Annual Meeting of the Midwestern Psychological Association (MPA), Chicago, IL.

Skourletos, J., **Emerson, K. T. U.**, Carter, E. R., & Murphy, M. C. (2012, May). Social identity and academic belonging: Creating environments to minimize the achievement gap among African American and Latino students. Presented at the 84<sup>th</sup> Annual Meeting of the Midwestern Psychological Association (MPA), Chicago, IL.

**Emerson, K. T. U.** & Murphy, M. C. (2011, January). Organizational lay theories of intelligence as a cue to diversity and prestige. Presented at the 12<sup>th</sup> Annual Convention of the Society for Personality and Social Psychology (SPSP), San Antonio, TX.

**Emerson, K. T. U.** & Murphy, M. C. (2010, June). Organizational lay theories of intelligence as a cue to diversity. Presented at the 8<sup>th</sup> Biennial Convention of the Society for the Psychological Study of Social Issues (SPSSI), New Orleans, LA.

## Teaching Experience

---

Primary Course Instructor: Statistical Techniques (Spring 2014)

Teaching Assistantships:

Summer 2013 & 2014, Fall 2014, Spring 2015: Laboratory in Social Psychology

Summer 2011: Writing in Psychology

Spring 2011, Summer 2010: Statistical Methods in Behavioral Science

Fall 2012, Fall 2011, Spring 2010: Social Psychology

Fall 2009: Introduction to Psychology

Spring 2013: Laboratory Course in Cognitive Psychology

Guest Lectureship:

Fall 2014: Social Psychology (Lecture topic: Aggression)

Fall 2011: Social Psychology (Lecture topic: Interpersonal Attraction)

## Teaching Interests

---

Social Psychology  
Undergraduate Statistics (introductory and advanced)  
Research Methods  
Research in Social Psychology (lab course)  
Prejudice, Stereotyping, and Discrimination  
Psychology of Gender/Women  
Industrial/Organizational Psychology  
Group Processes & Intergroup Relations  
Personality Psychology  
Introduction to Psychology

## Additional Training

---

Summer Institute in Social and Personality Psychology (SISPP), University of California, Davis  
(Davis, CA; 2013); Course topic: Social Neuroendocrinology

## Professional Service: Undergraduate Honors Thesis Mentorship

---

Mirjana Antonic (University of Illinois at Chicago)  
Joanne Skourletos (University of Illinois at Chicago)  
Karolina Szczygiel (University of Illinois at Chicago)  
Joseph Hegeman (Indiana University)

## Professional Service: Primary Reviewer

---

Personality and Social Psychology Bulletin (PSPB)

## Professional Service: Ad Hoc Reviewer

---

Social Psychology and Personality Science (SPPS)  
Group Processes and Intergroup Relations (GPIR)

## Professional Service: Committee Membership

---

Spring 2013-present: Indiana University Work-Life Balance Advisory Committee: Student representative  
Fall 2013-present: Graduate & Professional Student Organization (GPSO): Department assembly representative & diversity subcommittee member (IU)  
Fall 2010-Spring 2012: Graduate student member, Psychology Department's Committee on Diversity (UIC)

## Organization Affiliations

---

Association for Psychological Science (APS)  
Psi Chi National Honor Society in Psychology  
Social Psychology Network  
Society for Personality and Social Psychology (SPSP)  
Society for the Psychological Study of Social Issues (SPSSI)

## References

---

Dr. Mary Murphy  
Department of Psychological and Brain Sciences  
Indiana University  
1101 E. 10<sup>th</sup> St.  
Bloomington, IN 47405  
Email: mcpsych@indiana.edu  
Phone: (812) 855-4581

Dr. Robert Rydell  
Department of Psychological and Brain Sciences  
Indiana University  
1101 E. 10<sup>th</sup> St.  
Bloomington, IN 47405  
Email: rjrydell@indiana.edu  
Phone: (317) 431-1238

Dr. Eliot Smith  
Department of Psychological and Brain Sciences  
Indiana University  
1101 E. 10<sup>th</sup> St.  
Bloomington, IN 47405  
Email: esmith4@indiana.edu  
Phone: (812) 856-0196

Dr. Edward Hirt  
Department of Psychological and Brain Sciences  
Indiana University  
1101 E. 10<sup>th</sup> St.  
Bloomington, IN 47405  
Email: ehirt@indiana.edu  
Phone: (812) 855-4815