LYING, CHEATING, AND THE SOCIAL DYNAMICS OF ETHICAL DECISION

MAKING

Samuel Elliot Skowronek

A DISSERTATION

in

Operations, Information, & Decisions

For the Graduate Group in Managerial Science and Applied Economics

Presented to the Faculties of the University of Pennsylvania

in

Partial Fulfillment of the Requirements for the

Degree of Doctor of Philosophy

2022

Supervisor of Dissertation

Maurice E. Schweitzer

Cecilia Yen Koo Professor, Professor of Operations, Information and Decisions & Management

Graduate Group Chairperson

Nancy Zhang, Ge Li and Ning Zhao Professor, Professor of Statistics

Dissertation Committee

Katherine M. Milkman, James G. Dinan Endowed Professor, Professor of Operations, Information and Decisions Scott S. Wiltermuth, Associate Professor of Management and Organization, University of Southern California Rebecca L. Schaumberg, Assistant Professor of Operations, Information and Decisions

LYING, CHEATING, AND THE SOCIAL DYNAMICS OF ETHICAL DECISION

MAKING

COPYRIGHT

2022

Samuel Elliot Skowronek

DEDICATION

To my parents, Stephen and Susan Skowronek

ACKNOWLEDGMENT

I have a taken a long journey to my PhD, and I have many people to thank for helping me along the way. At Georgetown, Kurt Carlson introduced me to behavioral science. As an undergraduate transfer student, Kurt took a chance on me and gave me an opportunity to start life in research. I am very grateful he did. I would also like to thank my mentors at the Harvard Kennedy School, Julia Minson and Todd Rogers. Julia and Todd taught me how behavioral science can influence public policy and how to conduct rigorous research. Their support helped me become the researcher I am today.

My deepest debt is to my advisor, Maurice Schweitzer. Maurice encouraged me to develop my own intellectual perspective. He taught me how to be a scholar, encouraged me to take risks, and supported me throughout my degree. I cannot thank him enough for his patience and sound judgment. His mentorship and friendship are models which I will strive to emulate.

My dissertation committee - Katherine Milkman, Rebecca Schaumberg, and Scott Wiltermuth - pushed me to probe deeper in developing my ideas. Rebecca and Alex Rees-Jones set a standard of excellence for collaboration. I have received invaluable help from many other faculty members and student colleagues at Penn. These include Bradford Bitterly, Edward Chang, Celia Gaertig, Etan Green, Erika Kirgios, Joshua Lewis, Katie Mehr, Robert Mislavsky, Alice Moon, Aneesh Rai, and Bella Ren.

Finally, I am grateful for financial support from the Wharton Behavioral Lab, the Wharton Risk Center Russell Ackoff Doctoral Student Fellowship, the Operations, Information, and Decisions Department, the Baker Retail Center, and the Mack Institute for Innovation Management.

ABSTRACT

LYING, CHEATING, AND THE SOCIAL DYNAMICS OF ETHICAL DECISION MAKING

Samuel Elliot Skowronek

Maurice E. Schweitzer

Unethical behavior in organizations is pervasive. The social and economic consequences of unethical behavior are profound, and a large body of work in economics, psychology, and management has been dedicated to investigating organizational misconduct. Despite increased scholarly interest, there has been a strong methodological convergence in behavioral ethics experiments that has narrowed the scope of ethical decision-making research. In this dissertation, I use novel experimental methods to advance the study of ethical decision making both theoretically and methodologically. In Chapters 1 & 2, I highlight the limits of financially incentivized behavior and demonstrate how fear of shame and fear of embarrassment guide ethical judgment. In Chapter 1, I show that people will lie and sacrifice financial gain to avoid being embarrassed in front of others. In Chapter 2, I show that people can learn appropriate behavior from others' expressions of shame. I find that people will avoid the behavior that elicits shame in others even when paid to engage in that behavior and when the norms surrounding that behavior are otherwise ambiguous. In Chapter 3, I draw the conceptual distinction between cheating behavior and lying behavior. While prior work has considered the terms interchangeable, by identifying the two behaviors as distinct, I reconcile conflicting findings in behavioral

ethics. Together, this dissertation highlights the limitations of extant approaches and expands our understanding of ethical decision making.

ABSTRACT	ACKNOWLEDGMENT.	IV
LIST OF TABLESIX LIST OF ILLUSTRATIONSX CHAPTER 1: FEAR OF EMBARRASSMENT PROMOTES UNETHICAL BEHAVIOR	ABSTRACT	v
LIST OF ILLUSTRATIONSX CHAPTER 1: FEAR OF EMBARRASSMENT PROMOTES UNETHICAL BEHAVIOR	LIST OF TABLES	IX
CHAPTER 1: FEAR OF EMBARRASSMENT PROMOTES UNETHICAL BEHAVIOR	LIST OF ILLUSTRATIONS	X
INTRODUCTION 2 STUDY 1A 14 STUDY 1B 17 STUDY 2 19 STUDY 3 25 STUDY 4 30 STUDY 5 38 GENERAL DISCUSSION 44 REFERENCES 50 APPENDIX A 67 CHAPTER 2: SHAME BROADCASTS SOCIAL NORMS: THE POSITIVE SOCIAL EFFECTS OF SHAME ON NORM ACQUISITION AND NORMATIVE BEHAVIOR 73 INTRODUCTION 74 STUDY 1 77 STUDY 2 85 STUDY 3 90 STUDY 4 95 STUDY 5 104 GENERAL DISCUSSION 104 GENERAL DISCUSSION 104 GENERAL DISCUSSION 104 GENERAL DISCUSSION 104 GENERAL DISCUSSION 104 GENERAL DISCUSSION 106 THE NATURE OF LYING AND CHEATING 121 INTRODUCTION 122	CHAPTER 1: FEAR OF EMBARRASSMENT PROMOTES UNETHICAL BEHAVIOR	1
STUDY 1A.14STUDY 1B.17STUDY 2.19STUDY 3.25STUDY 4.30STUDY 5.38GENERAL DISCUSSION.44REFERENCES.50APPENDIX A.67CHAPTER 2: SHAME BROADCASTS SOCIAL NORMS: THE POSITIVE SOCIALEFFECTS OF SHAME ON NORM ACQUISITION AND NORMATIVE BEHAVIOR	INTRODUCTION	2
STUDY 1B.17STUDY 2.19STUDY 3.25STUDY 4.30STUDY 5.38GENERAL DISCUSSION.44REFERENCES.50APPENDIX A.67CHAPTER 2: SHAME BROADCASTS SOCIAL NORMS: THE POSITIVE SOCIALEFFECTS OF SHAME ON NORM ACQUISITION AND NORMATIVE BEHAVIOR73INTRODUCTION.74STUDY 1.77STUDY 2.85STUDY 3.90STUDY 4.95STUDY 5.104GENERAL DISCUSSION.110REFERENCES.114CHAPTER 3: DISENTANGLING DECEPTION: AN EMPIRICAL INVESTIGATION121INTRODUCTION.122	STUDY 1A	14
STUDY 2.19STUDY 3.25STUDY 4.30STUDY 5.38GENERAL DISCUSSION44REFERENCES.50APPENDIX A67CHAPTER 2: SHAME BROADCASTS SOCIAL NORMS: THE POSITIVE SOCIALEFFECTS OF SHAME ON NORM ACQUISITION AND NORMATIVE BEHAVIOR73INTRODUCTION74STUDY 1.77STUDY 2.STUDY 3.90STUDY 4.95STUDY 5.104GENERAL DISCUSSION110REFERENCES.114CHAPTER 3: DISENTANGLING DECEPTION: AN EMPIRICAL INVESTIGATIONOF THE NATURE OF LYING AND CHEATING121INTRODUCTION122	STUDY 1B	17
STUDY 3	STUDY 2	19
STUDY 4	STUDY 3	
STUDY 5	STUDY 4	30
GENERAL DISCUSSION44REFERENCES50APPENDIX A67CHAPTER 2: SHAME BROADCASTS SOCIAL NORMS: THE POSITIVE SOCIALEFFECTS OF SHAME ON NORM ACQUISITION AND NORMATIVE BEHAVIOR73INTRODUCTION74STUDY 177STUDY 285STUDY 390STUDY 495STUDY 5104GENERAL DISCUSSION110REFERENCES114CHAPTER 3: DISENTANGLING DECEPTION: AN EMPIRICAL INVESTIGATION121INTRODUCTION121INTRODUCTION122	STUDY 5	
REFERENCES50APPENDIX A67CHAPTER 2: SHAME BROADCASTS SOCIAL NORMS: THE POSITIVE SOCIALEFFECTS OF SHAME ON NORM ACQUISITION AND NORMATIVE BEHAVIOR	GENERAL DISCUSSION	44
APPENDIX A	REFERENCES	50
CHAPTER 2: SHAME BROADCASTS SOCIAL NORMS: THE POSITIVE SOCIAL EFFECTS OF SHAME ON NORM ACQUISITION AND NORMATIVE BEHAVIOR 73 INTRODUCTION	APPENDIX A	67
EFFECTS OF SHAME ON NORM ACQUISITION AND NORMATIVE BEHAVIOR 73 INTRODUCTION	CHAPTER 2: SHAME BROADCASTS SOCIAL NORMS: THE POSITIVE SO	OCIAL
73INTRODUCTION	EFFECTS OF SHAME ON NORM ACQUISITION AND NORMATIVE BEH	AVIOR
INTRODUCTION		
STUDY 1	INTRODUCTION	
STUDY 2		
STUDY 3	STUDY 2	
STUDY 4	STUDY 3	
STUDY 5	STUDY 4	
GENERAL DISCUSSION	STUDY 5	104
REFERENCES	GENERAL DISCUSSION	110
CHAPTER 3: DISENTANGLING DECEPTION: AN EMPIRICAL INVESTIGATION OF THE NATURE OF LYING AND CHEATING	REFERENCES	114
INTRODUCTION122	CHAPTER 3: DISENTANGLING DECEPTION: AN EMPIRICAL INVESTIG OF THE NATURE OF LYING AND CHEATING	ATION 121
	INTRODUCTION	122
PILOT STUDY	PILOT STUDY	129
STUDY 1	STUDY 1	
STUDY 2	STUDY 2	

TABLE OF CONTENTS

STUDY 3	. 143
GENERAL DISCUSSION	. 152
REFERENCES	. 158

List of Tables

Table 1	79
Table 2	
Table 3	89
Table 4	

List of Illustrations

Figure 1	
Figure 2	
Figure 3	
Figure 4	
Figure 5	
Figure 6	
Figure 7	
Figure 8	
Figure 9	
Figure 10	
Figure 11	
Figure 12	
Figure 13	
Figure 14	
Figure 15	
Figure 16	
Figure 17	
Figure 18	
Figure 19	
Figure 20	
Figure 21	
Figure 22	
Figure 23	

CHAPTER 1

FEAR OF EMBARRASSMENT PROMOTES UNETHICAL BEHAVIOR

Samuel E. Skowronek

Maurice E. Schweitzer

Prior work links fear of embarrassment with constructive organizational behaviors. In this article, we show for the first time that not only is fear of embarrassment pervasive in the workplace, but that it also predictably promotes *unethical* behavior. Across two surveys of full-time employees (N = 660), we show that approximately three quarters of employees fear embarrassment in the workplace; across four preregistered experiments (N = 1,728), we find that individuals systematically engage in costly deception to avoid fear of embarrassment. Underscoring the critical role of social evaluations in ethical decision making, our investigation also makes novel methodological contributions. In contrast to the dominant experimental paradigms in behavioral ethics research that use economic rewards to incentivize unethical behavior, we introduce paradigms that use economic incentives to encourage honesty, reflecting the reality that individuals lie far more often for social and psychological reasons than they do for economic rewards.

Introduction

"Fear of embarrassment helps bring behavior in line with certain accepted social rules... Without its impact there would be social anarchy, and social discourse, as it exists, would be virtually impossible." - F.X. Gibbons (1990, p. 138)

Fear of embarrassment may play a critical role in the workplace (Fineman, 1996; Goffman, 1956). It can increase trust behavior (Derfler-Rozin, Pillutla, & Thau, 2010), shape perceptions of ethical standards (Smith-Crowe & Warren, 2014; Warren & Smith-Crowe, 2008), help organizations maintain workplace hierarchies (Feldman, 1984), and promote social order and group cohesion (Fineman, 1996; Gibbons, 1990; Goffman, 1967; Harré, 1990; R. S. Miller & Leary, 1992).

Consistent with this scholarship, many law enforcement agencies have used fear of embarrassment to incentivize desirable behavior. For example, police departments in the United Kingdom, Canada, Australia, and the United States have posted mug shots of people convicted of drunk driving on social media to deter drinking and driving (Chandler, 2019), and judges in the United States have increasingly used embarrassment to deter illegal activity; in separate cases, judges have sentenced criminals to hold signs in public spaces that read: "I was stupid", "I stole mail", and "I stole from a 9-year-old on her birthday! Don't steal or this could happen to you" (Associated Press, 2008, 2009; Reutter, 2015; Shteir, 2006). A judge in Ohio sentenced men who had solicited sex to take turns wearing a chicken suit while holding a sign denouncing brothels (Borger & Jackson, 2008). The judge explained his reasoning, "It is too easy to put people in jail...They go to jail and . . . it does not deter the crime...There is nothing wrong with a little humiliation and embarrassment" (Donaldson, 2019).

Despite its broad use in the legal system and the constructive role it is presumed to play in organizations, surprisingly little empirical work has answered calls to explore how fear of embarrassment influences behavior (Heath & Sitkin, 2001). In our investigation, we document why this omission is so striking. We provide the first quantitative evidence that fear of embarrassment exerts a pervasive and powerful influence in the workplace. In addition, our findings challenge the conceptualization of fear of embarrassment as a constructive force that promotes adherence to organizational norms. Though fear of embarrassment promotes constructive behaviors in some domains, fear of embarrassment can also systematically promote deception and unethical behavior.

Our investigation makes several contributions. First, we provide the first empirical evidence that both fear of embarrassment and the actual experience of embarrassment are ubiquitous in the workplace. Second, our findings fundamentally advance our understanding of the relationship between emotion and ethical decision making. Third, in contrast to the dominant experimental paradigms in the behavioral ethics literature that use economic rewards to incentivize unethical behavior, we introduce experimental paradigms that underscore the importance of emotion and social evaluations in driving unethical decision making.

Ethical Decision Making

A substantial and growing literature has used experiments to investigate ethical decision making. This work has advanced our understanding of how economic incentives (Tenbrunsel, 1998; Warren & Schweitzer, 2018), available justifications (Barkan, Ayal,

& Ariely, 2015; Wiltermuth, 2011), and cultural norms (Gunia & Levine, 2019; Soraperra et al., 2017) impact ethical behavior. Reflecting the magnitude of this literature, two recent meta-analyses reviewed studies that included nearly 45,000 participants (Abeler, Nosenzo, & Raymond, 2019; Gerlach, Teodorescu, & Hertwig, 2019). Though substantial, the behavioral ethics literature suffers from a number of important limitations. One key limitation is the relative paucity of experimental paradigms that scholars have used to study unethical behavior. In fact, this literature has relied exclusively on experimental paradigms that use monetary rewards to incentivize unethical behavior. In all of the dominant experimental paradigms, participants who choose unethical actions earn larger payoffs.

Though many unethical decisions do yield higher payoffs (e.g., lying on an expense report, cheating on a tax form), people frequently deceive for non-financial motives. In a longitudinal study of deception, DePaulo and colleagues (1996) found that of all of the times people lied, they lied for "material gain" only 40 percent of the time. More often, individuals lied for psychic gains "to make themselves appear kinder or smart or more honest than they believe themselves to be and to protect themselves from embarrassment or disapproval or conflict" (1996, p. 991). In related work, these authors found that impression management concerns are second only to Machiavellianism as correlates of everyday lying (Kashy & DePaulo, 1996). Notably, both investigations relied on self-reports, which may suffer from the same impression management concerns that promote deception. As a result, the actual importance of impression management concerns as an antecedent to deception may be even greater than these scholars identify (Leavitt & Sluss, 2015; Serota, Levine, & Boster, 2010).

4

Building on this research, behavioral ethics scholars have identified impression management as an important factor in ethical decision making (Choshen-Hillel, Shaw, & Caruso, 2020; Gneezy, Kajackaite, & Sobel, 2018; Mazar, Amir, & Ariely, 2008). These scholars have found that individuals will often curtail their use of deception and forgo economic rewards to appear honest. This finding has led scholars to assert that impression management concerns encourage honesty. We challenge this assertion. We argue that the prior findings that support the assertion that impression management concerns promote honesty have restricted the way impression management concerns can impact ethical decision making. In the canonical deception paradigms, the desire to be honest and the desire to appear honest (i.e., make a favorable impression) both motivate honesty. In our work, we pit these two motivations against each other. We show that the desire to make a favorable impression can override the desire to be honest. We show that in many cases, individuals will be dishonest to make a favorable impression. Our study designs are very different from those that have been used in prior scholarship. In our studies, we incentivize participants to act *honestly* and show that participants will engage in deception—and lose money—in order to save face.

Ethical Decision Making and Emotions

An important stream of research has begun to explore the link between emotion and unethical behavior. Several scholars have induced emotions to study links between emotions and ethical behavior. These studies have found that envy, anger, and anxiety can promote unethical behavior by, respectively, increasing the perceived psychological benefits of deception (Moran & Schweitzer, 2008), decreasing empathic concern for others (Yip & Schweitzer, 2016), and increasing perceived threats (Kouchaki & Desai, 2015).

Across these investigations, scholars have studied incidental emotions by using inductions that are unrelated to the ethical dilemma (e.g., watching a movie clip prior to making an ethical decision). The focus on incidental emotions has enabled scholars to develop important insights, but this approach is limited in important ways. Individuals who predict the onset of an aversive emotion (such regret, embarrassment, and sadness) often experience an anticipatory emotion that guides them away from those negative feelings (Lerner, Li, Valdesolo, & Kassam, 2015). The study of incidental emotions precludes the investigation of this kind of navigation because it dissociates the emotion from its cause. In our investigation, we treat fear of embarrassment as an integral emotion and test how fear of embarrassment motivates behavior in response to the stimuli that evoked it.

Embarrassment

Embarrassment is a quintessential social emotion. In contrast to other emotions, embarrassment occurs almost exclusively in the presence of others (Goffman, 1967; Keltner & Buswell, 1997; R. S. Miller, 1992, 1996; Schlenker, 1980). Individuals feel embarrassed when they wish to create or maintain a positive impression, but perceive that observers have seen them commit a pratfall or demonstrate ineptitude (Edelmann, 1987; Keltner & Buswell, 1997; R. S. Miller, 1996). We build on prior work (Edelmann, 1987; R. S. Miller, 1996; R. S. Miller & Leary, 1992; Schlenker, 1980) to define embarrassment as *an aversive state of mortification that reflects a feeling of threat to the way individuals wish to be perceived by others*. Most empirical studies of embarrassment have focused on differentiating embarrassment from shame and guilt (Keltner & Buswell, 1996, 1997; R. S. Miller, 1992; R. S. Miller & Tangney, 1994; Parrott & Smith, 1991; Tangney, Miller, Flicker, & Barlow, 1996). Little research, however, has studied how embarrassment influences behavior.¹ This is a surprising omission because, as we document, embarrassment pervades organizations and can profoundly influence decision making. In our work, we address this open question by investigating how the prospect of embarrassment influences behavior.

Fear of Embarrassment

Every social encounter holds the possibility of embarrassment (Goffman, 1967; R. S. Miller, 1996) and, as a result, fear of embarrassment is omnipresent. Fear of embarrassment arises whenever individuals doubt that they are capable of making a favorable impression on others (Leary & Kowalski, 1995; Schlenker & Leary, 1982).

We conceptualize fear of embarrassment as an anticipatory emotion, like anticipated regret or anticipated guilt (Loewenstein, Weber, Hsee, & Welch, 2001; Mellers & McGraw, 2001). Anticipatory emotions can significantly affect individuals' risk perceptions and cognitive appraisals (Baron, 1992; Baumeister, Vohs, Nathan DeWall, & Zhang, 2007; Schlösser, Dunning, & Fetchenhauer, 2013). For example, prior work has shown that anticipated regret influences escalation of commitment (Wong &

¹ We searched for articles in top management journals (*Journal of Applied Psychology, Academy of Management Journal, Academy of Management Review, Organization Science, Organizational Behavior and Human Decision Processes, and Administration Science Quarterly) for work published on embarrassment. Specifically, we used Web of Science to conduct a search for the word stem "embarrass" in the title, abstract, author generated key words, and KeyWords Plus (key words generated by a machine learning tool that searches within the article) in all articles published in these journals since 1990. Our search returned only twelve articles. In contrast, this same search yielded 93 articles for the key words "anger" or "angry." This search was conducted on September 10, 2020.*

Kwong, 2007) and perceptions of fairness (Van der Schalk, Kuppens, Bruder, & Manstead, 2015), and that anticipated guilt and anticipated gratitude influence job performance (Grant & Wrzesniewski, 2010). Building on prior work (Van Boven, Loewenstein, & Dunning, 2005), we consider fear of embarrassment as the negativelyvalenced anticipatory emotion characterized by the anticipation of embarrassment.

Scholars have made broad claims about the social importance of fear of embarrassment. Fear of embarrassment has been considered a powerful emotion that serves as "an essential component of socialization and social control" (R. S. Miller & Leary, 1992, p. 209). This conceptualization has led some scholars to consider fear of embarrassment as the primary driver of classic conformity behavior, such as the bystander intervention effect, pluralistic ignorance, and obedience (Sabini, Siepmann, & Stein, 2001; Sabini & Silver, 2005). Work to support these conjectures, however, is sparse. Only a handful of studies have directly documented how fear of embarrassment influences behavior.² This work has found that individuals will forego monetary rewards (Brown, 1970) and avoid interacting with others to avoid potentially embarrassing events (Edwards, 1975; McDonald & McKelvie, 1992; Teichman, 1973).

The paucity of quantitative evidence has not deterred speculation about fear of embarrassment. Organizational scholars have conjectured that fear of embarrassment plays a crucial role in enforcing organizational norms (Clark, 1990; Fineman, 1996) and codes of conduct (Crozier, 1990; Warren & Smith-Crowe, 2008). In fact, scholars have asserted—with little evidence—that fear of embarrassment represents the "major

² Most studies dedicated to investigating the behavioral consequences of fear of embarrassment were conducted in the 1970s with a limited number of studies and small sample sizes. For example, Brown (1970), conducted two 2x2 laboratory experiments with 48 and 44 participants in each experiment.

affective instrument of conformity" (Harré, 1990, p. 181) that "ensure[s] that behavior in organizations hold to certain normative codes" (Fineman, 1996, p. 551). That is, scholars have assumed that fear of embarrassment motivates employees to conform to organizational rules. Although some organizational scholars have considered drawbacks to high levels of fear of embarrassment (Edmondson, 1999; Morrison & Milliken, 2000), the drawbacks scholars have identified (e.g., not criticizing others' ideas) derive from an underlying desire to follow organizational rules.

Taken together, prior work has presumed that the anticipation of embarrassment motivates adherence to social norms and codes of conduct and helps organizations maintain order and organizational hierarchies. We challenge these assumptions. Rather than deterring subversive behaviors and promoting desirable behaviors, we demonstrate that the fear of embarrassment can promote unethical behavior.

Fear of Embarrassment and Deception

Behavioral ethics scholars have overlooked fear of embarrassment as a potential antecedent to ethical decision making. We assert that this is an important omission for three reasons. First, fear of embarrassment powerfully motivates behavior. Across a diverse set of social situations, scholars have demonstrated that fear of embarrassment plays a profound role in individual decision making (Brown, 1970; Latané & Darley, 1970; Leary, Tchividijian, & Kraxberger, 1994; D. T. Miller & McFarland, 1987).

Second, embarrassment is very likely to influence ethical decision making. Embarrassment is routinely grouped with guilt and shame as one of three negativelyvalenced, self-conscious moral emotions (Lewis, 1993; Tangney, Stuewig, & Mashek, 2007; Tracy & Robins, 2004). Although embarrassment, guilt, and shame guide individuals to reflect upon themselves in relation to ideal social or moral standards (Tangney, Mashek, & Stuewig, 2005; Tracy et al., 2007), and anticipated guilt and shame have both been linked with ethical decision making (Tangney et al., 2007), no prior work has linked embarrassment or fear of embarrassment with ethical decision making.

Third, fear of embarrassment has been linked with withdrawal behaviors. The medical decision making literature points to fear of embarrassment as an antecedent to failing to exercise (Courneya & Hellsten, 1998), delaying testing for STDs (Leenaars, Rombouts, & Kok, 1993), delaying cancer screening (Consedine & Moskowitz, 2007), and failing to use or purchase condoms (Dahl, Manchanda, & Argo, 2001; Herold, 1981). This literature shows that when adherence to social norms appears insufficient to avoid embarrassment, fear of embarrassment can promote avoidance and self-harm.

Together, these research streams show that fear of embarrassment is a powerful emotion, that it is closely tied to other emotions that influence moral decision making, and that it can motivate undesirable withdrawal. We argue that when conformity and avoidance appear insufficient to maintain a positive impression on others, fear of embarrassment promotes unethical behavior. We therefore make the following hypothesis:

Hypothesis 1: *Compared to individuals in a neutral state, individuals experiencing fear of embarrassment are more likely to engage in unethical behavior.*

Others' Beliefs

Fear of embarrassment reflects a concern that others will form negative judgments. One strategy to mitigate this concern is to offer explanations for the potentially embarrassing behavior. For example, explanations such as "It was an accident," "I'm not the only one who..." "I didn't know," and "He (she) made me do it" (Sharkey & Stafford, 1990, p. 337) may diminish perceptions of responsibility and ultimately curb feelings of embarrassment (Cupach & Metts, 1992; Metts & Cupach, 1989; Sharkey & Stafford, 1990). Similarly, scholars have speculated that in-store purchases of Penthouse and Playboy are more often accompanied with other nonembarrassing purchases relative to purchases of *Newsweek* and *Time*, because "buying additional items such as gum or candy can be seen as a means of saying 'I really came in to buy other things" (Lewittes & Simmons, 1975, p. 42; Blair & Roese, 2013). This reasoning also helps account for the finding that individuals in experimental studies are more willing to embarrass themselves in front of others for monetary rewards when they know that audience members are aware of the monetary reward than when they know that audience members are unaware of the payment (Brown, 1970). These findings highlight the important role of explanations in moderating the influence of fear of embarrassment on unethical behavior. Individuals can limit the negative inferences that audience members make about them if they can attribute their counter-normative behavior to an external cause. In contrast, individuals who are unable to offer an explanation for their counter-normative behavior are unable to curb their impression management concerns. We predict that individuals who are unable to offer an explanation for an embarrassing action they will need to perform will be more likely to deceive to avoid having to perform the embarrassing action. When the target behavior is socially acceptable, however, the influence of available explanations is significantly diminished. Building on this logic, we develop our second hypothesis:

Hypothesis 2: Audience knowledge will moderate the relationship between fear of embarrassment and unethical behavior: For the same embarrassing activity, individuals are more likely to engage in unethical behavior to avoid it when they are unable to explain the reason for their embarrassing behavior compared to when they are able to provide an explanation.

Perspective taking

High arousal emotion, such as anger and fear of embarrassment, can trigger "hot" cognitive states (Van Boven et al., 2005; Yip & Schweitzer, 2019). Compared to low arousal states, hot states can promote quicker and riskier decision making (Evans, 2008; Leith & Baumeister, 1996). Hot cognition enables individuals to make faster decisions (Keltner & Haidt, 2001), but it may degrade the quality of decisions. In particular, we consider how fear of embarrassment may impair perspective taking in a way that causes individuals to be more likely to engage in deception.

Prior work has found that individuals judge the same embarrassing activity to pose a greater social cost to themselves than to others (Edelmann, 1987). That is, individuals expect that others would be less ostracized after engaging in an embarrassing action than they would be themselves. As a result of this perspective-taking failure, individuals may rationalize selfish behavior, believing that the social costs others incur for engaging in an embarrassing action is smaller than the social costs they themselves would incur for engaging in the same action.

Similarly, individuals often believe that others are less embarrassable than themselves (Prentice & Miller, 1996; Van Boven et al., 2005). In one study, Van Boven and colleagues (2005) asked participants to perform an embarrassing act in exchange for a payment. They found that participants expected that others would demand less compensation—implying they would be less embarrassed—than they would be themselves. When confronted with the prospect of an embarrassing experience, individuals collapse their focus on the upcoming experience and fail to take others' perspectives. Behavioral ethics research has shown that this type of perspective-taking failure can decrease empathic concern for others (Martinez, Stuewig, & Tangney, 2014) and increase the tendency to behave unethically (O'Reilly & Doerr, 2020; Yip & Schweitzer, 2016, 2019).

Interestingly, these perspective-taking failures are also unexpected. Individuals in a cold cognitive state not only fail to exhibit these cognitive distortions, but they also fail to anticipate them (Van Boven, Loewenstein, Welch, & Dunning, 2012). Taken together, we assert that fear of embarrassment causes an unexpected concern for the self, which prompts individuals to take action to engage in self-protective, and potentially otherharming behavior. This reasoning leads us to our third hypothesis:

Hypothesis 3: *The inability to take the perspective of others will mediate the relationship between fear of embarrassment and unethical behavior.*

Research Overview

We report the results of two survey studies, two laboratory experiments, and two online experiments. In Study 1a, we find that both fear of embarrassment and the experience of embarrassment are commonplace at work. In addition, we find that half of employees admit that they lie to avoid feeling embarrassed at work. In Study 1b, we show that the deception employees engage in to avoid embarrassment at work frequently harms the organization. Across four experiments, we induce fear of embarrassment and link fear of embarrassment with deception. These studies document the first evidence linking fear of embarrassment with unethical behavior. In Study 2, we show that fear of embarrassment can promote unethical behavior. In Study 3, we incentivize truth-telling and find that participants will still lie to avoid embarrassment. In Study 4, we incentivize truth-telling and test whether the inability to take others' perspectives mediates the relationship between fear of embarrassment and unethical behavior. In Study 5, we incentivize truthtelling a third time and test the moderating effect of audience knowledge on the relationship between fear of embarrassment and unethical behavior. Throughout this work, we show that, rather than promoting conformity or constructive behavior, fear of embarrassment can promote unethical behavior. We preregistered all experiments and analyze and report all manipulations and measures here

https://osf.io/uqfhn/?view_only=f2be5e46e9e14cd480b434e74b9c6d44

Study 1a

Though scholars have asserted that embarrassment is pervasive, no published work (to the authors' knowledge) has documented how often people feel or fear embarrassment. Stonehouse and Miller (1994), in an unpublished poster, present the only quantitative data on the frequency with which embarrassment is experienced. These authors asked college students to record their embarrassing experiences in a diary over an eight-week period. They found that college students experience embarrassment about 1.5 times every seven days. No study has documented the frequency of embarrassment in the workplace nor has any study documented whether fear of embarrassment motivates employees to take action to avoid it. In Study 1a, we assess the frequency of both the fear and experience of embarrassment in the workplace.

Method

Participants

We recruited 504 full-time employees via Prolific (43% female, $M_{age} = 34.57$ years, SD = 9.79) in exchange for \$0.50. A total of 502 participants completed the survey and, on average, participants had 13.97 years (SD = 9.86) of work experience. We analyze all responses.

Design and Procedure

After passing an attention check, participants answered the following four questions: 1) *Have you ever felt embarrassed at work?*, 2) *Have you ever worried about feeling embarrassed at work?*, 3) *Have you ever taken action to avoid feeling embarrassed at work?*, and 4) *Have you ever lied to avoid feeling embarrassed at work?*. Participants then indicated how often this occurs for each question they answered affirmatively.

Results

Most participants reported that they experience (80%) and worry about experiencing (71%) embarrassment in the workplace. Moreover, 74% of participants report taking action to avoid embarrassment at work and almost half of the respondents (49%) report that they have lied to avoid embarrassment at work (see Fig. 1).

Figure 1

The frequency that full-time employees experience, fear, take action, and lie to avoid embarrassment at work.



Note: In Study 1a (N = 504), we asked full-time employees four questions about the experience of embarrassment at work. The figure reports how participants answered each question. We used an empty OLS regression to derive the errors bars. Vertical lines represent ±1 standard error.

We find that embarrassment is a pervasive workplace emotion. Approximately half of participants report feeling embarrassment (45%) or worry about being embarrassed (53%) at work at least once per month. Moreover, 50% of participants report taking action to avoid embarrassment at least once per month and 31% of participants report doing so at least once every couple of weeks. Approximately one fifth of participants (19%) report lying to avoid embarrassment at least once per month. In the *Supplementary Materials*, we report the complete frequencies and percentages of how often participants report each of these experiences (Table S1) and how these experiences correlate with basic workplace demographics (Table S2).

Discussion

These findings reveal that approximately three quarters of employees fear, experience, and act to avoid embarrassment at work and that half of employees have lied to avoid embarrassment at work. Individuals are often averse to disclosing unflattering information (Tourangeau & Yan, 2007), so these reported values likely understate the prevalence and adverse consequences of embarrassment in the workplace.

Study 1b

Study 1a reveals that employees frequently lie to avoid embarrassment. Lies, however, are not always harmful (Levine & Schweitzer, 2015). In fact, much of the impression management literature has assumed that impression management concerns, when they motivate deception, motivate prosocial or "white" lies (Schlenker & Pontari, 2000). In Study 1b, we investigate the kinds of lies employees tell to avoid embarrassment. In particular, we explore whether fear of embarrassment motivates lies that harm the organization.

Participants

We recruited 156 full-time employees via Prolific (41% female, M_{age} = 33.58 years, SD = 9.45) in exchange for \$0.70. On average, participants had 13.84 years (SD = 9.63) of work experience. A total of 151 participants completed the survey. We analyze all responses. This study was preregistered on AsPredicted.org (aspredicted.org/blind.php?x=ma69xs).

Design and Procedure

Participants first answered the four questions we included in Study 1a assessing the frequency with which they experience, fear, and act to avoid embarrassment at work. We then asked participants who reported that they had lied to avoid embarrassment at work to describe a recent time they had lied to avoid embarrassment, to describe what they were concerned about, and to describe how their lie differed from the truth (see *Supplementary Materials* for exact text of each question).

Following our preregistered analysis plan, two research assistants coded participants' open-ended responses and categorized the lies they reported. These research assistants assessed whether the lies harmed the organization.

Results

Consistent with our findings in Study 1a, 43% of participants reported that they had lied to avoid embarrassment at work. Raters judged many of the lies to be harmful to the organization (40%), about half not to be harmful (53%), and we were unable to categorize a few (6%). In exploratory analysis, we noticed that many lies people told were to their supervisor. We found that 28% of lies that could be categorized were lies respondents told to their supervisors. Examples of lies that harmed the organization include the following:

Example 1. I messed up the count on the register so I blamed someone else for the error. It was my mistake... The manager accepted my story and just 'kept an eye out' for more errors...- Female, 32 years of age, 16 years of work experience. Example 2. I told a superior that I knew how to handle a problem/project when I didn't. I lied. I did not know how to handle the problem/project and as the weeks went on I did not get any work done...- Female, 32 years of age, six years of work experience.

Example 3. I explained that something was not possible... I later found out the thing I mentioned was impossible was actually possible. I did not correct the error, but allowed others to pursue an alternative method of resolving the problem...- Male, 32 years of age, nine years of work experience.

Discussion

Results from Studies 1a and 1b reveal that fear of embarrassment is pervasive in organizations and can be harmful to them. We establish these findings across two surveys, even though social desirability concerns may have caused respondents to understate the frequency with which they engaged in harmful behaviors to avoid embarrassment.

Studies 2, 3, 4 and 5

We extend our investigation in Studies 2-5 to document the causal relationship between fear of embarrassment and unethical behavior. Across these studies, we use different inductions and different experimental paradigms to measure unethical behavior. We consistently find that fear of embarrassment promotes unethical behavior.

Study 2 Miming

In Study 2, we conduct the first experimental test of the relationship between fear of embarrassment and unethical behavior. In Study 1b we find that fear of embarrassment in the workplace is often triggered by the presence of an evaluative audience. Therefore, in Study 2, we use an evaluative audience as part of our fear of embarrassment induction.

Method

Participants

We recruited 241 individuals affiliated with a university in the northeastern United States to participate in a behavioral lab study in exchange for \$10. A total of 239 participants completed the study (69% female, $M_{age} = 20.82$ years, SD = 3.10). One participant left the study after hearing the instructions and one participant experienced a technical problem and did not generate data. We report the number of participants in each session in Table S3. This study was preregistered on AsPredicted.org: aspredicted.org/blind.php?x=m4pe9x.

Design and Procedure

Our procedure involved two stages. In the first stage, participants completed an anagram (word unscrambling) task (Ruedy & Schweitzer, 2010). We informed participants that their performance on this task would determine what they would do in Stage 2 of the experiment and we gave participants the opportunity to self-report their performance.

Stage 1: Cheating Task. In the first stage of the experiment, we handed participants a manila folder. Inside the folder was a worksheet labeled "Task 1". The Task 1 worksheet contained 30 letter strings (e.g., "AETMKR"). We asked participants to solve as many of the anagrams (e.g., "MARKET") as they could in three minutes.

After three minutes, the experimenter instructed participants to stop working and to tear the Task 1 worksheet from the manila folder. The experimenter then collected the manila folder. After learning about the second part of the study, the experimenter distributed the answer key and asked participants to correct their own work and submit their scores. Unbeknownst to participants, the manila folder contained a sheet of carbon paper that recorded the anagrams that participants had solved. We detect cheating in this paradigm by comparing the correctly solved anagrams on the carbon paper to the number of anagrams participants reported that they solved. We include details of this method and an image of the carbon paper in Appendix A and the *Supplementary Materials*.

Stage 2: Fear of Embarrassment Manipulation. In the second stage of the experiment, the experimenter handed each participant a packet labeled "Task 2" and read the instructions aloud. Across sessions, we assigned participants to either the Fear of Embarrassment condition or the Control condition.

In both conditions, participants learned that they would be assigned to one of two roles and that their role would be determined by their performance on Task 1. In the Fear of Embarrassment condition, participants learned that they would either be an Actor or an Evaluator. In the Control condition, participants learned they would be either be a Helper or a Sitter.

We told participants that top performers on Task 1 (those who performed above the median) would be assigned to the role of Evaluator (or Sitter in the Control condition) and the bottom half of performers would be entered into a raffle to determine which two participants would be the Actors (or Helpers in the Control condition). Participants in the bottom half who were not selected by the raffle would be Evaluators (or Sitters). In the Fear of Embarrassment conditions, we described the Actor and Evaluator roles in the following way:

Actor: Each person assigned to be an actor will stand at the front of the lab and will perform two mimes, each for 30 seconds. Actors might mime animals (like an elephant or a snake), inanimate objects (like a washing machine or a piece of scotch tape) or human functions (like feeling constipated or feeling surprised). We will show the actors an index card that tells them what mime to perform, at which point the actors will immediately start their performances. Actors will not have time to prepare.

Evaluator:

If you are assigned to the role of evaluator, you will move your chair so that you can see the actors' performances, receive a clipboard with an evaluation sheet, and critically evaluate the actors' performances. On the evaluation sheet, you will also be asked to guess what the actors are performing.

In the Control condition, we described the Helper and Sitter role in the following way: Helper:

Each person assigned to be a helper will help the experimenters with two tasks, each for 30 seconds. Helpers might pass out pens or post-it notes. Helpers will know what they will perform after they are assigned to that role.

Sitter:

If you are assigned to the role of sitter, you will sit in your chair quietly for two minutes.

After hearing these instructions, participants in the Fear of Embarrassment condition reviewed the three-question evaluation sheet that participants assigned to be Evaluators would use to evaluate each Actor's performance. The experimenter then directed participants to the final page of their packet that contained an answer key to the anagram task. We instructed participants to use the answer key to count the number of anagrams they correctly solved and to write their total at the bottom of their Task 1 worksheet. The experimenter then collected the Task 1 worksheets, conducted the raffle for participants below the median score, and announced the lab IDs of the two participants drawn from the raffle.

The two participants selected by the raffle came to the front of the room. The experimenter handed clipboards to the Evaluators and instructed them to gather around the Actors to view their performances. The experimenter then handed an index card to the first Actor that read "Waterfall," whereupon the Actor mimed a waterfall for 30 seconds while the Evaluators completed the evaluation sheet. The first actor then performed a second mime ("Bicycle") and was evaluated, and then the second actor performed two mimes ("Blender" and "Dog") and was evaluated. In the Control condition, participants assigned to be Helpers passed out office supplies to the other participants. The first Helper passed out paper clips and index cards, and the second Helper passed out pencils and rubber bands.

After the performances, we handed all participants a questionnaire that asked them to indicate how much they felt confident, self-assured, embarrassed, anxious, uncertain, and competitive ($1 = Not \ at \ all$, $7 = Very \ Much$). We also asked participants to describe how they felt when they first learned that they might be assigned to the role of Actor (Helper) and their age and gender. Finally, we debriefed, compensated, and dismissed the participants.

Results

Cheating. The amount of cheating was greater in the Fear of Embarrassment condition than it was in the Control condition. Specifically, participants in the Fear of Embarrassment condition (N = 127) claimed to have solved nearly two anagrams (M =

1.89, SE = 0.29) more than they had actually solved, over-stating their performance by an average of 27%. Participants in the Control condition (N = 112) over-stated their performance significantly less, by about one anagram (M = 1.08, SE = 0.23, t(237) = -2.16, p = .031, d = 0.28). We depict this result in Figure S1.

The magnitude of cheating was different across conditions, but the incidence of cheating was not significantly different; the number of participants who cheated in the Fear of Embarrassment condition (44%) was not significantly greater than the number of participants who cheated in the Control Condition (38%, $\chi^2(1, N = 239) = 1.07 p = .301$, d = 0.13).

Experienced Embarrassment. Our manipulation shifted feelings of felt embarrassment. Participants assigned to the role of Actor (N = 26) were significantly more embarrassed (M = 4.77, SE = 0.27) after their performances compared to those assigned to the role of Helper (N = 26) (M = 3.12, SE = 0.30, t(50) = -4.11, p = .0001, d =1.14). In addition to finding a difference for embarrassment, we also found a difference for feelings of competitiveness, but we did not find significant differences for selfassuredness, confidence, uncertainty, or anxiety. In Table S4, we report the effect of condition assignment for all of the measures we collected.

Discussion

Prior work that has conceptualized fear of embarrassment as an emotion that promotes social cohesion and ethical behavior. This study is the first to demonstrate that fear of embarrassment can promote unethical behavior. Rather than promoting constructive organizational behavior, fear of embarrassment may promote deception and cheating.

Study 3: Condoms and Bananas

In Study 3, we extend our investigation in three key ways. First, we introduce a new embarrassment induction that affords a more conservative test of our thesis and is methodologically easier to use. The fear of embarrassment induction we introduce in this study does not involve an evaluative audience. Second, we introduce a new paradigm to measure unethical behavior. Third, we incentivized participants to behave honestly with a cash bonus.

Participants

We recruited 253 individuals affiliated with a university in the northeastern United States to participate in a behavioral lab study in exchange for \$10.00. All participants were under the age of 30. We analyze 251 of these participants (74% female, $M_{age} = 20.73$ years, SD = 1.92).³ This study was preregistered on AsPredicted.org (aspredicted.org/blind.php?x=z37ni5).

Design and Procedure

In each of the 21 sessions of this experiment, we randomly assigned all participants in each session to either the Fear of Embarrassment condition or the Control condition. In both conditions, participants walked past a table as they entered the behavioral lab and sat at their assigned cubicles. In the Fear of Embarrassment condition, participants walked past a table that had two large glass bowls full of condoms and three

³ In accordance with our preregistration, we exclude two participants who participated for course credit and who could not earn monetary compensation for this study. We chose to exclude these participants a priori because they answered the primary dependent variable knowing that they could not earn extra money for being assigned to the role of Actor. The statistical significance of the results does not change if we include these participants in the analyses.

bunches of bananas. In the Control condition, participants walked past a table with a ream of letters and a large box of envelopes.

Participants sat at individual cubicles, and in each cubicle participants had a consent form, two pieces of paper faced down (labeled "Page One" and "Page Two") and two plastic cups stacked on top of each other. After collecting the consent form, the experimenter asked participants to turn over Page One and follow along as the experimenter read the instructions aloud. Participants learned that they would be assigned to either the role of Actor or the role of Observer. We informed participants that those assigned to the role of Observer would be escorted into the focus room and watch all of the Actors' performances.

We described the Actors' performances differently across the two conditions. Participants in the Fear of Embarrassment condition learned that each Actor:

...will be escorted into the focus room one at a time. In the focus room, Actors will be handed three bananas and three condoms. Actors will place one condom on each banana in front of the observers. Actors will have 30 seconds to place all three condoms.

Participants in the Control Condition learned that each Actor would have 30 seconds to fold three letters and place these letters in three envelopes in front of the Observers.

We informed participants that we would assign them to the role of Actor or Observer based upon the outcome of their roll of two dice. The roll of two dice in this study is actually part of a new paradigm we introduce to detect unethical behavior in the laboratory, the *Odd-Even Dice Task*. This task is similar to the die-in-cup task (Shalvi,
Dana, Handgraaf, & De Dreu, 2011), but in contrast to the die-in-cup task it enables researchers to directly measure cheating. That is, rather than relying on statistical inferences, the Odd-Even Dice Task can detect cheating at the individual level.

Odd-Even Dice Task. We informed participants that the stacked cups on their cubicle contained two six-sided dice, and that each possible dice roll corresponds to a certain number of points. We told participants that those with the most points (The Top Half) would be assigned to the role of Observer and that those with the fewest points (The Bottom Half) would be assigned to the role of Actor. We provided participants with a Dice Scoring Table on the back of Page Two (See Appendix A) that indicated how many points participants would earn for each possible dice roll.

The two dice participants rolled looked like regular dice, but in reality, were quite different. Instead of fair six-sided dice, we gave participants one Odd Die that only included numbers 1, 3, and 5, and one Even Die that only included numbers 2, 4, and 6 (See Appendix A). For both dice, the duplicated numbers were on opposite sides of the cube. When participants rolled their dice, the sum of their dice always yielded an odd number. The Dice Scoring Table translated their dice roll to points. In this table, rolls that correspond to odd numbers earn 10 points; rolls that correspond to even numbers earn points ranging from 11 to 22. That is, any participant who reports an even number misrepresented their role to earn additional points.

Across both conditions, participants silently read instructions informing them that if they were assigned to the role of Actor, they would earn a \$1.00 bonus for completing this study, but that Observers would be unaware of this bonus during their performance. We informed participants that their cubicle had been randomly selected for these additional instructions. As a result, participants were unaware that others in the room had this additional information.

Participants then rolled the dice in the cup and reported the number of points they earned at the bottom of Page One. The experimenter then collected both pages and handed participants a three-question survey that asked participants two questions to assess fear of embarrassment: "*If you are assigned to the role of Actor, how concerned are you that the Observers in the focus room will evaluate you negatively?*" and "*If you are assigned to the role of Actor, how concerned are ssigned to the role of Actor, how embarrassed do you expect to be when you perform in front of the Observers?*" (1 = *Not at all,* 7 = *Very Much*). The last question asked participants to describe the study in their own words. The experimenter then collected these surveys and announced that there was not enough time to complete the study.

Results

Suspicion. To assess suspicion about the dice, we asked participants to describe the study in their own words. In the descriptions participants provided, none reported any skepticism about the dice.

Manipulation check. The two items designed to measure fear of embarrassment were highly correlated ($\alpha = .84$) so we averaged them to create a composite measure of fear of embarrassment. As predicted, participants in the Fear of Embarrassment condition (M = 3.89, SE = 0.15) feared embarrassment more than those in the Control condition (M= 3.43, SE = 0.14, t(248) = -2.24, p = .026, d = 0.28).⁴

⁴ All participant responses were handwritten. A couple participants skipped some questions and others participants' answers were illegible. Specifically, two participants did not answer at least one or both of the manipulation check questions and two participants' reported number of points were illegible.

Cheating. Supporting Hypotheses 1, compared to participants in the Control condition (N = 127), participants in the Fear of Embarrassment condition (N = 124) lied to a greater extent and lied more frequently. We depict these results in Figure 2. Participants in the Fear of Embarrassment condition over reported the number of points they earned from their dice roll (M = 12.22, SE = 0.36) more than participants in the Control condition (M = 10.71, SE = 0.20, t(247) = -3.73, p < .001, d = 0.47). Moreover, the number of participants who misreported their rolls in the Fear of Embarrassment condition (27%) was approximately 2.5 times greater than the number of participants who misreported their rolls in the number of participants who misreported their rolls in the number of participants who misreported their rolls in the number of participants who misreported their rolls in the number of participants who misreported their rolls in the number of participants who misreported their rolls in the number of participants who misreported their rolls in the number of participants who misreported their rolls in the number of participants who misreported their rolls in the number of participants who misreported their rolls in the number of participants who misreported their rolls in the number of participants who misreported their rolls in the number of participants who misreported their rolls in the number of participants who misreported their rolls in the Control Condition (11%, z = -3.23, p = .001, d = 0.42).

Figure 2





Note: Participants lied to avoid embarrassment. Panel A depicts the average amount of misreporting across conditions. Panel B depicts the frequency of misreporting across conditions. Vertical lines represent ± 1 standard error. We show the complete histogram of reports in Figure S2.

Discussion

In this study, we again find that fear of embarrassment promotes unethical behavior. Notably, in both Studies 2 and 3, lying was selfish. By advancing their own interests, participants harmed their peers' expected outcomes. This finding is consistent with our survey results in Study 1b; deception motivated by fear of embarrassment can harm others.

In this study, we also make an important methodological advance in the study of behavioral ethics. All of the canonical behavioral ethics paradigms use economic incentives to tempt people to engage in unethical behavior. As our findings in Studies 1a and 1b reveal, emotions can powerfully motivate people to engage in unethical behavior. The paradigm we use in this study uses economic incentives to promote *ethical* behavior. To our knowledge, this is the first behavioral ethics study to show that people will engage in unethical behavior to lose money. This is an important step in advancing our understanding of how important and pervasive non-economic factors are in motivating unethical behavior.

Study 4: *Fifty Shades of Grey*

In Studies 2 and 3, we document a causal link between fear of embarrassment and unethical behavior. In Studies 4 and 5, we extend our investigation to explore potential mechanisms.

In Study 4, we investigate the potential mediating role of perspective taking to explain the link between fear of embarrassment and deception. Prior work has shown that fear of embarrassment can increase self-focused cognition and the tendency to take risks. If fear of embarrassment harms the ability of individuals to take others' perspectives, individuals may become more likely to engage in self-serving deception because they focus on the benefits of lying for themselves and neglect the harmful costs of their behavior to others.

In Study 4, we explore the influence of fear of embarrassment and unethical behavior in an unobservable online setting. Fear of embarrassment and impression management concerns are inextricably linked, and we postulate that observability will moderate the relationship between fear of embarrassment and deception. Specifically, we consider the possibility that people will lie to avoid embarrassment when their deception cannot be observed but avoid lying when their deception can be observed. In this study, we use a large, online sample and conduct preregistered parametric and nonparametric tests to explore the relationship between fear of embarrassment and unethical behavior.

Participants

We recruited 766 participants via Amazon Mechanical Turk (MTurk) to participate in a six-minute online survey in exchange for \$0.90. We analyze the 616 participants (53% female, M_{age} = 38.20 years, SD = 12.32) who passed our preregistered exclusion criteria. This study was preregistered on AsPredicted.org: https://aspredicted.org/blind.php?x=2ds44w.

Design and Procedure

We informed participants that as part of this study we would ask them to upload an audio recording of themselves reading a short passage from a novel. We required participants to correctly answer a question about this instruction to proceed. We then presented participants with images of two books and a 38-40 word excerpt from each novel. We told participants that we were working on a project that required many people to read short excerpts from various novels and that the excerpts below the novel covers were similar to the length and content of the excerpt they would record and upload (see Appendix A).

We used two different novels in each of the two conditions. In the Fear of Embarrassment condition (N = 306), participants saw an image of two books: *Fifty Shades of Grey* (James, 2012) and *A Wrinkle in Time* (L'Engle, 1962). Below the *Fifty Shades of Grey* cover, participants read the excerpt:

"Very slowly, he pulls down my sweatpants. Oh, how demeaning is this? Demeaning and scary and hot. He's making such a meal of this. My heart is in my mouth. I can barely breathe...is this going to hurt?" (2012, p. 274)

Below the A Wrinkle in Time cover, participants read the excerpt:

"Calvin led Meg across the lawn. The shadows of the trees were long and twisted and there was a heavy, sweet autumnal smell to the air. Meg stumbled as the land sloped suddenly downhill, but Calvin's strong hand steadied her." (1962, p. 56)

Participants assigned to the Control condition (N = 309) saw two books. One was exactly the same image and excerpt from a *Wrinkle in Time* as the one we used in the Fear of Embarrassment condition. In the Control condition, the second image and excerpt was from *The Phantom Tollbooth* (Juster, 1961):

"Up he went-- very quickly at first-then more slowly-- then in a little while even more slowly than that--and finally, after many minutes of climbing up the endless stairway, one weary foot was barely able to follow the other." (1961, p. 193) After reading the excerpts, we informed participants that other MTurk workers would listen to their recordings in a future study and that coin flips would determine whether they would read excerpts from the first or the second novel. On the following screen, participants learned that they would earn a \$0.10 bonus if they were assigned to read an excerpt from *Fifty Shades of Grey (The Phantom Tollbooth)*. That is, in the Fear of Embarrassment condition, participants would earn more money to read a passage from the more embarrassing novel.

Participants then answered two items designed to measure perspective taking: "What is the smallest amount of money you would need to be compensated to volunteer to read from Fifty Shades of Grey (The Phantom Tollbooth)?" On the same page, we asked participants to estimate the smallest amount of money, on average, that other participants taking the study would need to be paid to volunteer to read Fifty Shades of Grey (The Phantom Tollbooth). Participants could enter any dollar value they wished for both questions.

Next, we instructed participants to complete an online version of the Coin Task (Gino & Wiltermuth, 2014). Specifically, we asked participants to find a coin near them and flip it 10 times. We told participants that the total number of "Heads" they flipped would determine which book they were assigned to read. We presented participants with a table that indicated the percent chance they would be assigned to read from *Fifty Shades of Grey (The Phantom Tollbooth)* for each number of heads that they flipped. In this table, participants had 100% chance of reading *Fifty Shades of Grey (The Phantom Tollbooth)* if they flipped zero heads, a 90% chance if they flipped one head, an 80% if they flipped two heads, etc. The last row of the table showed that participants had a 0%

chance of being assigned to read *Fifty Shades of Grey (The Phantom Tollbooth)* if they flipped ten heads. Before instructing participants to flip their coin, participants answered two questions to assess their understanding of these instructions (see *Supplementary Materials* for details). Participants who passed the comprehension check were then asked to flip their coin and indicate the total number of heads that they flipped.

On the next page, participants answered the question: "*How concerned are you that you would feel embarrassed while reading Fifty Shades of Grey (The Phantom Tollbooth)*?" and answered the same question for *A Wrinkle in Time* (seven-point Likert scales, 1 = Not at all, 7 = Very Much). Finally, we ended the study by informing participants that the software was unable to generate their passage and that the study would conclude after they answered demographic questions.

Results

Manipulation check. Participants in the Fear of Embarrassment condition feared embarrassment (M = 3.62, SE = 0.13) more than those in the Control condition (M = 1.86, SE = 0.09, t(614) = -11.10, p < .0001, d = 0.89).

Lying. Although we cannot link individual behavior with deception in this paradigm, we build on a substantial body of research that has used statistical inferences to identify the use of deception across conditions (e.g., Weisel & Shalvi, 2015). In this study, to assess unethical behavior we compare the number of "Heads" participants reported across the two conditions.

Supporting Hypotheses 1, participants in the Fear of Embarrassment condition reported that they had flipped a significantly higher number of total heads (M = 5.10, SE = 0.10) relative to participants in the Control condition (M = 4.67, SE = 0.11, OLS with

robust standard errors t(614) = 2.90, p = .004, d = 0.23, Mann-Whitney U(N = 616) = 41,119, p = .004). We depict the distribution of reports across conditions in Figure S3.

Self vs. Other Estimates. To investigate the mediating effect of perspective taking on the link between Fear of Embarrassment and unethical behavior, we examine each component of our perspective-taking measure separately. In this study, participants indicated their own willingness to volunteer to read Fifty Shades of Grey (The Phantom *Tollbooth*) and their estimate of others' willingness to do the same. We preregistered that we would winsorize both responses at the 95% percentile to account for extreme responses. On average, participants reported that they would require almost twice as much compensation to read *Fifty Shades of Grey* themselves (M =\$1.36, SE = 0.12) compared to how much compensation others would require (M = \$0.76, SE = 0.06, t(305)) = 6.09, p < .0001 d = 0.35, Wilcoxon signed-rank test, z=-3.90, p = .001). In the Control condition, participants' willingness to record themselves reading the *Phantom Tollbooth* (M = \$0.68, SE = 0.08) was directionally greater than participants' estimate of others' willingness to do the same (M =\$0.54, SE = 0.05), but the significance of this effect depends on the test statistic: t(309) = 2.81, p = .005, d = 0.16, Wilcoxon signed-rank test, z = 0.05, p = .960. Using a mixed-effects linear regression, we find a significant interaction between condition assignment and the gap between participants' own and other's willingness to read the excerpt (B = 0.47, SE = 0.11, p < .001, shown in Fig. 3).

Figure 3

Fear of embarrassment limits perspective taking.



Note: Participants (N = 616) indicated the smallest amount of money they would need to be compensated to volunteer to read from *Fifty Shades of Grey* (*The Phantom Tollbooth*) and the smallest amount they believed others would need to volunteer to do the same. The figure shows the point estimates from a mixed-effects linear regression in which condition assignment is the between-subjects factor and participants' answers to each question is the within-subjects factor. We winsorized both responses at the 95th percentile prior to running the regression. Vertical lines represent ±1 standard error.

Perspective Taking. Consistent with prior work (Van Boven et al., 2005) and our

preregistration, we derive our measure of perspective taking by subtracting participants'

raw estimate of others' willingness to accept reading from the Fifty Shades of Grey (The

Phantom Tollbooth) from the amount they needed themselves. We then winsorized this

difference at the 2.5th and 97.5th percentiles. This difference can be interpreted as the

amount of money participants need to be compensated over and above the amount that they think others would need to be compensated for the same activity. We find that participants' perspective taking is less accurate when they faced the prospect of embarrassment (M = \$0.84, SE = 0.15) than when they did not (M = \$0.17, SE = 0.08, OLS with robust standard errors t(614) = 3.89, p < .001, d = 0.31, Mann-Whitney U(N = 616) = 42,203, p = .014. See Fig. S4).

To test the mediating effect of perspective taking, we use a structural equation model in which we simultaneously regress our measure of participants' perspective taking and condition assignment on participants' report and regress participants' condition assignment on our measure of participants' perspective taking. The model reveals a significant indirect effect of perspective taking ([Indirect effect: $\beta = 0.05$, CI [0.002, 0.122], p = .044). However, we generated 95% confidence intervals around the point estimates of the model using 10,000 bootstrapped resamplings of the model. Using this nonparametric approach, we find that 13% of the total effect is mediated through participants' perspective taking, but that perspective taking in this nonparametric model does not significantly mediate the relationship between condition assignment and participants' report ([Indirect effect: $\beta = 0.05$, CI[-0.012, 0.122], p = .107).

Discussion

In Studies 2 and 3, participants were young adults who were part of a community who completed the study in close physical proximity to each other. These factors increase the salience of potentially embarrassing experiences (Buss, 1980). Study 4 affords a more conservative test of our thesis. In this study, we recruited adults across the country to complete a study in relative anonymity, far apart from each other. Still, as in Studies 2 and 3, we find that fear of embarrassment promotes unethical behavior. We further find that fear of embarrassment significantly inhibits perspective taking, and that diminished perspective taking is linked to both fear of embarrassment and unethical behavior.

Study 5: Stories

In Study 5, we explore how making economic incentives for behavior public might moderate the relationship between fear of embarrassment and unethical behavior. We expect fear of embarrassment to be diminished when observers can attribute behavior to contextual factors, such as economic incentives, rather than personal factors. In this study, we make the incentive system either public or private and randomly assign participants to one of four conditions from a 2(Fear of Embarrassment vs. Control) X 2(Public Incentive vs. Private Incentive) between-subjects design.

Method

Participants

We recruited 779 participants via MTurk to participate in an eight-minute online survey in exchange for \$1.00. We report analyses for the 622 participants (53% female, $M_{age} = 39.41$ years, SD = 12.58) who passed our preregistered exclusion criteria (See Table S5). We preregistered this study on AsPredicted.org (https://aspredicted.org/blind.php?x=d37kw7).

Design and Procedure

After agreeing to participate, we told participants that they would be paired with another participant in a chatroom and that they would write several sentences as part of the study. Participants then passed an attention check that assessed their understanding of these instructions and an audio check that ensured participants could play audio files embedded within the study software.

We then asked participants to recall two events. For the first event, participants recalled the name of a TV show or movie that they had watched and the month and year that they watched it. The second event varied by condition. Participants in the Fear of Embarrassment condition recalled an embarrassing event. Specifically, we asked participants to recall, "*The most embarrassing public gaffes that you may have made a work, in your romantic life, or in your ordinary interactions with strangers.*" We asked participants to indicate where this event occurred and the month and year that it happened. Participants in the Control condition indicated the name of a website that they had recently visited and the month and year that they visited it.

Across conditions, participants then listened to a recording of a narrator reading the next set of instructions. Participants learned that they would be paired with another participant taking this study and that one participant would be assigned Role A and the other would be assigned to Role B. If assigned to Role A, participants would write about the TV show or movie that they indicated on the previous page. The description of Role B varied across conditions. Participants in the Fear of Embarrassment condition learned:

If you are assigned to **Role B** you will write a detailed description of your embarrassing experience that you identified on the previous page. In your description you will state how mortified you felt and how awkward the situation was. You should also describe who witnessed your embarrassment and describe how they reacted to your social discomfort.

Participants in the Control condition learned:

If you are assigned to **Role B** you will write a detailed description of the website you identified on the previous page. In your description you will describe the purpose of the website and the content it provides.

We told participants that they would write four sentences about their event regardless of their role and that they would be placed in a chatroom to share what they had written with their partner. Before proceeding, participants answered two questions to ensure that they understood these instructions.

On the next page, participants listened to a second set of audio instructions. The narrator informed participants that they were assigned to Role B but that they could switch to Role A before the interaction task with their partner. We told participants that they would participate in a coin flipping task, that they would receive 1 point each time they flipped "Heads," and that if they were in the top 25% of point holders taking the study, they would be reassigned to Role A. Participants then answered three comprehension-check questions to ensure that they understood this information.

Public vs. Private Incentives. On the next page, we told participants that they would earn a \$0.10 bonus if they remained assigned to Role B. We also told participants that we would send a message to their partner before the interaction task. Participants in the Public Incentive conditions learned that their counterpart would read: "We provided your partner with a large bonus if they remained assigned to Role B. They will share their embarrassing experience (description of a website) with you on the next page." Participants in the Private Incentive conditions learned that their counterpart would read: "Your partner chose to share their embarrassing experience (description of a website) with you on the next page."

The Coin Task. After reading this message, participants proceeded to complete the Coin Task. As in Study 4, we asked participants to find a coin and flip it 10 times. In this study, however, we did not provide participants with a table of possible outcomes. Instead, we told participants that they earned one point each time they flipped Heads. We reminded participants that if they were in the top 25% of point holders after 10 flips, they would be reassigned to Role A. Participants then reported the number of Heads that they had flipped.

On the next page, participants answered the question: "*How concerned are you that you would feel embarrassed if you remained assigned to Role B?*" and answered a similar question if they were reassigned to Role A (1 = Not at all, 7 = Very Much). To conclude the study, we informed participants that the experimenters were unable to match the participant with a counterpart and asked them to answer demographic questions.

Results

Manipulation check. Participants in the Fear of Embarrassment conditions feared embarrassment more if they were assigned to Role B (M = 3.32, SE = 0.12) than did those in the Control conditions (M = 1.68, SE = 0.08, t(620) = 11.81, p < .001, d = 0.95).

Lying. As we found in Studies 2, 3, and 4, fear of embarrassment promoted unethical behavior. Participants assigned to the Fear of Embarrassment conditions (N = 294) lied to a great extent than those in the Control conditions (N = 328). Participants in the Fear of Embarrassment conditions reported flipping a significantly higher number of

heads (M = 5.46, SE = 0.11) than did those in the Control conditions (M = 4.69, SE = 0.11, t(620) = 5.03, p < .001, d = 0.40, Mann-Whitney U(N = 622) = 36,760, p < .001).⁵

Knowledge of incentives. To investigate the moderating effect of audience knowledge (Hypothesis 2), we ran an OLS regression with robust standard errors on participants' reports using the interaction between the two between-subjects factors and each factor separately as predictor variables. As depicted in Figure 3, the interaction term was directional but nonsignificant (B = -0.44, SE = 0.31 p = .151). However, we find some support for our theorizing. When participants knew that their incentive was public knowledge (N = 149), they cheated less (M = 5.27, SE = 0.15) than when they believed their audience was unaware (N = 145) of their economic incentive (M = 5.68, SE = 0.16, t(292) = -2.06, p = .040, d = 0.24, Mann-Whitney U(N = 294) = 9,317, p = .039). As expected, we found no effect for public knowledge of the incentive in the Control condition (Public Incentive (N = 160): M = 4.68 SE = 0.16, Private Incentive (N = 168): M = 4.69, SE = 0.14, ps>.9).

⁵ Twenty-three participants reported flipping ten heads, 14 of which were in the Fear of Embarrassment conditions. The difference of proportions across conditions was directional but nonsignificant (p = .183).

Figure 4

Moderation effect of audience knowledge on fear of embarrassment and unethical behavior



Note: Individuals lied to avoid embarrassment, especially when they thought observers would not know that they were paid a bonus payment to do so. Vertical lines represent ± 1 standard error.

Discussion

We again document a robust relationship between fear of embarrassment and unethical behavior. We used novel methods to induce fear of embarrassment and find that people were significantly more likely to misreport their performance when they faced the prospect of an embarrassing experience.

In this study, we also explore a potential moderating mechanism to account for the relationship between fear of embarrassment and unethical behavior. Specifically, we consider how public versus private knowledge about an ulterior (e.g., economic) motive for engaging in embarrassing behavior may influence the concern individuals experience about the prospect of engaging in that behavior.

General Discussion

For decades, scholars have asserted that fear of embarrassment is a "desirable agent of social control...encouraging each of us to be steadfastly moral and respectable" (R. S. Miller, 1996, p. 164). Inspired by this conceptualization, leading scholars have asserted that fear of embarrassment promotes adherence to social norms and ethical behavior (C. Clark, 1990; Gibbons, 1990; Goffman, 1956; Keltner & Haidt, 1999; Kemper, 1993; Leary & Kowalski, 1995; Lieberman, Duke, & Amir, 2019; Schlenker & Leary, 1982). Our findings challenge this conceptualization. For the first time, we show that fear of embarrassment, rather than promoting "steadfastly moral and respectable" behavior, can promote unethical behavior.

Across four experiments, we document a robust relationship between fear of embarrassment and deception. In Study 2, we find that fear of embarrassment in a miming task motivates individuals to lie about their anagram performance. In Studies 3, 4, and 5, we show that fear of embarrassment motivates participants to lie even when we gave participants an economic incentive for behaving ethically. Interestingly, in Studies 2 and 3, when individuals engaged in deception, they harmed others by increasing other participants' likelihood of being embarrassed. These findings in particular challenge the prevailing assertion about that fear of embarrassment promotes socially desirable behavior.

Our findings also demonstrate that fear of embarrassment is a pervasive workplace emotion. Across the two surveys in Study 1, we find that most employees both experienced and feared the experience of embarrassment. In addition, consistent with our experiments, half of respondents report that they had engaged in deception to avoid being embarrassed at work. In many of the cases respondents described, the actions they took to avoid embarrassment harmed the organization. Our findings not only identify an important antecedent of unethical behavior, but also may in fact identify one of the most common reasons for why people lie.

Our findings make several important theoretical contributions. First, our work advances our understanding of embarrassment and social conformity. Specifically, we show that when individuals are unable to avoid embarrassment through conformity, they may engage in unethical behavior.

A few scholars have considered the possibility that fear of embarrassment may not promote desirable organizational behavior. These scholars, however, have completely overlooked the possibility that fear of embarrassment might promote unethical behavior. Instead, this work has focused on how high levels of fear of embarrassment might harm organizations by limiting employee voice (Morrison, 2014; Morrison & Milliken, 2000) and participation (Edmondson, 1999).

Our findings make important contributions to ethical decision making scholarship. By studying the link between embarrassment and unethical behavior, our findings deepen our understanding of the influence of affect as an antecedent to unethical behavior, and answers an explicit call for work in this area (Avramova & Inbar, 2013). In addition, our work underscores the importance of psychological protection in motivating unethical behavior. Not only did participants in our studies not face an economic incentive to engage in deception, but they also could have earned more money by *not* engaging in

45

deception. Our experimental paradigms offer new approaches for studying unethical behavior and challenge the ubiquitous use of economic incentives to tempt participants to engage in unethical behavior. Existing behavioral ethics research has employed paradigms that implicitly assume that the primary (or sole) reason people engage in unethical behavior is for additional economic rewards. Our findings and experimental paradigms underscore an important fact: people routinely engage in unethical behavior for reasons that have nothing to do with economic incentives.

Our investigation also makes an additional methodological contribution. The diein-cup task is one of the most popular tasks for studying deception (Gächter & Schulz, 2016; Gerlach et al., 2019; Maréchal, Cohn, Ugazio, & Ruff, 2017; Shalvi et al., 2011). It is simple to implement and it affords participants a strong sense of anonymity. Moreover, scholars have found that lying in this paradigm correlates with workplace behaviors, such as unexcused absenteeism (Hanna & Wang, 2017), not paying for public transportation (Dai, Galeotti, & Villeval, 2017), and keeping undeserved pay (Potters & Stoop, 2016). However, a major drawback of the die-in-cup paradigm is that it limits researchers' understanding of individual decision making. Scholars using the die-in-cup paradigm have had to rely on statistical inference to identify unethical behavior, because researchers cannot identify deception at the individual level. We introduce a new paradigm, the Odd-Even Dice Task, which retains the simplicity and sense of anonymity of the die-in-cup task but enables researchers to measure deception at the individual level. Our paradigm offers scholars a powerful tool to link manipulations and situational variables with individual behavior.

We also make two methodological contributions to the discrete emotions literature. First, prior work has employed a fairly limited set of fear of embarrassment inductions. In our investigation, we introduce three face-valid designs to induce fear of embarrassment. All three inductions evoke a loss of social control and failure of privacy regulation (Keltner & Buswell, 1997), core features of embarrassment.

In our investigation, we also expand our understanding of anticipatory emotions. Prior experimental work has largely focused on incidental emotions because they have been conceptualized as conservative tests of the way emotions influence decision making (Gino & Schweitzer, 2008). This focus, however, has limited our understanding of how emotions influence behavior. Neuroscientists, for example, have found that anticipatory emotions are essential for functional social interactions (Bechara, Damasio, & Damasio, 2000; Beer, Heerey, Keltner, Scabini, & Knight, 2003). The exclusive focus on how individuals react to the presence of stimuli after experiencing an emotion, and the disregard for the emotions that guide individuals to choose or avoid those stimuli in the first place has limited our understanding about how emotions affect behavior. Our work begins to address this shortcoming by treating fear of embarrassment as an integral, rather than incidental emotion. This line of inquiry, however, is far from complete. The behavioral consequences of anticipatory regret, guilt, shame, happiness, and anger have all received slight attention—and certainly far less attention than the behavioral consequences following the experience of these emotions. We call for future work to focus on how anticipatory emotions guide behavior.

In addition to theoretical and methodological contributions, our findings inform management practice. Leading managers and scholars have advocated for greater candid and critical feedback to promote learning and development (Dalio, 2017; Levine & Cohen, 2018; Rosen & Tesser, 1970). Our findings suggest that managers should implement these systems with caution and be particularly mindful of the embarrassment these systems can create. Our findings reveal that fear of embarrassment is pervasive in the workplace and that these feelings can promote unproductive and harmful organizational behaviors. Guided by our findings, we call for managers to be mindful of the prevalence of embarrassment and fear of embarrassment in the workplace. Managers may be able to curb fear of embarrassment in their workplace by limiting experiences that are highly evaluative, unfamiliar, and that include large audiences with high status members (Hershcovis, Ogunfowora, Reich, & Christie, 2017; Keltner & Buswell, 1996, 1997; R. S. Miller, 1992; R. S. Miller & Tangney, 1994; Parrott & Smith, 1991; Tangney et al., 1996). At the same time, we call for managers to be especially vigilant for unethical behavior in settings like these that are likely to promote fear of embarrassment.

In our work, we focused on the relationship between fear of embarrassment and unethical behavior. Our findings challenge prior work that has characterized fear of embarrassment as a force for promoting social cohesion and order. We note, however, that important features of our studies, such as the opportunities to engage in unethical behavior, enabled us to identify this relationship. In very different settings, we believe that fear of embarrassment can promote conformity and avoidance, just as prior scholars have asserted (Asch, 1956; Latané & Darley, 1968). We call for future work to extend our investigation to study contextual factors that moderate the influence of fear of embarrassment on organizational behavior.

Conclusion

48

Prior work has conceptualized fear of embarrassment as a force that promotes ethical behavior and social order. Gibbons (1990, p. 138) asserts that without "fear of embarrassment... there would be social anarchy." We challenge this assertion and show that fear of embarrassment can promote self-serving, unethical behavior. In addition, we are the first to document the prevalence of fear of embarrassment in the workplace and reveal that fear of embarrassment can drive employees to engage in behaviors that harm organizations. Quite possibly, by diminishing fear of embarrassment we can make our organizations more inclusive, more effective, and more ethical.

References

- Abeler, J., Nosenzo, D., & Raymond, C. (2019). Preferences for Truth-Telling. *Econometrica*, 87(4), 1115–1153. https://doi.org/10.3982/ECTA14673
- Asch, S. E. (1956). Studies of independence and conformity: I. A minority of one against a unanimous majority. *Psychological Monographs: General and Applied*, 70, 1– 70. http://dx.doi.org/10.1037/h0093718
- Associated Press. (2008, November 27). Eau Claire criminal spends holiday holding 'I was stupid' sign. *Twin Cities*. Retrieved from https://www.twincities.com/2008/11/27/eau-claire-criminal-spends-holidayholding-i-was-stupid-sign/
- Associated Press. (2009, November 3). Pa. Mom, daughter admit stealing from girl, 9. *NBC News*. Retrieved from http://www.nbcnews.com/id/33606449/ns/us_newsweird_news/t/pa-mom-daughter-admit-stealing-girl/
- Avramova, Y. R., & Inbar, Y. (2013). Emotion and moral judgment. Wiley Interdisciplinary Reviews: Cognitive Science, 4, 169–178. https://dx.doi.org/10.1002/wcs.1216
- Barkan, R., Ayal, S., & Ariely, D. (2015). Ethical dissonance, justifications, and moral behavior. *Current Opinion in Psychology*, *6*, 157–161.
 https://doi.org/10.1016/j.copsyc.2015.08.001
- Baron, J. (1992). The effect of normative beliefs on anticipated emotions. *Journal of Personality and Social Psychology*, 63, 320–330. http://dx.doi.org/10.1037/0022-3514.63.2.320

- Baumeister, R. F., Vohs, K. D., Nathan DeWall, C., & Zhang, L. (2007). How emotion shapes behavior: Feedback, anticipation, and reflection, rather than direct causation. *Personality and Social Psychology Review*, *11*, 167–203. https://dx.doi.org/10.1177/1088868307301033
- Bechara, A., Damasio, H., & Damasio, A. R. (2000). Emotion, Decision Making and the Orbitofrontal Cortex. *Cerebral Cortex*, 10(3), 295–307. https://doi.org/10.1093/cercor/10.3.295
- Beer, J. S., Heerey, E. A., Keltner, D., Scabini, D., & Knight, R. T. (2003). The regulatory function of self-conscious emotion: Insights from patients with orbitofrontal damage. *Journal of Personality and Social Psychology*, 85(4), 594.
- Blair, S., & Roese, N. J. (2013). Balancing the Basket: The Role of Shopping Basket
 Composition in Embarrassment. *Journal of Consumer Research*, 40(4), 676–691.
 https://doi.org/10.1086/671761

Borger, J., & Jackson, J. (2008, June 16). Could humiliation be the next weapon in our war on crime? *The Guardian*. Retrieved from https://www.theguardian.com/society/2008/jun/17/prisonsandprobation.internatio nalcrime

Brown, B. R. (1970). Face-saving following experimentally induced embarrassment. Journal of Experimental Social Psychology, 6, 255–271. https://dx.doi.org/10.1016/0022-1031(70)90061-2

Buss, A. H. (1980). Self-consciousness and social anxiety. San Francisco: Freeman.

Chandler, S. (2019, August 18). Increasing Police Use Of Social Media Shaming Carries Grave Privacy Risks. *Forbes*. Retrieved from https://www.forbes.com/sites/simonchandler/2019/08/18/increasing-police-useof-social-media-shaming-carries-grave-privacy-risks/

- Choshen-Hillel, S., Shaw, A., & Caruso, E. M. (2020). Lying to appear honest. Journal of Experimental Psychology: General, 149(9), 1719–1735. https://doi.org/10.1037/xge0000737
- Clark, C. (1990). Emotions and micropolitics in everyday life: Some patterns and paradoxes of "place." In T. D. Kemper (Ed.), *Research agendas in the sociology* of emotions (pp. 305–333). Albany: State University of New York Press.
- Consedine, N. S., & Moskowitz, J. T. (2007). The role of discrete emotions in health outcomes: A critical review. *Applied and Preventive Psychology*, *12*, 59–75. https://dx.doi.org/10.1016/j.appsy.2007.09.001
- Courneya, K. S., & Hellsten, L.-A. M. (1998). Personality correlates of exercise behavior, motives, barriers and preferences: An application of the five-factor model.
 Personality and Individual Differences, 24, 625–633.
 https://dx.doi.org/10.1016/S0191-8869(97)00231-6
- Crozier, W. R. (1990). Introduction. In W. R. Crozier (Ed.), *Shyness and embarrassment: Perspectives from social psychology*. Cambridge, England: Cambridge University Press.
- Cupach, W. R., & Metts, S. (1992). The effects of type of predicament and embarrassability on remedial responses to embarrassing situations.
 Communication Quarterly, 40(2), 149–161.
 https://doi.org/10.1080/01463379209369830

- Dahl, D. W., Manchanda, R. V., & Argo, J. J. (2001). Embarrassment in consumer purchase: The roles of social presence and purchase familiarity. *Journal of Consumer Research*, 28, 473–481. https://dx.doi.org/10.1086/323734
- Dai, Z., Galeotti, F., & Villeval, M. C. (2017). Cheating in the lab predicts fraud in the field: An experiment in public transportation. *Management Science*, 64, 1081–1100. https://doi.org/10.1287/mnsc.2016.2616
- Dalio, R. (2017). Principles. New York: Simon and Schuster.
- DePaulo, B. M., Kashy, D. A., Kirkendol, S. E., Wyer, M. M., & Epstein, J. A. (1996).
 Lying in everyday life. *Journal of Personality and Social Psychology*, 70(5), 979–995. https://doi.org/10.1037/0022-3514.70.5.979

Derfler-Rozin, R., Pillutla, M., & Thau, S. (2010). Social reconnection revisited: The effects of social exclusion risk on reciprocity, trust, and general risk-taking. *Organizational Behavior and Human Decision Processes*, *112*(2), 140–150.
https://doi.org/10.1016/j.obhdp.2010.02.005

Donaldson, S. (2019). Cleveland woman holding "idiot" sign only the latest oddball sentences from Northeast Ohio judges (gallery)—Cleveland.com. *Cleveland.Com*. Retrieved from

https://www.cleveland.com/metro/2012/11/cleveland_woman_holding_idiot.html

Edelmann, R. J. (1987). The psychology of embarrassment. Chichester, England: Wiley.

Edmondson, A. (1999). Psychological safety and learning behavior in work teams. *Administrative Science Quarterly*, 44, 350–383. https://dx.doi.org/10.2307/2666999

- Edwards, D. J. (1975). Returning a dropped object: Effect of response cost and number of potential helpers. *The Journal of Social Psychology*, 97, 169–171. https://dx.doi.org/10.1080/00224545.1975.9923336
- Evans, J. St. B. T. (2008). Dual-Processing Accounts of Reasoning, Judgment, and Social Cognition. Annual Review of Psychology, 59(1), 255–278. https://doi.org/10.1146/annurev.psych.59.103006.093629
- Feldman, D. C. (1984). The development and enforcement of group norms. *Academy of Management Review*, 9, 47–53. https://dx.doi.org/10.5465/amr.1984.4277934
- Fineman, S. (1996). Emotion and Organizing. In S. R. Clegg, C. Hardy, & W. R. Nord (Eds.), *Handbook of Organization Studies* (pp. 543–564). London: Sage.
- Gächter, S., & Schulz, J. F. (2016). Intrinsic honesty and the prevalence of rule violations across societies. *Nature*, *531*, 496–499. https://dx.doi.org/10.1038/nature17160
- Gerlach, P., Teodorescu, K., & Hertwig, R. (2019). The truth about lies: A meta-analysis on dishonest behavior. *Psychological Bulletin*, 145(1), 1–44. https://doi.org/10.1037/bul0000174
- Gibbons, F. X. (1990). The impact of focus of attention and affect on social behaviour. In
 W. R. Crozier (Ed.), *Shyness and embarrassment: Perspectives from social psychology* (pp. 119–143). Cambridge, England: Cambridge University Press.
- Gino, F., & Schweitzer, M. E. (2008). Blinded by anger or feeling the love: How emotions influence advice taking. *Journal of Applied Psychology*, 93(5), 1165– 1173. https://doi.org/10.1037/0021-9010.93.5.1165

- Gino, F., & Wiltermuth, S. S. (2014). Evil genius? How dishonesty can lead to greater creativity. *Psychological Science*, 25(4), 973–981. https://doi.org/10.1177/0956797614520714
- Gneezy, U., Kajackaite, A., & Sobel, J. (2018). Lying aversion and the size of the lie. *American Economic Review*, 108, 419–453. https://dx.doi.org/10.1257/aer.20161553
- Goffman, E. (1956). Embarrassment and social organization. *American Journal of Sociology*, 62, 264–271. https://dx.doi.org/10.1086/222003
- Goffman, E. (1967). On face-work. In E. Goffman (Ed.), *Interaction ritual: Essays on face-to-face behavior* (pp. 5–45). New York, NY: Anchor Books.
- Grant, A. M., & Wrzesniewski, A. (2010). I won't let you down... or will I? Core selfevaluations, other-orientation, anticipated guilt and gratitude, and job performance. *Journal of Applied Psychology*, 95, 108–121. http://dx.doi.org/10.1037/a0017974
- Gunia, B. C., & Levine, E. E. (2019). Deception as competence: The effect of occupational stereotypes on the perception and proliferation of deception. *Organizational Behavior and Human Decision Processes*, 152, 122–137.
 https://doi.org/10.1016/j.obhdp.2019.02.003
- Hanna, R., & Wang, S.-Y. (2017). Dishonesty and selection into public service: Evidence from India. American Economic Journal: Economic Policy, 9, 262–290. https://doi.org/10.1257/pol.20150029

- Harré, R. (1990). Embarrassment: A conceptual analysis. In W. R. Crozier (Ed.), *Shyness and embarrassment: Perspectives from social psychology* (pp. 181–204).
 Cambridge, England: Cambridge University Press.
- Heath, C., & Sitkin, S. B. (2001). Big-B versus big-O: What is organizational about organizational behavior? *Journal of Organizational Behavior*, 22, 43–58. https://dx.doi.org/10.1002/job.77
- Herold, E. S. (1981). Contraceptive embarrassment and contraceptive behavior among young single women. *Journal of Youth and Adolescence*, *10*, 233–242. https://dx. doi.org/10.1007/BF02088973
- Hershcovis, M. S., Ogunfowora, B., Reich, T. C., & Christie, A. M. (2017). Targeted workplace incivility: The roles of belongingness, embarrassment, and power. *Journal of Organizational Behavior*, 38, 1057–1075. https://dx.doi.org/10.1002/job.2183
- James, E. L. (2012). Fifty Shades of Grey. London: Random House.
- Juster, N. (1961). The Phantom Tollbooth. New York: Scholastic.
- Kashy, D. A., & DePaulo, B. M. (1996). Who lies? *Journal of Personality and Social Psychology*, 70(5), 1037–1051. https://doi.org/10.1037/0022-3514.70.5.1037
- Keltner, D., & Buswell, B. N. (1996). Evidence for the distinctness of embarrassment, shame, and guilt: A study of recalled antecedents and facial expressions of emotion. *Cognition & Emotion*, 10, 155–172. https://dx.doi.org/10.1080/026999396380312

- Keltner, D., & Buswell, B. N. (1997). Embarrassment: Its distinct form and appeasement functions. *Psychological Bulletin*, 122, 250–270. http://dx.doi.org/10.1037/0033-2909.122.3.250
- Keltner, D., & Haidt, J. (1999). Social functions of emotions at four levels of analysis.*Cognition & Emotion*, 13, 505–521. https://dx.doi.org/10.1080/026999399379168

Keltner, D., & Haidt, J. (2001). Social functions of emotions.

- Kemper, T. D. (1993). Sociological models in the explanation of emotions. In M. Lewis & J. M. Haviland (Eds.), *Handbook of emotions* (pp. 41–51). New York, NY: Guilford Press.
- Kouchaki, M., & Desai, S. D. (2015). Anxious, threatened, and also unethical: How anxiety makes individuals feel threatened and commit unethical acts. *Journal of Applied Psychology*, *100*, 360–375. http://dx.doi.org/10.1037/a0037796
- Latané, B., & Darley, J. M. (1968). Group inhibition of bystander intervention in emergencies. *Journal of Personality and Social Psychology*, 10, 215–221. http://dx.doi.org/10.1037/h0026570
- Latané, B., & Darley, J. M. (1970). *The unresponsive bystander: Why doesn't he help?* New York, NY: Appleton-Century-Crofts.
- Leary, M. R., & Kowalski, R. M. (1995). Social anxiety. New York, NY: Guilford Press.
- Leary, M. R., Tchividijian, L. R., & Kraxberger, B. E. (1994). Self-presentation can be hazardous to your health: Impression management and health risk. *Health Psychology*, 13, 461–470. http://dx.doi.org/10.1037/0278-6133.13.6.461

- Leavitt, K., & Sluss, D. M. (2015). Lying for who we are: An identity-based model of workplace dishonesty. Academy of Management Review, 40(4), 587–610. https://doi.org/10.5465/amr.2013.0167
- Leenaars, P., Rombouts, R., & Kok, G. (1993). Seeking medical care for a sexually transmitted disease: Determinants of delay-behavior. *Psychology and Health*, 8, 17–32. https://dx.doi.org/10.1080/08870449308403164
- Leith, K. P., & Baumeister, R. F. (1996). Why do bad moods increase self-defeating behavior? Emotion, risk tasking, and self-regulation. *Journal of Personality and Social Psychology*, 71, 1250–1267. http://dx.doi.org/10.1037/0022-3514.71.6.1250

L'Engle, M. (1962). A Wrinkle in Time. New York: Farrar, Straus, and Giroux.

- Lerner, J. S., Li, Y., Valdesolo, P., & Kassam, K. S. (2015). Emotion and decision making. Annual Review of Psychology, 66(1), 799–823. https://doi.org/10.1146/annurev-psych-010213-115043
- Levine, E. E., & Cohen, T. R. (2018). You can handle the truth: Mispredicting the consequences of honest communication. *Journal of Experimental Psychology: General*, 147(9), 1400. https://doi.org/10.1037/xge0000488
- Levine, E. E., & Schweitzer, M. E. (2015). Prosocial lies: When deception breeds trust. Organizational Behavior and Human Decision Processes, 126, 88–106. https://doi.org/10.1016/j.obhdp.2014.10.007
- Lewis, M. (1993). Self-conscious emotions: Embarrassment, pride, shame, and guilt. InM. Lewis & J. M. Haviland (Eds.), *Handbook of emotions* (pp. 563–573). NewYork, NY: Guilford Press.

- Lewittes, D. J., & Simmons, W. L. (1975). Impression management of sexually motivated behavior. *The Journal of Social Psychology*, 96(1), 39–44. https://doi.org/10.1080/00224545.1975.9923260
- Lieberman, A., Duke, K. E., & Amir, O. (2019). How incentive framing can harness the power of social norms. *Organizational Behavior and Human Decision Processes*, 151, 118–131. https://doi.org/10.1016/j.obhdp.2018.12.001
- Loewenstein, G. F., Weber, E. U., Hsee, C. K., & Welch, N. (2001). Risk as feelings. *Psychological Bulletin*, 127, 267–286. https://dx.doi.org/10.1037/0033-2909.127.2.267
- Maréchal, M. A., Cohn, A., Ugazio, G., & Ruff, C. C. (2017). Increasing honesty in humans with noninvasive brain stimulation. *Proceedings of the National Academy* of Sciences, 114, 4360–4364. https://dx.doi.org/10.1073/pnas.1614912114
- Martinez, A. G., Stuewig, J., & Tangney, J. P. (2014). Can perspective-taking reduce crime? Examining a pathway through empathic-concern and guilt-proneness. *Personality and Social Psychology Bulletin*, 40(12), 1659–1667.
 https://doi.org/10.1177/0146167214554915
- 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. https://dx.doi.org/10.1509/jmkr.45.6.633
- McDonald, J., & McKelvie, S. J. (1992). Playing safe: Helping rates for a dropped mitten and a box of condoms. *Psychological Reports*, 71, 113–114. https://dx.doi.org/10.2466/pr0.1992.71.1.113

- Mellers, B. A., & McGraw, A. P. (2001). Anticipated emotions as guides to choice. *Current Directions in Psychological Science*, 10, 210–214. https://dx.doi.org/10.1111/1467-8721.00151
- Metts, S., & Cupach, W. R. (1989). Situational influence on the use of remedial strategies in embarrassing predicaments. *Communications Monographs*, 56(2), 151–162. https://doi.org/10.1080/03637758909390256
- Miller, D. T., & McFarland, C. (1987). Pluralistic ignorance: When similarity is interpreted as dissimilarity. *Journal of Personality and Social Psychology*, 53, 298–305. http://dx.doi.org/10.1037/0022-3514.53.2.298
- Miller, R. S. (1992). The nature and severity of self-reported embarrassing circumstances. *Personality and Social Psychology Bulletin*, 18, 190–198. https://dx.doi.org/10.1177/0146167292182010
- Miller, R. S. (1996). *Embarrassment: Poise and peril in everyday life*. New York, NY: Guilford Press.
- Miller, R. S., & Leary, M. R. (1992). Social sources and interactive functions of emotion: The case of embarrassment. In M. Clark (Ed.), *Review of personality and social psychology: Vol. 14 Emotion and social behavior* (pp. 202–221). Newbury Park, CA: Sage.
- Miller, R. S., & Tangney, J. (1994). Differentiating embarrassment and shame. Journal of Social and Clinical Psychology, 13, 273–287. https://dx.doi.org/10.1521/jscp.1994.13.3.273

- Moran, S., & Schweitzer, M. E. (2008). When better is worse: Envy and the use of deception. *Negotiation and Conflict Management Research*, 1, 3–29. https://dx.doi.org/10.1111/j.1750-4716.2007.00002.x
- Morrison, E. W. (2014). Employee voice and silence. Annual Review of Organizational Psychology and Organizational Behavior, 1, 173–197. https://dx.doi.org/10.1146/annurev-orgpsych-031413-091328
- Morrison, E. W., & Milliken, F. J. (2000). Organizational silence: A barrier to change and development in a pluralistic world. *The Academy of Management Review*, 25, 706–725. https://dx.doi.org/10.5465/amr.2000.3707697
- O'Reilly, C. A., & Doerr, B. (2020). Conceit and deceit: Lying, cheating, and stealing among grandiose narcissists. *Personality and Individual Differences*, 154, 109627. https://doi.org/10.1016/j.paid.2019.109627
- Parrott, W. G., & Smith, S. F. (1991). Embarrassment: Actual vs. Typical cases, classical vs. Prototypical representations. *Cognition & Emotion*, *5*, 467–488. https://dx.doi.org/10.1080/02699939108411053
- Potters, J., & Stoop, J. (2016). Do cheaters in the lab also cheat in the field? *European Economic Review*, 87, 26–33. https://doi.org/10.1016/j.euroecorev.2016.03.004
- Prentice, D. A., & Miller, D. T. (1996). Pluralistic ignorance and the perpetuation of social norms by unwitting actors. *Advances in Experimental Social Psychology*, 28, 161–209.
- Reutter, D. (2015, February 4). For Shame! Public Shaming Sentences on the Rise | Prison Legal News. Retrieved August 7, 2020, from Prison Legal News website:

https://www.prisonlegalnews.org/news/2015/feb/4/shame-public-shaming-sentences-rise/

- Rosen, S., & Tesser, A. (1970). On reluctance to communicate undesirable information: The MUM effect. *Sociometry*, *33*, 253–263. https://dx.doi.org/10.2307/2786156
- Ruedy, N. E., & Schweitzer, M. E. (2010). In the moment: The effect of mindfulness on ethical decision making. *Journal of Business Ethics*, 95, 73–87. https://dx.doi.org/10.1007/s10551-011-0796-y
- Sabini, J., Siepmann, M., & Stein, J. (2001). The really fundamental attribution error in social psychological research. *Psychological Inquiry*, 12, 1–15. https://dx.abdoi.org/10.1207/S15327965PLI1201_01
- Sabini, J., & Silver, M. (2005). Lack of character? Situationism critiqued. *Ethics*, *115*, 535–562. https://dx.doi.org/10.1086/428459
- Schlenker, B. R. (1980). In Impression management: The self-concept, social identity, and interpersonal relations. Monterey, CA: Brooks/Cole.
- Schlenker, B. R., & Leary, M. R. (1982). Social anxiety and self-presentation: A conceptualization model. *Psychological Bulletin*, 92, 641–669. http://dx.doi.org/10.1037/0033-2909.92.3.641
- Schlenker, B. R., & Pontari, B. A. (2000). The strategic control of information: Impression management and self-presentation in daily life. In *Psychological perspectives on self and identity* (pp. 199–232). Washington, DC, US: American Psychological Association. https://doi.org/10.1037/10357-008
- Schlösser, T., Dunning, D., & Fetchenhauer, D. (2013). What a feeling: The role of immediate and anticipated emotions in risky decisions. *Journal of Behavioral Decision Making*, 26, 13–30. https://dx.doi.org/10.1002/bdm.757
- Serota, K. B., Levine, T. R., & Boster, F. J. (2010). The Prevalence of Lying in America: Three Studies of Self-Reported Lies. *Human Communication Research*, 36(1), 2– 25. https://doi.org/10.1111/j.1468-2958.2009.01366.x
- Shalvi, S., Dana, J., Handgraaf, M. J. J., & De Dreu, C. K. W. (2011). Justified ethicality:
 Observing desired counterfactuals modifies ethical perceptions and behavior.
 Organizational Behavior and Human Decision Processes, 115, 181–190.
 https://dx.doi.org/10.1016/j.obhdp.2011.02.001
- Sharkey, W. F., & Stafford, L. (1990). Responses to embarrassment. *Human Communication Research*, *17*(2), 315–342.
- Shteir, R. (2006, August 7). The shame of America. *The Guardian*. Retrieved from https://www.theguardian.com/commentisfree/2006/aug/08/comment.usa
- Smith-Crowe, K., & Warren, D. E. (2014). The emotion-evoked collective corruption model: The role of emotion in the spread of corruption within organizations. *Organization Science*, 25, 1154–1171. https://dx.doi.org/10.1287/orsc.2014.0896
- Soraperra, I., Weisel, O., Zultan, R., Kochavi, S., Leib, M., Shalev, H., & Shalvi, S. (2017). The bad consequences of teamwork. *Economics Letters*, 160, 12–15. https://doi.org/10.1016/j.econlet.2017.08.011
- Stonehouse, C. M., & Miller, R. S. (1994, July). Embarrassing circumstances, week by week. Presented at the Poster presented at the annual meeting of the American Psychological Society, Washington, DC.

- Tangney, J. P., Mashek, D. J., & Stuewig, J. (2005). Shame, guilt, and embarrassment: Will the real emotion please stand up? *Psychological Inquiry*, *16*, 44–48. https://dx.doi.org/10.1207/s15327965pli1601_02
- Tangney, J. P., Miller, R. S., Flicker, L., & Barlow, D. H. (1996). Are shame, guilt, and embarrassment distinct emotions? *Journal of Personality and Social Psychology*, 70, 1256–1269. http://dx.doi.org/10.1037/0022-3514.70.6.1256
- Tangney, J. P., Stuewig, J., & Mashek, D. J. (2007). Moral emotions and moral behavior. Annual Review of Psychology, 58, 345–372.

https://dx.doi.org/10.1146/annurev.psych.56.091103.070145

- Teichman, Y. (1973). Emotional arousal and affiliation. Journal of Experimental Social Psychology, 9, 591–605. https://dx.doi.org/10.1016/0022-1031(73)90040-1
- Tenbrunsel, A. E. (1998). Misrepresentation and expectations of misrepresentation in an ethical dilemma: The role of incentives and temptation. *Academy of Management Journal*, 41(3), 330–339.
- Tourangeau, R., & Yan, T. (2007). Sensitive questions in surveys. *Psychological Bulletin*, *133*, 859–883. http://dx.doi.org/10.1037/0033-2909.133.5.859
- Tracy, J. L., & Robins, R. W. (2004). Putting the self into self-conscious emotions: A theoretical model. *Psychological Inquiry*, 15, 103–125. https://dx.doi.org/10.1207/s15327965pli1502_01
- Tracy, J. L., Robins, R. W., & Tangney, J. P. (2007). *The self-conscious emotions: Theory and research*. New York, NY: Guilford Press.
- Van Boven, L., Loewenstein, G., & Dunning, D. (2005). The illusion of courage in social predictions: Underestimating the impact of fear of embarrassment on other

people. *Organizational Behavior and Human Decision Processes*, 96, 130–141. https://doi.org/10.1016/j.obhdp.2004.12.001

- Van Boven, L., Loewenstein, G., Welch, E., & Dunning, D. (2012). The illusion of courage in self-predictions: Mispredicting one's own behavior in embarrassing situations. *Journal of Behavioral Decision Making*, 25(1), 1–12. https://doi.org/10.1002/bdm.706
- Van der Schalk, J., Kuppens, T., Bruder, M., & Manstead, A. S. (2015). The social power of regret: The effect of social appraisal and anticipated emotions on fair and unfair allocations in resource dilemmas. *Journal of Experimental Psychology: General*, *144*, 151–157. http://dx.doi.org/10.1037/xge0000036
- Warren, D. E., & Schweitzer, M. E. (2018). When lying does not pay: How experts detect insurance fraud. *Journal of Business Ethics*, 150, 711–726. https://dx.doi.org/10.1007/s10551-016-3124-8

Warren, D. E., & Smith-Crowe, K. (2008). Deciding what's right: The role of external sanctions and embarrassment in shaping moral judgments in the workplace. *Research in Organizational Behavior*, 28, 81–105.
https://dx.doi.org/10.1016/j.riob.2008.04.004

Weisel, O., & Shalvi, S. (2015). The collaborative roots of corruption. Proceedings of the National Academy of Sciences, 112, 10651–10656. https://dx.doi.org/10.1073/pnas.1423035112

Wiltermuth, S. S. (2011). Cheating more when the spoils are split. Organizational Behavior and Human Decision Processes, 115(2), 157–168. https://doi.org/10.1016/j.obhdp.2010.10.001

- Wong, K. F. E., & Kwong, J. Y. Y. (2007). The role of anticipated regret in escalation of commitment. *Journal of Applied Psychology*, 92, 545–554. https://dx.doi.org/10.1037/0021-9010.92.2.545
- Yip, J. A., & Schweitzer, M. E. (2016). Mad and misleading: Incidental anger promotes deception. Organizational Behavior and Human Decision Processes, 137, 207– 217. https://dx.doi.org/10.1016/j.obhdp.2016.09.006
- Yip, J. A., & Schweitzer, M. E. (2019). Losing your temper and your perspective: Anger reduces perspective-taking. Organizational Behavior and Human Decision Processes, 150, 28–45. https://doi.org/10.1016/j.obhdp.2018.07.003
- Zhong, C. B. (2011). The ethical dangers of deliberative decision making. *Administrative Science Quarterly*, *56*, 1–25. https://dx.doi.org/10.2189/asqu.2011.56.1.001

APPENDIX A

Materials for Study 2

Upon instruction, participants broke the seal and opened a manila folder to complete Task 1 (See Panel A). The Task 1 worksheet was stapled to the manila folder with a single staple on the top. After three minutes, participants were instructed to stop work, tear off the top sheet and answer two questions on the back of the page (see Panel B). A yellow sheet that was titled "Task 2" was stapled in four corners. Unbeknownst to participants, a sheet of carbon paper was stapled underneath the yellow sheet of paper.



Panel B

After three minutes, we collected participants' manila folders and handed them a packet labeled Task 2. The Task 2 packet varied by condition. The Task 2 packet in the Fear of Embarrassment condition included the following pages:

Page 1

TASK 2

Page 2

Task 2 Instructions (Please read carefully):

Based on your performance in Task 1, you will be assigned to either the role of actor or the role of evaluator. Each person assigned to be an actor will stand at the front of the lab and will perform two mimes, each for 30 seconds. Actors might mime animals (like an elephant or a snake), inanimate objects (like a washing machine or a piece of scotch tape) or human functions (like feeling constipated or feeling surprised). We will show the actors an index card that tells them what mime to perform, at which point the actors will immediately start their performances. Actors will not have time to prepare.

If you are assigned to the role of evaluator, you will move your chair so that you can see the actors' performances, receive a clipboard with an evaluation sheet, and critically evaluate the actors' performances. On the evaluation sheet you will also be asked to guess what the actors are performing.

To determine who will be an actor and who will be an evaluator we will use your performance on Task 1.

The top half of performers on Task 1 will be assigned to be evaluators. The bottom half of performers could be evaluators or actors. All bottom half performers will be entered into a raffle. The first two people that are drawn from the raffle will be the two actors. To determine whether you're in the top half or bottom half, you will be given an answer sheet so that you can tally the total number of words you've correctly unscrambled. When you are finished grading your performance, please write the total number of words that you correctly unscrambled in the box at the bottom of the page.

Page 3

EVALUATOR'S EVALUATION SHEET Instructions: Please answer the questions below as the actor performs each mime

Actor #1 Mime #1 1. What do you think the acto miming?	or was	<u>Actor #2 Mime #1</u> 1. What do you think the actor was miming?				
2. How well did the actor per	form?	2. How well did the actor perform?				
(Circle one)		iatiircle one)				
Not	Verv	Not Verv				
at all	Much	at all Much				
1 2 3 4 5 6	7	1 2 3 4 5 6 7				
3. How confident are you in y	your	3. How confident are you in your $\$				
answer to question 1? (Circle	one)	answer to question 1? (Circle one)				
Not	Extremely	Not Extremely				
at all		at all				
1 2 3 4 5 6	7	1 2 3 4 5 6 7				
Actor #1 Mime #2		Actor #2 Mime #2				
1. What do you think the act miming?	or was	1. What do you think the actor was miming?				
What do you think the actor miming? How well did the actor per	or was	1. What do you think the actor was miming?				
1. What do you think the actor miming? 2. How well did the actor per (Circle one)	or was form?	What do you think the actor was miming?				
1. What do you think the act miming? 2. How well did the actor per (Circle one)	or was form?	What do you think the actor was miming? Use the second s				
1. What do you think the act mining? 2. How well did the actor per (Circle one) Not at all	or was form? Very Much	1. What do you think the actor was miming? 2. How well did the actor perform? (Circle one) Not Very at all Much				
1. What do you think the act miming? 2. How well did the actor per (Circle one) Not at all 1 2 3 4 5 0	or was form? Very Much 6 7	1. What do you think the actor was miming? 2. How well did the actor perform? (Circle one) Not Very at all Much 1 2 3 4 5 6 7				
1. What do you think the act miming? 2. How well did the actor per (Circle one) Not at all 1 2 3 4 5 4 3. How confident are you in 1	form? Very Much 6 7 your	1. What do you think the actor was miming? 2. How well did the actor perform? (Circle one) Not Very at all Much 1 2 3 4 5 6 7 3. How confident are you in your				
1. What do you think the act miming? 2. How well did the actor per (Circle one) Not at all 1 2 3 4 5 1 3. How confident are you in y answer to question 1? (Circle	or was form? Very Much 6 7 your : one)	What do you think the actor was miming? Z. How well did the actor perform? (Circle one) Not Very at all Much 1 2 3 4 5 6 7 J. How confident are you in your answer to question 12 (Circle one)				
1. What downut 1. Not 1. A statement 1. A statement	or was form? Very Much 6 7 your e one) Extremely	1. What do you think the actor was miming? 2. How well did the actor perform? (Circle one) Not Very at all Much 1 2 3 4 5 6 7 3. How confident are you in your answer to question 1? (Circle one) Not Extremely				
1. What do you think the act miming? 2. How well did the actor per (Circle one) Not at all 1 2 3 4 5 0 3. How confident are you in y answer to question 1? (Circle Not at all	form? Very Much 6 7 your e one) Extremely	I. What do you think the actor was mining? I. How well did the actor perform? (Circle one) Not Very at all Much 1 2 3 4 5 6 7 J. How confident are you in your answer to question 1? (Circle one) Not Extremely at all Extremely				
1. What doe you think the act miming? 1. How well did the actor per (Circle one) Not at all 1 2 3 4 5 1 3. How confident are you in y answer to question 1? (Circle Not at all 1 2 3 4 5 6	form? Very Much 6 7 your e one) Extremely 7	I. What do you think the actor was miming? 2. How well did the actor perform? (Circle one) Not Very at all Much 1 2 3 4 5 6 7 3. How confident are you in your answer to question 1? (Circle one) Not Extremely at all 1 2 3 4 5 6 7				

Page 4

Answer Key

Example	NAGET	AGENT			
1	AYARR	ARRAY	16	AETMKR	MARKET
2	TNEOSF	SOFTEN	17	POLEUC	COUPLE
3	WSNHO	SHOWN	18	NEEDFI	DEFINE
4	FFOTRE	EFFORT	19	UNTRAE	NATURE
5	TTEILL	LITTLE	20	AEGIM	IMAGE
6	IRROMR	MIRROR	21	GNISTR	STRING
7	ALYEVL	VALLEY	22	MIIVCT	VICTIM
8	YSETL	STYLE	23	EUQNUI	UNIQUE
9	UCRCHH	CHURCH	24	ENWLY	NEWLY
10	URTTH	TRUTH	25	CLPUIB	PUBLIC
11	OWLYEL	YELLOW	26	FEUTRU	FUTURE
12	DAGEAM	DAMAGE	27	YMENE	ENEMY
13	OSUFMA	FAMOUS	28	OASRSC	ACROSS
14	YRAALS	SALARY	29	CILOYP	POLICY
15	EHHTAL	HEALTH	30	RINGOI	ORIGIN

The experimenter read Page 2 of the Task 2 packet aloud. After reading these instructions, participants self-graded their performance on Task 1. The experimenter then collected the Task 1 worksheet, conducted the lottery, and called two participants to the front of the room. While these participants performed their mimes, all other participants in the Fear of Embarrassment condition filled out Page 3. (See the *Supplementary Materials* for copies of the Task 1 worksheet, the Task 2 packet used in the Control condition, and the questionnaire participants completed after the performances.) *Measure of Cheating.* We assessed cheating by comparing the number of anagrams that participants correctly solved on the carbon paper to the number of anagrams participants reported after self-scoring their performance. Below we show an example of a participant's Task 1 worksheet and carbon paper. This participant overreported their performance by two anagrams. (We redact the participant's laboratory ID to preserve anonymity.)



Materials for Study 3

Below is a photo of the table that participants walked by before sitting at their cubicle in the Fear of Embarrassment and Control conditions.

Fear of Embarrassment Condition



Control Condition



The Odd-Even Dice Task.

Below is a picture of a Fair Die, an Odd Die and an Even Die. In a normal die-in-cup task, participants are given one or two Fair Die. In the Odd-Even Dice Task participants are given one Odd Die and one Even Die.



Participants roll their dice together and use the Dice Scoring Table below to report the number of points they earned from their roll. Note that with the Odd and Even dice, participants' rolls always sum to an odd number and always yield 10 points.

Dice Scoring Table

(The fewest number of points you can earn is 10, the largest number
of points you can earn is 22)

Dice Roll Combination	Points	Dice Roll Combination	Points
$\bullet \bullet$	11		16
	10	•• ••	17
	12		10
$\bullet \bullet $	10		18
	13		10
• •	10		19
	14		10
	10		20
$\begin{array}{c}\bullet\\\bullet\end{array}$	15		21
	10		10
			22

Materials for Study 4

Fifty Shades of Grey	A Wrinkle in Time
E.L. James	Madeleine L' Engle
Fifty	MADELEINE
Shades	L'ENGLE
of Grey	A
E L James	Wrinkle
et New York Trans Iteration	in Time
Page 274: "Very slowly, he pulls down	Page 56: "Calvin led Meg across the lawn.
my sweatpants. Oh, how demeaning is	The shadows of the trees were long and
this? Demeaning and scary and hot.	twisted and there was a heavy, sweet
He's making such a meal of this. My	autumnal smell to the air. Meg stumbled
heart is in my mouth. I can barely	as the land sloped suddenly downhill, but
breatheis this going to hurt?"	Calvin's strong hand steadied her."

Novel covers and passages shown to participants in the Fear of Embarrassment Condition.

Novel covers and passages shown to participants in the Control Condition.

The Phantom Tollbooth	A Wrinkle in Time
Norton Juster	Madeleine L' Engle
THE PHANTOM TOLLBOOTH	MADELEINE L'ENGLE A Wrinkle in Time
Page 193: "Up he went very quickly at	Page 56: "Calvin led Meg across the
first-then more slowly then in a little	lawn. The shadows of the trees were long
while even more slowly than thatand	and twisted and there was a heavy, sweet
finally, after many minutes of climbing	autumnal smell to the air. Meg stumbled
up the endless stairway, one weary foot	as the land sloped suddenly downhill, but
was barely able to follow the other."	Calvin's strong hand steadied her."

CHAPTER 2

SHAME BROADCASTS SOCIAL NORMS: THE POSITIVE SOCIAL EFFECTS OF SHAME ON NORM ACQUISITION AND NORMATIVE BEHAVIOR

Rebecca L. Schaumberg

Samuel E. Skowronek

Forthcoming in Psychological Science

How does shame affect social cohesion? Prior work has drawn divergent conclusions to this question because shame can spur maladaptive behaviors for those who experience it. However, past work has overlooked the interindividual effects of shame –how one's expression of shame affects those who witness it. We investigate these social learning effects of shame and identify norm transmission as a reliable route by which shame facilitates social cohesion. Across five studies and two supplemental studies with U.S.-based participants (N = 3,726), we manipulate whether someone conveys shame, no specific emotion, or other discrete emotions to their behavior. We then assess the effect on participants' norm inferences and norm conforming behavior. We find that shame broadcasts particularly strong signals about social norms, and people adjust their behavior to align with these norms. We discuss how these findings challenge common conclusions about shame and generate insights about shame's influence on social life.

Introduction

Shame occupies an increasingly prominent place in public discourse.⁶ Popular press writings decry the consequences of a growing shamelessness in society, as well as the futility of shame for fostering social cohesion (Bruni, 2018; Goldberg, 2020). Group life depends on social cohesion or people adhering to shared standards to guide their behavior and relationships (Friedkin, 2004; Hogg, 1992). With growing public concern about both shamelessness and shaming (Bruni, 2018; Goldberg, 2020), understanding whether and how shame facilitates social cohesion is theoretically and practically important.

Shame is a negative, self-conscious emotion that arises from social relationships in which people evaluate and negatively judge themselves from the perspective of others (Lewis, 1971; Scheff, 2014). Shame signals a painful discrepancy between one's actual self and one's ideal self and signals a threat of social devaluation (Sznycer et al., 2016; Tangney et al., 1998).

Prior work has debated whether or how shame affects social cohesion. In the present work, we broaden the investigation of shame from the effects of personally feeling ashamed to the consequences of learning about others' feelings of shame. Specifically, we test two primary predictions. One, shame expressions facilitate norm acquisition—people infer the content of group norms from other people's shame expressions. Two, shame expressions engender norm conformity in others—people are

⁶ A NexisUni search showed that 20% of articles published about shame in the New York Times from 1980-2020 have been published in the past three years.

more likely to conform with inferred social norms after witnessing someone express shame.

We base these predictions on the following observations. One, people follow normative standards because failing to do so risks social censure and devaluation (Boyd & Richerson, 2009; Dannals & Miller, 2017), and people observe others to learn the content of these normative standards (Bandura & Walters, 1977; Boyd et al., 2011). Two, people can readily infer from others' emotional expressions the antecedent state that produced the emotion (Hareli et al., 2013; Van Kleef, 2016). Three, violating norms is a common antecedent state of shame (Fessler, 2007; Higgins, 1987), and people express shame, in part, to affirm their awareness of their norm violation (Keltner, 1995; Keltner & Harker, 1998; Martens et al., 2012).

Integrating the above observations suggests that upon learning that someone feels or would feel ashamed about a behavior, people will deduce that this behavior is normatively inappropriate in this person's social context. People will then adjust their behavior accordingly in this context to behave in more socially appropriate ways, presumably to avoid feeling ashamed themselves (see Fessler, 2004). We find support for these predictions across five studies and two supplemental studies in which we manipulate a target's emotional expression and assess the effect on observers' inferences about a group's social norms and subsequent normative behavior.

The idea that shame facilitates social cohesion through social learning aligns with theories of cultural evolution that emphasize the importance of social learning for the transmission of normative behaviors (Boyd et al., 2011; Chudek & Henrich, 2011). However, this prediction contrasts with conclusions from past empirical work on shame. Some prominent reviews of shame have questioned shame's positive effect on social cohesion (see Tangney et al., 2007a, 2007b), given shame's relationship with problematic social behaviors and hostility toward others (e.g., Tangney et al., 1996; Tangney et al., 2014). Other scholars have been more circumspect, concluding that shame's effects on appropriate behavior depend on third variables, such as the perceived repairability of the offense (Bagozzi et al., 2003; de Hooge et al., 2010; Harris & Darby, 2009; Leach & Cidam, 2015; Sznycer, 2019).

However, this past work focuses on the *intra* individual effects of feeling ashamed (e.g., how my feelings of shame affect me) and, thus, has overlooked critical ways that shame can affect other relevant social actors. By examining the *inte*rindividual effects of shame (e.g., how my feelings of shame affect you), the present work generates novel predictions about how and why shame facilitates social cohesion.

Overall, the present findings show that shame transmits cultural information about social norms and thus promotes norm acquisition and normative behavior. In doing so, this work helps to reconcile competing views about shame and further challenges the idea that shame undermines social cohesion (Tangney et al., 2007a, 2007b). This work contributes to research on the social information people infer from others' emotional expressions (Hareli et al., 2013; Van Kleef, 2016). For instance, past work finds that people infer norms from emotions in social situations (i.e., a group getting angry at someone for a behavior) (Hareli et al., 2013, 2015). We expand on these findings by identifying how a person's emotional response to their behavior affects those who witness it, opening new perspectives about the interindividual consequences of self-conscious emotions (Martens et al., 2012; Martens & Tracy, 2013).

76

Overview of Studies

In each study, we varied whether a target expressed shame about a behavior. We then assessed participants' inferences about the injunctive and descriptive norms regarding the behavior and their behavioral intentions (Studies 1, 2, 3, and S1) or their incentivized behavior (Studies 4, 5, and S2). We made no a priori predictions about whether shame would affect injunctive and descriptive norms differently. While past work finds that shame arises from norm violations, (Fessler, 2007; Higgins, 1987) it does not delineate between injunctive or descriptive norms in its theorizing about the antecedents of shame (e.g., van Kleef et al., 2015). Thus, we measured both types of norms to explore whether people infer the content of both types of norms, or one norm more than the other from witnessing others' shame expressions.

Given our focus on norm acquisition we avoided behaviors in which a universal norm already exists. We operationalized shame differently across the studies for stimulus sampling purposes, including having a target convey that they felt ashamed (Studies 1, 4, 5, S1, and S2) or would feel ashamed (Studies 2 and 3) through nonverbal expressions (Study 1, 4, 5, and S2), responses to a workplace questionnaire (Studies 2 and 3), or text conversations (S1).⁷ We posted the study materials and de-identified data here: https://osf.io/ujhn9/?view_only=e39735fc213341b3aa176a04034ec4ea

Study 1

In Study 1, we manipulated whether an employee expressed shame, anger, or a neutral reaction to a workplace behavior and assessed the effect on participants'

⁷ Studies 1-3 are presented in the chronological order they were conducted. Studies 4, S1, and S2 were conducted after Study 5.

inferences about the workplace's norms and behavioral intentions. We compared shame to anger because anger communicates a violation of expectation and disapproval (Hareli et al., 2013; Van Kleef et al., 2004). Thus, this comparison provides insight into the relative magnitude of shame's effect on norm acquisition.

Method

Participants. We administered Study 1 as part of an online mass testing session in the university's behavioral research lab. The size of the mass testing session determined the sample size. We received completed responses from 190 participants (146 women, 44 men; $M_{age} = 21.11$, $SD_{age} = 2.39$). We did not preregister this study, and we included all participants in our analyses.

Procedure. Participants read about an employee (e.g., "James") and three different behaviors this employee engaged in at their company (e.g., "Baxter Financial"). Participants saw the employee's emotional response to each of these behaviors and answered questions about each behavior. Figure 5 shows an example of the stimuli. In Studies 1-3, the names of the employee and the company varied for stimulus sampling purposes (see SOM-R for details).

We randomly sampled three workplace behaviors (without replacement) from a larger bank of behaviors, which the SOM-R, Table S1 shows. Example workplace behaviors include, "Shared a wild, very out-of-the-box idea during a meeting," and "Challenged their supervisor's judgment in a meeting."

We presented behaviors one at a time and randomly determined, with replacement, whether the employee conveyed shame, anger, or a neutral expression about their behavior. This approach means that participants could see the target express shame in response to zero, one, two, or three workplace behaviors.

For each behavior, we measured three dependent variables. We measured perceptions of the company's injunctive norms about the behavior (i.e., the extent to which employees at the company should not engage in this behavior) and perceptions of the company's descriptive norms about the behavior (i.e., the extent to which it is uncommon for employees at the company to engage in this behavior). We also measured participants' behavioral intentions (i.e., the likelihood of engaging in this behavior if they worked at the company). Table 1 shows the exact items we used to measure these variables and the internal consistency of these measures. For each dependent variable, we averaged the items to create a composite measure.

Table 1

Study	Measure	Item	Alpha
Study 1	Injunctive norms (Should not do)	To what extent at [company name] is [workplace behavior] discouraged? $(1 = not at all; 5 = extremely)$ To what extent at [company name] is [workplace behavior] the wrong way to behave? $(1 = not at all; 5 = extremely)$ To what extent at [company name] is [workplace behavior] an inappropriate way to act? $(1 = not at all; 5 = extremely)$ To what extent does [workplace behavior] violate the norms of behavior at [company name]? $(1 = not at all; 5 = extremely)$.93
	Descriptive norms (<i>Uncommon to do</i>)	To what extent is [workplace behavior] an atypical way to act at [company name]? $(1 = not at all; 5 = extremely)$ To what extent is [workplace behavior] an abnormal way to act at [company name]? $(1 = not at all; 5 = extremely)$.96

Full List of Scale Items Used to Measure Injunctive Norms, Descriptive norms, and Behavioral Intentions (Studies 1-3)

		To what extent is [workplace behavior] an uncommon way to act at [company name]? (1 = <i>not at all</i> ; 5 = <i>extremely</i>)	
	Behavioral intentions (Likely to do)	Imagine that you are a new employee at [company s name]. You want to succeed at [company name]. How unlikely or likely are you to [workplace behavior]? (1 = very unlikely; 5 = very likely)	
Study 2	Injunctive norms (Should not do)	At [company name], how acceptable or unacceptable is it for employees to [workplace behavior]? $(1 = very$ <i>unacceptable</i> ; $5 = very$ <i>acceptable</i>) ® At [company name], are employees encouraged or	
		discouraged from [workplace behavior]? (1 = very discouraged; 5 = very encouraged) ® Do you think employees at [company name] would be punished or praised for [workplace behavior]? (1 = strongly punished; 5 = strongly praised) ®	.91
Descriptive norms (Uncommon to do)	To what extent at [company name] is [workplace behavior] an uncommon or common thing to do? (1 = <i>very uncommon</i> ; 5 = <i>very common</i>) ® To what extent at [company name] is [workplace behavior] an uncustomary or customary thing to do? (1 = <i>very uncustomary</i> ; 5 = <i>very customary</i>) ®	.91	
	Behavioral intentions (Likely to do)	Imagine that you are a new employee at [company s name]. You want to succeed at [company name]. How unlikely or likely are you to [workplace behavior]? (1 = very unlikely; 5 = very likely)	
Study 3	Injunctive norms (Should not do)	At [company name], how acceptable or unacceptable is it for employees to [workplace behavior]? (1 = very unacceptable; 5 = very acceptable) ® At [company name], are employees encouraged or discouraged from [workplace behavior]? (1 = very discouraged; 5 = very encouraged) ® Do you think employees at [company name] would be punished or praised for [workplace behavior]? (1 = strongly punished; 5 = strongly praised) ®	.91
	Descriptive norms (Uncommon to do)	To what extent at [company name] is [workplace behavior] an uncommon or common thing to do? (1 = <i>very uncommon</i> ; 5 = <i>very common</i>) ® To what extent at [company name] is [workplace behavior] an uncustomary or customary thing to do? (1 = <i>very uncustomary</i> ; 5 = <i>very customary</i>) ®	.91
	Behavioral intentions (Likely to do)	Imagine that you are a new employee at [company s name]. You want to succeed at [company name]. How unlikely or likely are you to [workplace behavior]? (1 = very unlikely; 5 = very likely)	

Notes: [®] indicates reverse-scoring of item. Injunctive norms are scored such that higher values equate to stronger proscriptions against a behavior (*should not do*); descriptive norms are scored such that higher values equate to the behavior being uncommon (*uncommon to do*); behavioral intentions are scored such that higher values equate to being more likely to engage in the behavior (*likely to do*). Alpha levels are calculated at the observation level. Content in brackets was dynamically populated based on which company name and which workplace behaviors were pulled randomly from the larger bank of company names and behaviors.

Figure 5

An Example of the Stimuli Used to Manipulate the Emotion an Employee Expressed about a Workplace Behavior (Study 1)



Note. Stimuli were developed using the UC Davis Set of Emotion Expressions (UCDSEE) (Tracy et al., 2009). The emotion expressions are from left to right: anger, neutral, shame. We varied the target's name and the company's name (see SOM-R for details).

Manipulation check. At the end of the study, participants saw four pictures of the employee showing shame, anger, happiness, or a neutral expression. We did not manipulate happiness. We included a picture of the employee expressing happiness in the manipulation check to limit participants' suspicion that the purpose of the study was focused on negative emotions. Participants selected which emotion the employee expressed from five emotions (*happy, angry, ashamed, neutral, surprised*).

Results

Manipulation check. Nearly all participants (96%, N = 180) accurately identified all four emotions.

Analysis. Our analyses are at the level of an individual workplace behavior. Each participant answered questions about three behaviors, so the total number of observations for the analyses is 570. Our predictor variable is the target's emotion in response to the behavior: a neutral expression, anger, or shame. We created three dummy variables corresponding to each of the three emotions. There are three dependent variables: injunctive norms (i.e., should not do), descriptive norms (i.e., uncommon to do), and behavioral intentions (i.e., likely to do). In each regression model, we regressed one dependent variable on two of the three dummy variables. We clustered standard errors by participant.

We calculated Cohen's f^2 as a measure of effect size given that we have multiple observations within participant, following the guidelines of Selya and colleagues (2012). According to Cohen's (1988) guidelines, $f^2 \ge 0.02$, $f^2 \ge 0.15$, and $f^2 \ge 0.35$ represent small, medium, and large effect sizes, respectively.

We made no primary predictions about the effect of any specific workplace behavior, employee name, or company name, so we collapsed across these attributes in the primary analyses.

Results. As shown in Figure 6, participants perceived stronger injunctive norms at a company when an employee expressed shame than when the employee had a neutral reaction or expressed anger (Table 2, Models 1-2). Participants judged a behavior as less common when the employee expressed shame than when the employee had a neutral reaction or anger, although the latter difference was marginally significant (Table 2,

Models 3-4). Participants were less likely to engage in a workplace behavior when the employee expressed shame than a neutral reaction or anger (Table 2, Models 5-6).

Exploratory analyses showed that these effects were consistent across individual workplace behaviors (SOM-U, Figure S1), the names assigned to the company (SOM-U, Figure S2), and the names assigned to the employee (SOM-U, Figure S3). We simulated a between-subjects design by restricting the analysis to the first behavior participants evaluated. The effects were consistent under this separate evaluation (SOM-U, Figure S4). Overall, Study 1 provides initial evidence that people learn the content of social norms from others' expressions of shame.

Figure 6





Note. The *y* axis represents scores on the dependent variables. Error bars represent ± 1 95% confidence interval.

Table 2

	Injunctive Norms (should not do)			Descriptive Norms (uncommon to do)				Behavioral Intentions (likely to do)				
	Ν	Model 1	I	Model 2	Ν	Model 3	Ν	Model 4	Ν	Aodel 5	Ν	Aodel 6
Variable	Coef. (SE)	p value (Cohen's f^2)	Coef. (SE)	p value (Cohen's f^2)	Coef. (SE)	p value (Cohen's f^2)	Coef. (SE)	<i>p</i> value (Cohen's <i>f</i> ²)	Coef. (SE)	p value (Cohen's f^2)	Coef. (SE)	p value (Cohen's f^2)
Shame	1.56 (0.10)	<.0001 (0.66)			1.44 (0.10)	<.0001 (0.51)			-1.16 (0.13)	<.0001 (0.21)		
Anger	1.29 (0.10)	< .0001 (0.48)	-0.27 (0.10)	.007 (0.01)	1.25 (0.10)	< .0001 (0.40)	-0.19 (0.11)	.075 (0.00)	-0.85 (0.14)	< .0001 (0.13)	0.31 (0.11)	.004 (0.01)
Neutral			-1.56 (0.10)	< .0001 (0.66)			-1.44 (0.10)	< .0001 (0.51)			1.16 (0.13)	< .0001 (0.21)
Constant	1.84 (0.07)	<.0001	3.40 (0.07)	<.0001	1.87 (0.07)	<.0001	3.31 (0.08)	< .0001	2.95 (0.10)	< .0001	1.79 (0.08)	< .0001

Results of Regression Models Predicting the Three Dependent Variables (Study 1)

No (in int

Note. N = 570, Std. Err. adjusted for 190 clusters. Higher values equate to stronger proscriptions against the behavior (injunctive norms), less common behaviors (descriptive norms), and stronger intentions to engage in the behavior (behavioral intentions). Anger, Shame, and Neutral are all dummy variables. Models 1, 3, and 5 compare shame and anger to a neutral expression. Models 2, 4, and 6 compare shame to a neutral expression and anger. Table S1 in the SOM-U presents the raw mean and standard deviation of each measure for each emotion.

Study 2

In Study 2, participants evaluated an employee's supposed responses to a workplace questionnaire regarding how they would feel about engaging in various workplace behaviors: ashamed, anxious, sad, neutral, happy, or proud. Comparing shame to sadness and anxiety provides another test of the relative magnitude of shame's effect on norm acquisition. We included happiness and pride for exploratory purposes.

Method

Participants. We posted a study to Prolific Academic for 500 U.S.-based participants, intending to retain 75 participants (150 observations) per condition. After following our preregistered data exclusion plan (SOM-R, Table S2), the final sample consisted of 490 people (239 women, 237 men, 10 indicated a different gender identity, four prefer not state; $M_{age} = 32.41$, $SD_{age} = 12.37$). We preregistered the study here: https://aspredicted.org/KXE_VWS

Procedure. We manipulated how an employee reported they would feel for engaging in various workplace behaviors. We did this under the guise of having participants review someone's responses to a confidential, online workplace survey (see Levine & Wald, 2020; Schaumberg & Flynn, 2012 for similar paradigms). We told participants:

A confidential survey was done to assess employees' reactions to various things someone could do at their company (e.g., showing up five minutes late to a meeting; attending virtual conferences during the workday). We asked 152 employees at Baxter Financial to imagine that they engaged in various behaviors at Baxter Financial (e.g., attended a virtual conference during the workday) and how they would feel about engaging in this behavior. Employees selected the expression that captured the emotion they would feel in response to the behavior.

We gave participants a screenshot of this supposed questionnaire as an example (see Figure 7). We explained that employees had the option of selecting ashamed, anxious, sad, neutral, happy, or proud. The emotion the employee selected indicated how the employee said they would feel about engaging in the behavior.

Figure 7

Stimuli Used to Manipulate How an Employee Would Feel Engaging in Different Workplace Behaviors (Studies 2-3)

Panel A	Panel B
A confidential survey was done to assess employees' reactions to various things someone could do at their company (e.g., showing up five minutes late to a meeting, attending virtual conferences during the workday, etc.).	A confidential survey was done to assess employees' reactions to various things someone could do at their company (e.g., showing up five minutes late to a meeting, attending virtual conferences during the workday, etc.).
We asked 152 employees at SSP Partners to imagine that they engaged in various behaviors at SSP Partners (e.g., attended a virtual conference during the workday), and how they would feel about engaging in this behavior.	We asked 152 employees at SSP Partners to imagine that they engaged in various behaviors at SSP Partners (e.g., attended a virtual conference during the workday), and how they would feel about engaging in this behavior.
See an example below:	See an example below:
Imagine you did the following at SSP Partners:	Imagine you did the following at SSP Partners:
Attended a virtual conference during the workday	Attended a virtual conference during the workday
How would you feel?	How would you feel?
We provided employees with the following emotions.	We provided employees with the following images of emptions
Employees selected the emotion on the following scale that best captured how they would feel in response to the behavior.	
For instance, in this example below, the participant indicated that "Attending a virtual conference during the weekday would make them feel "proud."	Employees selected the image that best captured how they would feel in response to the behavior. See example below:
The employee's answer is in yellow.	
Anxious Ashamed Sad Happy Proud Neutral / No Emotion Page Break	
Response for employee: 83	Page Break
Question	Response for employee: 102
Imagine you did the following at SSD Dartnere:	Question
integine you did ute fellowing die oor it diturete.	Imagine you did the following at SSP Partners:
Presented a very cautious estimate of growth in a board meeting.	Shared your concerns publicly about SSP Partners's strategic direction.
How would you feel?	How would you feel?
	Answer: Sharing my concerns publicly about SSP Partners's strategic direction would make me feel
Answer: Presenting a very cautious estimate of growth in a board meeting would make me feel Ansious Ashamed Sarl Hanny Prourt Neutral /	
No Emotion	

Note. Panel A shows the materials from Study 2. Panel B shows the materials from Study 3. The name of the company, the workplace behavior, and the employee's answer changed dynamically. In Panel B, the images were taken from the UCDSEE database

(Tracy et al., 2009). The emotion expressions are from left to right: neutral, pride, embarrassment, and shame. In Study 3, we had a scale of female faces (as shown here) and one with male faces. See SOM-U (Figure S8) for the male faces scale.

Participants saw the employees' supposed responses to two workplace behaviors, which we randomly assigned without replacement. We manipulated how the employee would feel about engaging in the behavior by varying which emotion the employee selected.

We randomly paired one of the six emotional expressions with each workplace behavior, without replacement. Participants then answered questions about the company's injunctive norms and descriptive norms about the behavior. They also indicated their likelihood of engaging in the behavior if they worked at the company. The full list of questions is in Table 1.

Results

Analysis. We followed the same analysis plan as described in Study 1. Each participant answered questions about two behaviors, so the total number of observations for the analyses is 980. We created six dummy variables corresponding to each of the six emotions. In each regression model, we regressed one of the three dependent variables on five of the six dummy variables: injunctive norms (i.e., should not do), descriptive norms (i.e., uncommon to do), and behavioral intentions (i.e., likely to do). We clustered standard errors by participant.

Results. Figure 8 shows mean differences in the dependent variables across the six emotion conditions. Table 3 shows the regression results.

Participants inferred stronger injunctive norms against a behavior when the employee expressed shame than each of the other discrete emotional expressions (Table 3, Model 2). Participants also inferred that a behavior was less common when an employee expressed shame than when they expressed the other discrete emotions (Table 3, Model 4). Participants were also the least likely to engage in the behavior when the employee expressed shame, except compared to sadness (Table 3, Model 6). The results were consistent across the sampled features of the stimuli (SOM-U, Figures S5-S6) and under separate evaluation (SOM-U, Figure S7).

Figure 8

Effect of Emotion Condition on Injunctive Norms, Descriptive Norms, and Behavioral Intentions (Study 2)



Note. The *y* axis represents scores on the dependent variables. Error bars represent ± 1 95% confidence interval.

Table 3

Results of Regression Models Predicting the Three Dependent Variables (Study 2)

	Injunctive Norms					Descriptive Norms				Behavioral Intentions			
		(snould)	not do)	A a dal O	,	(uncomm	ion to do)	Andal 4	(likely to do)			Andal C	
	r G f		r G			viodel 5		viodel 4		viouer 5	r G	viouero	
	Coef.	<i>p</i> value	Coef.	<i>p</i> value	Coef.	<i>p</i> value	Coef.	<i>p</i> value	Coef.	<i>p</i> value	Coef.	<i>p</i> value	
Variable	(SE)	(Cohen's f^2)	(SE)	(Cohen's f^2)	(SE)	(Cohen's f^2)	(SE)	(Cohen's f^2)	(SE)	(Cohen's f^2)	(SE)	(Cohen's f^2)	
	1.10	<.0001			1.31	<.0001			-1.05	<.0001			
Shame	(0.09)	(0.16)			(0.10)	(0.19)			(0.13)	(0.08)			
	0.75	< 0001	-0.35	<.0001	1.00	<.0001	-0.31	.001	-1.00	<.0001	0.05	.687	
Sadnass	(0.00)	<.0001	(0.08)	(0, 02)	(0, 10)	(0, 11)	(0, 00)	(0.01)	(0, 12)	(0, 07)	(0, 12)	(0,00)	
Sadness	(0.09)	(0.07)	(0.08)	(0.02)	(0.10)	(0.11)	(0.09)	(0.01)	(0.13)	(0.07)	(0.12)	(0.00)	
	0.49	<.0001	-0.61	<.0001	0.77	<.0001	-0.54	<.0001	-0.77	<.0001	0.28	.025	
Anxiety	(0.10)	(0.03)	(0.10)	(0.05)	(0.11)	(0.06)	(0.10)	(0.03)	(0.14)	(0.04)	(0.13)	(0.00)	
			-1.10	<.0001			-1.31	<.0001			1.05	<.0001	
Neutral			(0.09)	(0.16)			(0.10)	(0.19)			(0.13)	(0.08)	
	-0.54	<.0001	-1.64	<.0001	-0.01	.935	-1.32	<.0001	0.22	.120	1.26	<.0001	
Happiness	(0.10)	(0.04)	(0.10)	(0.34)	(0.11)	(0.00)	(0.10)	(0.19)	(0.14)	(0.00)	(0.14)	(0.11)	
	-0.74	<.0001	-1.84	<.0001	-0.07	.534	-1.38	<.0001	0.53	<.0001	1.58	<.0001	
Pride	(0.10)	(0.07)	(0.10)	(0.43)	(0.11)	(0.00)	(0.11)	(0.22)	(0.13)	(0.02)	(0.13)	(0.17)	
	2.84	<.0001	3.94	<.0001	2.76	<.0001	4.07	<.0001	2.99	<.0001	1.95	<.0001	
Constant	(0.06)		(0.06)		(0.07)		(0.07)		(0.10)		(0.09)		

Note. N = 980, Std. Err. adjusted for 490 clusters. Higher values equate to stronger proscriptions against the behavior (injunctive norms), less common behaviors (descriptive norms), and stronger intentions to engage in the behavior (behavioral intentions). Each emotion is a dummy variable. Models 1, 3, and 5 compare the discrete emotions to a neutral expression. Models 2, 4, and 6 compare shame to the other discrete emotions and a neutral expression. Table S2 in the SOM-U presents the raw mean and standard deviation of each measure for each emotion.

Follow-up supplementary study. Comparing shame to sadness, we found a significant effect on norm acquisition but not on behavioral intentions. We conducted a preregistered follow-up study that focused only on this comparison. We manipulated whether an employee expressed shame or sadness about a workplace behavior, using different stimuli (e.g., text conversations between friends). We report this study in the SOM-R (Study S1). Shame sent stronger information about social norms and led to lower behavioral intentions than sadness (SOM-R, Table A1). Additional analyses showed that participants saw violating a norm as a stronger cause of shame than sadness, but experiencing disappointment as a stronger cause of sadness than shame (SOM-R, Table A2). This finding suggests that shame and sadness may affect observers' behaviors, but for different reasons—an idea we return to in the General Discussion.

Study 3

Study 3 had the same design as Study 2. However, we changed the response scale from emotion words to non-verbal expressions and scale options to shame, embarrassment, neutral, and pride. We compared shame to embarrassment to further assess the magnitude of shame's effects relative to other discrete negative emotions. Some scholars regard embarrassment as a less intense version of shame (e.g., Scheff, 2006). Other scholars see shame and embarrassment as arising from different sources. Shame arises from moral failings and evokes disgust in others, and embarrassment arises more from failings of social conventions (e.g., tripping) and arouses amusement in others (e.g., Keltner, 1995, 1996). Both these views suggest that shame would convey stronger signals of normative proscriptions than embarrassment.

Method

Participants. We posted a study to Prolific Academic for 500 U.S.-based participants to have approximately 125 participants (250 observations) per emotion. We anticipated smaller effects than what we observed in Study 2, given the changes we made to the study. After following our preregistered data exclusion plan (SOM-R, Table S1), the final sample consisted of 463 people (205 women, 255 men, two indicated a different gender identity, one preferred not state; $M_{age} = 34.90$, $SD_{age} = 11.52$). We preregistered the study here: https://aspredicted.org/ZZD_QDM

Procedure. The study was identical to Study 2, except that we changed the emotion response scale that the employees supposedly used to indicate how they would feel if they engaged in various workplace behaviors. We used images rather than emotion words on the scale (Figure 7, Panel B). Each image showed a person expressing an emotion (shame, embarrassment, or pride) or a neutral reaction. In this way, the response scale was akin to Kunin's Faces Scale, a widely used measure to assess job satisfaction (Kunin, 1955). We used validated images from the UCDSEE database to construct the emotions response scale (Tracy et al., 2009).

Participants saw the responses from a single employee who reported how they would feel if they engaged in two different workplace behaviors. Participants saw which emotion, out of a set of four emotions, the employee selected in response to the behavior for each workplace behavior. See Figure 7 for an example of the manipulation. Participants answered the same dependent measures as Study 2.

Results

Manipulation Check. Before analyses, we excluded participants (N = 34) who incorrectly identified more than two emotional expressions from the response scale per

our preregistration. Most participants (N = 277, 60%) correctly identified all four emotional expressions. The other participants correctly identified three (N = 113, 24%) and two (N = 73, 16%) emotional expressions.

Analysis. We followed the same analysis plan as the previous studies. Each participant answered questions about two behaviors, so the total number of observations for analyses is 926. In each regression model, we regressed one of the dependent variables on three of the four emotions. We clustered standard errors by participant.

Results. Figure 9 shows mean differences in the dependent variables across conditions (shame, embarrassment, neutral, pride). Table 4 shows the regression results.

Participants inferred that a workplace behavior was less normative when an employee conveyed shame than embarrassment, a neutral expression, or pride (see Table 4, Model 2 for injunctive norms, and Model 4 for descriptive norms). Participants also had lower behavioral intentions when the target expressed shame than embarrassment, a neutral expression, or pride (see Table 4, Model 6).

These results were consistent across the sampled stimuli (SOM-U, Figures S9-S11) and under separate evaluation (SOM-U, Figure S12). Thus, Study 3 conceptually replicated the previous results.

Figure 9





Note. The y axis represents scores on the dependent variables. Error bars represent ± 1 95% confidence interval.

Table 4

Results of Regression models I redicting the Three Dependent variables (Study S)	Results of	f Regression	Models I	Predicting	the Three	Dependent	Variables	(Study	; 3))
--	------------	--------------	----------	-------------------	-----------	-----------	-----------	--------	------	---

	Injunctive Norms				Descriptive Norms				Behavioral Intentions			
	(should not do)				(uncommon to do)				(likely to do)			
	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
Variable	Coef.	p value	Coef.	p value	Coef.	p value	Coef.	p value	Coef.	p value	Coef.	p value
	(SE)	(Cohen's	(SE)	(Cohen's	(SE)	(Cohen's	(SE)	(Cohen's	(SE)	(Cohen's	(SE)	(Cohen's
		f^2)		f^2)		f^2)		f^2)		f^2)		f^2)
	0.97	<.0001			0.81	<.0001			-0.68	<.0001		
Shame	(0.09)	(0.16)			(0.09)	(0.10)			(0.11)	(0.05)		
	0.38	<.0001	-0.59	<.0001	0.36	<.0001	-0.45	<.0001	-0.22	0.056	0.46	<.0001
Embarrassment	(0.08)	(0.03)	(0.08)	(0.06)	(0.09)	(0.02)	(0.09)	(0.03)	(0.11)	(0.01)	(0.11)	(0.02)
			-0.97	<.0001			-0.81	<.0001			0.68	<.0001
Neutral			(0.09)	(0.16)			(0.09)	(0.10)			(0.11)	(0.05)
	-0.76	<.0001	-1.73	<.0001	-0.59	<.0001	-1.40	<.0001	0.86	<.0001	1.54	<.0001
Pride	(0.09)	(0.09)	(0.09)	(0.48)	(0.09)	(0.05)	(0.09)	(0.28)	(0.12)	(0.07)	(0.12)	(0.22)
	2.89	<.0001	3.86	<.0001	3.05	<.0001	3.86	<.0001	2.68	<.0001	2.00	<.0001
Constant	(0.06)		(0.07)		(0.07)		(0.07)		(0.08)		(0.08)	

94

Note. N = 926, Std. Err. adjusted for 463 clusters. Higher values equate to stronger proscriptions against the behavior (injunctive norms), less common behaviors (descriptive norms), and stronger intentions to engage in the behavior (behavioral intentions). Each emotion is a dummy variable. Models 1, 3, and 5 compare a neutral expression to all discrete emotions. Models 2, 4, and 6 compare shame to the other emotions and a neutral expression. Table S3 in the SOM-U presents the raw mean and standard deviation of each measure for each emotion.

Study 4

Study 4 assessed how seeing someone else feel ashamed affects incentivized behavior. Participants completed an asynchronous competitive group task that involved generating rhymes. Participants saw a previous participant select a Rhyme Booster, which provided a personal advantage in the rhyming task. We varied whether this previous participant expressed shame (or reacted neutrally) to selecting a Rhyme Booster. We predicted that participants would be less likely to use a Rhyme Booster when they saw the previous participant express shame about using it because participants would infer that using a Rhyme Booster is normatively inappropriate.

Method

Participants. A power analysis showed that we would need 519 participants per condition for 90% power (assuming a base rate of 50%). We posted a study to Amazon Mechanical Turk for 1,050 U.S.-based participants. The final sample consisted of 953 people (533 women, 408 men, 7 indicated a different gender identity, and five did not indicate their gender; $M_{age} = 41.42$, $SD_{age} = 12.56$, see SOM-R, Table S2 for exclusion criteria). We preregistered the study here: https://aspredicted.org/MVT_79D

Procedure. The goal of Study 4 was to assess how participants would behave upon seeing someone's emotional reaction to their behavior. All participants were provided the same information and witnessed the target make the same decision. The only difference across conditions was whether the target expressed shame or had a neutral expression to their decision.

Participants learned that they would complete an asynchronous group decisionmaking task. In the task, participants would receive a Focal Word (e.g., chin) and have a specified time to generate English words that rhymed with the Focal Word (e.g., grin, fin, sin). We told participants that they were joining a group of university students. We further explained that the other group members recently completed a round of the task synchronously as part of a virtual study in our university's research lab. As part of this previous round, the group members agreed to be recorded (we assured participants that they would not be recorded in the asynchronous round).

Participants learned that the group has four members. They would join the group as the new Group Member 4. As a new group member, participants learned that part of their job was to make sense of the decisions and experiences of their group. To help them do this, participants would watch a video of the former Group Member 4 and see their decisions in the previous synchronous round of this task.

Participants then received information about their bonus payment and the option to use a Rhyme Booster. We told participants that if they submitted the most rhymes in the group, they would earn a bonus of \$0.25. If they did not submit the most rhymes in the group, they would earn a bonus of \$0.15.

We then explained that they would have the opportunity to use a Rhyme Booster. Participants' choice to use a Rhyme Booster was the focal behavioral outcome in the study. We explicitly stated that "using a Rhyme Booster can give you an advantage. It can help you to generate the most rhymes." We assured participants that the group would not know them, but that the group would learn whether the participant used a Rhyme Booster.

Manipulation. After answering six multiple-choice comprehension check questions, participants watched a video of the previous synchronous round of the task. In

the video, participants shadowed Group Member 4. They saw Group Member 4 decide to use a Rhyme Booster. They received no information about the other group members' decisions to use a Rhyme Booster. We did not show Group Member 4 generating the rhymes, but we told participants that Group Member 4 generated eight rhymes and that the other group members generated fewer than five rhymes. Thus, Group Member 4 generated the most rhymes in the group.

Participants then learned that the other group members' decisions to use a Rhyme Booster were revealed to Group Member 4 at the end of the round. Participants then saw how Group Member 4 reacted after they learned this information. Participants in the Shame Expression Condition (N = 479) saw Group Member 4 nonverbally express shame. Participants in the Neutral Expression Condition (N = 474) saw Group Member 4 have a neutral expression. Figure 10 provides screenshots of these two reactions. A complete storyboard of the video that participants watched is in the SOM-U, Figure S13. (See the OSF page for the videos.)

After watching the video, participants answered questions about the norms in the group. They then indicated whether they would like to use a Rhyme Booster (our focal behavioral outcome variable). After making this decision, participants proceeded to the rhyme generation page. They had 30 seconds to generate as many rhymes as possible with a Focal Word.

After submitting their rhymes, participants concluded the study by answering a manipulation check about Group Member 4's emotional reaction and an open-ended question regarding any comments or concerns.

97

Stimuli. We had three actors (two female and one male) record themselves expressing both shame and a neutral expression (see Figure 10 for an example). We randomly assigned participants to watch one of these three actors play Group Member 4. A separate group of actors played Group Members 1, 2, and 3 and were held constant across conditions. We conducted two pilot tests to validate the actors' emotional expressions. These pilot tests showed that participants most commonly saw the actor's expression as shame. We report the results of these validation tests in the SOM-U (Tables S4-S6). The validity of our stimuli is further supported by the manipulation checks conducted at the end of each study.

Behavior (using a Rhyme Booster). We aligned the financial incentive with the behavior of the target (i.e., using a Rhyme Booster). Participants earned a \$0.25 bonus for generating the most rhymes in the group (and \$0.15 if they did not). A Rhyme Booster provided an advantage for generating rhymes.

Figure 10

Screenshots from the Video Recording Used to Manipulate a Target's Reaction to Using a Rhyme Booster (Study 4)

Panel A







Note. Shown are screenshots of the video that manipulated the actor's emotional expression. Participants in the Neutral Expression Condition saw the actor have a neutral expression to their choice to use a Rhyme Booster (Panel A). Participants in the Shame Expression Condition saw the actor express shame to their choice to use a Rhyme Booster (Panel B).
Injunctive Norms. Participants answered two questions about the group's injunctive norms regarding Rhyme Boosters: 1) "In this group, is it more acceptable to use a Rhyme Booster or not to use a Rhyme Booster?" and 2) "In this group, is it more wrong/inappropriate to use a Rhyme Booster or not to use a Rhyme Booster?" Participants answered the questions on 3-point scales. We combined these two measures to create a composite measure. Participants received a score of one if they indicated that using a Rhyme Booster was more wrong/inappropriate and that not using a Rhyme Booster was more acceptable. We assigned the value of zero to all other participants. We treat participants with a score of one as seeing stronger injunctive norms *against* using a Rhyme Booster.

Descriptive norms. Participants indicated whether they thought each group member did or did not use a Rhyme Booster. We totaled the number of group members that participants believed did not use a Rhyme Booster. The range of this measure is 0 to 3, with higher values indicating that using a Rhyme Booster is less common.

Rhyming performance. Participants had 30 seconds to generate English words that rhymed with a Focal Word (e.g., Lamp). We gave participants 13 textboxes to type their rhymes. For participants who chose to forgo a Rhyme Booster, all thirteen textboxes were blank at the start of the task. The first four boxes were populated with four free rhymes for participants who chose a Rhyme Booster. While participants knew that using a Rhyme Booster would give them an advantage, this specific benefit of receiving four free rhymes was unknown to participants when they chose to use a Rhyme Booster.

Manipulation check. Participants saw a screenshot of Group Member 4's emotional reaction from the video manipulation. We asked participants: "Would you say

Group Member 4 is experiencing an emotion or is in more of a neutral state?" (*Experiencing an emotion*; *More in a neutral state*). Participants who indicated that Group Member 4 is experiencing an emotion selected the emotion that Group Member 4 is experiencing (*Happiness, Anger, Shame, Sadness*).

Results

Suspicion. At the end of the study, we asked participants to state any comments or concerns they had about the study. About one-third of participants (N = 349) commented on the study, but only five reported suspicion about the authenticity of the situation.

Manipulation Check. Nearly all participants correctly identified the target's emotional expression; 91% of participants assigned to the Neutral Expression Condition indicated that the target was in a neutral state, and 89% of participants assigned the Shame Expression Condition indicated that the target was experiencing shame. The results of the primary analyses remain the same if we include only the participants who accurately identified the actor's expression as shame (Table S3 in the SOM-R).

Behavior (using a Rhyme Booster). As shown in Figure 11, when participants saw someone react neutrally to using a Rhyme Booster (Neutral Expression Condition), 48% of participants chose to use a Rhyme Booster. However, when participants saw someone express shame about using a Rhyme Booster (Shame Expression Condition), 37% of participants chose to use a Rhyme Booster, $\chi^2(N = 953, 1) = 12.12$, *p* <.0001, *d* = 0.23, 95% CI [0.10, 0.35]. In exploratory analyses, we find a similar pattern of results for each actor (SOM-U, Figure S14).

Figure 11



Effect of Shame Expression on Incentivized Behavior (Study 4)

Note. Error bars represent $\pm 1.95\%$ confidence interval.

Injunctive norms. More participants in the Shame Expression Condition (67%) perceived an injunctive norm against using a Rhyme Booster relative to those in the Neutral Expression Condition (34%, $\chi^2(N = 953, 1) = 108.10$, p < .0001, d = 0.71, 95% CI [0.58, 0.85], see SOM-U, Figure S15).

Descriptive norms. On average, participants in the Shame Expression Condition believed that more non-target group members chose not to use a Rhyme Booster (M = 2.72, SE = 0.04) relative to participants in the Neutral Expression Condition (M = 2.29, SE = 0.05, t(951) = 6.75, p < .0001, d = 0.44, 95% CI [0.31, 0.57], see SOM-U, Figure S16). Thus, participants saw the target's behavior as less common when the target expressed shame.

Mediation. We tested whether participants' perceptions of the injunctive and descriptive norms in the group mediated the effect of emotion expression on participants' incentivized choice. We used 5,000 bootstrapped resamplings of the data to estimate the indirect effects of the mediators simultaneously (Preacher & Hayes, 2008; UCLA: Statistical Consulting Group, 2021). As shown in Figure 12, we found that both the indirect effect of injunctive norms (b = -0.05, SE = 0.01, p < .0001, 95% CI [-0.07, -0.02] and the indirect effect of descriptive norms (b = -0.04, SE = 0.01, p < .0001, 95% CI [-0.07, -0.02] and the indirect effect of emotion expression on participants' choice. Together, the total indirect effects mediated 72% of the total effect.

Advantage of Using a Rhyme Booster. We told participants that a Rhyme Booster would give them an advantage in the task. The Rhyme Booster worked as intended. We had three undergraduate students complete the study to represent the performances of Group Members 1, 2, and 3. These students did not use a Rhyme Booster. The top-performing student submitted six rhymes. Participants who submitted more than six rhymes received a \$0.25 bonus. All other participants got a \$0.15 bonus. Sixty-five percent of participants who used a Rhyme Booster and 32% of participants who did not use a Rhyme Booster earned a \$0.25 bonus, $\chi^2(N = 953, 1) = 104.48, p$ <.0001, d = 0.71, 95% CI [0.58, 0.84] (see SOM-U, Figure S17 for details).

Figure 12

Mediation Analysis of the Effect of Emotion Expression on Participants' Behavior Via Inferred Social Norms (Study 4)



Note. Shown are the results of the mediation model simultaneously testing the indirect effects of perceived injunctive and descriptive norms on the relationship between the target's emotional expression and participants' incentivized choice (using a Rhyme Booster).

 $^{ns} p > .10, *** p < .001.$

Discussion

Study 4 provides evidence that people adjust their behavior upon witnessing someone express shame, even if this adjustment is financially disadvantageous. Participants were less likely to use a Rhyme Booster in a competitive rhyming task when they observed someone express shame for using one because this person's shame signaled that using a Rhyme Booster was normatively inappropriate.

Study 5

Study 5 was similar to Study 4. However, we told participants the precise financial cost of avoiding the target's choice and changed the focal behavior to ensure that participants had no prior beliefs about the (in)appropriateness of the behavior.

Method

Participants. A power analysis suggested that we would have 90% power to detect an estimated ten percentage-point effect with 260 participants per condition (assuming a base rate of 10%). We posted a study to Prolific Academic for 650 participants because we expected some participants would be excluded (see SOM-R, Table S2). We restricted participation to U.S. citizens who currently live in the U.S. The final sample consisted of 527 people (240 women, 281 men, 5 indicated a different gender identity, and one preferred not to indicate their gender, $M_{age} = 33.55$, $SD_{age} = 11.79$). We preregistered the study here: https://aspredicted.org/JAB_EJX

Procedure. The procedure was similar to Study 4. Participants again learned that they would complete an asynchronous group decision-making task. However, instead of completing a rhyming task and choosing whether to use a Rhyme Booster, participants saw two different ovals. The ovals had different monetary values associated with them. The focal behavior was which oval participants chose (see Figure 13 for an example).

Similar to Study 4, participants watched a video recording supposedly of previous rounds of the task. They again learned that they would participate asynchronously as Group Member 4 and shadow Group Member 4 before each round.

Participants completed two rounds of the task. In both rounds, the task involved choosing between ovals (see Figure 13). The ovals were the same color, but they

appeared to be two different colors (i.e., a Munker Illusion, see Novick, 2021). In both rounds, participants saw how Group Member 4 reacted when their decisions were publicized to the group. After each round, participants logged their incentivized decision for that round. A complete storyboard of the videos that participants watched is in the SOM-U, Figure S18. See the OSF page for the videos.

The purpose of the first round was to familiarize participants with the task. In Round 1, Group Member 4 always selected BLUE and had a neutral expression after their selection. In Round 2, Group Member 4 also selected BLUE. However, in this round, we manipulated Group Member 4's emotional expression. Participants in the Shame Expression Condition (N = 255) saw Group Member 4 express shame about their choice. Participants in the Neutral Expression Condition (N = 272) saw Group Member 4 react neutrally to their choice. Participants' choice of BLUE or RED in the second round was our primary dependent variable.

Manipulation. We used the same videos from Study 4 to manipulate whether the target expressed shame or reacted neutrally to choosing BLUE. However, we also included a fourth video of a second male actor. We randomly assigned participants to watch one of these four actors play Group Member 4.

Behavior (choosing BLUE). To assess how the emotional expression of the target affected participants' behavior, we told participants they would earn \$0.19 if they selected BLUE and \$0.15 if they selected RED. The incentives were stated directly below the question so that participants knew the precise financial implications of their decision (see Figure 13). Similar to Study 4, we incentivized participants to select the target's choice (i.e., BLUE) so that the financial incentive aligned with the observed behavior. With

these incentives, we would expect most participants to select BLUE, unless they infer some other cost for selecting BLUE, and they want to avoid this cost.

Figure 13

Focal Behavior (Study 5)



Note. Panel A shows Group Member 4's focal choice. Group Member 4 always selected BLUE. Panel B shows the choice presented to participants.

Injunctive norms. We measured participants' perceptions of the injunctive norms in the group about choosing BLUE or RED. We asked participants the same two questions used in Study 4, substituting choosing RED or BLUE for not using or using a Rhyme Booster. We combined these two measures again to create a binary measure of perceived injunctive norms against the target's behavior (choosing BLUE).

Descriptive norms. As in Study 4, participants indicated whether they thought each of the other three non-target group members selected BLUE or RED. We again totaled the number of group members that participants believed selected RED (i.e., the target's forgone choice), thus higher values indicate that participants see choosing BLUE (the target's choice) as more uncommon. *Manipulation check.* Participants answered the same manipulation check question about the target's emotional reaction from Study 4.

Results

Manipulation check. Participants accurately identified the emotions; 87% of participants in the Neutral Expression Condition indicated that Group Member 4 was in a neutral state. Similarly, 59% of participants in the Shame Expression Condition correctly identified the actor's expression of shame. Of the participants in the Shame Expression Condition who misidentified the actor's expression, most identified the actor's expression as sadness (see SOM-U for details). We note that the results of the primary analyses remain the same if we include only the participants who accurately identified the target's emotion as shame (SOM-R, Table S3).

Behavior (choosing BLUE). As shown in Figure 14, in line with the financial incentive, 89% of participants in the Neutral Expression Condition selected BLUE, the financially advantageous choice. However, 71% of participants selected BLUE in the Shame Expression Condition, with 29% of participants opting for the target's forgone choice of RED. Overall, participants in the Shame Expression Condition were about three times more likely than those in the Neutral Expression Condition to select the financially disadvantageous option of RED, the target's forgone choice, $\chi^2(N = 527, 1) = 25.92, p$ <.0001, d = 0.45, 95% CI [0.28, 0.63]. In an exploratory analysis, we found this pattern of results to be consistent across individual actors (see SOM-U, Figure S19).

Injunctive norms. More participants in the Shame Expression Condition (45%) perceived an injunctive norm against the target's choice, BLUE, relative to those assigned

to the Neutral Expression Condition (13%, $\chi^2(N = 527, 1) = 70.35$, p < .0001, d = 0.78, 95% CI [0.61, 0.96], see SOM-U, Figure S20).

Figure 14

Effect of Shame Expression on Incentivized Behavior (Study 5)



Note. Error bars represent $\pm 1.95\%$ confidence interval.

Descriptive norms. On average, participants in the Shame Expression Condition believed that most of the other three group members selected "RED," the target's forgone choice (M = 2.07, SE = 0.07). Participants in the Neutral Expression Condition believed that the minority of the other three group members did the same (M = 1.29, SE = 0.07, t(525) = 7.80, p < .0001, d = 0.68, 95% CI [0.50, 0.86] see SOM-U Figure S21). Thus, participants saw the target's behavior as less common when the target expressed shame.

Mediation. We used the same multiple mediation model used in Study 4 to test whether participants' perceptions of the injunctive and descriptive norms in the group mediated the effect of emotion expression on participants' incentivized choice. As shown in Figure 15, we replicate the mediation effects identified in Study 4. Both the indirect effect of injunctive norms (b = -0.05, SE = 0.02, p = .010, 95% CI [-0.09, -0.02] and the indirect effect of descriptive norms (b = -0.06, SE = 0.01, p < .0001, 95% CI [-0.09, -0.03] mediated the effect of emotion expression on participants' choice. Together, the total indirect effects mediated 64% of the total effect.

Figure 15

Mediation Analysis of the Effect of Emotion Expression on Participants' Behavior Via Inferred Social Norms (Study 5)



Note. Shown are the results of the mediation model simultaneously testing the indirect effects of perceived injunctive and descriptive norms on the relationship between the target's emotional expression and participants' incentivized choice (i.e., selecting BLUE). $^{+}p < .10$, *** p < .001.

Discussion

Study 5 replicates Study 4 using a different behavior with precise financial incentives. While the financial incentives in this study were small, this is an anonymous online setting in which financial compensation is the primary motivation for study

participation. Yet, participants were less likely to choose a smaller bonus when they observed another person express shame for making the more lucrative choice.

In Studies 4 and 5, participants answered questions about perceived injunctive and descriptive norms before making their incentivized choice. To ensure the findings do not depend on this design feature, we conducted a preregistered replication of Study 5, omitting the injunctive and descriptive norms questions (see Study S2 in the SOM-R for full details). We find that participants were significantly more likely avoid the target's behavior (choosing BLUE) when the target expressed shame. This suggests that the results are not driven by assessing the mediators before the focal behavioral dependent variable.

General Discussion

Across studies, participants inferred a group's norms—both what people in the group should do and commonly do—from others' shame expressions. Moreover, upon witnessing someone express shame in response to a behavior, participants were less likely to engage in the behavior. These findings show that shame broadcasts strong signals of normatively appropriate behavior, and they provide the first evidence of how one person's shame affects the normative behavior of others. In doing so, these findings identify social learning as a key mechanism through which shame positively affects social cohesion.

We speculate that past research on shame may have overlooked shame's role in norm acquisition and interindividual behavior regulation for two reasons. First, people are socialized not to show or discuss shame in modern, Western societies (Fessler, 2004; Scheff, 1988; Tracy & Matsumoto, 2008). Second, the contemporary study of shame often treats shame as a feature of a person rather than a feature of a situation or transgression (e.g., Tangney et al., 2007a). Thus, this view may assume that observers could learn little about the social environment from a person's experience of shame.

The present findings suggest that the expression of shame facilitates norm acquisition and normative behavior in others. From a genetic evolutionary perspective, this is not the primary function for which the shame expression evolved (see Fessler, 2007; Keltner & Harker, 1998). However, it may be a secondary adaptive benefit of the shame expression because it supports the transmission of critical cultural information (Boyd et al., 2011; see also Tracy et al., 2020 for a similar discussion regarding pride)

Scholars theorize that the primary function of the shame expression is to appease higher-status or more dominant others, thereby reducing punishment for one's transgressions (Fessler, 2007; Giner-Sorolla et al., 2008; Keltner, 1995; Martens et al., 2012). While appeasement reduces threats against the self and resolves conflict, it also lowers one's social status. People are highly motivated to avoid actions that would cause them to lose status (Pettit et al., 2010) because of the benefits of being conferred high status (Anderson et al., 2015). Consequently, people would benefit from recognizing and learning from others' shame because this capability would allow people to avoid engaging in shameful behaviors. Thus, over time, those who were more attuned to others' shame expressions and the normative information the expression conveyed may have fared better than those who were not.

Some past work suggest that another reason individuals may avoid ashamed others' behaviors because the shame expression signals that the person is less competent, and thus, copying their behavior would undermine the observer's performance (see

111

Martens & Tracy, 2013). However, Study 4 does not support this view. The target in this study performed the best in their group and earned the most money. If participants were motivated to copy the behaviors that would afford them the most individual success, they would have copied the target's victorious behavior. Instead, participants were less likely to copy the target's behavior when the target expressed shame because participants inferred that the target's behavior was normatively inappropriate.

We relied on U.S.-based samples, which may limit the generalizability of the findings. Given the relatively low elaboration of the shame concept in the U.S. (Scheff, 2014), it is unclear whether the findings would extend beyond this cultural context. The effects could be stronger in a cultural context with a more elaborated view of shame because there is higher cultural awareness about the meaning of shame (e.g., Fessler, 2004). In contrast, shame may send particularly strong signals of social norm violations in the U.S. because people rarely express shame. Identifying whether a more elaborated cultural understanding of shame would moderate the present findings is an important question for future research.

Our results show that shame reliably sent stronger signals of social norms compared to anger, anxiety, sadness, and embarrassment, suggesting that shame is at least quantitatively different from many other negative emotions. However, whether the normative information that shame signals is qualitatively different from these other negative emotions remains an open question. On the one hand, in Studies 1-3, embarrassment, anxiety, anger, and sadness conveyed normative information about a behavior relative to a neutral expression, suggesting a difference in magnitude. On the other hand, in Study S1, participants saw shame and sadness as having different antecedent causes, suggesting a difference in kind. We suggest that future work would benefit from further comparing shame to other discrete emotions to flesh out the functions of shame that are unique or shared with similar emotions.

An interesting direction for future work is to assess how shame influences social norms and whether people's conveyance of shame is a tool for changing social norms. For instance, if people stop conveying shame in response to violating a social norm, does this diminish the strength of the social norm? Conversely, if people start expressing shame in response to what was previously considered an innocuous behavior, does this create a new norm? The present findings provide foundational evidence about shame that allows future research to address these types of questions. Understanding these questions is critical because, as Scheff (2014) argues, "Shame may be one of the keys to understanding our civilization" (*p.* 129).

References

- Anderson, C., Hildreth, J. A. D., & Howland, L. (2015). Is the desire for status a fundamental human motive? A review of the empirical literature. *Psychological Bulletin*, 141(3), 574.
- Bagozzi, R. P., Verbeke, W., & Gavino Jr, J. C. (2003). Culture moderates the selfregulation of shame and its effects on performance: The case of salespersons in The Netherlands and the Philippines. *Journal of Applied Psychology*, 88(2), 219.
- Bandura, A., & Walters, R. H. (1977). *Social learning theory* (Vol. 1). Englewood cliffs Prentice Hall.
- Boyd, R., & Richerson, P. J. (2009). Culture and the evolution of human cooperation. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 364(1533), 3281–3288.
- Boyd, R., Richerson, P. J., & Henrich, J. (2011). The cultural niche: Why social learning is essential for human adaptation. *Proceedings of the National Academy of Sciences - PNAS*, 108(26), 10918. https://doi.org/10.1073/pnas.1100290108
- Bruni, F. (2018, June 27). Is Shaming The Answer To Trump? *The New York Times*. https://advance-lexiscom.proxy.library.upenn.edu/api/document?collection=news&id=urn:contentItem :5SNB-9V71-DXY4-X20N-00000-00&context=1516831.
- Chudek, M., & Henrich, J. (2011). Culture–gene coevolution, norm-psychology and the emergence of human prosociality. *Trends in Cognitive Sciences*, *15*(5), 218–226.

- Dannals, J. E., & Miller, D. T. (2017). Social Norms in Organizations. Oxford Research Encyclopedia of Business and Management, Generic. https://doi.org/10.1093/acrefore/9780190224851.013.139
- de Hooge, I. E., Zeelenberg, M., & Breugelmans, S. M. (2010). Restore and protect motivations following shame. *Cognition and Emotion*, 24(1), 111–127. https://doi.org/10.1080/02699930802584466
- Fessler, D. (2004). Shame in two cultures: Implications for evolutionary approaches. *Journal of Cognition and Culture*, 4(2), 207–262.
- Fessler, D. (2007). From appeasement to conformity. *Self-Conscious Emotions: Theory* and Research, 174–193.

Friedkin, N. E. (2004). Social cohesion. Annual Review of Sociology, 30, 409-425.

Giner-Sorolla, R., Castano, E., Espinosa, P., & Brown, R. (2008). Shame expressions reduce the recipient's insult from outgroup reparations. *Journal of Experimental Social Psychology*, 44(3), 519–526.

Gladstone, J. J., Jachimowicz, J. M., Greenberg, A. E., & Galinsky, A. D. (2021).Financial shame spirals: How shame intensifies financial hardship.Organizational Behavior and Human Decision Processes, 167, 42–56.

Goldberg, M. (2020, May 8). Social Shaming' Will Not Save Us. *The New York Times*. https://advance-lexis-

com.proxy.library.upenn.edu/api/document?collection=news&id=urn:contentItem :5YVR-WBR1-DXY4-X1S4-00000-00&context=1516831

- Hareli, S., Kafetsios, K., & Hess, U. (2015). A cross-cultural study on emotion expression and the learning of social norms. *Frontiers in Psychology*, 6(Article 1501), 1–12. https://doi.org/10.3389/fpsyg.2015.01501
- Hareli, S., Moran-Amir, O., David, S., & Hess, U. (2013). Emotions as signals of normative conduct. *Cognition and Emotion*, 27(8), 1395–1404. https://doi.org/10.1080/02699931.2013.791615
- Harris, C. R., & Darby, R. S. (2009). Shame in physician–patient interactions: Patient perspectives. *Basic and Applied Social Psychology*, *31*(4), 325–334.
- Higgins, E. T. (1987). Self-discrepancy: A theory relating self and affect. *Psychological Review*, *94*(3), 319–340.

Hogg, M. A. (1992). The social psychology of group cohesiveness. University Press.

- Keltner, D. (1995). Signs of appeasement: Evidence for the distinct displays of embarrassment, amusement, and shame. *Journal of Personality and Social Psychology*, 68(3), 441–454. https://doi.org/10.1037/0022-3514.68.3.441
- Keltner, D. (1996). Evidence for the distinctness of embarrassment, shame, and guilt: A study of recalled antecedents and facial expressions of emotion. *Cognition & Emotion*, 10(2), 155–172.
- Keltner, D., & Harker, L. (1998). The forms and functions of the nonverbal signal of shame.
- Kunin, T. (1955). The construction of a new type of attitude measure 1. *Personnel Psychology*, 8(1), 65–77.

- Leach, C. W., & Cidam, A. (2015). When is shame linked to constructive approach orientation? A meta-analysis. *Journal of Personality and Social Psychology*, *109*(6), 983–1002.
- Levine, E. E., & Wald, K. A. (2020). Fibbing about your feelings: How feigning happiness in the face of personal hardship affects trust. Organizational Behavior and Human Decision Processes, 156, 135–154. https://doi.org/10.1016/j.obhdp.2019.05.004
- Lewis, B. (1971). Shame and guilt in neurosis. *Psychoanalytic Review*, 58(3), 419–438.
- Martens, J. P., & Tracy, J. L. (2013). The emotional origins of a social learning bias:
 Does the pride expression cue copying? *Social Psychological and Personality Science*, 4(4), 492–499.
- Martens, J. P., Tracy, J. L., & Shariff, A. F. (2012). Status signals: Adaptive benefits of displaying and observing the nonverbal expressions of pride and shame. *Cognition & Emotion*, 26(3), 390–406.
- Novick, D. (2021, February 23). David Novick's Color Illusion Page: Introduction to Munker Illusions. *David Novick's Color Illusion Page*. http://engineering.utep.edu/novick/colors/basicmunker/
- Pettit, N. C., Yong, K., & Spataro, S. E. (2010). Holding your place: Reactions to the prospect of status gains and losses. *Journal of Experimental Social Psychology*, 46(2), 396–401.
- Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods*, 40(3), 879–891.

- Schaumberg, R. L., & Flynn, F. J. (2012). Uneasy lies the head that wears the crown: The link between guilt proneness and leadership. *Journal of Personality and Social Psychology*, 103(2), 327.
- Scheff, T. J. (2006). *Goffman unbound!: A new paradigm for social science*. Paradigm Publishers,.
- Scheff, T. J. (2014). The ubiquity of hidden shame in modernity. *Cultural Sociology*, 8(2), 129–141.
- Selya, A., Rose, J., Dierker, L., Hedeker, D., & Mermelstein, R. (2012). A Practical Guide to Calculating Cohen's f2, a Measure of Local Effect Size, from PROC MIXED. *Frontiers in Psychology*, *3*, 111.
 https://doi.org/10.3389/fpsyg.2012.00111
- Stuewig, J., & Tangney, J. P. (2007). Shame and guilt in antisocial and risky behaviors. In J. L. Tracy, R. W. Robins, & J. P. Tangney (Eds.), *The self-conscious emotions: Theory and research* (pp. 371–388). Guilford Press.
- Sznycer, D. (2019). Forms and functions of the self-conscious emotions. *Trends in Cognitive Sciences*, 23(2), 143–157.
- Sznycer, D., Tooby, J., Cosmides, L., Porat, R., Shalvi, S., & Halperin, E. (2016). Shame closely tracks the threat of devaluation by others, even across cultures.
 Proceedings of the National Academy of Sciences, *113*(10), 2625–2630.
- Tangney, J. P., Niedenthal, P. M., Covert, M. V., & Barlow, D. H. (1998). Are shame and guilt related to distinct self-discrepancies? A test of Higgins's (1987) hypotheses. *Journal of Personality and Social Psychology*, 75(1), 256.

- Tangney, J. P., Stuewig, J., & Martinez, A. G. (2014). Two faces of shame: The roles of shame and guilt in predicting recidivism. *Psychological Science*, 25(3), 799–805.
- Tangney, J. P., Stuewig, J., & Mashek, D. J. (2007a). Moral emotions and moral behavior. *Annual Review of Psychology*, 58(1), 345–372.
 https://doi.org/10.1146/annurev.psych.56.091103.070145
- Tangney, J. P., Stuewig, J., & Mashek, D. J. (2007b). What's moral about the selfconscious emotions? In J. L. Tracy, R. W. Robins, & J. P. Tangney (Eds.), *The self-conscious emotions: Theory and research* (pp. 21–37). The Guilford Press.
- Tracy, J. L., & Matsumoto, D. (2008). The spontaneous expression of pride and shame: Evidence for biologically innate nonverbal displays. *Proceedings of the National Academy of Sciences*, 105(33), 11655–11660.
- Tracy, J. L., Mercadante, E., Witkower, Z., & Cheng, J. T. (2020). The evolution of pride and social hierarchy. In *Advances in Experimental Social Psychology* (Vol. 62, pp. 51–114). Elsevier.
- Tracy, J. L., Robins, R. W., & Schriber, R. A. (2009). Development of a FACS-verified set of basic and self-conscious emotion expressions. *Emotion*, 9(4), 554.
- UCLA: Statistical Consulting Group. (2021, February 23). *How can I analyze multiple mediators in Stata*? https://stats.idre.ucla.edu/stata/faq/how-can-i-analyze-multiple-mediators-in-stata/
- Van Kleef, G. A. (2016). *The interpersonal dynamics of emotion*. Cambridge University Press.

- Van Kleef, G. A., De Dreu, C. K., & Manstead, A. S. (2004). The interpersonal effects of anger and happiness in negotiations. *Journal of Personality and Social Psychology*, 86(1), 57–76.
- van Kleef, G. A., Wanders, F., Stamkou, E., & Homan, A. C. (2015). The social dynamics of breaking the rules: Antecedents and consequences of norm-violating behavior. *Current Opinion in Psychology*, *6*, 25–31. https://doi.org/10.1016/j.copsyc.2015.03.013
- Witkower, Z., & Tracy, J. L. (2019). A Facial-Action Imposter: How Head Tilt Influences Perceptions of Dominance From a Neutral Face. *Psychological Science*, 30(6), 893–906. https://doi.org/10.1177/0956797619838762

CHAPTER 3

DISENTANGLING DECEPTION:

AN EMPIRICAL INVESTIGATION OF THE NATURE OF LYING AND CHEATING

Samuel E. Skowronek

An individual lies if they misreport honestly generated information. They cheat if they create fraudulent information. Behavioral ethics scholars seek to investigate both types of unethical behavior using experiments that rely on incentivized self-report procedures. In this article, I demonstrate that these procedures do not study cheating behavior. This limitation, combined with the motivation to theorize about the nature of cheating, has caused prior work to assert competing predictions about the nature of dishonesty. Across one pilot study and three preregistered experiments using online panels (N = 1,408), I demonstrate that cheating and lying are fundamentally different behaviors. Specifically, I show that the magnitude of dishonesty and the affective consequences of dishonesty critically depend on the type of dishonesty under investigation. By identifying these differences, I reconcile conflicting findings in behavioral ethics and build a clear, conceptual foundation for future scholarship.

Introduction

Corporate scandals have enormous economic effects, and they have spurred scholars of behavioral ethics to scrutinize the nature of dishonesty. This research has been broadly influential, affecting how governments, educational institutions, and organizations go about identifying and mitigating dishonest conduct (Behavioural Insights Team, 2012; Coughlan, 2015; Kristal et al., 2020). The experimental paradigms scholars have used to investigate unethical behavior have assessed lying behavior. The corporate scandals that motivate these investigations, however, are often examples of cheating behavior (e.g., Welsh et al., 2015). In this article, I demonstrate that cheating behavior and lying behavior differ both conceptually and empirically, and I use the distinction between cheating and lying to reconcile anomalies in the literature.

As the behavioral ethics literature has grown, there has been a strong methodological convergence in behavioral ethics experiments. Scholars have relied almost exclusively on incentivized self-reporting procedures to assess dishonesty. In these experiments, participants are given the opportunity to misreport their performance. These experiments spurred a vast literature in behavioral ethics. Recent reviews (Abeler et al., 2019; Gerlach et al., 2019) show that over the last 15 years, researchers have recruited more than 63,000 individuals across 200 experiments to complete one of the four most commonly used self-reporting procedures: the Coin Task (Bucciol & Piovesan, 2011), the Die Task (Fischbacher & Föllmi-Heusi, 2013; Shalvi, Dana, et al., 2011), the Matrix Task (Mazar et al., 2008), and the Sender Task (Gneezy, 2005). Each of the four canonical behavioral ethics paradigms measures lying behavior. None measure cheating behavior. Although cheating has received scant academic attention (Green, 2006), recent work has begun to investigate the concept of cheating as a distinct form of workplace misconduct (Mitchell et al., 2018; Spoelma, 2021). Building on this work, I define "cheating" as *an activity that produces a false outcome*. In contrast, "lying" is *the misreport of a true performance* (Shalvi, Handgraaf, et al., 2011). Unlike liars, cheaters often do not observe their honest performance. Rather, cheaters observe the outcome they created outside the bounds of permissible conduct. Creating software to change how a car runs during an emissions test is cheating; misreporting quarterly earnings is lying.

In the canonical behavioral ethics experimental paradigms, the act of dishonesty occurs after participants observe their true performance. The distinctions I make between lying and cheating are consistent with definitions in the communications literature (Bitterly & Schweitzer, 2020). Lies of *commission* involve active misrepresentations. When an individual lies, they lie by commission; they observe the truth and misreport it. When cheaters report their performance, they lie by *omission*, implicitly claiming that their fraudulent performance is honest. In this work, I use the terms "deception," "dishonesty," and "unethical behavior" as umbrella terms that encompass both cheating and lying behavior.

Consider the Coin Task. In a simple version of the task, participants flip a fair coin three times and are paid \$1.00 for each Heads they self-report. A participant can *lie* in the task if they flip Heads two times and self-report flipping Heads three times.

Alternatively, a participant can *cheat* in the task if, prior to the start of the task, they substitute their fair coin for an unfair coin that always yields Heads and then report flipping Heads three times. In both cases, the participant earns \$3.00. The difference lies in the process through which the participant achieved the unethical outcome. Behavioral ethics scholars have failed to make this distinction. In this work, I show that this distinction is extremely important. For an exception, see work by Pacual-Ezama et al. (2020), who studied behavior in the Coin Task and did distinguish participants who misreported their outcomes (which I term lying) from participants who did not flip a coin at all (which I term cheating).

Many of the unethical acts that motivate behavioral ethics research involve cheating behavior, not lying behavior. For example, Volkswagen cheated to pass carbon emissions tests (Vlasic, 2017). The company could not have simply self-reported their cars' CO₂ emissions. They had to defeat the Environmental Protection Agency's testing equipment, and they had to know how to do it. Plagiarism, data fabrication, and receipt doctoring are also examples of cheating. Whereas lying involves the simple misreport of information, cheating involves the creation of fraudulent evidence.

Using methods that are only capable of measuring lying behavior (the four canonical paradigms of unethical behavior all measure lying) has led existing work to ignore the distinction between cheating and lying. When using self-reporting procedures, prominent scholars have used the terms cheating and lying interchangeably (Fischbacher & Föllmi-Heusi, 2013; Gino et al., 2011; Kajackaite & Gneezy, 2017). For example, the authors of the paper that introduced the Die Task, the most commonly used paradigm in

behavioral ethics, titled their paper "Lies in Disguise: An Experimental Study on Cheating" (Fischbacher & Föllmi-Heusi, 2013). Moreover, correlations between lying in self-reporting tasks and transgressions outside of the laboratory have led scholars to assert that self-reporting paradigms can be used as indicators for many, if not all, real-life socially questionable behaviors (Cohn & Maréchal, 2018; Schild et al., 2021). Together, these findings have led behavioral ethics scholars to assume that the predictions derived from experiments using self-reporting procedures apply broadly to all types of unethical behavior.

In this paper, I challenge this assumption. I show that the distinction between cheating and lying is critically important for understanding the nature of dishonesty. Specifically, I investigate the magnitude of dishonesty for cheating and lying behavior. The magnitude of unethical behavior has been used to classify dishonest people (Hilbig & Hessler, 2013) and underlies prominent theories of unethical behavior (Gino, 2015; Gino et al., 2009; Mazar et al., 2008). On the one hand, if the magnitude of unethical behavior similar for cheating and lying, then theories derived from lying behavior should apply to cheating behavior. On the other hand, if the magnitudes of unethical behavior diverge, than cheating behavior may require its own theoretical framework.

The Truth Stretching Hypothesis

Many theories of behavioral ethics start with two empirical observations. One, most dishonest individuals overclaim by slightly more than what they honestly deserve (Khalmetski & Sliwka, 2019; Shalvi, Handgraaf, et al., 2011). Two, dishonest individuals rarely claim the profit maximizing outcome. I refer to this pattern of dishonesty as *truth* *stretching* (Barkan et al., 2015; Schweitzer & Hsee, 2002; Tenbrunsel & Messick, 2004) and the prediction that deception follows this pattern as the *truth-stretching hypothesis*. Gerlach and colleagues' (2019) recent meta-analysis of studies using the Matrix Task illustrate the robustness of this pattern. Across 41 experiments, they showed that dishonest participants leave, on average, roughly 14 matrices unsolved but overreport their performance by just four matrices and almost never overreport having solved all 14 (Gerlach et al., 2019). Strong empirical support for the *truth-stretching hypothesis* has led scholars to consider truth-stretching a prominent feature of unethical behavior (Gino, 2015).

I develop a conceptual argument and present data to assert that the *truth-stretching hypothesis* does not apply to cheating behavior. I build my conceptual argument on three observations. First, the *truth-stretching hypothesis* builds on results that used self-reporting experimental paradigms. None of these studies measured cheating behavior. Second, extant theories define dishonesty by the difference between the true observation and the self-reported observation (Hilbig & Hessler, 2013). This difference cannot be assessed for cheaters because they do not observe an honest outcome and lack a salient counterfactual. Third, cheaters can often provide evidence to support their overstated claim by completing the task in a way that *appears* honest (Mitchell et al., 2018).

Integrating these observations suggests cheaters are more likely to deceive by larger magnitudes than liars. The *truth-stretching hypothesis* appears robust because dishonest individuals in self-reporting experiments observe their honest performance and

cannot generate evidence to support a dishonest claim. In contexts in which unethical participants can cheat, the magnitude of their unethical behavior may be very different. Empirical evidence from outside the laboratory supports this theorizing. Prior work analyzing corporate scandals have documented that some situations prompt people to engage in a great deal of unethical behavior (Callahan, 2007; Wang & Murnighan, 2011). In these situations, wrongdoers often provide documentation to support their fraudulent claims.

By distinguishing cheating from lying and demonstrating that these are conceptually distinct constructs, I challenge prior work and advance our understanding of behavioral ethics both theoretically and methodologically. Theoretically, distinguishing lying from cheating highlights the importance of the process through which individuals engage in dishonest conduct. To lie, individuals simply self-report an outcome. To cheat, individuals must identify and execute a more elaborate strategy. Cheating requires some degree of innovation. This feature of unethical behavior is absent in experiments that rely on incentivized self-reporting.

Moreover, dishonest individuals' reluctance to overclaim by large magnitudes has led prior work to expound on the internal processes that curb deception. For example, scholars have highlighted the desire to maintain a positive self-concept as an explanation for truth-stretching (Mazar et al., 2008; Teodorescu et al., 2021, p. 20). The pattern of deception exhibited by executives at Volkswagen, Enron, and Wells Fargo, however, do not resemble the truth-stretching pattern. By recognizing the distinction between lying (self-reported behavior in experiments) and cheating (behavior in many corporate scandals), theories of behavioral ethics can begin to reconcile very different patterns of unethical behavior.

Methodologically, this investigation answers the call "to put more conceptual thought into what structural properties exactly differ between real-world situations that offer the opportunity to behave dishonestly and how those situations, their properties, and their prevalence can be represented in the experimental microworlds" (Gerlach et al., 2019, p. 21). I answer this call by providing people with more than one way to act unethically and assess not only whether people act unethically, but also which form of unethical behavior they choose. Taken together, this article demonstrates that unethical behavior can be measured without self-reporting procedures and reconciles conflicting findings in behavioral ethics.

Overview of Studies

Across one pilot study and three main studies, I assess both cheating and lying behavior. In the Pilot Study, I demonstrate that participants conceptualize both lying and cheating behaviors in the paradigm as unethical. In each of the main studies, I investigate whether the *truth-stretching hypothesis* applies to cheating behavior. To do so, I test whether cheaters and liars commit the same amount of dishonesty and engage in similar profit maximizing behavior. I assess cheating and lying when participants are given the opportunity to engage in both behaviors (Study 1) and when they are randomly assigned to a single opportunity to behave dishonestly (Studies 2 and 3).

In Study 3, I also assess the cognitive and emotional consequences of engaging in each type of behavior. Specifically, I investigate the extent to which cheating and lying prompt positive affect and the extent to which cheaters and liars feel confident in their ability to complete the task assigned to them.

I obtained Institutional Review Board (IRB) exemption from full review (IRB# 849536). All manipulations, measures, and exclusions are reported. The data, materials, and preregistrations for these studies are available here:

https://osf.io/wyxjh/?view_only=f1b91cbf168443988934b179a82b29e1

Pilot Study

To study lying and cheating behavior, I created an experimental paradigm called the *Typing Speed Task* that can measure both. In the Pilot Study, I demonstrate that thirdparty observers judge both lying and cheating in this paradigm to be unethical. To show this, I randomly assigned participants to read about prior participants who either cheated or lied in the Typing Speed Task and answer questions about the ethicality of the behavior. In the Typing Speed Task, participants are incentivized to type a character string into a textbox. Participants can lie in the task by self-reporting that they typed more strings than they actually typed. Participants can cheat in the task by copying and pasting the string into the textbox.

Method

Participants. I posted a study to Prolific Academic for 225 participants. Only U.S. citizens who currently live in the U.S. were eligible to participate. After following the preregistered data exclusion plan (Table S1), the final sample consisted of 194 people (82 women, 107 men, five indicated a different gender identity; $M_{age} = 33.40$, $SD_{age} = 11.78$). Participants earned \$0.50 for completing the study. I preregistered the study here: https://aspredicted.org/YKP_NBB

Procedure. Participants learned that they would review the instructions of a prior study. I informed participants that other prior participants had completed the study and read the following instructions describing the Typing Speed Task:

In this study, we are interested in the typing speed and computer proficiency of many people. On the next page, you will complete a Typing Speeding Task. You will be shown a series of letters and numbers called a character string. Your task is to type the character string as many times as you can in 90 seconds. To incentivize you in this study, you will earn a bonus of \$0.04 each time you correctly type the character string.

Next, I randomly assigned participants to one of two conditions. Participants assigned to the Evaluate Lying condition learned that after the earlier participants completed the task, they had self-reported the number of times that they typed the character string and earned a bonus based upon what they had self-reported. Participants further learned that some of the earlier participants "overreported the number of times that they typed the string in order to earn a larger bonus." Participants assigned to the Evaluate Cheating condition were told that some of the earlier participants "copied and pasted the character string into the text box in order to earn a larger bonus."

Dependent measures. Participants then answered questions about the ethicality, the harm, and the potential consequences of the behavior they were assigned to review. Specifically, participants answered: "To what extent do you think copying and pasting the character string [overreporting one's performance] in the Typing Speed Task is unethical" (1 = Not at all unethical, 5 = Extremely unethical), "To what extent do you think copying and pasting the character string [overreporting one's performance] in the Typing Speed Task harms the researcher conducting the study?" (1 = Causes no harm, 5 = Causes severe harm), and "How likely do you think it is that the experimenter who

conducted the study rejected the HITs of participants who copied and pasted the character string [overreported their performance]?" ($1 = Not \ at \ all \ likely, 5 = Extremely \ likely$). Text in brackets was presented to participants assigned to the Evaluate Lying condition. Participants completed the study by indicating their age and gender and answering an attention check.

Results. As shown in Figure 16, participants considered overreporting (M = 3.58, SE = 0.12) and copying and pasting (M = 3.64, SE = 0.13) in the task to be similarly unethical (t(192) = 0.34, p = .731, d = 0.05) and similarly harmful to the experimenter (overreporting: M = 3.71, SE = 0.13, copying and pasting: M = 3.84, SE = 0.12, t(192) = 0.70, p = .484, d = 0.10). Participants differed in their beliefs about the consequences of each behavior. Participants believed that copying and pasting was more likely to lead to being rejected from the study (M = 3.93, SE = 0.11) relative to overreporting (M = 3.46, SE = 0.12, t(192) = 2.85, p = .005, d = 0.41).

Figure 16

Third-Party Judgments of Cheating and Lying Behavior in the Typing Speed Task



Note: The y axis represents scores on the dependent variables. Error bars represent ± 1 SEM.

Discussion

Third-party observers consider cheating in this paradigm (i.e., pasting text in the Typing Speed Task) to be unethical. The study also shows that observers evaluate pasting (cheating) and overreporting (lying) to be similarly unethical in this paradigm. Together, these findings support the operationalization of assessing cheating via pasted text and lying via overreported text in the Typing Speed Task. Informed by these results, I use this

paradigm to investigate participants' incentivized cheating and lying behavior in the main studies.

Study 1

In Study 1, I test whether the *truth-stretching hypothesis*, the prediction that most dishonest people are only slightly dishonest, applies for both cheating and lying behavior. I provide participants the opportunity to both cheat and lie and assess the number of people who cheat, who lie, and who both cheat and lie.

Method

Participants. I posted a study to Prolific Academic for 300 participants. Only U.S. citizens who currently live in the U.S. were eligible to participate. After following the preregistered data exclusion plan (Table S1), the final sample consisted of 278 people (121 women, 151 men, five indicated a different gender identity, one preferred not to state; $M_{age} = 34.40$, $SD_{age} = 12.13$). Participants earned \$0.50 plus a potential bonus for completing the study. The study was preregistered here:

https://aspredicted.org/XJR_RQM.

Design. Upon entering the study, participants read the Typing Speed Task instructions described in the Pilot Study. Participants then proceeded to the task and had 90 seconds to type the character string "*Aa1Bb2Cc3Dd4Ee5*". As depicted in Figure 17, a counter above the textbox showed participants their performance and recorded each time they typed the string correctly. This provided participants with real-time feedback on their performance. The textbox was limited to 314 characters. This ensured that the string could not be pasted more than 20 times.

After 90 seconds, participants proceeded to the next page and were told their bonus would be determined by their reported performance. Participants then entered the number of times they correctly typed the string. Participants could self-report typing a maximum of 25 strings – five strings more than the textbox limit. This afforded all participants, including those who chose to maximally cheat, the opportunity to lie and over-report their performance. Participants completed the study by answering a brief demographics questionnaire.

Figure 17

The Typing Speed Task in Study 1

Below is the character string.

Type the character string as many times as you can into the textbox below.

Aa1Bb2Cc3Dd4Ee5

Number Correct: 0

This page will automatically advance after 90 seconds.

Note: The "Number Correct" value increased by one each time participants typed or pasted the character string correctly.

Analysis. In accordance with the preregistration, I classified participants as "honest," "cheaters," "liars," and "lying cheaters" depending on their actions in the Typing Speed Task. Specifically, I labeled a participant "honest" if they accurately reported the number of strings that they typed. I labeled a participant as a "cheater" if they pasted the string into the textbox at least once and accurately reported the combined
total number of strings that they pasted and typed. I labeled a participant as a "liar" if they did not paste the string into the textbox, but overreported the number of strings that they typed. I labeled a participant as a "lying cheater" if they pasted the string at least once and then overreported the total number of strings that they pasted and typed.

To test the veracity of the *truth-stretching hypothesis*, I assessed the magnitude of participants' lying and cheating behavior. To determine the amount of lying, I subtracted the number of strings each participant reported from the number of strings that they typed.⁸ To assess the amount of cheating, I used JavaScript that counted the number of pasted strings. The extent of cheating behavior ranged from 0-20 strings and the extent of lying behavior ranged from 0-25 strings.

Results. As shown in Figure 18 (Panel A), 36% of participants chose to behave unethically. Seventeen percent of participants cheated by pasting text into the text box and another 17% lied by overreporting their performance. Just five participants (1.8% of sample) both cheated in the task and lied by overreporting their performance.

I find support for the *truth-stretching hypothesis* for lying behavior but not for cheating behavior. As shown in Figure 19, more than half of participants who lied did so by one or two character strings (Panel A). Most cheaters, however, cheated by 10 or more strings (Panel B). Whereas one participant reported the profit maximizing lie, nine participants (3% of sample) engaged in the profit maximizing cheat (z = 2.55, p = .011). Together, the pattern of lying differed significantly from the pattern of cheating (p < .0001, N = 278, *One-sample Kolmogorov–Smirnov test*). On average, cheaters

⁸ If a participant underreported their performance by self-reporting that they typed fewer strings than they had actually typed, I labeled the participant as honest because they did not overreport their performance.

overclaimed by roughly three times the amount as liars (*Mean strings pasted* = 2.31, SE = 0.34; *Mean strings overreported* = 0.69, SE = 0.17, t(277) = 4.15, p < .0001, d = 0.25, Figure 18 Panel B). These results reveal that cheaters are more willing to engage in larger magnitudes of deception relative to liars.

Rate and Magnitude of Cheating and Lying in Study 1



Note. This figure depicts the proportion of participants who chose to be honest, cheat, lie, and cheat and lie (Panel A) and the average number of strings that participants chose to type, paste, and overreport (Panel B) in Study 1. Each error bar represents $\pm 1.95\%$ confidence interval derived using an OLS regression without predictors.

Patterns of Cheating and Lying in Study 1



Note. Panel A shows the distribution of unethical behavior for liars (N = 52). Panel B shows the distribution of unethical behavior for cheaters (N = 51). Honest participants are not shown. See Figure S1 for representation of honest participants.

Discussion

Study 1 shows that cheaters and liars deceive by different magnitudes. Most participants who lied overreported their performance by one or two strings, providing strong support for the *truth-stretching hypothesis*. Participants who cheated, however, engaged in a different pattern, committing significantly more unethical behavior. The most common form of cheating was to cheat as much as possible.

Study 1 also shows that cheaters appear to be averse to lying. Many cheaters chose to maximize their profit when presented with the opportunity to cheat – cheating on all 20 character strings. However, these same participants chose to be honest when afforded the opportunity to overreport their performance by an additional five strings. This latter finding shows that people's willingness to engage in dishonesty is affected by the type of dishonesty available.

Study 2

In Study 1, participants could both cheat and lie. This feature provides the opportunity to investigate how people prefer one type of deception over the other. In Study 2, I randomly assign participants to a single opportunity to behave unethically. Participants are either prevented from cheating or are prevented from lying. This design provides the opportunity to make causal claims about whether the *truth-stretching hypothesis* applies to both cheating and lying behavior.

Method

Participants. I posted a study to Amazon Mechanical Turk (MTurk) for 400 participants with the goal of retaining approximately 200 participants per condition. Only U.S. citizens who currently live in the U.S. were eligible to participate. After following a

preregistered data exclusion plan (Table S1), the final sample consisted of 390 people (207 women, 180 men, two indicated a different gender identity, one preferred not to state; $M_{age} = 41.25$, $SD_{age} = 12.32$). Participants earned \$0.55 plus a potential bonus for completing the study. This study was preregistered here:

https://aspredicted.org/W8F_B28.

Design. The design of Study 2 was similar to Study 1. Upon entering the study, participants read the introductory instructions describing the Typing Speed Task (see the Pilot Study). On the next page, participants had 90 seconds to type the character string *Aa1Bb2Cc3Dd4Ee5* in the textbox. The textbox could not exceed 314 characters so that participants could not enter the string into the textbox more than 20 times.

I randomly assigned participants to have the opportunity to lie or the opportunity to cheat. Participants assigned to the Opportunity to Cheat condition were capable of pasting text into the textbox but were not asked to self-report their performance. These participants could only engage in unethical behavior by cheating (i.e., pasting text). Participants assigned to the Opportunity to Lie condition could only engage in lying (i.e., overreporting their performance). I removed these participants' cheating capability using JavaScript that prevented participants from pasting text. If participants assigned to the Opportunity to Lie condition tried to pasted text, no text would appear. After the Typing Speed Task, participants in the Opportunity to Lie condition self-reported their performance (text entry 0-20 strings). By preventing participants from cheating, and then providing them with an opportunity to overreport their performance, participants in the Opportunity to Lie condition were given the same opportunity to behave unethically as the participants who completed the incentivized self-reporting tasks (e.g., the Dice Task, the Matrix Task).

Results

Analysis. In the primary analysis, I compare the number of dishonest strings across conditions using an OLS regression with robust standard errors. For participants in the Opportunity to Lie condition, the number of dishonest strings is the number of strings overreported. For participants in the Opportunity to Cheat condition, the number of dishonest strings is the number of strings that participants pasted.

Results. The results of Study 2 support the argument that the *truth-stretching hypothesis* applies to lying but not cheating behavior. Conceptually replicating the findings of Study 1 in a between-subjects design, participants in Study 2 who were given the opportunity to cheat were far more dishonest than were participants who were given the opportunity to lie (Figure 20). On average, participants in the Opportunity to Cheat condition deceived by more than three times the magnitude (*Mean strings pasted* = 3.14, SE = 0.46) as participants in the Opportunity to Lie condition (*Mean strings overreported* = 0.83, SE = 0.18, t(389) = 4.63, p < .0001, d = 0.46). Moreover, a larger percentage of participants in the Opportunity to Cheat condition (3%) deceived by the profitmaximizing amount (i.e., 20 strings) compared to participants in the Opportunity to Lie condition (0%, p = 0.03, *two-sided Fisher's exact test*). The overall pattern of dishonesty across the two conditions differed significantly (p = .009, N = 390, *Kolmogorov–Smirnov test*).

141

Patterns of Cheating and Lying in Study 2



Note. Panel A shows the distribution of unethical behavior for participants assigned to the Opportunity to Lie condition (N = 50). Panel B shows the distribution of unethical behavior for participants assigned to the Opportunity to Cheat condition (N = 46). Honest participants are not shown. See Figure S2 for representation of honest participants.

Discussion

Study 2 represents the first study to experimentally manipulate the opportunity to either lie or cheat. By conflating lying and cheating, behavioral ethics scholars have presumed that the *truth-stretching hypothesis* is applicable to both types of unethical behavior. In contrast to this presumption, I find that individuals' unethical behavior heavily depends on the opportunity they have to engage in either lying or cheating. When participants are provided the opportunity to self-report their performance (and lie), the data from Study 2 aligns with prior findings that support the *truth-stretching hypothesis* (Gerlach et al., 2019). When provided with the opportunity to cheat, however, participants in Study 2 demonstrated a very different profile, and much higher magnitudes, of unethical behavior.

Study 3

In Study 3, I continue to investigate the *truth-stretching hypothesis* and explore the cognitive and emotional consequences following cheating and lying behavior. As in Study 2, I randomly assigned participants in Study 3 to have either the opportunity to lie or the opportunity to cheat in the Typing Speed Task. After the task, participants indicated how they felt and how confident they were about their typing skills.

Prior work has made two observations regarding how people feel after engaging in dishonesty. First, scholars have argued that a person's degree of guilt is positively correlated with the size of their deception (Gneezy et al., 2018). Leading theories in behavioral ethics identify anticipatory guilt as an important factor that contributes to the *truth-stretching hypothesis* (Ogunfowora et al., 2021). Second, scholars have asserted that positive affective responses following dishonesty (e.g., a "cheaters high") "occur only rarely" (Ellemers et al., 2019, p. 353). In Study 3, I test whether these affective responses apply to both cheating and lying behavior. I also included an item assessing participants perceived ability to investigate whether cheating and lying resulted in different levels of overconfidence after completing the task.

Method

Participants. I posted a study to MTurk for 550 participants. Only U.S. citizens who currently live in the U.S. were eligible to participate. After following the preregistered data exclusion plan (Table S1), the final sample consisted of 546 people (309 women, 233 men, four preferred not to state; $M_{age} = 40.07$, $SD_{age} = 12.62$). Participants earned \$0.65 plus a potential bonus for completing the study. This study was preregistered here: https://aspredicted.org/YPD_XQH.

Design. As in Study 2, participants in Study 3 were randomly assigned to either the Opportunity to Lie condition or the Opportunity to Cheat condition and completed the Typing Speed Task. The Typing Speed Task differed slightly from the task used in Study 2. In Study 3, participants were asked to type a different 15-character string (i.e., *dfUF9kWnKg3yFk2*) and were provided a shorter amount of time (i.e., 60 seconds) to complete the task. Participants could not enter the string into the textbox more than 15 times. Participants in the Opportunity to Lie condition could self-report typing the character string a maximum of 15 times.

After participants completed the task, participants answered three questions to assess their positive and negative feelings. To assess positive affect, participants indicated how excited, clever, and intelligent they felt, and to assess negative affect, participants indicated how guilty, nervous, and upset they felt (all items 1 = Very *slightly/not at all*, 5 = Extremely). All items were presented on a single page and in random order. On the next page, I assessed how participants felt about their typing skills with the item: "How good do you think your typing skills are compared to other participants taking this study?" (1 = Not at all good, 7 = Extremely Good). Participants then completed the study by indicating their age and gender.

Results

Analysis. I preregistered the same analysis plan as Study 2 to investigate the *truth-stretching hypothesis*. To assess the consequences of each type of deception, I grouped participants by their choice to be honest or dishonest and tested the interaction effect of condition assignment and participants' choice on the six emotion measures and the ability measure. I identified participants as "honest" in the Opportunity to Cheat condition if they did not paste text and "honest" in the Opportunity to Lie condition if they did not overreport their performance. I identified participants as "dishonest" in the Opportunity to Cheat condition if they pasted at least one string and "dishonest" in the Opportunity to Lie condition if they overreported their performance by at least one string. The models testing the three positive emotion measures and three negative emotion measures are susceptible to the problem of multiple comparisons. I use an OLS regression with robust standard errors in each model.

Results. I replicate the results of Study 2 that showed support for the *truthstretching hypothesis* for lying behavior but not for cheating behavior (Figure 21). On average, participants in the Opportunity to Cheat condition deceived by more than twice the magnitude (*Mean strings pasted* = 1.82, SE = 0.27) of those in the Opportunity to Lie condition (*Mean strings overreported* = 0.81, SE = 0.11, t(545) = 7.40, p = .001, d =0.30). The overall pattern of dishonesty differed across conditions (p < .0001, N = 546, *Kolmogorov–Smirnov test*) where a larger percentage of participants in the Opportunity to Cheat condition (3%) deceived by the profit-maximizing amount (i.e., 15 strings) compared to participants in the Opportunity to Lie condition (0%, p = 0.002, *two-sided Fisher's exact test*).

Patterns of Cheating and Lying in Study 3



Note. Panel A shows the distribution of unethical behavior for liars (N = 98). Panel B shows the distribution of unethical behavior for cheaters (N = 45). Honest participants are not shown. See Figure S3 for representation of honest participants.

Consequences following Dishonesty. The affective and cognitive consequences of unethical behavior depended on whether participants lied or cheated. Figure 22 shows the three interactions effects that remained significant after adjusting for multiple comparisons (see Table S2 for results for each item). Participants who chose to cheat in the Opportunity to Cheat condition felt more clever than did participants who chose to deceive in the Opportunity to Lie condition and honest participants (interaction effect: *B* = 0.93, *SE* = 0.24, *p* < .001, Figure 22 Panel A). Exploratory analysis showed that about half (49%) of deceptive participants in the Opportunity to Cheat condition did the scale, but just 17% of deceptive participants in the Opportunity to Lie condition did the same (χ^2 (*N* = 153, 1) = 15.47, *p* < .0001). These results show that a "cheater's high" is not a rare affective response to dishonesty (Ellemers et al., 2019), but rather an affective response that more likely follows cheating than lying.

In line with prior theorizing (Ogunfowora et al., 2021), the magnitude of deception was positively correlated with feelings of guilt (r = .23, p < .0001). Unethical participants in the Opportunity to Cheat condition were more unethical than other participants and so felt more guilty than other participants (interaction effect: B = 0.55, SE = 0.21, p = .026, Figure 22 Panel B). Unethical participants in the Opportunity to Cheat condition felt more clever (a positive feeling), more guilty (a negative feeling), and overall were less upset (interaction effect: B = -0.67, SE = 0.18, p < .001, Figure 22 Panel C).

As shown in Figure 23, unethical participants in the Opportunity to Cheat condition felt that they were better typists than other participants. Dishonest participants in the Opportunity to Lie condition felt similarly confident in their ability to type as honest participants. However, unethical participants in the Opportunity to Cheat condition felt significantly more confident (interaction effect: B = 1.82, SE = 0.33, p < .0001) than other groups of participants. These results reveal that cheating and lying can lead to both different affective responses and different cognitive perceptions.

In exploratory analysis, I investigated whether these affective and cognitive changes mediated the relationship between participant's condition assignment and the magnitude of deception (See SOM for details). The results show that the emotional and cognitive changes observed in Study 3 are consequences that follow deception, but they do not explain why participants engaged in the unethical behavior that they did.

Affective Response Following Cheating and Lying in Study 3



Condition Assignment Opportunity to Lie Opportunity to Cheat





Note. Participants indicated how they felt after completing the Typing Speed Task in Study 3. This figure shows the relationship between participants' opportunity (i.e., condition assignment) and choice to be honest or deceptive on cleverness (Panel A), guilt (Panel B), and upset (Panel C). Each panel shows the marginal effects of an OLS regression with robust standard errors. The predictor variables were participant's condition assignment, participant's choice, and the interaction term of these two variables. Each error bar represents ± 1 SEM.



Perceived Ability Following Cheating and Lying in Study 3

Note. This figure shows the relationship between participants' opportunity (i.e., condition assignment) and choice to be honest or deceptive on their self-reported ability following the Typing Speed Task. Point estimates represent the marginal effects of an OLS regression with robust standard errors. The predictor variables were participants' condition assignment, participants' choice, and the interaction term of these two variables. Each error bar represents ± 1 SEM.

Discussion

These results provide further support that cheating and lying are qualitatively distinct. In Study 3, I replicate the findings of Studies 1 and 2 with respect to the *truth-stretching hypothesis*. Liars' behaviors are consistent with the *truth-stretching hypothesis*; cheaters' behaviors are inconsistent with the *truth-stretching hypothesis*. Furthermore, Study 3 provides insight into two additional empirical differences between lying and cheating behavior. First, whereas liars indicated feeling little positive affect, cheaters, consistent with the "cheater's high" (Reudy et al., 2013), felt positive after engaging in deception. The positive affect that follows cheating co-occurs with feelings of guilt,

showing that cheating can lead to the co-occurrence of both positive and negative affect. Second, cheating can lead to different cognitive perceptions than lying. Participants who cheated felt more confident in their abilities than did participants who lied.

General Discussion

Cheating and lying are not the same. One is an activity; the other is a report. Cheaters find alternative methods to achieve their desired outcome; liars simply report the outcome they desire. Despite these differences, prior work has conflated cheating and lying. Scholars have applied the same theories and experimental paradigms to investigate both and continue to use the terms interchangeably (e.g., Balasubramanian et al., 2017; Charness et al., 2019; Kajackaite & Gneezy, 2017). I have shown that this conflated conceptualization lacks the precision necessary for reliable behavioral predictions.

In each study, I identify results for lying behavior that are consistent with prior behavioral ethics research—that has operationalized unethical behavior as lying behavior, but I falsify predictions generated by these same paradigms when I report results for cheating behavior. In Studies 1-3, I find strong support for the *truth-stretching hypothesis* when applied to lying behavior. Liars most often lied by just one or two character strings and almost never lied to the profit maximizing level. In contrast to this pattern, I find strong evidence in each study to reject the *truth-stretching hypothesis* when applied to cheating behavior. Cheaters on average cheated by twice the magnitude of liars and often cheated to maximize their profit.

In Study 3, I investigated the cognitive and emotional consequences of lying and cheating behavior. In line with prior work, feelings of guilt positively correlated with the

magnitude of deception (Ogunfowora et al., 2021). I advance this line of research by revealing when feelings of guilt are likely to co-occur with positive affect following unethical behavior. Cheaters are more likely than liars to feel positive affect because cheaters identify and execute a creative strategy and feel relatively more confident in their abilities. These observations not only reconcile the laboratory investigation that first identified the "cheaters high" (Reudy et al., 2013) with evidence from deception studies that found little change in positive affect (Ellemers et al., 2019), but also reveals a more nuanced accounting of the emotional consequences of dishonesty. Unethical behavior does not always lead to either positive or negative affect. Rather, the affective response following unethical behavior depends upon the type of unethical behavior individuals committed.

These findings have five major theoretical implications. First, the results highlight the limitations of extant behavioral ethics theory. The large increase of behavioral ethics scholarship has been motivated in part by corporate scandals. Many published articles in top management journals in behavioral ethics reference Wells Fargo, Volkswagen, or Enron as motivating exemplars for the behaviors under investigation (Ebrahimi et al., 2020; Spoelma, 2021). All of these companies engaged in cheating behaviors, but scholarly investigations that use cheating scandals to motivate their work proceed to study lying behavior. This conflation may explain why many organizational theorists assert predictions about dishonesty at odds with the experimental data generated in selfreporting experiments. For example, organizational theorists have speculated that certain environments produce large amounts of dishonesty (Callahan, 2007; Rose et al., 2020). The first step toward a reconciliation of what organizational theorists predict and what experimental studies find is to recognize that they observe different kinds of behavior. Experimental work has almost exclusively investigated lying behavior, and results from this behavior have informed theories that have been broadly applied to all types of unethical behavior. By tailoring theoretical predictions to more specific behaviors, we may be able to reconcile field and lab research and bring the two literatures into a more complementary relationship.

Second, this work challenges the existing typologies of dishonest conduct. Many investigations in behavioral ethics have sought to group participants by their degree of dishonesty. For example, Fischbacher and Föllmi-Heusi labeled some dishonest participants "partial liars" and others "profit maximizers" (Fischbacher & Föllmi-Heusi, 2013) and Hilbig and Theilmann labelled participants "brazen liars", "corruptible liars", and "small sinners." (Hilbig & Thielmann, 2017). These typologies are based on the degree, or amount, that people overclaim. The present findings demonstrate a difference in kind and suggest that there is far more heterogeneity among dishonest individuals than the extant taxonomies suggest. The results of Study 1 reveal that people make a choice about the type of dishonesty in which they are willing to engage, that very few participants both cheat and lie, and that cheaters do not often proceed to lie over and above their fraudulent performance. This work underscores the importance of describing dishonest individuals by something more than the amount of money they dishonestly take (Cuadrado et al., 2021; Pascual-Ezama et al., 2020).

Third, this work demonstrates that self-reporting procedures identify only a fraction of dishonest people. The rates of dishonesty in these experiments have been used as approximations for the rates of dishonesty in the world (Gächter & Schulz, 2016). The evidence presented here suggests that this work may underestimate the true amount of dishonesty. As the present studies show, roughly half of the number of people who were dishonest would not have been identified if cheating could not be detected.

Fourth, this work makes significant methodological contributions. Recent scholarship has introduced many novel variations of the standard self-reporting procedures (Choshen-Hillel et al., 2020; Pascual-Ezama et al., 2020). By and large, these variations are designed to accomplish three goals: to ensure that participants do not know that their honesty is being evaluated, to ensure that participants do not feel they are being labeled as dishonest by the experimenter, and, when possible, to identify dishonesty at the individual level. None of the extant variations of self-reporting procedures have accomplished these three goals. This is, in part, because simply asking participants to self-report their performance often makes them skeptical about the purpose of the task (Skowronek, 2021), and in part because the experimenters' interest in labelling participants as dishonest competes with participants' sense of anonymity.

I argue that the Typing Speed Task accomplishes these three goals. The task does not rely on documenting self-reported performance (i.e., lying behavior). Rather, dishonesty can be assessed within the task itself (i.e., cheating), at the individual level, and without raising the same suspicions that self-reporting procedures do. This innovation creates a new class of experimental paradigms that can differentiate between cheating and lying behavior. Paradigms with this capability promise to move the field of behavioral ethics beyond the limitations of extant approaches.

Finally, at a practical level, this work should inform mitigation strategies. Submitting overtime or business-related travel expenses are often used as examples of self-reporting in organizations (Gino & Margolis, 2011; Rilke et al., 2016). Organizations prevent employees from self-reporting these submissions and require that employees provide evidence for what they submit. These systems are designed to prevent lying behavior but may in fact miss cheating behavior. By identifying diverging profiles of dishonesty, managers may better understand the different behaviors in which their employees might engage. As the findings presented in this article suggested, mitigation strategies for lying may not deter cheating.

Future Directions

The three experiments in this paper represent the first empirical distinction between cheating and lying behavior in an effort-based task. I investigate the nature of cheating and lying and identify the antecedents, consequences, and third-party perceptions that follow from each behavior. I deploy multiple versions of a new paradigm and retested the behavioral predictions across studies. I call for future work to test additional predictions made in the literature. A large body of experimental work makes predictions about the nature of unethical behavior. Future work should test these predictions and distinguish between lying and cheating.

Future research should also identify environmental antecedents that are likely to promote one type of deception or another. Additionally, personality factors such as guiltproneness and Machiavellianism have been strongly associated with dishonesty (Jones & Paulhus, 2017; Levine et al., 2018). How these personality traits correlate with each type of deception is an open question for future research.

Conclusion

Behavioral ethics scholarship has sought to understand the psychology of unethical behavior. The dominant paradigms scholars have used in this literature, however, have only measured lying behavior and developed theories informed by these limited results. In this work, I draw the conceptual distinction between cheating and lying and show that this dichotomy provides greater theoretical clarity. By advancing behavioral ethics beyond lying, we may better understand the nature of unethical behavior.

References

- Abeler, J., Nosenzo, D., & Raymond, C. (2019). Preferences for Truth-Telling. *Econometrica*, 87(4), 1115–1153. https://doi.org/10.3982/ECTA14673
- Balasubramanian, P., Bennett, V. M., & Pierce, L. (2017). The wages of dishonesty: The supply of cheating under high-powered incentives. *Journal of Economic Behavior & Organization*, 137, 428–444. https://doi.org/10.1016/j.jebo.2017.03.022
- Barkan, R., Ayal, S., & Ariely, D. (2015). Ethical dissonance, justifications, and moral behavior. *Current Opinion in Psychology*, 6, 157–161. https://doi.org/10.1016/j.copsyc.2015.08.001
- Behavioural Insights Team. (2012). Applying behavioural insights to reduce fraud, error and debt. *Cabinet Office, London, 185*, 186.
- Bitterly, T. B., & Schweitzer, M. E. (2020). The economic and interpersonal consequences of deflecting direct questions. *Journal of Personality and Social Psychology*, *118*(5), 945–990. https://doi.org/10.1037/pspi0000200
- Bucciol, A., & Piovesan, M. (2011). Luck or cheating? A field experiment on honesty with children. *Journal of Economic Psychology*, 32(1), 73–78. https://doi.org/10.1016/j.joep.2010.12.001
- Callahan, D. (2007). *The Cheating Culture: Why More Americans Are Doing Wrong to Get Ahead*. Houghton Mifflin Harcourt.
- Charness, G., Blanco-Jimenez, C., Ezquerra, L., & Rodriguez-Lara, I. (2019). Cheating, incentives, and money manipulation. *Experimental Economics*, 22(1), 155–177.

- Choshen-Hillel, S., Shaw, A., & Caruso, E. M. (2020). Lying to appear honest. Journal of Experimental Psychology: General, 149(9), 1719–1735. https://doi.org/10.1037/xge0000737
- Cohn, A., & Maréchal, M. A. (2018). Laboratory Measure of Cheating Predicts School Misconduct. *The Economic Journal*, 128(615), 2743–2754. https://doi.org/10.1111/ecoj.12572
- Coughlan, S. (2015, November 11). Harvard students take pledge not to cheat. *BBC News*. https://www.bbc.com/news/business-34769435
- Cuadrado, D., Salgado, J. F., & Moscoso, S. (2021). Personality, intelligence, and counterproductive academic behaviors: A meta-analysis. *Journal of Personality* and Social Psychology, 120(2), 504–537. https://doi.org/10.1037/pspp0000285
- Ebrahimi, M., Kouchaki, M., & Patrick, V. M. (2020). Juggling work and home selves:
 Low identity integration feels less authentic and increases unethicality.
 Organizational Behavior and Human Decision Processes, 158, 101–111.
 https://doi.org/10.1016/j.obhdp.2019.02.005
- Ellemers, N., van der Toorn, J., Paunov, Y., & van Leeuwen, T. (2019). The Psychology of Morality: A Review and Analysis of Empirical Studies Published From 1940
 Through 2017. *Personality and Social Psychology Review*, 23(4), 332–366.
 https://doi.org/10.1177/1088868318811759
- Fischbacher, U., & Föllmi-Heusi, F. (2013). Lies in Disguise-An Experimental Study on Cheating. *Journal of the European Economic Association*, 11(3), 525–547. https://doi.org/10.1111/jeea.12014

- Gächter, S., & Schulz, J. F. (2016). Intrinsic honesty and the prevalence of rule violations across societies. *Nature*, *531*, 496–499. https://dx.doi.org/10.1038/nature17160
- Gerlach, P., Teodorescu, K., & Hertwig, R. (2019). The truth about lies: A meta-analysis on dishonest behavior. *Psychological Bulletin*, 145(1), 1–44. https://doi.org/10.1037/bul0000174
- Gino, F. (2015). Understanding ordinary unethical behavior: Why people who value morality act immorally. *Current Opinion in Behavioral Sciences*, 3, 107–111. https://doi.org/10.1016/j.cobeha.2015.03.001
- Gino, F., Ayal, S., & Ariely, D. (2009). Contagion and differentiation in unethical behavior the effect of one bad apple on the barrel. *Psychological Science*, 20(3), 393–398.
- Gino, F., & Margolis, J. D. (2011). Bringing ethics into focus: How regulatory focus and risk preferences influence (Un)ethical behavior. Organizational Behavior and Human Decision Processes, 115(2), 145–156. https://doi.org/10.1016/j.obhdp.2011.01.006
- Gino, F., Schweitzer, M. E., Mead, N. L., & Ariely, D. (2011). Unable to resist temptation: How self-control depletion promotes unethical behavior.
 Organizational Behavior and Human Decision Processes, 115(2), 191–203. https://doi.org/10.1016/j.obhdp.2011.03.001
- Gneezy, U. (2005). Deception: The Role of Consequences. *American Economic Review*, 95(1), 384–394. https://doi.org/10.1257/0002828053828662

- Gneezy, U., Kajackaite, A., & Sobel, J. (2018). Lying aversion and the size of the lie. *American Economic Review*, 108, 419–453. https://dx.doi.org/10.1257/aer.20161553
- Green, S. P. (2006). *Lying, cheating, and stealing: A moral theory of white-collar crime*. Oxford University Press.
- Hilbig, B. E., & Hessler, C. M. (2013). What lies beneath: How the distance between truth and lie drives dishonesty. *Journal of Experimental Social Psychology*, 49(2), 263–266. https://doi.org/10.1016/j.jesp.2012.11.010
- Hilbig, B. E., & Thielmann, I. (2017). Does everyone have a price? On the role of payoff magnitude for ethical decision making. *Cognition*, 163, 15–25. https://doi.org/10.1016/j.cognition.2017.02.011
- Jones, D. N., & Paulhus, D. L. (2017). Duplicity among the dark triad: Three faces of deceit. *Journal of Personality and Social Psychology*, 113(2), 329.
- Kajackaite, A., & Gneezy, U. (2017). Incentives and cheating. *Games and Economic Behavior*, 102, 433–444. https://doi.org/10.1016/j.geb.2017.01.015
- Khalmetski, K., & Sliwka, D. (2019). Disguising Lies—Image Concerns and Partial Lying in Cheating Games. *American Economic Journal: Microeconomics*, 11(4), 79–110. https://doi.org/10.1257/mic.20170193
- Kristal, A. S., Whillans, A. V., Bazerman, M. H., Gino, F., Shu, L. L., Mazar, N., & Ariely, D. (2020). Signing at the beginning versus at the end does not decrease dishonesty. *Proceedings of the National Academy of Sciences*, *117*(13), 7103– 7107. https://doi.org/10.1073/pnas.1911695117

- Levine, E. E., Bitterly, T. B., Cohen, T. R., & Schweitzer, M. E. (2018). Who is trustworthy? Predicting trustworthy intentions and behavior. *Journal of Personality and Social Psychology*, 115(3), 468.
- 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. https://dx.doi.org/10.1509/jmkr.45.6.633
- Mitchell, M. S., Baer, M. D., Ambrose, M. L., Folger, R., & Palmer, N. F. (2018).
 Cheating under pressure: A self-protection model of workplace cheating behavior. *Journal of Applied Psychology*, 103(1), 54–73.
 https://doi.org/10.1037/apl0000254
- Ogunfowora, B. (Tunde), Nguyen, V. Q., Steel, P., & Hwang, C. C. (2021). A metaanalytic investigation of the antecedents, theoretical correlates, and consequences of moral disengagement at work. *Journal of Applied Psychology*, No Pagination Specified-No Pagination Specified. https://doi.org/10.1037/ap10000912
- Pascual-Ezama, D., Prelec, D., Muñoz, A., & Gil-Gómez de Liaño, B. (2020). Cheaters, Liars, or Both? A New Classification of Dishonesty Profiles. *Psychological Science*, *31*(9), 1097–1106. https://doi.org/10.1177/0956797620929634
- Reudy, N. E., Moore, C., Gino, F., & Schweitzer, M. E. (2013). The cheater's high: The unexpected affective benefits of unethical behavior. *Journal of Personality and Social Psychology*, 105, 531–548. https://dx.doi.org/10.1037/a0034231

- Rilke, R. M., Schurr, A., Barkan, R., & Shalvi, S. (2016). One-by-One or All-at-Once? Self-Reporting Policies and Dishonesty. *Frontiers in Psychology*, 7, 113. https://doi.org/10.3389/fpsyg.2016.00113
- Rose, A. M., Rose, J. M., Suh, I., Thibodeau, J., Linke, K., & Norman, C. S. (2020). Why Financial Executives Do Bad Things: The Effects of the Slippery Slope and Tone at the Top on Misreporting Behavior. *Journal of Business Ethics*. https://doi.org/10.1007/s10551-020-04609-y
- Schild, C., Lilleholt, L., & Zettler, I. (2021). Behavior in cheating paradigms is linked to overall approval rates of crowdworkers. *Journal of Behavioral Decision Making*, 34(2), 157–166. https://doi.org/10.1002/bdm.2195
- Schweitzer, M. E., & Hsee, C. K. (2002). Stretching the Truth: Elastic Justification and Motivated Communication of Uncertain Information. *Journal of Risk and Uncertainty*, 25(2), 185–201. https://doi.org/10.1023/A:1020647814263
- Shalvi, S., Dana, J., Handgraaf, M. J. J., & De Dreu, C. K. W. (2011). Justified ethicality:
 Observing desired counterfactuals modifies ethical perceptions and behavior.
 Organizational Behavior and Human Decision Processes, 115, 181–190.
 https://dx.doi.org/10.1016/j.obhdp.2011.02.001
- Shalvi, S., Handgraaf, M. J., & De Dreu, C. K. (2011). Ethical manoeuvring: Why people avoid both major and minor lies. *British Journal of Management*, 22, S16–S27.
- Skowronek, S. (2021). About 70% Of Participants Know That The Canonical Deception Paradigms Measure Dishonesty. *Academy of Management Proceedings*, 2021(1), 13725. https://doi.org/10.5465/AMBPP.2021.107

- Spoelma, T. M. (2021). Counteracting the effects of performance pressure on cheating: A self-affirmation approach. *Journal of Applied Psychology*, No Pagination Specified-No Pagination Specified. https://doi.org/10.1037/apl0000986
- Tenbrunsel, A. E., & Messick, D. M. (2004). Ethical Fading: The Role of Self-Deception in Unethical Behavior. *Social Justice Research*, 17(2), 223–236. https://doi.org/10.1023/B:SORE.0000027411.35832.53
- Teodorescu, K., Plonsky, O., Ayal, S., & Barkan, R. (2021). Frequency of enforcement is more important than the severity of punishment in reducing violation behaviors. *Proceedings of the National Academy of Sciences*, 118(42). https://doi.org/10.1073/pnas.2108507118
- Vlasic, B. (2017, December 6). Volkswagen Official Gets 7-Year Term in Diesel-Emissions Cheating. *The New York Times*.

https://www.nytimes.com/2017/12/06/business/oliver-schmidt-volkswagen.html

- Wang, L., & Murnighan, J. K. (2011). On Greed. *Academy of Management Annals*, 5(1), 279–316. https://doi.org/10.5465/19416520.2011.588822
- Welsh, D. T., Ordóñez, L. D., Snyder, D. G., & Christian, M. S. (2015). The slippery slope: How small ethical transgressions pave the way for larger future transgressions. *Journal of Applied Psychology*, *100*(1), 114–127. https://doi.org/10.1037/a0036950