

Show me the ... family: How photos of meaningful relationships reduce unethical behavior at work



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ABSTRACT

Environmental cues in the workplace influence unethical behavior, but the effects of these cues are less well understood than the effects of individual differences and social aspects of situations on unethical behavior. In this paper, we examine a common but underappreciated aspect of workspaces: photos of close others. Drawing on the literatures on symbols at work and behavioral ethics, we theorize that having photos of close others in sight decreases the hegemony of an economic schema in people's minds, which in turn decreases their propensity to commit unethical behavior. Supporting our theory, a field survey and three experiments find a negative relationship between displaying photos of close others at work and financial transgressions and indicate that a decrease in the salience of the economic schema is a mechanism that drives the effect. We discuss implications of the results for the literatures on behavioral ethics, symbols at work, and work-life integration.

1. Introduction

Organizations lose an estimated 5% of revenue annually as a result of employee fraud, the majority of which are transgressions through asset misappropriation (e.g., padded expense reports, inventory theft, misappropriation of cash) rather than the largescale transgressions typically highlighted in news headlines (Examiners, 2012). In other words, seemingly minor but common instances of employee unethical behavior are, in aggregate, very costly to organizations (Paruchuri & Misangyi, 2014). To understand why unethical behavior like this occurs, scholars often have focused on individual characteristics of employees and the social context within organizations (Kish-Gephart, Harrison, & Treviño, 2010; also referred to as values-oriented and structure-oriented factors, see Zhang et al., 2014). Recently, researchers have begun to consider other potential influences on unethical behavior, such as the role of the physical workplace environment. The physical environment is especially intriguing to scholars and practitioners alike because organizations have considerable control over it. Therefore, identifying elements of the physical environment that inhibit unethical behavior, including financial transgressions, could lead to interventions that are beneficial for both employees and organizations.

The physical environment of organizations can be conceptualized as part of a broader interest in symbols and materiality (Fayard & Weeks, 2007; Jonsson, Holmström, & Lyytinen, 2009; Leonardi & Barley, 2008;

Orlikowski & Scott, 2008). For example, material objects and the personalization of workspaces influence employees' social interactions in the workplace (Byron & Laurence, 2015; Desai & Kouchaki, 2017; Fayard & Weeks, 2007; Orlikowski & Scott, 2008). Seemingly minor interventions that entail simple changes in the environment can have powerful effects on decision making (Thaler & Sunstein, 2009). Specifically, in the context of unethical behavior, whether a room is well lit or features a mirror influences people's propensity to lie and cheat (Gino & Mogilner, 2014; Zhong, Bohns, & Gino, 2010). Additionally, extensive research in public policy has shown that the presence of eyes, or the feeling of being watched, can reduce antisocial and illegal behavior (Dear, Dutton, & Fox, 2019; cf. Cai, Huang, Wu, & Kou, 2015). Moral reminders or tokens, such as the Ten Commandments, also can reduce unethical acts, specifically financial transgressions (Mazar, Amir, & Ariely, 2008). Thus, initial research on this topic demonstrates the power that cues in the physical environment can have on behavior, including financial transgressions. Despite these notable examples, however, relatively little research has examined features of the physical environment that influence unethical behavior and are common elements of the workplace.

We seek to build on this emerging body of work on how the physical environment affects unethical behavior at work by considering a common feature of workspaces: photo displays (Brunia & Hartjes-Gosselink, 2009). Photos are a distinctive physical cue because over

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70% of workers opt to display photos in their workspace, and individuals have a great deal of agency in what they display (Brill, Margulis, & Konar, 1984; Elsbach & Pratt, 2007; Wells & Thelen, 2002). Simultaneously, organizations have considerable influence over whether employees have photos in their workstation by signaling the acceptability of these displays (Uhlmann, Heaphy, Ashford, Zhu, & Sanchez-Burks, 2013). Even though prior research indicates that visual imagery can serve as a critical cue to the self and others conveying information about values and interests inside and outside of the workplace (Byron & Laurence, 2015; Desai & Kouchaki, 2017; Stigliani & Ravasi, 2012), the implications of personalizing one's workplace with photos on financial transgressions remains unexplored and is important given the prevalence of photos in workspaces.

There are critical effects photos could have on ethical conduct, as photos of close others may serve as compelling symbols that promote ethical behavior. For example, photographs of loved ones may elicit a type of innocence, especially if photographs are of children or of relationships dating back to childhood, which has been found to increase prosocial behavior (Gino & Desai, 2012). Photographs displaying multiple generations could trigger increased concerns of legacy, which can lead to increased generosity (Wade-Benzoni, Sondak, & Galinsky, 2009). Photos of close others may also be a reminder of one's other orientation if depicting oneself with close others, which may increase ethical conduct (De Dreu & Nauta, 2009). Accordingly, photos of close others are deeply meaningful objects that may have important psychological and behavioral consequences. However, with these proposed drivers of a relationship between photographs and unethical behavior, the underlying mechanism hinges on specific types of symbolic reminders, narrower than the broad category of photos of close others. Further, it could be that some people who view photos of themselves with their children become concerned about their legacy, whereas others who view photos of themselves with their children become reminded of innocence or experience strong positive affect. Thus, these types of photographs may serve as specific types of symbols under certain circumstances, based both on the content of the photograph, as well as the values and priorities of the individual viewing the photo.

In this paper, we propose instead, a mechanism that we argue applies across photographs of close others more generally, regardless of the specific content or values held by the individual viewing the photo. We argue that displaying photos of close others may reduce unethical behavior—specifically financial transgressions—by decreasing the salience of an economic schema. Our approach complements and extends prior work on moral symbols (Byron & Laurence, 2015; Desai & Kouchaki, 2017) by examining how photos, as symbols of close personal relationships, may also impact the salience of different norms for behavior. Specifically, we propose that these photos are powerful symbols that inhibit an economic schema, which in turn affects ethical behavior at work. An economic schema involves the prioritization of rationality, efficiency, and self-interest, increasing focus on the economic implications of decisions (Stigler, 1971; also referred to as a business frame, see Tenbrunsel & Messick, 1999; Wang, Malhotra, & Murnighan, 2011). Typically, individuals apply an economic schema to events that occur in the workplace (Molinsky, Grant, & Margolis, 2012). Priming this frame of mind can decrease compassion towards others (Molinsky et al., 2012) and increase immoral behavior (Kouchaki, Smith-Crowe, Brief, & Sousa, 2013). We propose that photos of close others can connect people to a different domain of their lives that is less wedded to this economic schema and ultimately make individuals less likely to act in a self-interested manner for their economic benefit at work.

We seek to make contributions to the literatures on behavioral ethics, symbols at work, and work-life integration. First, we contribute to the behavioral ethics literature by extending our understanding of how the physical context influences unethical behavior in the workplace. Whereas a large percentage of the behavioral ethics literature has focused on identifying biases that drive unethical behavior (Moore &

Gino, 2013; Tenbrunsel & Smith-Crowe, 2008), the present research adds to the literature on potential interventions that can curb unethical conduct by highlighting how subtle adjustments to the physical context can improve employees' ethical conduct (e.g., Zhang et al., 2014). In addition, by examining the role of an economic schema as a mechanism that links photos of close others to financial transgressions, we extend prior theory and research that depicts the work environment as one that is dominated by economic thinking that can have negative implications for ethical conduct (Kouchaki et al., 2013; see also Messick, 1999).

Second, we contribute to the burgeoning literature on symbols at work (Byron & Laurence, 2015; Desai, 2011; Elsbach, 2004; Gosling, Ko, Mannarelli, & Morris, 2002; Orlikowski & Scott, 2008). Specifically, we extend Byron and Laurence's (2015) inductive theory about the symbolic value of items people use when personalizing their workspace. We test whether and how these symbols can reduce an economic schema and, subsequently, unethical conduct. We extend scholarship on workplace materiality by introducing and testing a new psychological mechanism that contributes to the effects of symbols at work, bridging this work to psychological research establishing the importance of schemas.

Third, we contribute to the literature on work-life integration (Edwards & Rothbard, 2000; Piotrkowski, 1979; Rothbard, Phillips, & Dumas, 2005). In contrast to previous research that suggests that referencing non-work roles can have negative implications at work, such as being perceived as unprofessional (Fisher, 2008; Shapiro, 2005; Uhlmann et al., 2013), we examine whether work-life integration in the form of photos of close others can have positive consequences for organizations by curtailing the dominance of an economic schema at work. Recent work theorizes the positive effects of integrating relationships at work (Dumas & Sanchez-Burks, 2015; Trefalt, 2013), and we empirically test if the mere presence of reminders of these relationships can lead to a reduction of negative behavior at work in the form of reduced financial transgressions.

To accomplish our goals, we conducted four studies using a full-cycle micro organizational behavior approach (Chatman & Flynn, 2005) by testing our primary hypothesis first in the field and then constructively replicating the finding (Köhler & Cortina, 2019; Lykken, 1968). Specifically, we establish causal evidence of the effect in the laboratory and test the role of our proposed mechanism, as well as several plausible alternatives.

2. Photos, schema activation, and unethical behavior

Photos are potentially powerful reminders of the self outside of work, and individuals and organizations have considerable influence over whether these symbols are present in the workplace. Therefore, we explore whether and how the contents of photographs can influence individuals' unethical behavior at work to further our understanding of how the physical environment impacts workplace behavior. Cognitive psychologists have stressed that cognition should not only be explained by individual mental representations but also by how those representations interact with the material environment (Hutchins, 1995), because "the material world, in some shape or form, always mediates human activity" (Carlile, 2013, p. 101). Drawing on this perspective, Stigliani and Ravasi (2012, p. 1235) suggest that to fully understand cognition, scholars must examine how various artifacts that individuals "build, use, or surround themselves with" in organizations influence thought patterns. Symbolic properties of material items can shape how individuals make sense of an organization (Bechky, 2006; Rafaeli & Vilnai-Yavetz, 2004; Stigliani & Ravasi, 2012). These symbolic properties are important to understand because theorists have increasingly embraced the idea that people's moral systems include flexibility that allows them to adopt different mental perspectives depending on key features of the context rather than rigidly adhere to principles that apply uniformly across situations (Bartels, 2008; Bartels, Bauman, Cushman, Pizarro, & McGraw, 2015; Tenbrunsel & Messick, 1999). A

common theme across this work is that variability in how people respond across different ethical contexts exists, in part, because different contexts can activate different schema that underlie people's choices and behavior.

Personal photographs that are visible when making workplace decisions are likely to influence the type of schema that is salient and influential. We focus on a specific type of schema which rests on the distinction between work (e.g., economic) and non-work (e.g., non-economic) contexts. The distinction between economic and non-economic contexts is especially applicable to organizational behavior because the dominant logic within organizations is expressed in economic terms and activates an economic schema in individuals more than in non-work domains (Molinsky et al., 2012). Economic schemas involve the prioritization of economic concepts when making decisions (Stigler, 1971; Tenbrunsel & Messick, 1999; Wang et al., 2011). Consistent with this claim of dominance, theorists suggest that the most effective way for employees to influence management is to do so through this economic framing of the business case (Dutton & Ashford, 1993; Kreps & Monin, 2011). Economic arguments are believed to be effective because people generally endorse the view that economic justifications are the most (or perhaps the only) legitimate case in work contexts as compared to non-work contexts (Bird & Waters, 1989; Friedman, 1970; Sonenshein, 2006).

We argue that because photos can remind people of who they are and how they treat people in non-economic contexts, the presence of these photos may decrease the dominance of an economic schema. These types of photographs may serve as specific types of symbols under certain circumstances, based both on the content of the photograph, as well as the values and priorities of the individual viewing the photo, with a decrease in the economic schema being a unifying factor. The objects individuals display in their workspace convey information about their values outside of work to others, and they also act as symbolic reminders to the self (Byron & Laurence, 2015; Elsbach, 2003; Sundstrom & Sundstrom, 1986). For example, visual cues can remind people of the experiences they depict, which can, in turn, influence the mindset people have when they approach subsequent activities (Stigliani & Ravasi, 2012). Drawing on this work, we suggest that photographs displayed at work serve as material cues that activate elements of the psychological experience that accompanied the event depicted, including values, relationships, and goals. We expect that photographs of close others (e.g., family and close friends outside of the workplace), affect those who display them because the photos are symbolic reminders of life outside of work, which should decrease reliance on the economic schema through associative cognitive networks (Anderson, 1983; Bargh & Ferguson, 2000; Collins & Loftus, 1975). Thus, we argue that photos can remind people of who they are and how they treat people in non-economic contexts, which may decrease the dominance of an economic schema that is known to be pervasive in the workplace.

To the extent that photos of close others reduce the dominance of the economic schema, people who view photos of close others should engage in less unethical behavior; prior work demonstrates that priming this frame of mind increases immoral behavior (Kouchaki et al., 2013), which essentially is the inverse of our prediction. Moreover, other evidence suggests that managers exhibit different moral reasoning processes across dilemmas situated in business and non-business contexts (Jordan, 2009; Weber, 1990), and experimental investigations find that framing bargaining games in economic rather than social terms can markedly increase competitive and self-interested behavior (Liberman, Samuels, & Ross, 2004; Pillutla & Chen, 1999). Although the experiences, relationships, and values activated by photos of close others may vary greatly based on both the content of the photo and the non-work identity of the person displaying the photo, they should nevertheless interfere with the prominence of an economic schema. Given that people primed to think about money are more likely to adopt an economic schema and exhibit a greater propensity to lie,

cheat, steal, and be less compassionate in a variety of business-related situations (Kouchaki et al., 2013; Molinsky et al., 2012), we expect that the converse to be true when cues in the physical environment decrease the dominance of an economic schema.

In summary, evidence suggests that the economic schema can have undesirable consequences on ethical conduct, including financial transgressions. However, we expect that symbols of close relationships in one's workspace can reduce the salience of an economic schema. Given the prevalence of financial transgressions in the workplace, specifically expense report padding (Examiners, 2012), we chose to focus our studies around this unethical behavior. In addition, financial transgressions align with the dominance of an economic schema at work. Practically, understanding how to reduce this widespread activity is of great organizational importance, given its large cost (Examiners, 2012), interpersonal ramifications (Lee, Hardin, Parmar, & Gino, 2019), and the difficulty in detection (Zhang et al., 2014). Thus, we hypothesize that the presence of photos of close others will decrease unethical behavior in the workplace, specifically financial transgressions, due to a decreased salience of an economic schema that legitimizes self-interested behavior.

Hypothesis 1. People will exhibit less unethical behavior in the form of financial transgressions when they are in the presence of photos of close others (e.g., family and friends) than photos of non-close others (e.g., environment or a stranger) or no photos.

Hypothesis 2. The effect of photos of close others on unethical behavior will be mediated by a reduction in economic schema activation levels for those viewing photos of close others.

3. Overview of studies

We tested these hypotheses across a series of studies, both field and experimental. Study 1 is a multi-source field survey that explores the link between photographs of close others and financial transgressions. To investigate whether this relationship exists in real-world organizations, we examine the relationship between employee reports of photos of close others used to decorate their workspace and supervisor ratings of the extent to which the employee pads their expense account. To examine causality, Study 2 tests [Hypothesis 1](#) in an experimental setting with undergraduate students completing tasks with an opportunity to lie for financial gain. Study 3 experimentally examines the underlying mechanism (i.e., economic schema) of our hypothesized relationship, while also ruling out several alternative explanations. We developed a novel experimental paradigm with online participants completing an expense report, with the possibility of inflating expenses to receive extra payment, mimicking real-life incentives to pad expenses. Finally, Study 4 demonstrates that the effect of photos of close others on unethical behavior can be muted by inducing an economic schema through reflecting on the material (i.e., monetary) needs of the other person in the photo after viewing the photograph.¹ As a package, these four studies provide consistent support for the effect of photos of close others on financial transgressions and the role of an economic schema in explaining this relationship.

4. Study 1

4.1. Participants and design

We designed Study 1 to test [Hypothesis 1](#) with multi-source data high in ecological validity gathered from organizational settings. We

¹ See online appendix for an additional study that further examines the causal role of an economic schema in the relation between the presence of photos of close others and financial transgressions by directly manipulating economic schema salience in a 2 (photo type) x 2 (salience of economic schema) design.

used a snowball sampling methodology (Grant & Mayer, 2009; Ong, Mayer, Tost, & Wellman, 2018; Zhang, Mayer, & Hwang, 2018). Students in an introductory management course were asked to recruit a working adult (focal employee) who was willing to complete a survey about how they decorate their workspace and recruit their immediate supervisor to complete a questionnaire evaluating the extent of the employee's financial transgressions. A recent investigation found that student-recruited samples are not substantively different from other types of subject pools of working adults (Wheeler, Shanine, Leon, & Whitman, 2014).

As a course requirement, 625 students were asked to participate; 432 students submitted the contact information for dyads of working individuals, with average working relationships of seven years. Each participant was electronically sent information about the survey, a link to the survey, and a unique identification number for matching respondent data anonymously. Through this online survey, focal employees were asked to report their physical surroundings (72% of focal employees completed the survey) and their supervisors were asked to report on financially-related unethical behavior (i.e., padding expense accounts) of the focal employee as well as their confidence in making this rating (51% completed the survey). In all, 78% of these paired dyads were complete and usable with supervisors being confident in rating unethical behavior of their employees (supervisors' confidence was assessed using one item, I feel confident in my ability to evaluate my subordinate's (un)ethical conduct, 1 = *Strongly disagree* to 7 = *Strongly agree*; those falling more than one standard deviation below the mean were excluded). This resulted in 181 pairs of supervisors and focal employees who completed the primary measures.

4.2. Measures

4.2.1. Presence of photo of close other

Focal employees were asked to report if, in their immediate environment, they have a photo of someone that they are particularly close to (e.g., family member(s) or close friend(s)) (1 = *No*, 2 = *Yes*).

4.2.2. Ratings of unethical behavior

We measured employees' unethical behavior related to financial transgressions by asking supervisors to indicate the extent to which their employee engages in the following behaviors: to what extent does your employee "pad an expense account up to 10%" and "pad an expense account more than 10%" (1 = *Not at all*, 7 = *Frequently*; $\alpha = 0.94$). These are the two items relating to financial transgressions, our dependent variable of interest, from a validated scale on unethical behavior (Akaah, 1996). Prior work has found supervisor measures of employee unethical behavior to be accurate, particularly when those who are not confident in their reports are excluded (Mayer, Kuenzi, Greenbaum, Bardes, & Salvador, 2009), as we have done. Because it can be relatively common for people to pad their expense reports (Strout, 2001), it is plausible that companies may continue to employ individuals after becoming aware of this behavior. However, in our dataset, there were few reports of unethical behavior, resulting in a left-skewed distribution. Because the distribution of unethical behavior deviated from common thresholds that are seen as critical for unbiased estimations (Hammer & Landau, 1981), following standard practice, we used the log transformation of this variable (Tabachnick & Fidell, 2001). After this transformation, the skewness and kurtosis of the unethical behavior variable were nearer the acceptable ranges (Hammer & Landau, 1981; Diestel, Wegge, & Schmidt, 2014). Results are reported with the transformed, as well as non-transformed variable.

4.2.3. Ratings of performance

To ensure we were not capturing mere positive halo effects from having photos of close others up in one's workplace, we also measured supervisors' assessments of performance. If employees' photos of close others in the workspace produced a halo effect, we would expect to

observe positive effects of photos that generalized across all of the supervisors' evaluations (i.e., both financial transgressions and performance). If, however, our theory is correct, then we would expect to observe an effect of the photos on financial transgressions, not performance. We measured employees' performance using an established scale (Williams & Anderson, 1991) by asking supervisors to indicate the extent to which they agreed with seven statements regarding their employee, e.g., this person: adequately completes assigned duties, fulfills responsibilities specified in their job description, performs tasks that are expected of them (1 = *Strongly Disagree*, 7 = *Strongly Agree*; $\alpha = 0.73$).

4.2.4. Control variables

Per the advice of Becker (2005) and Bernerth and Aguinis (2015), we control for variables that have been shown to theoretically correlate with either photos that individuals display or unethical behavior. Focal employees reported several demographic characteristics, including gender and organizational tenure. Though past results have been mixed, some studies have identified gender and tenure differences in ethical conduct (Borkowski & Ugras, 1998; Franke, Crown, & Spake, 1997; Mesmer-Magnus & Viswesvaran, 2005). We also chose to control for other types of photos that prior research has suggested may influence ethical conduct: photos of nature and photos including eyes. Prior research has demonstrated that being exposed to photos of natural settings restores attention and improves the ability to self-regulate (Tang & Posner, 2009)—an important ability in defending against unethical conduct (Gino, Schweitzer, Mead, & Ariely, 2011). As such, employees report if they have photos of the environment in their office. Prior research has also demonstrated that the presence of posters of eyes can decrease unethical conduct (Ernest-Jones, Nettle, & Bateson, 2011) and increase prosocial behavior (Bateson, Nettle, & Roberts, 2006). As such, employees report if they have photos of those whom they are not close with (e.g., a person you do not personally know, such as a sports figure).

4.3. Results

Table 1 contains the descriptive statistics and bivariate correlations for Study 1 variables.

We tested Hypothesis 1 using linear regression. We first regressed unethical behavior (transformed) on gender and organizational tenure. There was no significant effect of gender or tenure. Next, we entered the measure indicating if the focal employee had a photo of a close other present. Consistent with our hypothesis, we found that having a photo of a close other present had a significant negative association with unethical behavior ($b = -0.03$, $\beta = -0.15$, $p = .049$); results are consistent without controls ($b = -0.03$, $\beta = -0.16$, $p = .028$). Additionally, we ran the analyses with the above controls and additional measures that indicated whether the focal employee had a photo of the environment or a non-close other. There was no significant effect of the presence of these other types of photos, and the significant negative effect of having a photo of a close other remained significant ($b = -0.03$, $\beta = -0.19$, $p = .039$). These results support Hypothesis 1, which predicted that photos of close others would be associated with lower levels of financial transgressions. However, to test the strength of our results, we ran two sets of subsequent analyses.

Additionally, we examined the results using the non-transformed ratings of unethical behavior. To do so, we ran a negative binomial logistic regression. This model is appropriate given the nature of the non-normal distribution of the non-transformed ratings of unethical behavior (Field, 2009). Because this requires the dependent variable to be in integer form, we conservatively converted each non-integer to down to the nearest integer, all supervisor reports of no unethical behavior were zeros. We regressed unethical behavior on gender, tenure, and the presence of a photo of close other. Consistent with our hypothesis, we found that having a photo of a close other present had a

Table 1
Study 1: Descriptive Statistics and Correlations.

Variables	Mean	SD	1	2	3	4	5	6	7
1. Presence of Photo of Close Other	1.69	0.46	1.00						
2. Presence of Photo of Stranger	0.02	0.15	−0.02	1.00					
3. Presence of Photo of Environment	0.34	0.48	0.13	−0.10	1.00				
4. Gender	1.58	0.49	0.08	−0.03	0.02	1.00			
5. Tenure	3.33	1.69	0.18*	0.08	0.18*	−0.07	1.00		
6. Unethical Behavior	1.09	0.35	−0.14	−0.04	0.03	0.01	−0.12	1.00	
7. Unethical Behavior (LOG)	0.02	0.09	−0.16*	−0.04	0.04	0.02	−0.11	0.98**	1.00
8. Performance	6.25	0.63	0.14	−0.03	0.10	0.06	0.20**	−0.34**	−0.32**

Two-tailed tests.

N = 181.

* $p < .05$.

** $p < .01$.

significant negative association with unethical behavior ($\beta = -1.14$, $SE = 0.42$, $p = .008$).²

Further, we wanted to ensure there was not a halo effect of having photos of close others present. Thus, we examined the relationship between having photos of close others in one's workspace and supervisor ratings of performance, a common dimension of supervisor-employee evaluation. We first regressed supervisor ratings of performance on gender and organizational tenure. There was not a significant effect of gender; tenure had a significant positive relationship with supervisor performance ratings ($b = 0.07$, $\beta = 0.21$, $p = .007$). Next, we entered the measure indicating if the focal employee had a photo of a close other present. We found that having a photo of a close other present did not have a significant association with supervisor performance ratings ($b = 0.14$, $\beta = 0.10$, $p = .175$). This result is consistent with our theory and inconsistent with the notion that a halo effect may account for the association between photos and financial transgressions.

4.4. Discussion

Using multi-source data, we found a significant negative relationship between having photos of close others in one's office and behaving unethically in reporting one's expenses while controlling for other types of photos (i.e., environment, non-close other). We found support for the first hypothesis even with range restriction in our dependent variable—there was relatively little variance in the supervisor ratings of unethical financial behavior. Additionally, we found evidence that this is not a mere positive halo effect of the presence of photos of close others since these photos are not significantly related to supervisor performance ratings. Although the findings are consistent with Hypothesis 1, an important limitation is that the data are correlational, and we cannot draw causal conclusions; therefore, we sought to address this limitation in Studies 2 through 4 by establishing causation through experimental design using behavioral measures of financial transgressions.

5. Study 2

5.1. Participants and design

Study 2 was an experiment that tested Hypothesis 1 to establish the causal direction of the effect, thereby addressing the primary limitation of Study 1. Participants included 100 undergraduates who completed the study in exchange for extra credit and the opportunity to earn up to \$8, depending on their performance during the experiment session. Our

² Using linear regression, controlling for gender, tenure, and additional photos, with the non-transformed variable for unethical behavior as the dependent variable, we find a significant effect of photos of close others on unethical behavior ($b = -0.11$, $\beta = -0.19$, $p = .047$).

sample was 77% female ranging in age from 18 to 37 years, with an average of age of 20 years (56% Asian, 20% Latino, 13% Caucasian, 7% South Asian, 2% Multiracial). When participants signed up for the experiment session, the instructions asked them to bring electronic copies of four photos of close others (e.g., parents, grandparents, siblings, spouse) that would be appropriate for use as a decoration in an office workspace in a corporate setting. Participants were told that they could either bring the photos on a USB drive or download them during the session from a website or email account. Participants were assured that the researchers would not retain copies of the photos for any reason or for any length of time.

Upon arrival at the laboratory, participants were told that the session would include a series of short studies. The first study ostensibly was a study of consumer preferences. Participants were told that they would examine and evaluate three styles of picture frames that people commonly use to decorate their workspace. Participants were then told they would engage in an unrelated study about problem-solving performance. Finally, they were told there was leftover money from a prior study, which they could earn based on the die rolling task. The photo manipulation followed.

5.1.1. Photo manipulation

Participants were randomly assigned to either the close other photos or control condition. Participants in the close other photos condition were asked to select three of the four photos they brought to the laboratory; most simply downloaded files from online photo libraries upon arriving at the lab. The experimenter then helped participants in the close other photos condition print each photo as a high quality 4" × 6" images using a Canon SELPHY CP900 photo printer. Participants in the control condition were told that the photo printer had just broken and given three photos that the experimenter ostensibly printed as test images earlier in the day. The photos in the control condition did not include people (e.g., a tree in the mist, a city skyline at sunrise, a tropical flower).

Once they had the photos they needed, participants were given a packet of materials and were shown to private rooms with workstations that included a desk, a computer, three different picture frames, and a standard six-sided die. Participants worked alone in the room with the door closed. An instruction sheet asked participants to insert one photo in each frame and arrange the frames around their workspace. It then told participants to complete the "second study" so that they could spend some time with the frames before evaluating them. The "second study" included the matrix and die rolling tasks.

To complete the cover story, the instructions asked participants to evaluate each picture frame along several dimensions (e.g., ease of use, attractiveness, willingness to pay) after they completed the "second study." Afterward, participants completed a "third and final study" that was a survey that collected demographic information and included measures unrelated to the current study. During the debriefing at the

end of the session, participants were probed for suspicion about the cover story. Two participants who reported that they expected there to be a connection between picture frames and the matrix task were removed from analyses.

5.2. Measures

5.2.1. Unethical behavior through the matrix task

The packet of materials included a worksheet with 20 matrices, each of which comprised 12 numbers arranged in a 3×4 grid (Mazar et al., 2008). Only two of the 12 numbers in each matrix added up to exactly 10 (e.g., $4.89 + 5.11 = 10$). The instructions told participants that they had four minutes to complete as many matrices as they could, and they would earn \$0.25 for each one they solved successfully. Participants were asked to time themselves using the computer at their workstation and an online stopwatch webpage. Prior research has found that four minutes is insufficient for anyone to solve all 20 matrices.

Before starting the matrix task, participants read that they should record their outcome on the attached collection slip and pay themselves for their performance with money from an envelope in the packet of materials. The envelope contained seven \$1 bills and four quarters. The instructions emphasized that participants should only turn in the collection slip—not the matrix worksheet—at the end of the study because the researchers were only interested in the number of matrices they solved, not which ones they solved. Therefore, the researchers requested that the participants help the experimenter save time between sessions by disposing of the unnecessary papers after they left the laboratory. There also were no identifiers on any of the materials. This procedure was designed to ensure that participants understood that there was no way for the researchers to determine whether individuals misrepresented their scores; in fact, misrepresentation was only detectable by testing for differences in the aggregated scores across the experimental conditions. Moreover, instructions in bold font at the top and bottom of the collection slip asked participants to detach the collection slip from the other pages associated with the matrix task and return only the collection slip and any remaining money to the experimenter. Thus, consistent with other work in this area, we were only able to identify unethical behavior on this task at the group-, rather than individual-level (Fischbacher & Föllmi-Heusi, 2013; Greene & Paxton, 2009; Jiang, 2013; Ploner & Regner, 2013; Shalvi, Dana, Handgraaf, & De Dreu, 2011).

5.2.2. Unethical behavior through the die rolling task

After participants recorded their outcome from the matrix task on the collection slip, they read that they should roll the die at their workstation to determine how much bonus money they earned. They were told to multiply the outcome of their roll by \$0.50 to determine their bonus. Participants were again instructed to pay themselves with the money from the envelope. As with the matrix task, there was no way for the researchers to identify whether individuals misrepresented the outcome of the die roll; misrepresentation was only detectable by testing for differences in the reported rolls aggregated across the experimental conditions.

5.3. Results

Photo condition affected the amount of money participants claimed for both the matrix and die rolling tasks (See Fig. 1). Specifically, a one-way ANOVA indicated that participants paid themselves less for the matrix task when they were in the close other photos ($M = \$1.30$, $SD = 0.83$) than control condition ($M = \$1.77$, $SD = 1.09$), $F(1, 96) = 5.55$, $p = .021$, Cohen's $d = -0.48$. Similarly, a one-way ANOVA indicated that participants paid themselves less for the die rolling task when they were in the close other photos ($M = \$1.90$, $SD = 0.82$) than control condition ($M = \$2.24$, $SD = 0.72$), $F(1, 96) = 4.84$, $p = .030$, Cohen's $d = -0.44$.

The distributions of die rolls can be further examined in terms of whether the proportion of outcomes participants reported deviated from what would be expected from a fair die. Based on simple probability, a fair die should produce an equal distribution of outcomes, with each number coming up about 16.7% (i.e., 1/6th) of the time. As seen in Fig. 2, however, the distributions differed across the two experimental conditions. The distribution of die rolls in the close other photos condition did not differ significantly from the expected distribution, $D_{\max} = 0.11$, Kolmogorov-Smirnov $z = 1.14$, $p = .152$, whereas the distribution of die rolls in the control condition was significantly different from the expected distribution, $D_{\max} = 0.34$, Kolmogorov-Smirnov $z = 1.98$, $p = .001$. Moreover, the two distributions differed from each other, Kolmogorov-Smirnov $z = 1.37$, $p = .046$. In short, results of the die rolling task suggest that participants in the close other photos condition generally were honest about their outcome, but participants in the control condition were more likely to misreport their outcome.

Taken together, participants in the close other photos condition paid themselves less than participants in the control condition, which suggests that they cheated less. Although one could question whether the close other photos produced different psychological consequences than the control pictures that somehow caused real differences in performance on the matrix task (e.g., affective or cognitive load), the same rationale cannot account for the difference in the die rolling task, which does not require concentration or sustained effort. Therefore, the interpretation that participants who viewed photos of close others cheated less than those in the control condition is a more parsimonious explanation for the results.

5.4. Discussion

Study 2 provided support for Hypothesis 1. Importantly, the findings demonstrate causal evidence that participants who had photos of close others in their workspace behaved more ethically in reporting their earnings than participants in the control condition (which included photos of the environment). In line with experimental design, whereas Study 2 demonstrates that photos of close others can decrease unethical behavior, it does not examine how frequently this occurs (Mook, 1983). In this study, photos are likely more salient than when a photo is up in someone's office; however, results from Study 1 mitigate these concerns by examining the relationship in a natural workplace setting. Thus, internal validity concerns from Study 1 are addressed in Study 2, and ecological validity concerns from Study 2 are addressed in Study 1, thus highlighting the importance of complementary designs when conducting full-cycle micro organizational behavior.

Although one could argue that providing multiple opportunities to commit financial transgressions in Study 2 could create a situation in which moral compensation could occur (see Zhong, Liljenquist, & Cain, 2009), the stable pattern of cheating as a function of condition across both dependent measures suggests that moral compensation did not occur, likely because participants completed the two tasks consecutively. Also, some research indicates that reputational concerns and accountability play major roles in inducing moral compensation effects (Joosten, Van Dijke, Van Hiel, & De Cremer, 2014), and reputational concerns and accountability were low in Study 2 because performance on the two tasks was untraceable. Therefore, moral compensation does not appear to operate in this context. Nevertheless, we included only one measure of unethical behavior in the rest of the studies.

6. Study 3

To build on the prior two studies, Study 3 tested our proposed mechanism, reduced salience of an economic schema, while ruling out several additional alternative mechanisms (i.e., innocence, legacy, positive affect, other-orientation) using a novel experimental design and more conservative control conditions.

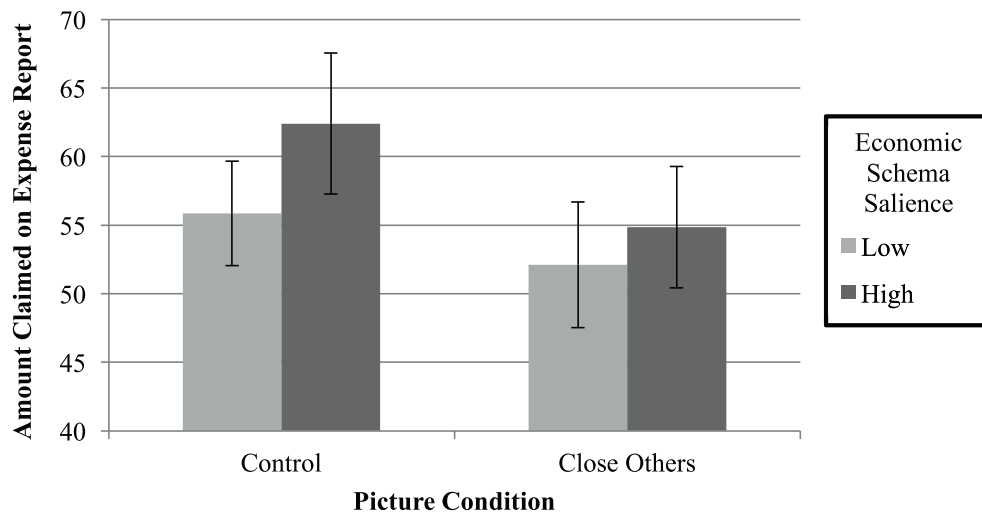


Fig. 1. Amount (in dollars) participants paid themselves for the matrix and die rolling tasks in Study 2.

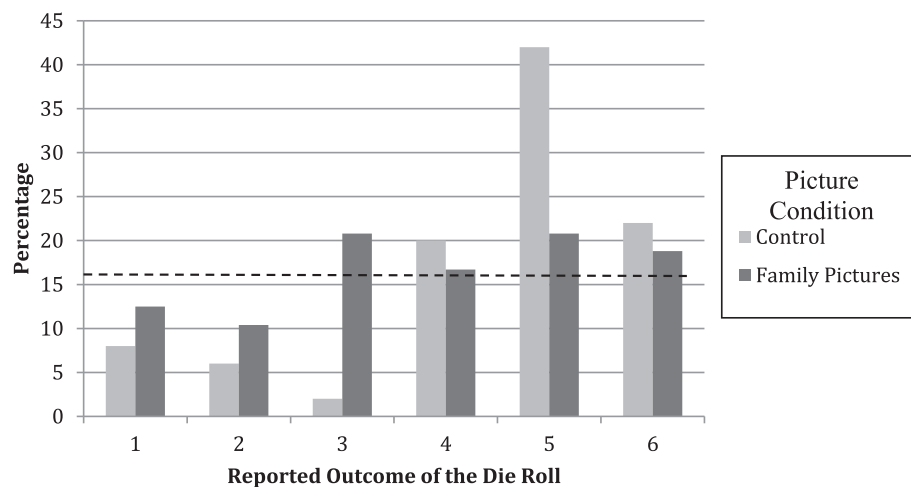


Fig. 2. Distribution of die rolls as a function of picture condition in Study 2. *Note.* The dashed line represents the percentage predicted based on chance.

6.1. Participants

We recruited 303 participants through Amazon Mechanical Turk (MTurk). This online platform has become popular among social scientists and is of comparable quality to traditional data collection methods (Buhrmester, Kwang, & Gosling, 2011; Downs, Holbrook, Sheng, & Cranor, 2010; Horton, Rand, & Zeckhauser, 2011; Paolacci & Chandler, 2014; Paolacci, Chandler, & Ipeirotis, 2010). Participants were experienced workers on the platform, residents of the United States, and held full-time jobs. Participants all earned \$2, with the opportunity to earn up to \$3 based on their choices in the task. Following exclusion criteria we established a priori, participants who did not fully complete the study (15 participants), completed the study in less than seven minutes (the minimum time it would take to read and answer each question after uploading a photograph; 12 participants), misread the directions for the expense report (e.g., did not report any expenses; 4 participants), or failed the attention check about displaying the photo associated with their condition (28 participants) were not included in the analyses. In total, 59 participants were excluded, which was to be expected, given the onerous necessity of uploading and displaying a photo. Our final sample was 42% female, with an average of 4 years of working experience.

6.2. Design and procedure

Participants completed the study online. They were asked to display a photo on the left half of their screen for the duration of the study while using a web browser to complete the survey on the right half of their screen. In the instructions for the task, participants read that “... photos were being displayed in order to recreate the type of environment you are typically in at work. A lot of people have photos up around them or on their computer screen that are important, relevant, or interesting to them in some way.” These instructions created an important rationale for why the photos should be displayed.

The content of the photo varied across three experimental conditions (details below). After participants indicated that they had set up their screen as requested, they completed an expense report task (see Appendix A). In short, the task asked participants to imagine that they were an employee who had recently completed a business trip. Participants read a detailed description of the company’s expense policy, were given maximum amounts that could be reported as well as company average amounts for each type of expense (i.e., taxi, breakfast, lunch, dinner, and snack). Participants then read a detailed description of their day, outlining \$42.50 in expenses incurred.

Participants then completed an expense report in which they had the opportunity to over-report their expenses. To parallel real-world incentives to over-report expenses, participants’ payment for completing the survey depended in part on the total amount they claimed

on the report; participants received 1% of the amount they expensed in addition to the baseline payment for completing the study. Therefore, participants who over-reported their expenses would be paid more than those who did not. Participants then completed a series of measures to test our proposed mechanism and rule out competing explanations.

6.2.1. Photo manipulation

Participants were randomly assigned to one of three photo conditions: close other, self, or stranger (e.g., non-close other). Given that Study 2 used environmental photos as a control, we use photos of people (i.e., self and stranger) as the control conditions for this study to test the robustness of our results and eliminate any potential confounds related to the presence or absence of human faces. This control condition is a conservative test because it ensures that the effect is not merely driven by the presence of eyes watching, which has been linked to a decrease in illegal behavior (Dear et al., 2019). Participants in the close other condition were asked to use a picture of someone to whom they felt very close (e.g., a family member or close friend). Participants in the self condition were asked to use a picture of themselves that did not include other people. Participants in both the close other and self conditions were asked to upload the photos to ensure they complied with the instructions. Participants in the stranger condition were asked to download a headshot that we provided of a White male in his early 20's who was dressed casually and was smiling faintly. All participants were asked to display the assigned photo for the duration of the study. At the end of the study, participants were asked to verify that the photo (within the correct condition) was in sight during the task. We also checked to make sure participants did, in fact, upload a photo.

6.3. Measures

6.3.1. Unethical behavior

Unethical behavior was operationalized as the amount participants expensed. All of the pertinent information was displayed within one window of our survey. The actual expenses incurred in the description were \$42.50, with participants having the ability to expense up to \$100. Our measure is the amount expensed, of which the participants received a 1% bonus ($M = 67.98$, $SD = 25.32$). In other words, the average participant falsified their expense report by a sizeable amount—over \$25.

6.3.2. Economic schema

Participants then described the extent to which they felt the expense report task was an economic decision using two items: “This situation could be described as an economic decision” and “There are very important economic aspects to this decision” (1 = *Strongly Disagree*, 7 = *Strong Agree*; $\alpha = 0.84$). Consistent with the approach of Bohns et al. (2016) in measuring this schema, we adapted items from Aggarwal and Larrick (2012), amending items to be consistent with this task situation.

6.3.3. Alternative explanations

Drawing on the behavioral ethics literature, we also assessed four potential alternative explanations for the link between photos of close others and unethical behavior. First, we assessed *innocence*. Gino and Desai (2012) found that eliciting innocence, also called moral purity, increases prosocial behavior. It is possible that photographs of loved ones may elicit a type of innocence, especially if photographs are of children or relationships dating back to childhood. Participants reported their feelings of innocence using three items developed by Gino and Desai (2012): At this moment in time, I feel innocent, morally pure, and virtuous (1 = *Strongly Disagree*, 7 = *Strong Agree*; $\alpha = 0.92$).

Second, we assessed *legacy*. Wade-Benzoni et al. (2009) found that increased thoughts of one's legacy, due to intergenerational concerns, lead to greater generosity due to increased care about the moral implications of one's decisions. Photos of one's family, particularly if

intergenerational, could lead to this type of thinking. Participants reported their concern with legacy using a nine-item scale developed by Wade-Benzoni et al. (2009). Sample items include: I feel as though I have made a difference to many people; How to leave my mark on society is something I often think about (1 = *Strongly Disagree*, 7 = *Strong Agree*; $\alpha = 0.87$).

Third, we assessed *positive affect*. Gaudine and Thorne (2001) proposed that positive affect would increase ethical conduct. Despite mixed empirical support (Connelly, Helton-Fauth, & Mumford, 2004), we felt this would be worth exploring since personalization has been linked to positive affect (Byron & Laurence, 2015) and emotions have been linked to ethical conduct (Tangney, Stuewig, & Mashek, 2007). However, given that personalization more generally impacts positive affect, it could be that the display of any photograph, regardless of content, could boost positive affect. Participants reported their feelings of positive affect using eight relevant items from the PANAS – X (Watson & Clark, 1999). Sample emotions include “happy” and “enthusiastic” (1 = *Strongly Disagree*, 7 = *Strong Agree*; $\alpha = 0.95$).

Finally, we assessed *other orientation*. De Dreu and Nauta (2009) found that other orientation may increase ethical conduct. Photos of close others could lead to increased interest in and concern for others. Participants reported their other orientation using a three-item scale developed by De Dreu and Nauta (2009). Sample items include: I am concerned about the needs and interests of others; I consider others' wishes and desires to be relevant (1 = *Strongly Disagree*, 7 = *Strong Agree*; $\alpha = 0.89$).

6.4. Results

A one-way ANOVA found a marginal main effect of photo condition on the amount participants expensed, $F(2, 241) = 3.00$, $p = .052$ (see Fig. 3). Planned comparisons indicated that those displaying the photo of a close other ($M = 62.25$, $SD = 23.27$) expensed significantly less than those in the stranger condition ($M = 70.93$, $SD = 25.82$, $p = .023$, Cohen's $d = 0.35$) and marginally less than the self condition ($M = 70.29$, $SD = 26.12$, $p = .057$, Cohen's $d = 0.33$). These results support Hypothesis 1. Further, the means for self and stranger were not significantly different from one another ($p = .873$), thus, in subsequent analyses, we collapse these conditions together and compare them to the close other condition.

Using these collapsed conditions, we again tested Hypothesis 1 using a one-way ANOVA. Consistent with Hypothesis 1, we find that participants expensed significantly less when they had a photo of a close other rather than a photo of themselves or a stranger, $F(1, 242) = 5.99$, $p = .015$, Cohen's $d = -0.34$. To account for unequal group sizes, to be conservative, we also examined the Brown and Forsythe F-Ratio, which weights group variance by the inverse of their sample size, thus reducing the impact of large sample sizes with large variance (Field, 2009). Using this test, we continue to find that participants expensed significantly less when they had a photo of a close other rather than a photo of themselves or a stranger, Brown-Forsythe: $F(1, 166.21) = 6.47$, $p = .012$. In concert, these results support our first hypothesis.

We tested the mediation model of Hypothesis 2, the effect of the display of photos of close others (1 = close other photo condition, 0 = self or stranger photo condition) on unethical behavior through economic schema salience. Using Hayes (2012) PROCESS, we tested for the indirect effect of the presence of a photo of a close other on unethical behavior through economic schema salience. Our analyses demonstrate full mediation, $b = -2.07$, $SE = 1.12$, $CI(95\%) = -4.65, -0.15$, with the direct effect of condition on expense no longer significant, $b = -6.35$, $SE = 3.31$, $CI(95\%) = -12.88, 0.18$. These results provide support for Hypotheses 1 and 2.

6.4.1. Alternative mechanisms

Next, we tested plausible alternative mechanisms that could explain

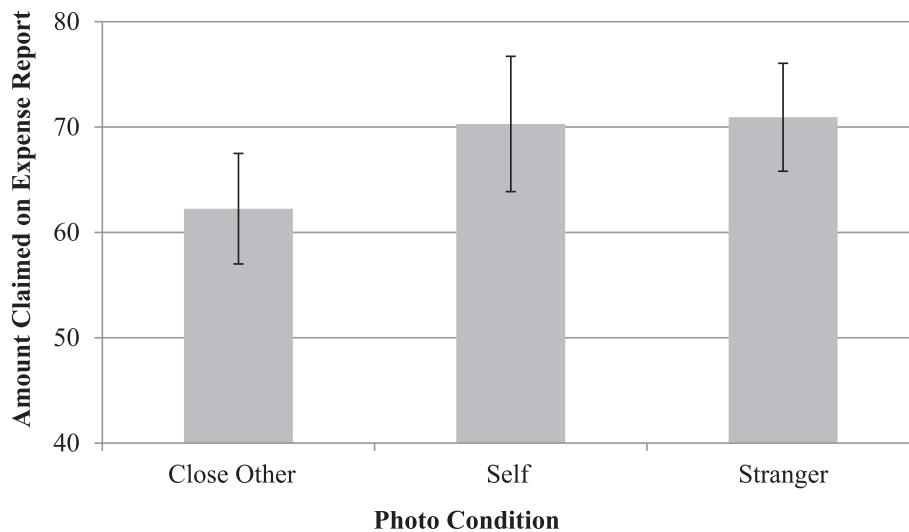


Fig. 3. Amount claimed on expense report (in dollars) in Study 3 as a function of experimental condition.

the relationship between photos of a close other and reduced unethical conduct. We used one-way ANOVAs to examine the relationship between the condition and each potential mediator. The analyses revealed that the manipulation did not have a significant effect on innocence, $F(1, 241) = 0.65$, $p = .419$; Brown-Forsythe: $F(1, 150.27) = 0.66$, $p = .417$, legacy, $F(1, 242) = 0.03$, $p = .858$; Brown-Forsythe: $F(1, 153.93) = 0.03$, $p = .857$, or other-orientation, $F(1, 242) = 0.68$, $p = .412$; Brown-Forsythe: $F(1, 178.84) = 0.77$, $p = .381$. There was a marginally significant effect on positive affect, $F(1, 242) = 3.06$, $p = .082$; Brown-Forsythe: $F(1, 147.82) = 3.01$, $p = .085$. Using Hayes (2012) PROCESS, we test for the indirect effect of the presence of a photo of a close other on unethical behavior through economic schema salience, controlling for these four alternative mechanisms. Our results hold; we find a significant indirect effect of photo type on unethical behavior through economic frame, $b = -1.73$, $SE = 0.99$, $CI(95\%) = -4.07, -0.15$. Additionally, despite finding no significant relationships between photo conditions and the alternative mechanisms, we tested the mechanisms simultaneously. When including economic frame, innocence, legacy, and positive affect in the mediation model, results indicate that economic frame is driving the only significant indirect effect between photo type and unethical behavior, $b = -1.56$, $SE = 0.92$, $CI(95\%) = -3.92, -0.11$. These results continue to provide support for Hypotheses 1 and 2 while ruling out four alternative mechanisms.

6.4.2. Further examination of the self condition

In examining our control conditions for this study, it could be argued that photos of the self may be a conservative control condition, because self-focus may also decrease unethical behavior. Some prior work has suggested that photos of the self, via increased self-focus, may induce conformity to standards of behavior, including ethical conduct (e.g., Carver & Scheier, 1981a; Wicklund & Duval, 1971). However, the direction of the effect of self-focus on behavior depends on which standard of comparison is salient (e.g., Carver & Scheier, 1981b). Therefore, photos of one's self may not necessarily decrease ethical behavior because the self operates in both the professional and personal domain, and thus can be a reminder of values, beliefs, or experiences in either location. In our study, many participants in the self condition uploaded professional headshots, which is likely to have made salient standards of behavior included in an economic schema. To examine this assertion, we post-hoc coded the self-photos to analyze if they were taken in the professional (e.g., a professional headshot, $N = 15$) or personal domain (e.g., a wedding picture, $N = 45$), with six photos not being categorized due to ambiguity. Aligned with our theory, those

uploading photos identified as professional ($M = 81.10$, $SD = 25.20$) expensed more than those uploading photos of the self, identified as personal, although this effect was marginally significant ($M = 65.94$, $SD = 25.98$), $F(1, 59) = 3.89$, $p = .054$. This demonstrates that the domain made salient by the photo, personal or professional, is likely driving the observed effect on unethical conduct.

6.5. Discussion

The Study 3 findings constructively replicate our findings from Studies 1 and 2 and provide further support for Hypotheses 1 and 2. In particular, we found that participants in the close other photo experimental condition lied about their expenses less than individuals in the control conditions (e.g., self, stranger). Notably, the average participant in each condition did inflate expenses; however, those displaying photos of close others did so significantly less. This study increases the generalizability of our findings by using different control conditions than our previous study. In this study, we compared photos of close others to photos of other people (as opposed to the photos of the environment we used in Study 2) to rule out the potential confound of the general effect of human faces—and eyes more specifically. Additionally, Study 3 provides direct support for our proposed mechanism, reduced salience of an economic schema, while simultaneously ruling out several plausible alternative mechanisms, including increased feelings of innocence, thoughts of legacy, positive affect, or other-orientation. Specifically, the presence of photos of close others, compared to control conditions, was not found to be significantly related to measures of these alternative mechanisms. Moreover, we ruled out these alternative mechanisms by controlling for them while examining the indirect effect of economic schema, and including them as alternative indirect pathways while testing our proposed mechanism. The significant indirect effect of photos of close others on unethical behavior through a reduction in the economic schema remained.

7. Study 4

Study 4 sought additional evidence of the mechanism responsible for the effect of photos of close others on unethical behavior by directly manipulating the extent to which viewing photos of close others would enhance or diminish the salience of an economic schema. Although researchers often investigate the mechanism responsible for an effect by measuring the proposed intervening variable and running statistical tests of mediation (as in Study 3), experiments that manipulate a proposed psychological process also can provide evidence of a causal

mechanism (Bullock, Green, & Ha, 2010; Sigall & Mills, 1998; Schroeder, Risen, Gino, & Norton, 2019; Spencer, Zanna, & Fong, 2005). To the extent that a given mechanism plays a critical role in an effect of an independent variable on a dependent variable, researchers should be able to increase or decrease the magnitude of the effect of the independent variable on the dependent variable by exerting experimental control over the mechanism. In Study 4, we sought to demonstrate the role of the economic schema in the effect of photos on unethical behavior by experimentally decoupling photos of close others and the salience of an economic schema.

Study 4 included three conditions; participants in two of the conditions viewed photos of close others, and participants in the other condition viewed photos of the environment as a control (as in Study 2). In one of the close other photo conditions—the *relational condition*—participants viewed their photos of close others and wrote a short passage about feeling close to the people in the photo. We expected the photo and the writing task in this condition to be aligned in that they would reduce the salience of the economic schema and decrease unethical behavior. In the other close other photo condition—the *material needs condition*—participants viewed their photos of close others and wrote about economic aspects of their relationship with the person in the photo. We expected the economic focus of the writing task to prevent the photos from reducing the salience of the economic schema and mitigate the effects of the photos on unethical behavior. In other words, this design aimed to garner more support for our proposed mechanism by muting the effect of photos on unethical behavior by directly manipulating whether photos increase or decrease the salience of the economic schema.

This study also addressed a potential limitation of Studies 2 and 3 by asking participants to select the photos they viewed in both the close other and control conditions. Studies 2 and 3 used experimenter-provided photos in the control condition, and one might wonder how this lack of choice or personal connection to the photos may have influenced the results in those studies.

7.1. Participants

We contracted Qualtrics to provide 300 working adults based in the United States. Participants were paid \$2.00, with a chance to earn an additional \$1.00 bonus. As part of their service contract, Qualtrics replaces responses that are deemed unusable due to excessive speeding through the survey, non-compliance with directions, or straight-lining responses (i.e., selecting “strongly agree” for all items). Thus, our final sample included 300 participants with an average age of 59.4 years ($SD = 12.6$ years); 55% were female.

7.2. Design and procedure

All participants first completed a car negotiation task designed to simulate the mindset that tends to prevail in the workplace. Participants were then randomly assigned to one of three experimental conditions. In the *relational condition*, participants were asked to use their computer or phone to view photos of close others for one minute. Next, they read the following prompt and responded in a text box:

When we think about those we are close with, we can reflect on the closeness and support in the relationship. In thinking about the people in the photos you just viewed, please describe a time when you felt especially close to them — where were you, what were you doing, how you felt, etc.

In the *material needs condition*, participants were asked to use their computer or phone to view photos of close others for one minute. Next, they read the following prompt and responded in a text box:

When we think about those we are close with, we can reflect on the role we play in meeting that person’s material needs. In thinking

about the people in the photos you just viewed, please describe a time when you felt responsible for providing them with something material they really wanted or needed—who was in need, what did they need, how you felt, etc.

In the *environment condition*, participants were asked to use their computer or phone to view for one minute “images of a place, like a park, city, or landmark” that did not have people they knew in them. Next, they were asked to describe in a text box what they viewed.

After the experimental manipulation, all participants completed a modified version of the expense report task used in Study 3. Participants were told the maximum the company allowed employees to expense for taxis, breakfast, lunch, snack, and dinner, as well as the average amount the employees at the company tended to expense for each item. Participants also were given a table that included six possible values for each item on the expense report. To reduce self-presentation and accountability concerns, this version of the expense report task asked participants to follow a link to a third-party website (<http://dice.virtuworld.net>) and roll an online virtual, six-sided die to determine the “actual” expense they ostensibly incurred for each item (e.g., if participants rolled a “1” for the dinner item, their actual dinner expense was \$0.00, if they rolled a “2,” their actual dinner expense was \$8.33, etc.). Participants then decided how much they wished to report for each item. Participants earned 1% of their reported expenses in the expense report task as bonus pay. This amended design provides more cover for individuals who wanted to inflate their expenses because unethical conduct could only be detected at the group-, rather than individual-level, similar to the design in Study 2.

7.3. Results

A one-way ANOVA tested the effect of the manipulation on unethical behavior (see Fig. 4). The omnibus effect of experimental condition was significant, $F(2, 294) = 3.13, p = .045$. Planned comparisons revealed that the amount participants expensed was lower in the relational ($M = 57.79, SD = 12.81$) than in either the material needs ($M = 62.56, SD = 17.07$), $p = .028$, Cohen’s $d = 0.32$, or the environment conditions ($M = 62.32, SD = 15.54$), $p = .036$, Cohen’s $d = 0.32$. No difference existed between the material needs and environment conditions, $p = .913$. Taken together, these results provide additional support for Hypotheses 1 and 2.

7.4. Manipulation check results

To ensure that these writing prompts manipulated the salience of the economic schema as intended, we ran a two-condition pilot study using Prolific. We solicited responses from 100 people; 96 completed the survey. Participants engaged in one of the writing tasks (describing closeness with others or describing the needs of others). Participants then engaged in an established word completion task used to assess the salience of the economic schema. In this task, six words can either be completed in economic terms (e.g., MARKET) or non-economic terms (e.g., MARKER), with the measure being the total number of economic terms listed by each participant (Kouchaki et al., 2013). As expected, a one-way ANOVA found a significant effect of the manipulation on the salience of the economic schema, $F(1, 95) = 5.08, p = .026$, Cohen’s $d = 0.46$. An economic schema was more salient for participants in the material needs condition ($M = 0.81, SD = 0.84$) than in the relational condition ($M = 0.48, SD = 0.58$).

7.5. Discussion

Study 4 extended the results of Studies 1 through 3 by providing further evidence that economic schema salience is the mechanism responsible for the effect of photos of close others on unethical behavior. Specifically, our manipulation attenuated the typical effect of photos of

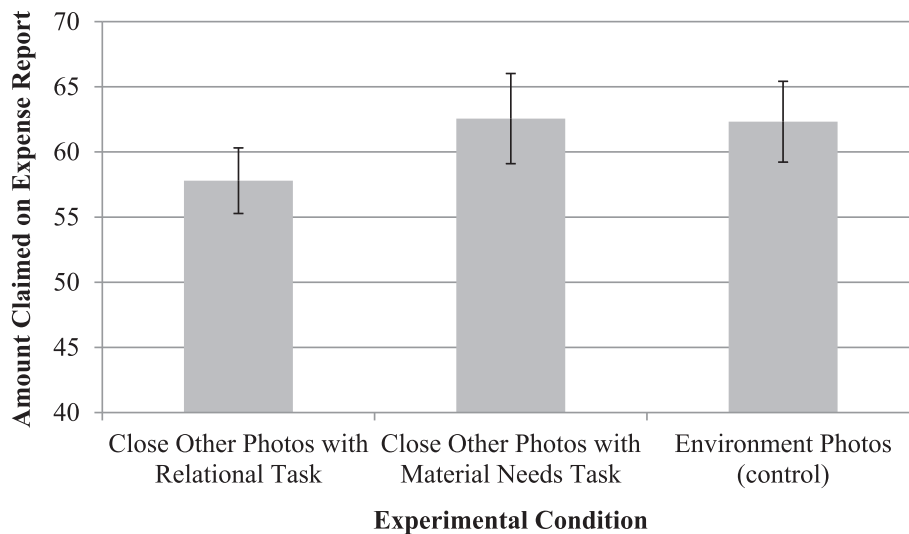


Fig. 4. Amount claimed on expense report (in dollars) in Study 4 as a function of experimental condition.

close others on unethical behavior by asking participants to focus on the material needs of others, which reinforced economic schema salience. This study provides additional evidence that a reduced salience of the economic schema is driving the reduction in unethical conduct by those participants viewing photos of close others.

8. General discussion

Given the frequency and cost of financial transgressions at work, there is great interest in both understanding what contributes to these behaviors and how to curb such conduct. To date, management scholars have thoroughly investigated personal and social factors that influence unethical behavior (Kish-Gephart et al., 2010). Comparatively, the influence of the physical context has received less attention, perhaps especially aspects of the physical environment that are unique features of organizations. In this research, we build upon this work to assess how photos of close others impact unethical behavior. Across a field survey and three experiments, we examined the effect of displaying photos of close others on financial transgressions at work. Our results consistently indicate that the presence of photos of close others reduces the likelihood that individuals will engage in financial transgressions (i.e., over-report their earnings and expenses). Moreover, our studies provide convergent evidence that this effect occurs, at least in part, because photos of close others reduce the salience of an economic schema, the mindset that tends to prevail at work. Below we highlight the theoretical implications for the literatures on behavioral ethics, symbols at work, and work-life integration. We also discuss the practical implications of our work.

8.1. Theoretical implications

This research contributes to multiple literatures. We contribute to the behavioral ethics literature by deepening our understanding of the role of the physical context, an under-examined category of influence on (un)ethical behavior. By focusing on one common aspect of people's physical work environment, we demonstrated that seemingly ordinary elements of the workplace itself could influence behaviors that are serious enough to warrant termination and cost companies a great deal of money in aggregate. Given that the field has rejected purely rational models of ethical decision-making and embraced the influence of emotion, motivated reasoning, and bounded cognition (e.g., Bazerman & Tenbrunsel, 2011; Chugh, Bazerman, & Banaji, 2005; Ditto, Pizarro, & Tannenbaum, 2009; Sonenshein, 2007), it is surprising that research has not paid more attention to how the physical environment cues

ethical decision making processes. Our results suggest that future research should consider additional features of the physical environment as a potentially powerful and underspecified contributor to (un)ethical behavior. For example, research on types of office design (e.g., open floor plans, cubicles, private offices) tends to focus on employee productivity or satisfaction (Ornstein, 1989) but may influence (un)ethical behavior as well. Similarly, architects and interior designers pay close attention to how the aesthetics of a space can create a particular feel and convey messages about the activities that take place there; these impressions may also influence (un)ethical behavior. For example, the current federal administration is considering mandating a classical architecture—similar to a typical banking aesthetic—in federal buildings (McGuigan, 2020), which may have unintended consequences by further enforcing an economic schema in these environments. Furthermore, there are any number of smaller decisions about ornamenting physical spaces that may reinforce an economic schema, including conspicuously placed sales awards or even stock tickers in business schools.

Although our studies focused on photos of close others, our theory addresses the much broader notion of how re-establishing connections with family, friends, and potentially other important aspects of our non-work self can reduce the salience of an economic schema and curtail our willingness to transgress clear standards for behavior. Therefore, we extend prior theories on how economic thinking dominates the work environment and negatively impacts ethical conduct (Kouchaki et al., 2013; see also Messick, 1999). Moreover, we add to the literature on potential interventions for unethical behavior (see Zhang et al., 2014) by highlighting the potential power of harnessing relationships people have outside the immediate decision context as a means to reducing the salience of the economic mindset. In short, our studies of photos provide one practical way to combat unethical behavior in the workplace, but they open the door to a more general approach that can address the downside of the pervasiveness of an economic schema at work. Future work should explore other ways to reduce the hegemony of an economic schema at work by making aspects of the non-work self salient; this may include the effects of displaying other workspace decorations (e.g., your child's artwork, "best dad/mom ever" coffee mug), taking personal calls, responding to emails from friends and family, and using social media at work, as well as, the residual effects of how people use time off (e.g., spending holidays with family or friends, taking "me time," or accomplishing necessary appointments and other tasks).

Our research also extends the burgeoning literature on symbols and materiality at work (Byron & Laurence, 2015; Desai, 2011; Elsbach, 2004; Fayard & Weeks, 2007; Gosling et al., 2002; Orlikowski & Scott,

2008). Specifically, we extend and empirically examine Byron and Laurence (2015) inductive theory about the organizational implications of symbolic reminders of the self that exist in the items people use to personalize their office by demonstrating that these symbolic reminders can reduce unethical conduct. Prior theorizing suggests that personalization influences self-regulation by directing attention and generating affect (Byron & Laurence, 2015; Selcuk, Zayas, Günaydin, Hazan, & Kross, 2012). Our work extends this perspective by identifying unethical behavior as an important consequence of symbols and materiality and by linking personalization to the salience of an economic schema. Furthermore, our field study suggests that features of the environment may have effects that endure rather than fade from view. Research on selective attention demonstrates that people do not always attend to all stimuli in their environment (Becklen & Cervone, 1983; Neisser & Becklen, 1975). Thus, one could question the extent to which individuals could get used to having photos in their environment, which could cause the effect to dissipate over time. Nevertheless, Study 1 found effects of photos in the workplace that almost certainly were not novel to participants at the time of the survey. Future research could investigate why photos of close others have an enduring effect, whereas other stimuli may not capture people's attention. For example, people may be especially likely to attend to their photos of close others because they desire to notice and have reminders of their loved ones, have strong emotional connections with the individuals in the photos, or periodically update these photos.

Additionally, the current findings speak to the literature on work-life integration (Rothbard et al., 2005). Most importantly, we find that work-life integration in the form of photos of close others has positive implications for organizations by decreasing unethical conduct at work. However, it is also noteworthy that our field study found that supervisors (who had an ongoing, long-term working relationship with their employees) did not view their employees' performance differently as a function of whether they displayed photos of close others in their workspace. Although it is always necessary to use caution when interpreting a null effect, this result contrasts with previous research that found that referencing non-work roles may have negative implications of people's initial inferences about employees or job candidates (Uhlmann et al., 2013). In sum, we document one clearly positive aspect of allowing individuals to display photos at work, and we find some evidence that workplace personalization with items unrelated to work may not be as detrimental to people's impressions of employees as previously thought, at least in the case of established, working relationships as opposed to first impressions.

8.2. Practical implications

Our findings have practical implications at both the individual- and organization-level. Individuals who are interested in guarding against unethical behavior in the workplace could choose to display photos of close others in their workspace. This will serve as a reminder of one's non-work self and reduce the salience of the economic schema, as long as one does not reflect on the material needs of that other. Though the popular press recommends against keeping photos of close others in the workplace (Deutsch, 2013; Fisher, 2008), our findings imply that companies should consider going against this advice if they seek to discourage employees from committing self-serving financial transgressions and potentially other unethical behaviors. Through our studies, we find a range of small to medium effect sizes; though the effects are not large in magnitude, given the pervasive nature of financial transgressions, and the resulting aggregate costs, these changes are meaningful in practice. For example, participants in Study 3 who viewed photos of close others expensed about \$8.00 less than those in other conditions on average. If an organization has monthly expense reports from numerous employees, it is easy to envision the financial impact of this level of reduction in unethical behavior over time.

More broadly, companies and individuals alike should be mindful of

how their physical surroundings may be influencing their behavior. Organizations that are interested in reducing unethical behavior in the workplace may find ways to encourage employees to bring symbols of their non-work selves into the workplace or consider company activities that could similarly facilitate the integration of different aspects of people's lives (Edwards & Rothbard, 2000). Whereas some organizations encourage segmentation of work and life by penalizing those who bring outside topics into work (Fisher, 2008; Uhlmann et al., 2013), our findings suggest that this segmentation may have an unexpected downside in terms of unethical behavior. Our results suggest that subtle adjustments to the physical context can alter employee behavior, and it should, therefore, be possible to design organizational interventions that help to inhibit fraud and other forms of undesirable behavior. Given that asset misappropriation is difficult to detect and has a hefty cost, identifying inexpensive ways to curb it should be of great interest to organizations.

8.3. Strengths, limitations, and future directions

The current research has several strengths. Theoretically, we contribute to the behavioral ethics, symbols at work, and work-life integration literatures by considering the role of the physical context (i.e., photos) and building on prior work in this domain to better understand unethical behavior in the workplace. Methodologically, we take a full-cycle micro organizational behavior approach (Chatman & Flynn, 2005) by utilizing multi-source field data and experimental findings with behavioral outcomes to demonstrate our effect across several contexts, with different tasks, and compared to different controls. Also, our field study paired employees' reports of how they personalized their workspace with their supervisor's assessment of their unethical behavior, which, to a large degree, eliminates self-desirability concerns and common method variance. Additionally, we support the rationale for our theory by testing our proposed mechanism and addressing alternative explanations. We provide further causal support for our proposed mediator by manipulating our mechanism to turn off the effect in Study 4 (Spencer et al., 2005).

Despite these strengths, our research has a number of limitations that leave room for future directions. First, we chose a very specific dependent variable, financial transgressions. Our pointed focus was driven by the link between an economic schema and transgressions involving economic outcomes, such as money, and the hefty cost of this particular unethical behavior. Although this outcome is commonly studied in the behavioral ethics literature, future work could explore our proposed effect on a broader range of unethical workplace behaviors. We also look at a specific aspect of the physical context: photographs. This particular focus is driven by its workplace prevalence, as well as recent theoretical attention given to bringing family life into the workplace (Uhlmann et al., 2013). However, future work should explore additional elements of the physical context (e.g., awards, diplomas, artwork) and explore the potential positive and negative outcomes both for organizations (e.g., performance, ethical behavior) and individuals (e.g., interpersonal relationship quality).

Second, our field study establishes correlational evidence in the real world, but leaves open the possibility of several third-variable explanations. Despite this drawback, since these ideas are rarely tested outside of the lab, we felt it was important to include a demonstration of the effect within organizations. Moreover, we addressed potential alternative explanations with our experimental designs, including tests of several potential alternative mechanisms. Nevertheless, future research could further explore these effects in organizational settings with field experiments.

Finally, future work could explore additional underlying mechanisms for this relationship and explore boundary conditions. In terms of mechanisms, we were able to address a variety of alternative explanations: innocence, legacy, other-orientation, and positive affect. However, it is always possible that other potential alternative

mechanisms play a role in the relationship. To further pinpoint the mechanism, future research could explore which aspects of non-work relationships are driving these effects, as the meaning and values communicated by particular photos may be personalized to the particular image and viewer. It may be that the schema replacing the economic schema differs by photograph selected, so future work could more pointedly direct the types of relationships in the photos and elicit particular sets of values. Additionally, it could be that some people who view photos of themselves with their children become concerned about their legacy, whereas others who view photos of themselves with their children become reminded of innocence or experience strong positive affect. Future research would need to identify whether or how these interactions that reflect how people make meaning from photos have important downstream consequences above and beyond the more general effect on decreasing unethical behavior that we demonstrate in the current research. Additionally, it would be interesting to explore whether this effect is consistent across individuals with differing levels of moral attentiveness, moral identity, work-life integration (i.e., segmenters versus integrators, Rothbard et al., 2005), or in organizations with varying ethical climates.

8.4. Conclusion

The work domain is imbued with a dominant logic of economic rationality. An unintended side effect of this reality is that individuals in organizations are more likely to view decisions through an economic lens, which is linked to unethical conduct. Scholarly research and popular press accounts that suggest that aspects of one's personal life should remain segmented from work potentially compound the problem. Our findings suggest that a more holistic existence at work,

including bringing one's personal life to the office through photos of close others, provides a useful counterbalance to the economic schema that pervades the work context that decreases in unethical conduct.

Credit authorship contribution statement

Ashley E. Hardin: Conceptualization, Methodology, Formal analysis, Investigation, Resources, Data curation, Writing - original draft, Visualization, Funding acquisition. **Christopher W. Bauman:** Conceptualization, Methodology, Formal analysis, Investigation, Resources, Data curation, Writing - review & editing, Visualization, Funding acquisition. **David M. Mayer:** Conceptualization, Methodology, Resources, Writing - review & editing, Funding acquisition.

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Appendix A

Study 3 Expense Report Task

Imagine you work for ABC organization. ABC organization is a highly profitable company. You like your job but do not always think management treats its employees fairly. For example, employees tend to get paid less than at competitor companies.

Your job requires frequent travel. At the end of every day, you report your work-based expenses from the day and are reimbursed for them. Most employees tend to exaggerate their expenses because you do not have to submit receipts for items under \$75 and no employees have been reprimanded for "over-expensing." Flights and hotels are charged to a company account so you are only responsible for reporting meals, snacks, and transportation to and from the airport.

For each item, there is a maximum amount that can be spent. The chart below shows (1) an average day of expenses for an individual in your organization, as well as (2) the maximum that can be spent on each line item:

	Company Average	Maximum Allowance
Taxi to/from airport	\$ 32.00	\$ 40.00
Breakfast	\$ 6.35	\$ 10.00
Lunch	\$ 10.25	\$ 15.00
Dinner	\$ 15.40	\$ 25.00
Snack	\$ 3.75	\$ 10.00

While getting ready to leave Monday morning, you heard there was a massive traffic jam on the highway to the airport, so you decided to take public transport, spending only \$2.50 as opposed to the usual \$35 spent on a taxi. You grabbed a coffee and bagel in the airport for \$8.25. Upon landing, your coworker picked you up from the airport in her rental car and you swung by Chipotle for lunch, and you got a burrito and chips with guacamole for \$9.50. You were quite full from lunch, so you did not have a snack during the day. The team went to dinner together at an Italian restaurant after working for the day, your portion of the bill coming to \$22.50.

Please fill out the expense report below for your Monday as described above. As an MTurk bonus, you will be receiving 1% of what you expense in this report in addition to the \$2.00 you are already receiving for doing this study. For example, if you report the maximum allowance that would come to \$100 you would receive 1% of that amount which is \$1 (and thus would receive a total of \$3 for this study).	
Taxi to/from airport	0
Breakfast	0
Lunch	0
Dinner	0
Snack	0
Total	0

Appendix B. Supplementary material

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.obhdp.2020.04.007>.

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