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Human "Resources"? Objectification at Work

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People behave differently when at work than not at work; for example, they are less interested in making close friends and use more transactional language (*networking* vs. *socializing*). These examples hint at a broader phenomenon: that people engage in more *objectification*—treating people akin to objects—in work contexts than non work contexts. We propose that objectification is more prevalent at work because people engage in more calculative and strategic thinking (i.e., making decisions by computing the costs and benefits). Seven studies ($N = 2,712$) test this. In Study 1, participants objectified the same individuals more when they were pictured at work (e.g., in an office) than not at work (e.g., in a coffee shop). In Study 2, there was more objectification when the same event was framed as more (vs. less) work-related. Studies 3a and 3b (experience-sampling studies with 2,300 data points) show that working adults objectify others more during work than non work interactions and demonstrate which situational characteristics enhance objectification. Study 4 manipulates the proposed mechanism: Participants nudged to think less calculatively and strategically showed a reduced tendency to objectify others in work contexts. Considering consequences, job applicants in Study 5 who read company mission statements containing more calculative language expected more objectification and were less interested in applying. Moreover, employees who perceived more objectification in their workplace reported more negative work experiences (e.g., feeling lower belonging, experiencing more incivility; Study 6). Together, these studies provide insight into how objectification arises, where it occurs, and its consequences.

Keywords: mindset, objectification, organizations, person perception, workplace

Supplemental materials: http://dx.doi.org/10.1037/pspi0000254.supp

"I plan to mark my retirement not with the traditional gold watch or retirement party, but by deleting my LinkedIn profile, and the 500+ vacuous 'relationships' that go with it."

—Jim L., *The New York Times*

"You can't eat the orange, and throw the peel away—a man is not a piece of fruit."

—Arthur Miller, *The Death of a Salesman*

Americans spend about nine hours at work per day (U.S. Department of Labor, Bureau of Labor Statistics, 2017), yet only 30% of them report having a "close friendship" at work (Grant, 2015). In some ways, this statistic seems puzzling because people usually develop close relationships in the places where they spend time (Bossard, 1932; Festinger, Schachter, & Back, 1950). As the opening quotes from *New York Times* reader "Jim L." and the protagonist of Arthur Miller's Pulitzer Prize–winning play *Death of a Salesman* highlight, relationships in work contexts may com-

monly feel vacuous or empty. Even the language used in work settings is more transactional than the language used in non work settings. For instance, LinkedIn calls its users *connections*, whereas Facebook calls them *friends*; meeting new people at work is considered *networking*, whereas meeting people outside of work is *socializing*.

These anecdotal examples hint at a broader psychological phenomenon, that people may be more likely to *objectify* their peers—perceiving and treating them more like objects (e.g., means to obtain profit) and less like humans (i.e., people who have agency and emotion)—in work contexts than in comparable non work contexts. We propose that one reason why people more strongly objectify their peers in work than in non work contexts is because people typically engage in more calculative and strategic thinking in these contexts, such as calculating the costs and benefits of spending time with a peer. We further suggest that objectification

is more prevalent in certain workplace organizations than in others—particularly, those that elicit more calculative and strategic mindsets—and explicate the consequences when people see and experience objectification at work. Extending from prior research showing a link between objectification and reduced well-being (Biddle, 1986; Calogero, Tantleff-Dunn, & Thompson, 2011; Cooley, 1902/1964; Harter, 1987; Mead, 1934; Moradi & Huang, 2008), we propose that objectification can undermine people's sense of belonging, in turn affecting how they feel, act, and behave in ways that can create costs for organizations and society more generally. As we show, people feel more objectified in work contexts than in non work contexts, and workplace objectification is associated with more antisocial, counternormative, and even harmful behaviors.

Objectification

Immanuel Kant defined objectification as "the lowering of a person, a being with humanity, to the status of an object" (Kant, 1797/1996, p. 209). Although much of the extant psychological literature uses the concept of objectification to understand the sexual objectification of women (for a review, see Frederickson & Roberts, 1997), objectification can also be a useful concept to understand a broader set of societal issues, such as labor relations (e.g., economic objectification; Marx, 1844/1964; see also Gruenfeld, Inesi, Magee, & Galinsky, 2008), slavery (Heath & Schneewind, 1997), prejudice (Gray, Knobe, Sheskin, Bloom, & Barrett, 2011), paternalism (Haque & Waytz, 2012; Schroeder, Waytz, & Epley, 2017), and social activism (e.g., Calogero, 2013).

We draw from the seven central features of objectification proposed by Nussbaum (1995, 1999). As Table 1 depicts, each of these features can exist in both work and non work contexts.

Among these seven features, instrumentality is considered by many scholars as the most essential feature of objectification (Orehek & Weaverling, 2017, p. 720), and therefore it is the component of objectification that has been featured most prominently in prior research (Bartky, 1990; Calogero, 2013; Dworkin, 1981; Fredrickson & Roberts, 1997; Gervais, DiLillo, & McChargue, 2014; Goldenberg, 2013; Gruenfeld et al., 2008; Marx, 1844/1964; MacKinnon, 1989; Nussbaum, 1999). However, there are also many other ways in which people treat others like objects, beyond using others only to satisfy their own goals and needs (Nussbaum, 1995, 1999). For example, dominant group members might treat members of other ethnic groups as similar and confuse them in memory (Fiske & Neuberg, 1990; Sherman, Judd, & Park, 1989; Taylor, Fiske, Etcoff, & Ruderman, 1978). As another example, viewing someone as a mere physical body can induce de-mentalization, stripping away their psychological traits (Cikara, Eberhardt, & Fiske, 2011; Gray et al., 2011).

As the aforementioned findings and examples highlight, objectification has been widely characterized and defined. In some ways, it may feel overly simplistic to categorize sexual mistreatment, domestic abuse, child trafficking, and economic commodification under the same umbrella. But from a philosophical standpoint, all these behaviors reflect a common thread: They are ways in which people treat others akin to objects (Nussbaum, 1999). Moreover, although each of the features of objectification are clearly present in both work and non work contexts, we predict that people tend to objectify others more when they are in work (vs. non work) contexts. To our knowledge, prior research has largely overlooked how situational context (e.g., work vs. non work) can influence

Table 1

The Seven Features of Objectification (With Examples in Work and Non Work Contexts)

Features of objectification: *Treating a person as . . .*	Definition	Work context example	Non work context example
Instrumental	Using a person *solely* to satisfy your purpose or needs	Talking to a coworker only because they have a resource you need	Talking to a person only to fulfill your own sexual needs
Lacking agency	Treating a person as if they cannot act, plan, and exert self-control on their own	Doubting a coworker's ability to competently execute their portion of the work	Doubting a partner's ability to competently care for the household or children
Lacking experience	Treating a person as if they cannot feel pain, pleasure, and emotions	Forgetting a coworker gets hungry and expecting them to work through lunch	Forgetting a friend gets hungry and expecting them to run errands during lunch
Lacking autonomy	Reducing a person's freedom of choice	Selecting employees' retirement plans or stock options	Making health decisions for your family
Property	Commodifying a person	Forced child labor	Child trafficking
Being fungible	Treating a person as interchangeable with another person	Substituting one employee for another with similar attributes	Substituting one sexual partner for another with similar attributes
Being violable	Disregarding a person's physical well-being	Failing to provide workers with fair labor standards (e.g., meals, breaks, overtime)	Domestic abuse

Note. Some of the above examples could exist in either work or non work contexts (e.g., sexual objectification is also found in the workplace), but we have categorized examples based on where they seem to more commonly occur based on prior research (see main text for more detail). Some of the above examples could also reflect multiple features of objectification (e.g., expecting employees to work through lunch is an example of treating employees as if they lack experience and violating their physical well-being).

objectification and how objectification, in turn, shapes people's experiences in those contexts.

Work and Non work Contexts

People spend a significant portion of their lives at work, often as members of organizations. Organizations are collective entities that are structured in a specific way to achieve a collection of shared goals (Blau & Scott, 1962; Ouchi, 1980; Pfeffer, 1998). However, regardless of whether people are physically at their jobs, their experiences during a day can fluctuate between feeling like they are in a work environment (e.g., brainstorming with work colleagues) and feeling like they are not (e.g., socializing with friends). People may interpret any situation (e.g., interaction) as a work context or a non work context based on the cues in their environment: the location and the objects in it (e.g., office vs. house), the identity of the people present (e.g., coworkers vs. friends), and the types of activities people do (e.g., attending a meeting vs. reading).

But as many scholars note, even the physical or objective elements that constitute an environment do not necessarily convey the same meaning to the people in the environment; rather, these physical cues are filtered, evaluated, and attached with meaning (e.g., Magnusson, 1981; Mischel & Shoda, 1995, 1999; Nystedt, 1981; Rauthmann, 2012; Reis, 2008). Thus, we adhere to a *psychological view of context*: To understand people, one must attend to the subjective meaning of an "objective" situation (Liberman, Samuels, & Ross, 2004; Ross, Lepper, & Ward, 2010). For example, consider a restaurant setting: For the people employed at the restaurant, this setting is more likely to be seen as a work context; for the customers, it is more likely to be seen as a non work context. And the customers at the restaurant who are meeting with clients are more likely to see it as a work context than customers who are eating with friends. In other words, even the same situation (e.g., a restaurant meeting, party) can be seen as a work context or non work context depending on how one interprets the cues in the context.

People's Mindset at Work: Calculative and Strategic Thinking

Whether people construe a situation as work-related or not can have implications for the way they behave in that situation. In one classic study, students playing the prisoner's dilemma game were more likely to defect on their partner when it was called the "Wall Street game" than when it was called the "Community game" (Liberman et al., 2004). People also behave more competitively when they believe they are in a business environment than when believe they are not (Belmi & Pfeffer, 2015; Kay, Wheeler, Bargh, & Ross, 2004). And reminders of work (e.g., money) can tempt people to behave unethically (Kouchaki, Smith-Crowe, Brief, & Sousa, 2013; Tenbrunsel & Messick, 1999; Wang, Zhong, & Murnighan, 2014).

Given these prior findings, we propose that people apply a different mindset when they believe that they are in a work context than in a non work context. Mindsets reflect people's fundamental assumptions about the world, helping people make sense of how they should behave in the situation they are in (Blackwell, Trzesniewski, & Dweck, 2007; Dweck, Chiu, & Hong, 1995; Plaks, Levy, & Dweck, 2009; Yeager & Dweck, 2012). We propose that one relevant mindset that people tend to use more in work contexts is

calculative and strategic thinking, whereby people make judgments and decisions by computing the costs and benefits of the available options (Belmi & Pfeffer, 2015, Belmi & Pfeffer, 2018; Wang et al., 2014; see also, Fiske, 1992).

People may be more likely to think calculatively and strategically in work contexts than in non work contexts for at least two reasons. First, they may believe that it is reasonable and appropriate to do so in such settings (e.g., March, 1994): In the United States, there is a widespread perception that business is solely about profit and that business people should be self-interested rational actors, constantly competing with one another in a rat race to the top (Freeman & Ginena, 2015; Freeman, Parmar, & Martin, 2016). Indeed, when asked what is necessary to succeed in the workplace, people often emphasize that one must play politics (Belmi & Laurin, 2016), engage in Machiavellian strategies (Gandz & Murray, 1980), and be calculative and strategic about forming relationships (Casciaro, Gino, & Kouchaki, 2014).

Second, these mindsets are consistently taught, reinforced, and even rewarded in many work contexts. Many scholars note that rational economic calculations occupy a central place in organizational decision-making (Wang et al., 2014) and in business education (e.g., Kreps, 2003); in the last several decades, individuals are increasingly being trained in and rewarded to solve financial (e.g., Weber, 1947), behavioral (e.g., March, 1978), strategic (Kasznik & McNichols, 2002; Powell, 1992), and even ethical dilemmas (e.g., Balot, 2001; Moore & Tenbrunsel, 2014) using deliberative and calculative methods (Scott, 2000).

We propose that calculative and strategic thinking will elicit objectification. This proposition extends prior theorizing that social interactions in work contexts tend to follow market pricing models—which involve using cost/benefit analyses, valuing objects according to the prices at which they can be sold or bought for, and viewing time as something that must be spent efficiently and effectively—more than those in non work contexts (Fiske, 1991, 1992).

Moreover, Fiske (1992) proposed that market pricing models have elicited extreme forms of objectification (which he called "egregious evils," p. 708) such as prostitution, child labor, the capture and sale of people into slavery, the killing of indigenous inhabitants to release land for economic exploitation, and colonial systems of forced labor. Whereas this prior theorizing examines forms of objectification that result when members of dominant groups adhere to market pricing models and subjugate members of subordinate groups, we instead explore in the present research how ordinary people may objectify one another regardless of the position they occupy in the organizational hierarchy.

Of course, not all work contexts elicit calculative and strategic thinking to the same degree. Some workplace organizations, like Southwest Airlines, strongly emphasize the importance of putting "staff first, your customer second, and shareholders third," even in the face of competitive pressures (Schurenberg, 2018), whereas other workplace organizations are motivated mostly by economic considerations, laying off people even when there is no pressing economic stringency (see Datta, Guthrie, Basuil, & Pandey, 2010, for a review). In considering why these mindsets seem more prominent in some workplace contexts than in others, one potential driver is how organizations write their mission statements, which articulate the organization's ultimate purpose and values (e.g., Carton, Murphy, & Clark, 2014). Mission statements not only

communicate which day-to-day behaviors are important and desirable but also reflect assumptions about the value of people and how employees should approach one another. For example, some organizations use the impersonal metaphor "Human *Resources*" to describe their employees; others, like Google, use the more personal term "People Operations Team." In this way, company mission statements may promote calculative and strategic mindsets by emphasizing the primacy of money and profits over people and community.

Even within the same organization, not all work contexts will elicit calculative thinking, and consequently objectification, to the same degree. For example, people who work together may be more susceptible to objectifying one another during certain situations (e.g., adversarial situations) than in others (e.g., workplace happy hour). non work contexts may also vary in their level of calculative and strategic thinking; for instance, dating strangers may involve more calculative and strategic thinking than seeing old friends.

To more systematically examine what specific dimensions of situations elicit more (vs. less) calculative and strategic thinking and objectification at work, we use the DIAMONDS situational taxonomy which proposes eight key dimensions of situations: Duty, Intellect, Adversity, Mating, pOsitivity, Negativity, Deception, and Sociality (Rauthmann et al., 2014). Table 2 summarizes our working model for how each situational dimension might relate to objectification. As summarized in Table 2, we suspect that people may be more likely to objectify their peers when they

believe that their primary and most important goal is getting things done (High Duty); when people have limited opportunities to engage intellectually with others (Low Intellect); when people perceive their situation as containing threats, problems, and conflict (High Adversity); when potential romantic partners are present (High Mating); when situations are unpleasant or anxiety-inducing (Low pOsitivity, High Negativity); when people believe that their peers could be lying or deceptive (High Deception); and when people believe they are in situations in which warmth or social interaction are not very important (Low Sociality).

Consequences of Objectification at Work

Objectification does not necessarily have only detrimental consequences (Nussbaum, 1999; Orehek & Forest, 2016). For example, relationships characterized by greater instrumentality—one component of objectification—tend to be stronger and closer than those that are not (Fitzsimons & Fishbach, 2010). More simply, people appreciate those who help them satisfy their goals (Converse & Fishbach, 2012; Fitzsimons, Finkel, & vanDellen, 2015; Orehek & Weaverling, 2017). Being approached by others because one has useful skills can make people feel good about themselves. At times, some people may even voluntarily seek out objectifying experiences, for instance by consenting to be treated as sexual objects (Orehek & Forest, 2016).

Table 2
Proposed Situation Dimensions of Objectification

Situation dimension	Definition	Proposed association with objectification	Rationale and examples of supporting literature
Duty	Situations in which things must get done	Positively associated with objectification	When people have an active goal, they tend to engage only with people and things that facilitate the completion of that goal (e.g., Gruenfeld, Inesi, Magee, & Galinsky, 2008).
Intellect	Situations involving opportunities for intellectual engagement	Negatively associated with objectification	When people are intellectually engaged with others, they pay close attention to other people's thoughts and ideas (e.g., Epley & Waytz, 2010).
Adversity	Situations containing threats, problems, and conflicts	Positively associated with objectification	When self-worth is threatened, people may respond by dehumanizing and derogating others (e.g., Fein & Spencer, 1997).
Mating	Situations in which potential romantic partners are present	Positively associated with objectification	When potential partners are present, sexual goals may become active, enhancing objectification (e.g., Bargh, Raymond, Pryor, & Strack, 1995).
Positivity	Situations which are relatively pleasant	Negatively associated with objectification	When people enjoy their interactions with others, they desire to get to know others at a deeper level (e.g., Aronson & Worchel, 1966; Eastwick & Finkel, 2009).
Negativity	Situations which are relatively unpleasant	Positively associated with objectification	People tend to dehumanize those who they dislike (e.g., Kteily, Bruneau, Waytz, & Cotterill, 2015).
Deception	Situations in which peers could be lying or deceptive	Positively associated with objectification	People tend to dehumanize those that they believe could be untrustworthy (e.g., Kouchaki, Dobson, Waytz, & Kteily, 2018).
Sociality	Situations in which warmth and sociality are valued	Negatively associated with objectification	People become more attuned about others' thoughts and feelings when they have opportunities to establish social connection with those others (e.g., Epley, Akalis, Waytz, & Cacioppo, 2008).

In the context of the present investigation, however, we propose that there are *negative* consequences when people feel objectified at work. There are several distinctions between our proposal and the prior research demonstrating beneficial outcomes of objectification. First, being treated instrumentally can improve well-being when people explicitly consent to being used in service of a goal. But although people do consent to join organizations because they want to feel useful and *be used* for their skills, they do not (typically) consent to all aspects of objectification, such as being denied autonomy, treated as interchangeable with other employees, treated as lacking thoughts and feelings, and so on. Second, people often join organizations not only to work but also to fulfill other psychological needs, such as to build social relationships, feel respected, and have autonomy (Baumeister & Leary, 1995; Good, Rattan, & Dweck, 2012). Whereas the instrumental aspect of objectification may help to fulfill certain needs (e.g., feeling useful and productive), being treated instrumentally is unlikely to satisfy these other goals.

We therefore propose that when people feel that they exist in organizations *only* to be perceived and treated as objects, they will believe that their workplace does not accord them the respect that they deserve and feel less inclined to internalize norms of good conduct and to act on its behalf (e.g., Tyler & Lind, 1992). As has been documented extensively in prior research, people feel that they are entitled to be treated in a way that fosters their positive self-regard and when they believe that their entitlement to respectful treatment has been denied, they tend to retaliate (e.g., for a review see Miller, 2001).

Building on this idea, we test whether the experience of objectification at work can help explain an important societal and organizational problem: the employee engagement crisis (Mann & Harter, 2016). Only 30% of employees across the United States are engaged with their work; worldwide, that statistic is estimated to be at 13% (Mann & Harter, 2016). The majority of people at work feel dissatisfied with their jobs, are actively looking for better employment opportunities, and are not actively participating in promoting the well-being of their institutions (Grant & Berg, 2011). Moreover, rudeness at work is common and on the rise (Pearson, Andersson, & Porath, 2005); these behaviors have both psychological consequences for employees and financial consequences for organizations (e.g., Pearson & Porath, 2009).

We hypothesize that these problems—specifically, lower job satisfaction and prosociality, and higher incivility and intentions to leave—are tied to objectification. Moreover, we theorize that objectification undermines employee engagement by thwarting people's sense of belonging—the sense that they are valued and accepted in their social environment (Baumeister & Leary, 1995; Good et al., 2012). To the extent that this is true, our theoretical account may help explain the employee engagement crisis and why organizations today feel less communal and more transactional.

Overview of Hypotheses and Studies

Our model makes the following predictions. First, people are more likely to objectify others in work contexts compared with non work contexts (H1). Second, this effect emerges because people are more likely to think calculatively and strategically in work (vs. non work) contexts (H2). This further suggests that situational characteristics that enhance calculation (e.g., stronger levels of duty) should enhance objectification (H3a) and that organizations that promote more calculative mindsets (e.g., via their mission statements) should create more objectification (H3b). Third, seeing and experiencing more objectification in an organization will result in a lowered sense of belonging, undermining employees' sense of their intrinsic value (H4a). This reduced belonging creates more incivility, less prosociality, lower job satisfaction, and higher desire to leave (H4b). It should also lead individuals to be less interested in working for organizations that appear more objectifying (H4c).

To test H1 and H2, Study 1 manipulates photographs of the same set of target individuals to make them appear as though they are at work (e.g., office) or not (e.g., coffee shop) and subsequently measures viewers' intent to be calculative and strategic in how they would approach that person if they were in that environment, as well as their objectification of the target. Study 2 establishes that the psychological perception of the situation more strongly elicits calculative thinking and objectification than the physical or objective elements of the environment. Specifically, Study 2 tests whether people can be in the same event (i.e., a social hour) but construe others in a more or a less objectifying way when the event feels more (vs. less) work-related to them.

Study 3a further examines H1 and H2 in a more externally valid context by using an experience-sampling paradigm across seven days. It tests whether working adults report objectifying others more during work than non work interactions, measures calculative and strategic mindset as our predicted mediator, and examines alternative mechanisms. Study 3b provides a preregistered replication and uses the DIAMONDS framework (Rauthmann et al., 2014) to systematically examine what kinds of work situations elicit more (vs. less) objectification (testing H3a). Both Study 3a and 3b also provide the opportunity to explore whether our predicted effects are moderated by features of the organization (e.g., size, industry). Study 4 provides further evidence of the underlying mechanism by manipulating the proposed mediator (e.g., calculative mindset) directly, testing whether inducing people to think less instrumentally reduces their tendency to objectify others in work contexts (H1 and H2).

Studies 5 and 6 focus on understanding the consequences of perceiving objectification in the workplace. Study 5 tests H3b and H4c by presenting job-seekers with real companies' mission statements varying in their calculative language. It examines how the mission statements' language affects people's subsequent expected objectification and interest in applying to work at those companies. In Study 6, we surveyed full-time working adults using a multi-wave study and asked them about the extent to which objectification happens at their work, testing whether these perceptions undermine their attitudes at work (H4a, H4b).

For all studies, we report how we determined our sample size, all data exclusions, all manipulations, and all measures. To improve the construct validity of how we measure objectification, we draw on previously validated scales used in other research as well as newly-created, face-valid measures that we developed to capture the different elements of objectification across each study. Across studies, these different measurement techniques for objectification yield converging results. All studies were preregistered except for Study 3a because it was run prior to when preregistration platforms were publicly available. All data and materials are posted and publicly available on OSF at https://osf.io/cbmjy/.

Study 1: Evaluating Individuals in Work and Non Work Contexts

We manipulated the background of several photographs of multiple individuals to make it appear as though they were in a work or non work context. Then we asked participants to imagine interacting with the target person in the depicted context. We predicted that people would objectify the target individual more when they imagined interacting with the target in a work versus a non work context and that this effect would be mediated by calculative and strategic thinking.

Method

We preregistered our predictions and analysis plan for this study before conducting data analysis (see: https://aspredicted.org/ja6ir .pdf).

Participants.   We predetermined a sample size of 200 participants, which would yield 600 data points, providing adequate statistical power to detect a medium-sized effect given our design. In total, 203 individuals from Amazon Mechanical Turk participated in this experiment in exchange for $1.50 each. See Table 3 for a more comprehensive description of the demographic characteristics of participants across studies.

Design.   We used a mixed-model design in which participants viewed six photographs of six different individuals in sequential order; each photograph was either situated in a work or non work context but the target individual was always the same regardless of context condition.

Procedure.   This study conducts a controlled test of our hypothesis while also capitalizing on the use of multiple stimuli to increase generalizability (Judd, Westfall, & Kenny, 2012). We

Table 3

Distribution of Participants Across Studies

Category	Study 1[a]	Study 2[a]	Study 3a	Study 3b	Study 4[a]	Study 5[a,b]	Study 6[b]
Gender							
Male	63%	58%	31%	51%	61%	61%	57%
Female	37%	42%	68%	49%	39%	39%	43%
Ethnicity							
African American	12%	11%	12%	6%	13%	14%	6%
White American	75%	74%	73%	57%	67%	69%	79%
Asian American/Pacific Islander	6%	6%	7%	23%	9%	9%	9%
Latino American	3%	8%	7%	11%	8%	4%	5%
Native American	4%	<1%	1%	1%	1%	3%	<1%
Other	0%	0%	0%	3%	2%	<1%	2%
Income							
Greater than $200,000			4%	2%			<1%
$180,001–$200,000			3%	1%			1%
$160,001–$180,000			3%	2%			1%
$140,001–$160,000			5%	3%			2%
$120,001–$140,000			5%	3%			2%
$100,001–$120,000			7%	8%			6%
$80,001–$100,000			11%	18%			12%
$60,001–$80,000			22%	18%			22%
$40,001–$60,000			24%	23%			30%
$20,000–$40,000			14%	20%			20%
Less than $20,000			2%	3%			4%
Education							
Graduate/Professional degree			27%	19%	17%		24%
College degree			48%	56%	41%		50%
Some college			21%	19%	29%		19%
High school			4%	6%	12%		6%
Some high school			0%	0%	1%		0%
Rank at work							
Senior/Executive management			10%	2%	4%		4%
Middle management			20%	18%	15%		14%
Line management			21%	24%	20%		27%
Nonmanagement			48%	56%	59%		56%
Organization type							
Government or public institution			18%	21%	14%		20%
Private business			70%	73%	78%		70%
Private nonprofit organization			12%	5%	6%		10%
Age							
M age	33.75		37.93	38.06	36.59	35.21	38.90
SD age	10.47		10.03	9.75	11.63	10.81	10.11

[a] Questions about income, education, rank at work, and organization type were not collected in Studies 1, 2, and 5. We did not ask about age in Study 2.   [b] In Study 5, income was measured using a 12-point scale. Income distribution was as follows: 1) Less than $10,000 (12%); 2) $10,000–$19,999 (11%); 3) $20,000–$29,999 (17%); 4) $30,000–$39,999 (14%); 5) $40,000–$49,999 (12%); (6) $50,000–$59,999 (12%); 7) $60,000–$69,999 (6%); 8) $70,000–$79,999 (7%); (9) $80,000–$89,999 (4%); 10) $90,000–$99,999 (2%); (11) $100,000–$149,999 (5%); (12) Greater than $150,000 (1%). In Study 6, we took the same 11-item scale from Studies 3a and 3b and expanded it into 16 response categories (1 = *less than 20,000*, 16 = *greater than 300,000*); only three people in that study reported an income of greater than $200,000.

purchased six stock photos, each containing a different person pictured on a white background. Then, we edited the background of each photo to create two versions. In one version we made it appear that the person was in a work context (e.g., the office); in the other we made it appear that the person was in a non work context (e.g., a park; all stimuli are available on OSF). To increase generalizability, we used different backgrounds (e.g., office, park, home) and targets (e.g., men, women, members of ethnic majority and minority groups) in our stimuli.

We then recruited participants for a study on the "science of social perception." We told participants that they would see a series of six photographs, each containing a different person, and that they would imagine interacting with the person in the photo as if they were in that environment and answer a few questions. After consenting to participate, participants viewed the first photo (either the work-context version or the non work-context version depending on assignment to condition; see Figure 1 for an example). Then participants imagined interacting with the target person in the depicted context and answered our main dependent measures (described below). This process repeated until they evaluated six photos.

Measures. The questions appeared below each photo. Participants answered them using a scale from 1 (*strongly disagree*) to 7 (*strongly agree*).
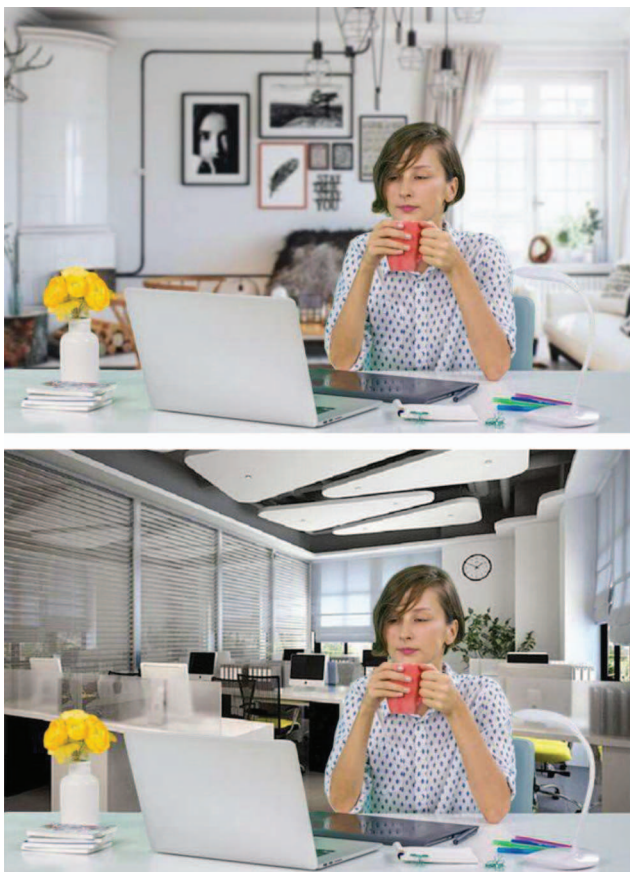

Figure 1. One of the six individuals used in Study 1 stimuli depicted in a non work context (top panel) and a work context (bottom panel). See the online article for the color version of this figure.

Calculative and strategic mindset. First, participants rated their agreement with two statements adapted from previous research (Belmi & Pfeffer, 2015): "If I were in this kind of environment, I would behave strategically" and "If I were in this kind of environment, I would behave calculatively." These two items were correlated, *r*s range = .64 to .84,[1] and thus combined to form an index for calculative and strategic thinking.

Objectification. Second, participants rated their agreement with five statements about the person in the photograph (adapted from Andrighetto, Baldissarri, & Volpato, 2017): (a) "This person could be an instrument for accomplishing things"; (b) "This person could be a tool to get things done"; (c) "This person could be used to accomplish goals"; (d) "This person could serve as a means to an end"; and (e) "This person could be disposable once he/she is no longer useful." These five items achieved high reliability, αs_{range} = .81 to .87, and thus were combined to form an index for objectification. (We used this measure because it was previously validated and note that the items in this measure incorporate many, although not all, of the different features of objectification outlined in our theory. Our measures of objectification used in later studies more comprehensively measure all features of objectification).

Controls. After answering our main dependent measures, we asked participants to answer additional measures that we intended to control for in our robustness tests to rule out alternative explanations. The first alternative explanation that we sought to address was mood. Specifically, because previous research suggests that feelings of loneliness (Waytz & Epley, 2012) and power (Gruenfeld et al., 2008) can influence people's propensity to objectify others, we asked participants "how much the photograph made them feel lonely" and "how much the photograph made them feel powerful." Both questions were accompanied by a 7-point Likert scale (1 = *strongly disagree*, 7 = *strongly agree*).

The second alternative explanation that we sought to address was that our manipulations would affect the general inferences that people would make about the targets in the photo. To control for this possibility, we asked participants the following questions: (a) "Would you say that the person in the photo is . . ." (1 = *working class*, 2 = *lower-middle class*, 3 = *middle class*, 4 = *upper-middle class*, 5 = *upper class*); (b) "Is this person physically attractive?" (1 = *not at all*, 2 = *a little*, 3 = *somewhat*, 4 = *quite*, 5 = *very*); (c) "In general, do you think people respect him/her?" (1 = *definitely not*, 2 = *probably not*, 3 = *unsure*, 4 = *probably*, 5 = *definitely*); (d) "Do you think this person is powerful?" (1 = *not at all*, 2 = *a little*, 3 = *somewhat*, 4 = *quite*, 5 = *very*); and (e), "How much do you like this person, simply from looking at him/her?" (1 = *not at all*, 2 = *a little*, 3 = *somewhat*, 4 = *quite*, 5 = *very*). We chose these measures because research suggests that people tend to objectify lower-status individuals (Brownlow, 1998; Fast, Halevy, & Galinsky, 2012) as well as those who are more physically attractive (Gurung & Chrouser, 2007).

Finally, as outlined in our preregistration, we also included a set of exploratory questions to help us understand the characteristics of our background manipulations. Specifically, we asked participants the following questions: (a) "This place looks like . . ." (1 =

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[1] To account for nonindependence, we computed zero-order correlations at the stimuli level—that is, we computed inter-item correlations for each stimulus.
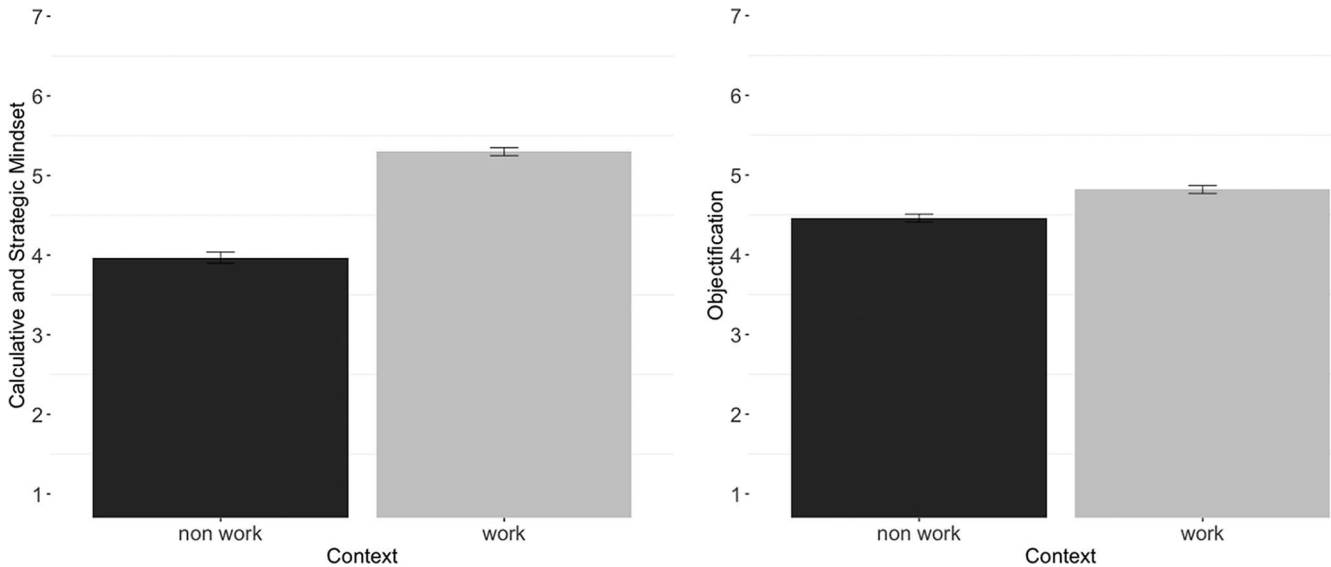
Figure 2. The effect of context on objectification (left panel) and calculative and strategic mindset (right panel) in Study 1. Error bars represent the standard error around the mean.

a working class context, $2 = a$ middle class context, $3 = an$ upper-class context); (b) "Would you say that this is a casual environment or a formal environment?" (1 = *definitely more casual*, 2 = *neither casual nor formal*, 3 = *definitely more formal*); (c) "How attractive does this physical space look?" (1 = *not at all*, 2 = *a little*, 3 = *somewhat*, 4 = *quite*, 5 = *very*); (d) "Would people feel comfortable interacting in this space?" (1 = *not at all*, 2 = *a little*, 3 = *somewhat*, 4 = *quite*, 5 = *very*); and (e) "Overall, how much do you like this space?" (1 = *not at all*, 2 = *a little*, 3 = *somewhat*, 4 = *quite*, 5 = *very*).

Results

Preliminary analysis. Before testing our hypotheses, we sought to verify whether our items were measuring distinct theoretical constructs. Because participants rated six different stimuli, we calculated the average score for each item on the calculative and strategic mindset scale and each item on the objectification scale. We then conducted a factor analysis with varimax rotation. There were two separate factors accounting for 61% of the total variance (loadings: calculative thinking = .72 to .98; objectification = .33 to .90),[2] suggesting that our mediator and outcome variables are empirically distinct.

Main results. To account for the nested nature of our data, we conducted all analyses using multilevel modeling. As outlined in our preregistration, we first ran basic tests in which we regressed each of our dependent variables on context as a fixed effect (0 = *non work*, 1 = *work*), and participant and stimuli as random effects (Judd et al., 2012). Main results are visualized in Figure 2.

As can be seen in Figure 2, participants viewed targets in a more utilitarian and objectifying way when the targets appeared in a work context ($M = 4.82$, $SD = 1.24$) than when the same targets appeared in a non work context ($M = 4.46$, $SD = 1.31$), $b = .43$, $t(1042) = 9.20$, $p < .001$, 95% CI [.34, .52]. Furthermore, participants intended to think in a more calculative and strategic way

when they saw work contexts ($M = 5.30$, $SD = 1.31$) than non work contexts ($M = 3.97$, $SD = 1.73$), $b = 1.46$, $t(1094) = 19.71$, $p < .001$, 95% CI [1.31, 1.60].

To test whether calculative and strategic mindset mediated the effect of context on objectification, we conducted a bias-corrected bootstrap mediation (5,000 iterations). The confidence interval excluded zero, 95% CI [.38, .51], indicating significant mediation.

Robustness tests. We next tested the robustness of these effects using three additional sets of ratings. First, we controlled for participants' reactions to the photographs. Participants felt lonelier, $b = .22$, $t(1056) = 2.85$, $p < .001$, 95% CI [.07, .36], and more powerful, $b = .29$, $t(1055.13) = 3.89$, $p < .01$, 95% CI [.15, .44], after viewing photographs of targets in work contexts ($M_{loneliness} = 3.54$, $SD_{loneliness} = 1.84$; $M_{power} = 4.03$, $SD_{power} = 1.83$) than targets in non work contexts ($M_{loneliness} = 3.32$, $SD_{loneliness} = 1.85$; $M_{power} = 3.78$, $SD_{power} = 1.89$). However, as Table 4 shows, all of our results remained robust after controlling for these affective states.

Second, we controlled for target ratings. Our context manipulations did not affect the extent to which the target was seen as attractive, respected, powerful, or likable ($ps_{range} = .12$ to .81), but did make targets seem to have higher socioeconomic status, especially when they appeared in non work contexts ($M = 3.35$, $SD = .95$) than in work contexts ($M = 3.24$, $SD = .98$), $b = -.10$, $t(1107.53) = -2.19$, $p = .03$, 95% CI [−.19, −.01]. However, as Table 4 shows, our results remained robust even after controlling for these additional target ratings.

Third, we controlled for photograph ratings. Both non work and work context background photos were generally seen as reflecting

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[2] Unexpectedly, one item did not meet the recommended loading cutoff of .40 ("This person could be disposable once he/she is no longer useful"). We decided to keep this item because (a) removing it in the composite did not change any of our results and (b) in an exact replication of this study ($N = 100$), this item loaded as intended. (The results also replicated.).

Table 4
Summary of Key Results in Study 1

Control	Dependent variable		Test of indirect effects
	Objectification	Calculative thinking	
None	$b = .43$, $t = 9.20^{***}$	$b = 1.46$, $t = 19.71^{***}$	[0.38, 0.51]
Affect only	$b = .37$, $t = 8.06^{***}$	$b = 1.33$, $t = 18.74^{***}$	[0.3, 0.42]
Target ratings only	$b = .44$, $t = 9.66^{***}$	$b = 1.37$, $t = 16.99^{***}$	[0.35, 0.48]
Affect + Target ratings	$b = .39$, $t = 8.55^{***}$	$b = 1.26$, $t = 16.36^{***}$	[0.3, 0.42]
Background ratings	$b = .29$, $t = 5.20^{***}$	$b = 0.99$, $t = 11.80^{***}$	[0.26, 0.38]

Note. Affect, target, and background $b = .25$, $t = 4.55^{***}$, $b = .89$, $t = 11.02^{***}$ [0.2, 0.31].
$^{***} p < .001$.

middle class contexts ($M_{overall} = 2.16$, $SD_{overall} = .64$), $b = .05$, $t(1163.95) = -1.36$, $p = .17$, 95% CI $[-.11, 0.02]$. However, work contexts were seen as *more formal* ($M_{work} = 2.36$, $SD_{work} = .75$ vs. $M_{non\ work} = 1.60$, $SD_{non\ work} = .76$) $b = .78$, $t(1160) = 19.08$, $p < .001$, 95% CI $[.70, .86]$, *less attractive* ($M_{work} = 3.26$, $SD_{work} = 1.08$ vs. $M_{non\ work} = 3.79$, $SD_{non\ work} = .88$) $b = -.55$, $t(1144.19) = -10.49$, $p < .001$, 95% CI $[-.65, -.44]$, *less comfortable* ($M_{work} = 3.30$, $SD_{work} = .99$ vs. $M_{non\ work} = 3.85$, $SD_{non\ work} = .87$) $b = -.61$, $t(1115.96) = -12.88$, $p < .001$, 95% CI $[-.71, -.52]$, and *overall less desirable* ($M_{work} = 3.17$, $SD_{work} = 1.12$ vs. $M_{non\ work} = 3.80$, $SD_{non\ work} = .89$) $b = -.66$, $t(1117.03) = -13.01$, $p < .001$, 95% CI $[-.76, -.56]$, than non work contexts. As Table 4 shows, all of our effects also remained robust even when we controlled for these ratings.

Discussion

Overall, these data provide evidence that people view targets in a more utilitarian and objectifying way when those targets are situated in a work (vs. non work) context because work contexts elicit more calculative and strategic thinking. By using multiple stimuli and by measuring and accounting for a comprehensive set of alternative explanations, we also gained confidence in the robustness of our underlying mechanism. Although physical work locations differed on a number of dimensions than non work locations (e.g., formality, comfortableness), we think that greater objectification in work (vs. non work) contexts results more from the subjective perception of the context and the assumptions of how people are supposed to interact in those environments—being more calculative and strategic at work—than from properties of the locations themselves. Study 2 tests this prediction more directly.[3]

Study 2: A Social Hour That Is Work-Related or Not

Study 2 provides an even more controlled test of our hypothesis: We selected one event (i.e., a social hour) and manipulated the expected purpose of the event to make it seem more (vs. less) work-related. To show that it is the psychological perception of the situation as opposed to the physical property of the context that drives objectification, we independently manipulated the purpose of the event (more vs. less work-related) and where the event would be held (in a work office or home). We expect that, regardless of the physical location, an event that is more (vs. less) work-related would elicit a stronger calculative and strategic mindset, and hence more objectification.

Method

We preregistered our predictions and analysis plan for this study before collecting data (see: https://aspredicted.org/cd7wy.pdf).

Participants. We predetermined a sample size of 400 participants, providing adequate statistical power to detect a medium-sized effect. In total, 402 individuals from Amazon Mechanical Turk participated in this experiment in exchange for $0.50 each (see Table 3 for demographics).

Design. We used a 2 (Context: Work vs. non work) × 2 (Physical Location: Home vs. Office) between-subjects experimental design.

Procedure. Participants were asked to imagine that they had been working for a few months at a new office job where the environment is busy and fast-paced. One day, their co-worker came by and invited them to a social hour that she was organizing on Friday. Half of the participants read that this social hour was taking place at their coworker's *home*; the remaining participants read that it was taking place in one of the larger *conference rooms*.

Next, we manipulated the nature of the social hour. In the *non work-framing condition*, participants read: "You have never attended one of these events before, so you ask what it is about. *She says that although a few people talk about ongoing business and workplace issues, most people use the time to get to know each other on a more personal level.*" In the *work-framing* condition, participants read the opposite: "You have never attended one of

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[3] In a separate study, we also tested three alternative possibilities as to why objectification may be more prevalent at work. First, people may simply have more goals in work than non work contexts, eliciting more goal-oriented cognitions in these contexts which might enhance objectification. Second, people's goals in work contexts may be more important than their goals in non work contexts; if this is true, then they may be more inclined to treat others as objects to achieve those goals (Fitzsimons & Shah, 2008). Third, people's goals in work contexts may require more coordination with others, and utilization of others, than their goals in non work contexts; if so, then there is more potential to objectify in work contexts than in non work contexts. To examine these possibilities, we conducted an online survey of employed individuals, which assessed them about their goals in work contexts and non work contexts ($n = 195$; see Supplemental Study S1 in the online supplemental materials for details). People did not list more goals in work contexts; in fact, they listed marginally fewer goals in work ($M = 5.13$, $SD = 2.48$) than non work contexts ($M = 5.82$, $SD = 2.60$), $t(193) = 1.90$, $p = .059$, $d = 0.27$. People also rated their work goals as similarly important as their non work goals, were similarly committed to achieving both, and cared similarly about them.

these events before, so you ask what it is about. *She says that although a few people use the time to get to know each other on a more personal level, most people use the time to talk about ongoing business and workplace issues.*" After reading the vignette, participants answered our main dependent variables, which we describe below.

Calculative and strategic mindset. We used the two items from Study 1, slightly modified to fit the context of this study: [The people attending this event will behave . . .] (a) "strategically"; (b) "calculatively" (1 = *strongly disagree; 7 = strongly agree; r = .79*).

Objectification. Next we assessed anticipated objectification, captured in five different ways. First, per our preregistration plan, we developed a seven-item measure to capture all seven features of objectification (per Nussbaum, 1999): [Assuming you decide to go to this event, how likely is it that you would . . .] (a) "spend time interacting with *only* those who are directly useful to you?" [instrumentality]; (b) "respect people's capacity to think for themselves?" [reverse-scored; denial of autonomy]; (c) "treat people as though they are replaceable?" [fungibility]; (d) "respect people's boundaries?" [reverse-scored; violability]; (e) "treat people as though they can be bought and sold?" [ownership]; (f) "not genuinely care about people's thoughts and feelings?" [denial of subjectivity]; (g) "make an attempt to truly understand people's concerns?" [reverse-scored; inertness]. We averaged these items (α = .85), with higher scores reflecting greater intent to objectify others.

Second, participants answered three items (α = .91) that assessed *how much they desire to connect with others* during the event: [At this event, how likely is it that you would . . .] (a) "want to connect with others on a deep level?"; (b) "want to exert effort to genuinely get to know others' thoughts and feelings?"; and (c) "want to be close to others?." We reverse-coded all three items so that higher scores reflect a lower desire to connect with others.

Third and fourth, participants indicated *how often they think they would feel objectified at this event* (1 = *never,* 7 = *all of the time*) and *how often they think they would objectify others at this event* (1 = *never,* 7 = *all of the time*).

Fifth, participants answered four items (α = .92) that assessed their *anticipated sense of belonging*: [An event like this would make me feel . . .] (a) "like I belong," (b) "like I fit in," (c) "connected to others," (d) "respected" (1 = *strongly disagree; 7 = strongly agree*). We reverse-coded all four items, so that higher scores reflect lower anticipated sense of belonging (i.e., greater anticipated objectification).

Per our preregistered analysis plan, we standardized all five measures and averaged them (α = .77) to form a composite for anticipated objectification. We use this overall composite in our main analysis, but also conducted exploratory analyses in which we analyzed each measure separately. We found robust effects across each individual measure (see Table 5).

Results

To analyze our data, we regressed our dependent variables on context (contrast-coded: −1 = *non work,* 1 = *Work*), physical location (contrast-coded: −1 = *Home,* 1 = *Office*), and their interaction. As can be seen in Table 5, there was a main effect of context on calculative thinking, b = .52, $t(398)$ = 8.50, p < .001:

Table 5
Summary of Results in Study 2

Dependent variable	Main effect of context	Main effect of physical location	Context × Physical Location interaction
Composite measures			
Calculative thinking	b = 0.52, $t(398)$ = 8.50, p < .001***	b = 0.11, $t(398)$ = 1.81, p = .07[†]	b = 0.06, $t(398)$ = 1.04, p = .30
Anticipated objectification	b = 0.16, $t(398)$ = 4.42, p < .001***	b = 0.05, $t(398)$ = 1.40, p = .16	b = −0.02, $t(398)$ = −0.45, p = .65
Individual measures			
Seven-item objectification measure[a]	b = 0.14, $t(398)$ = 2.40, p = .02*	b = 0.05, $t(398)$ = 0.96, p = .34	b = −0.03, $t(398)$ = −0.57, p = .57
Desire to connect[a]	b = 0.28, $t(398)$ = 4.16, p < .001***	b = 0.06, $t(398)$ = 0.88, p = .38	b = −0.08, $t(398)$ = −1.12, p = .26
Expectation of being objectified	b = 0.31, $t(398)$ = 3.74, p < .001***	b = 0.05, $t(398)$ = 0.57, p = .57	b = 0.02, $t(398)$ = 0.20, p = .84
Inclination to objectify others (one item)	b = 0.18, $t(398)$ = 2.09, p = .04*	b = 0.10, $t(398)$ = 1.21, p = .23	b = 0.01, $t(398)$ = 0.13, p = .90
Anticipated sense of belonging[a]	b = 0.20, $t(398)$ = 3.37, p < .001***	b = 0.08, $t(398)$ = 1.38, p = .17	b = −0.02, $t(398)$ = −0.27, p = .79

[a] Items were reverse-scored so that higher scores reflect higher anticipated objectification (i.e., lower desire to connect with others and lower anticipated sense of belonging).
[†] p < .10. * p < .05. *** p < .001.

Participants believed that attendees would be more inclined to think calculatively and strategically when the social hour was framed as a work event ($M = 5.21$, $SD = 1.10$) than a non work event ($M = 4.17$, $SD = 1.36$). We also found a main effect of context on anticipated objectification, $b = .16$, $t(398) = 4.43$, $p < .001$: Participants reported they would view others in a more utilitarian and objectifying way (and expected others to do the same) when the social hour was framed as a work event ($M = .15$, $SD = .75$) than a non work event ($M = -.16$, $SD = .66$). In both cases, neither the main effect of physical location ($ps > .07$) nor the Context × Physical Location interaction achieved significance ($ps > .26$). Finally, a bias-corrected bootstrap (5,000 iterations) revealed that calculative mindset mediated the effect of context on anticipated objectification (95% CI [.07, .14]).

Discussion

Overall, these results provide further support for our hypothesis that people view targets in a more utilitarian and objectifying way when they believe that they are in a work context than a non work context. Furthermore, consistent with our psychological view of contexts (e.g., Ross et al., 2010), these data suggest that people's calculative thinking and anticipated objectification tend to depend more on their construal of the situation than on the physical, objective location. This contributes to deeper understanding of Study 1's results: Objectification is higher when a target person is depicted in a work than non work location, not because of specific characteristics of the location itself but because of (reasonable) inferences that the interaction is supposed to be more work-related in the work location.

Study 3a: Field Study With Working Adults

To test our predictions using an ecologically valid method, we gathered data on the interactions of full-time working adults by texting them twice a day for one week. We expected that people would objectify others more during their work interactions than non work interactions because they think more calculatively and strategically at work. To examine alternative explanations, we measured relationship closeness, pleasantness of the interaction, and multiple demographic, personality, and work-related variables that could plausibly contribute to people's propensity to objectify others. We predicted that the effect of context on objectification would remain robust even after controlling for these variables.

Method

Participants. We predetermined to recruit one hundred full-time working adults for this study, which would allow us to detect a small effect size. To reach this target, we recruited participants from a subject pool maintained by Stanford University and from Qualtrics, a third-party online panel company. A total of 171 individuals indicated interest in participating and completed our initial intake survey. Of these 171 individuals, 154 (90.06%) participated in the experience sampling portion of the study. There were no differences in gender ($p = .83$), age ($p = .39$), or work experience ($p = .79$) between those who did and did not complete the study. In the analyses below, we report the results only for these 154 participants (see Table 3 for demographics) who partic-

ipated in both the intake phase and the experience sampling phase in exchange for $20 each.

Procedure. We first asked participants to complete an intake survey about their work, personality, and demographic characteristics (measures described below). A few days after completing the intake survey, we conducted the experience sampling phase. We designed the procedure to track each participant's daily activities, gathering data on their interactions, and sampling across a wide range of naturally occurring work and non work situations, which would provide a test of our predictions in a design with high ecological validity. For seven days, we sent text alerts twice per day to our participants between the hours of 7 a.m. and 9 p.m. The alerts arrived via text message, and contained a link directing participants to an online questionnaire.

This questionnaire aimed to assess whether participants were interacting with others at that time. If the participant answered "no," the survey ended. If they answered "yes," we asked participants to answer additional questions about the interaction.

During the intake session, we instructed participants to respond as quickly as they could to each alert. The median delay in responding to our text alerts was nine minutes, suggesting that people probably finished the activity in which they were engaged (e.g., finished their conversation), before completing the survey. For the 2,156 alerts we sent (14 alerts × 154 participants), we received 1,936 responses, indicating a high response rate (89.80%). Put differently, participants responded to an average of 12.57 alerts (out of a possible 14; $SD = 2.39$). The median completion time for each response was 2.24 min.

Intake survey measures.

Personality controls. To control for individual differences that might be associated with objectification in our analyses, we measured the following: (a) personality traits using the *Short Big Five Personality Questionnaire* (Rammstedt & John, 2007), which contained measures of openness, conscientiousness, extraversion, agreeableness and neuroticism; (b) social desirability using the *Social Desirability Scale-17 Questionnaire* (SDS-17; Stöber, 2001), which measures the participants' propensity to respond in a socially desirable manner; and (c) loneliness using the 3-item *Loneliness Scale* (Russell, 1996), which measures the participants' overall loneliness and has been linked to dehumanizing attitudes toward others (e.g., Waytz & Epley, 2012).

Demographic controls. We measured age; ethnic status ($0 = ethnic minority$, $1 = white$); gender ($0 = male$, $1 = female$); educational attainment ($1 = some high school$, $5 = professional/ graduate degree$); income ($1 = less than \$20,000 a year$, $11 = greater than \$200,000 a year$); subjective social class ($1 = at the very bottom$, $10 = at the very top$; see Adler, Epel, Castellazzo, & Ickovics, 2000); political orientation ($1 = very liberal$, $5 = very conservative$); and the subject pool that we used to recruit the participant ($0 = university subject pool$, $1 = Qualtrics panel$). We measured several indices of status (ethnic status, age, income, subjective class) because prior research suggests that status may affect objectification of others (Gruenfeld et al., 2008).

Employment profile controls. We asked about the respondent's rank at work (another index of status; $1 = nonmanagement$, $2 = line management$, $3 = middle management$, $4 = executive management$), which has been shown to relate to objectification (e.g., Gruenfeld et al., 2008); work experience ($0 = less than a year$, $10 = 10 or more$); wage structure ($0 = hourly$, $1 = salary$);

Table 6
Descriptive Statistics and Zero-Order Correlations of Measured Variables in Study 3a

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1. Ethnic status	—	—																								
2. Gender	—	—	-.06																								
3. Sample	—	—	-.01	.09																							
4. Age	37.93	1.03	.11	-.03	.25																						
5. Political orientation	2.75	.79	.13	.02	.04	.06																					
6. Subjective class	6.14	1.50	-.09	-.11	-.09	.00	-.01																				
7. Education	3.98	.80	.02	-.08	-.11	-.11	-.03	.30																			
8. Income	4.60	2.43	.00	-.11	.00	.17	.17	.43	.42																		
9. Openness	4.52	1.12	-.07	.05	-.13	.00	.07	-.02	-.04	.00																	
10. Conscientiousness	5.77	1.12	-.03	.10	.18	.23	.05	-.02	-.07	.06	.19																
11. Extraversion	4.69	1.34	.04	-.08	.02	.15	.03	.20	-.01	.08	.18	.34															
12. Agreeableness	5.09	1.20	-.09	-.03	.08	.19	.10	.03	-.07	.03	.02	.30	.26														
13. Neuroticism	3.02	1.45	.10	.22	-.18	-.21	.11	-.12	.02	-.04	.05	-.34	-.32	-.31													
14. Loneliness	1.45	.54	-.04	.02	-.14	-.18	-.03	-.08	.01	-.20	-.19	-.31	-.38	-.20	.38												
15. Social desirability	.62	.19	.00	-.04	.19	.25	-.06	.11	.01	.04	-.05	.28	.13	.27	-.25	-.16											
16. Rank at work	1.92	1.04	.01	-.25	-.03	-.05	.10	.21	-.02	.26	.05	.20	.22	.18	-.14	-.23	.22										
17. Organization size	3.32	1.51	-.15	-.16	-.14	-.11	-.05	.07	.11	.14	-.16	-.10	-.23	-.04	.02	.10	-.01	-.13									
18. Organization type	1.95	.55	-.11	-.01	.41	.62	.06	.00	-.08	-.04	-.01	-.07	.03	-.03	.09	.03	.05	.03	-.16								
19. Work experience	9.25	2.94	.09	.05	-.07	.05	.15	.02	-.11	.22	-.06	.23	.18	.10	-.15	-.22	.13	.20	.04	-.05							
20. Salaried	.64	.48	.03	-.10	.13	.13	-.15	.10	.43	.30	.03	.06	.06	.07	-.05	-.12	.06	.12	.07	-.17	.04						
21. Pleasantness	4.86	.94	.01	.05	.04	.12	.03	.08	-.05	-.12	-.06	.16	.02	.09	-.15	-.08	.17	.04	-.03	-.05	.12	.02					
22. Closeness	4.48	1.00	.00	.07	.12	-.05	.10	.04	-.21	-.16	-.07	-.07	.04	-.04	-.03	-.10	.03	.02	-.08	.07	.13	-.10	.46				
23. Objectification	2.40	.74	-.11	-.12	-.09	-.10	.04	-.01	-.01	.08	-.07	-.06	-.03	.01	.06	.13	.01	-.04	.14	.03	-.06	-.10	-.57	-.70			
24. Calculative mindset	1.94	1.02	-.17	-.15	-.03	.03	.18	.25	-.03	-.04	.06	.16	-.04	-.05	.03	.07	.03	.10	.07	.07	-.06	-.18	-.20	-.17	.44	
25. Context	.34	.24	.00	.05	.17		.08	-.07	-.01	.08				.10	-.03	-.06	.11	.08	-.03	-.06	-.01	-.01	-.24	-.54	.47	.23	

Note. Given our sample size (N = 154), correlations of .16 or higher are significant at p < .05, .21 or higher are significant at p < .01, and .26 or higher are significant at p < .001.

organization size (1 = *10 or fewer employees*, 5 = *more than 1,000 employees*); and organization type (1 = *government/public institution*, 2 = *private business/industry*, 3 = *private nonprofit organization*). Organization type was dummy-coded in our analyses such that government/public institution was the baseline variable.

Experience sampling measures. If the participant indicated that they were interacting with another person at the time we texted them, we asked them the following questions.

Details about the interaction. First, we asked them to indicate whether it was a non work interaction (coded as 0) or a work interaction (coded as 1). Then, we asked them to describe who they were interacting with and what the interaction was about.

Objectification. Next, we asked them to answer three items[4] ($\alpha = .60$) that assessed how much they objectified the person with whom they reported interacting (adapted from Gruenfeld et al., 2008): (a) "I was interacting with this person . . . only because I needed something from him or her"; (b) ". . . because I want to be close to him or her" (reverse-scored); and (c) "I was genuinely interested in the other person's thoughts and feelings during the interaction" (reverse-scored; 1 = *not at all*, 6 = *very*).

Calculative and strategic mindset. Third, participants answered two items, $r = .81$, $p < .001$ about how they approached the interaction: "My approach toward the other person was . . . calculated"; ". . . strategic" (1 = *not at all*, 6 = *very*).

Relationship closeness and interaction pleasantness. Fourth, we asked participants how close they were to the person with whom they were interacting (1 = *not at all*, 6 = *very*) and whether their interaction was pleasant (1 = *not at all*, 6 = *very*).

Results

Descriptive statistics and zero-order correlations are presented in Table 6.

Preliminary analysis. Of the 1,936 responses to our text alerts, 874 (45%) involved instances of interacting with another person ($N_{\text{non work interactions}} = 579$, $N_{\text{work interactions}} = 295$); these were the only responses that were useful for our purposes. To gain some descriptive understanding of these interactions, we created word clouds based on our participants' responses to our open-ended questions (see Figure 3).

Main analysis. To analyze our data, we used multilevel modeling. We first ran basic tests, regressing our dependent variables on context as a fixed effect (0 = *non work*, 1 = *work*), and participant, time of day, and day of the week as random effects. Then, we ran robustness tests by including covariates in our models. As Table 7 shows, we found strong support for our prediction: People tended to objectify others more when they were in work contexts than when they were in non work contexts, $b = 1.42$, $t = 18.41$, $p < .001$, 95% CI [1.26, 1.57]. They also tended

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[4] The original scale by Gruenfeld et al. (2008) contained 10 items. However, we did not administer the full scale because we promised participants that we would limit our interference during the week. We thus chose three face-valid items from the scale that we felt succinctly captured the construct of objectification.

Figure 3. Visual analyses of participants' responses in Study 3a to two questions: "Who were you interacting with?" (left panel), and "What was the interaction about?" (right panel). See the online article for the color version of this figure.

to think more calculatively and strategically when they were in work interactions than in non work interactions, $b = 1.04$, $t = 11.88$, $p < .001$, 95% CI [0.86, 1.21]. These relationships remained statistically significant in robustness tests ($ps < .001$; see Table 7).

To formally test for mediation, we ran a bias-corrected bootstrap model in which context was the independent variable, objectification was the dependent variable, and calculative mindset was the mediator. We ran this analysis without and with covariates included. As can be seen in Table 7, the indirect effect of context on objectification via calculative and strategic thinking was significant and robust.

Exploratory tests. Given the data we had in hand, we sought to examine whether objectification and calculative thinking were more prevalent in certain organizations than in others. To examine this question, we focused our analysis on workplace interactions ($N = 295$) and conducted two linear mixed model analyses, regressing objectification (Model 1) and calculative thinking (Model 2) on organization size (1 = *10 or fewer employees*, 5 = *more than 1,000 employees*) and organization type (0 = *nonprofit organization*, 1 = *for-profit/government organization*)[5] as fixed effects, and participant, time of the day, and day of the week as random effects. Neither organization size nor organization type were significant predictors ($ps > .43$), indicating that at least in our sample, the level of objectification and calculative thinking in work interactions tended to be similar across nonprofit, for-profit, and government institutions, as well in relatively big (vs. small) organizations. Given the exploratory nature of these analyses, we do not make any definitive conclusions and test them again in Study 3b and Study 6 to determine whether these findings replicate.

Discussion

In Study 3a, full-time working adults had a greater tendency to objectify others in their work interactions than their non work interactions. Moreover, this relationship was statistically mediated by calculative and strategic thinking and remained robust even after controlling for relationship closeness and a comprehensive set of demographic, personality, and organizational variables. These results support the generalizability of our theoretical arguments using a wide range of naturally occurring work and non

work situations. By using a repeated measure design over the course of a week, we were able to examine how people's objectification attitudes dynamically change as a function of the context they believe they are in.

Study 3b: Situational Characteristics

The purpose of this study was to conceptually replicate Study 3a and deepen the understanding of which situational characteristics influence objectification (via calculative and strategic mindset). As outlined in our theory (see Table 2) we focused on eight situational characteristics (from the DIAMONDS framework; Rauthmann et al., 2014) that we expected would be associated with objectification. We tested whether objectification is amplified when work situations contain more elements of duty, adversity, mating, negativity, and deception, and fewer elements of intellect, positivity, and sociality. To be thorough, we also examined: (a) which DIAMONDS situational characteristics create more objectification in *non work* contexts, (b) which other aspects of work organizations (e.g., size, industry) influence objectification at work, and (c) whether work contexts contain more objectifying situational characteristics than non work contexts.

Method

We preregistered our predictions and analysis plan for this study before collecting data (see: https://aspredicted.org/m4r6e.pdf).

Participants. One thousand, one hundred sixty-three people recruited from Amazon Mechanical Turk participated in our pre-screen questionnaire in exchange for $0.50; of these, 302 passed the screening and were invited to participate in the intake survey in exchange for $1.50. Two hundred eighteen people completed the intake survey; these participants were invited to take the daily experience sampling surveys (as preregistered) in exchange for $1 per survey ($10 total) with a $2 bonus if they completed at least seven of the 10 surveys. In total, 184 individuals (84.40%) chose to participate (see Table 3 for demographics). There were no

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[5] We classified for-profit and government organizations together because they tend to follow market-pricing models (e.g., Fiske, 1991) and typically emphasize bureaucracy and depersonalization (e.g., Weber, 1947).

Table 7
Summary of Results in Study 3a

Covariate	Objectification	Calculative mindset	Test of indirect effects
None	$b = 1.42$, $t = 18.41^{***}$	$b = 1.04$, $t = 11.88^{***}$	[.19, .32]
Demographic only	$b = 1.41$, $t = 18.18^{***}$	$b = 1.07$, $t = 12.21^{***}$	[.20, .34]
Work only	$b = 1.42$, $t = 18.49^{***}$	$b = 1.04$, $t = 11.94^{***}$	[.18, .32]
Personality only	$b = 1.43$, $t = 18.60^{***}$	$b = 1.04$, $t = 11.94^{***}$	[.19, .32]
Pleasantness only	$b = 1.21$, $t = 16.47^{***}$	$b = .92$, $t = 10.44^{***}$	[.13, .24]
Relationship closeness only	$b = 0.48$, $t = 6.42^{***}$	$b = .81$, $t = 7.64^{***}$	[.10, .21]
All controls	$b = 0.43$, $t = 5.82^{***}$	$b = .78$, $t = 7.44^{***}$	[.08, .17]

Note. Point estimates indicate the effect of context (0 = non work, 1 = work) on objectification and calculative mindset.
*** $p < .001$.

differences in gender, age, or work experience between those who participated and those who did not, ps > .10. The average number of surveys that they completed was 8.11 ($SD = 2.35$), or 81.1% of the possible number of surveys available. The majority of participants (78.80%) completed seven or more surveys and received the bonus. Per our preregistration plan, our analysis excluded data points from participants who completed fewer than two of our surveys; results were virtually identical when these participants were included.

Procedure and materials.

Prescreen questionnaire. In the prescreen questionnaire, we collected participants' demographics (gender, ethnicity, and age), employment status (*not employed, retired, self-employed, full-time job, part-time job, multiple part-time jobs*), student status (*not a student, full-time college student, part-time college student, full-time graduate student, part-time graduate student*), formal job title (free response), how often they physically go to work (*never or hardly ever, a few times per month, once or twice per week, most weekdays, every weekday*), how many coworkers they interact with on a daily basis (*none, 1 or 2, 3 to 5, 6 to 10, more than 10*), when they usually begin and leave work (with every hour available during the day), the U.S. state in which they live, whether they are able to complete surveys at night (*yes* or *no*), and two attention checks to ensure they read the survey questions carefully.

We considered participants eligible to participate for the experience sampling study if they passed our attention checks, were not a student, had a part-time job or full-time job that required them to work on most days (or every day of the week), had at least three coworkers with whom they interact with on a daily basis, reported working between the hours of 6 a.m. and 6 p.m., and lived in the Pacific Standard Time Zone, and were willing to complete surveys at night (so that we could ensure that everyone would complete the follow-up surveys around the same time).

Intake survey. A few days after completing the prescreen questionnaire, eligible participants received an invitation to complete the intake survey. Its purpose was twofold: (a) to verify that the information that they provided in the prescreen questionnaire was accurate[6]; and (b) to collect three sets of control variables for the primary study:

The *demographic controls* were: age; ethnic status (0 = *ethnic minority*, 1 = *white*); gender (0 = *male*, 1 = *female*); educational attainment (1 = *some high school*, 6 = *professional/graduate degree*); income (1 = *less than $20,000 a year*, 11 = *greater than $200,000 a year*); and subjective social class (1 = *lower class*, 6 = *higher class*).

The employment controls were: rank at work (1 = *nonmanagement*, 2 = *line management*, 3 = *middle management*, 4 = *executive management*); work experience (1 = *less than a year*, 11 = *more than 10 years*); wage structure (0 = *hourly*, 1 = *salary*); organization size (1 = *10 or fewer employees*, 5 = *more than 1,000 employees*); and organization type (1 = *government/public institution*, 2 = *private business/industry*, 3 = *private nonprofit organization*).

The *personality controls* were: the Short Big Five Personality Questionnaire (Rammstedt & John, 2007), the Social Desirability Scale-17 Questionnaire (SDS-17; Stöber, 2001), and the three-item Loneliness Scale (Russell, 1996) from Study 3a; the Machiavellian Personality scale (Dahling, Whitaker, & Levy, 2009), and the Narcissism Personality Inventory (NPI-16; Ames, Rose, & Anderson, 2006), both of which have been linked to objectification (Lachowicz-Tabaczek, Lewandowska, Kochan-Wójcik, Andrzejewska, & Juszkiewicz, 2019).

Experience sampling surveys. For 10 days at approximately 6 p.m., we sent an e-mail alert to participants. Each e-mail contained a link directing participants to an online questionnaire. Participants had until midnight to complete the survey, which then expired. The survey randomly assigned participants to report in their own words (free response) "what they were doing at [time] today" both in the morning (randomized assignment to a time between 7 a.m. to 11:30 a.m. in half-hour intervals), and in the afternoon (randomized assignment to a time between noon and 5:30 p.m. in half-hour intervals). Out of the 3,680 time points that we sampled (2 times per day, 10 days, and 184 participants), we received responses regarding 3,122 unique times (84.84% response rate).

Each survey first assessed whether participants were interacting with others at the assigned time. If the participant answered "yes," we asked: (a) Who were you interacting with? (free response), (b) What was the interaction about? (free response), (c) Was this a work or non work interaction? (0 = *non work*, 1 = *work*), (d) Where were you? (0 = *not at work*, 1 = *at work*), (e) the 3-item objectification scale from Study 3a ("I was interacting with this person only because I needed something from him or her"; "I was interacting with this person because I wanted to be close to him or her" (reverse-scored); "I was genuinely interested in the other

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[6] As a quality check, we asked our prescreen questions again in the baseline survey. Individuals who were inconsistent in their responses between the intake survey and the baseline survey were not invited to participate in the experience sampling portion of the study.

Table 8

Descriptive Statistics and Zero-Order Correlations of Study 3b Variables

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1. Race																					
2. Gender	—	—	.05																		
3. Education	4.03	1.05	.02	−.02																	
4. Income	4.16	2.14	.04	−.08	.41																
5. Subjective class	3.46	.99	.03	−.01	.36	.63															
6. Rank at work	1.70	.89	.13	−.11	.00	.32	.30														
7. Work experience	6.52	3.31	.16	−.08	−.04	.17	.12	.20													
8. Org. size	3.22	1.46	.00	−.04	.25	.23	.20	−.05	.11												
9. Org. type	1.84	.49	.00	.03	−.25	−.11	−.02	.08	−.07	−.21											
10. Openness	5.11	1.34	.04	−.02	.01	−.09	.05	.08	−.03	−.03	.11										
11. Conscientiousness	5.88	.97	.04	.00	.07	.02	.08	.20	.13	−.05	.16	.12									
12. Extraversion	3.80	1.57	.07	.01	.10	.15	.11	.20	.11	−.07	.00	.16	.20								
13. Agreeableness	4.85	1.27	−.10	−.06	.01	.00	−.01	.03	.07	−.11	.01	.04	.20	.28							
14. Neuroticism	4.75	1.50	−.19	−.26	−.03	.02	−.03	.14	.13	−.10	.02	.10	.37	.39	.36						
15. Soc. desirability	4.75	2.56	−.19	−.06	.00	.02	−.05	−.08	.13	−.04	.03	.02	.13	.12	.40	.29					
16. Loneliness	1.62	.57	.04	.04	.02	−.02	−.06	−.20	−.26	.12	−.04	−.13	−.30	−.29	−.26	−.48					
17. Machiavellianism	3.18	.90	−.02	−.17	−.02	.02	.02	.08	−.03	.04	−.07	−.10	−.13	.02	−.37	−.10	−.22	.26			
18. Narcissism	3.62	3.35	−.07	−.27	.12	.16	.15	.23	.01	.08	−.05	.05	.13	.31	−.07	.22	−.02	−.07	.50		
19. Objectification	3.54	.97	−.02	−.16	−.03	.05	−.08	.03	−.07	−.01	−.06	−.13	−.05	.01	−.11	.03	−.14	.13	.29	.13	
20. Calculative mindset	3.81	1.32	−.03	−.24	.11	.11	.03	.11	−.05	−.04	−.03	.11	.01	.06	−.03	.10	−.02	.10	.34	.17	.35

Note. Given our sample size, correlations of .16 or higher are significant at $p < .05$, .20 or higher are significant at $p < .01$, and .25 or higher are significant at $p < .001$.

person's thoughts and feelings during the interaction" (reverse-scored); 1 = *strongly disagree*, 7 = *strongly agree*; $\alpha_{morning}$ = .61; $\alpha_{afternoon}$ = .66), and (f) calculative and strategic mindset (I was calculative when I was interacting with this person; I was strategic when I was interacting with this person; 1 = *strongly disagree*, 7 = *strongly agree*; $r_{morning}$ = .86; $r_{afternoon}$ = .88).[7]

Next, participants described the situation they were in by rating their agreement (1 = *strongly disagree*, 7 = *strongly agree*) with 32 statements from the DIAMONDS scale (Rauthmann et al., 2014). This scale measures eight characteristics of situations: (a) Duty (e.g., "In this situation, a job needed to be done"); (b) Intellect (e.g., "In this situation, there was intellectual or cognitive stimuli"); (c) Adversity (e.g., "In this situation, I was under threat"); (d) Mating (e.g., "In this situation, there was sexual tension"); (e) pOsitivity (e.g., "This situation was enjoyable"); (f) Negativity (e.g., "This situation was anxiety-inducing"); (g) Deception (e.g., "During this situation, it was possible for me to deceive someone"); and (h) Sociality (e.g., "In this situation, social interaction was possible").

Results

See Table 8 for descriptive statistics and zero-order correlations among measured variables. Factor analysis with oblimin rotation also confirmed that the items for objectification and calculative/strategic thinking loaded onto two empirically distinct factors.[8]

Replicating Study 3a. During our 10-day sampling period, participants collectively had 1,426 points of interaction with other people ($N_{non\ work\ interactions}$ = 532; $N_{work\ interactions}$ = 894). We began by testing whether we replicated the findings of our previous experience sampling study. As can be seen in Table 9, people were more likely to objectify others and think in a more calculative and strategic way when they were in work contexts ($M_{objectification}$ = 3.94, $SD_{objectification}$ = 1.18; $M_{calculative}$ = 4.47, $SD_{calculative}$ = 1.70) than in non work contexts ($M_{objectification}$ = 2.80, $SD_{objectification}$ = 1.53; $M_{calculative}$ = 2.69, $SD_{calculative}$ = 1.56), both ps < .001. Furthermore, context had an indirect effect on objectifi-

cation via calculative and strategic thinking, even after controlling for a wide range of demographic, personality, and work variables (see Table 9).

What kinds of work situations heighten the tendency to objectify and to think calculatively? To answer this question, we focused our analysis on workplace interactions (N = 894). We computed scores for the eight broad dimensions of the DIAMONDS scale; then, per our preregistration plan, we conducted two linear mixed model analyses, regressing objectification and calculative mindset on the eight broad dimensions simultaneously. These results are summarized in Table 10.

When people objectified others at work and thought about others in a more calculative and strategic way, they tended to be in work situations characterized by a *higher degree of duty* (i.e., situations where the focus was getting things done), a *lower degree of positivity,* a *higher degree of negativity* (i.e., unpleasant and unenjoyable situations), and a *higher degree of deception* (i.e., situations where there were issues of mistrust). Table 10 also shows that a *lower degree of sociality, a lower degree of intellect*, and *a higher degree of adversity* (marginally) predicted objectification (but not calculative thinking), whereas *a higher degree of mating* predicted calculative thinking (but not objectification).

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[7] If the participant answered "no," we instead asked several filler questions (e.g., "What were you doing?" [free response]; "Where were you?" [at work or not at work]) so that participants would avoid learning that they can be done quicker with the survey if they say no.

[8] We ran two factor analyses, one for the morning data and one for the afternoon data. In both the morning data and the afternoon data, the five items loaded onto two factors, accounting for a significant proportion of the total variance (64% and 68%, respectively). The two items for calculative mindset loaded onto the first factor (loadings were >.92 in both datasets), and the three items for objectification loaded onto the second factor (loadings ranged from .35 to .88 in both datasets). Because one of the objectification items loaded poorly onto the second factor ("I was interacting with this person only because I needed something from him or her"), we also conducted analyses excluding this item and found statistically identical results.

Table 9
Summary of Key Results in Study 3b

	Dependent variable		Indirect effect
Control	Objectification	Calculative and strategic mindset	Via calculative mindset
None	$b = 1.14, t(1371.01) = 17.31^{***}$	$b = 1.74, t(1356.33) = 22.17^{***}$	[0.32, 0.47]
Demographic only	$b = 1.14, t(1366.35) = 17.25^{***}$	$b = 1.74, t(1356.99) = 22.21^{***}$	[0.31, 0.47]
Work profile only	$b = 1.14, t(1370.98) = 17.3^{***}$	$b = 1.74, t(1355.1) = 22.17^{***}$	[0.32, 0.47]
Personality only	$b = 1.14, t(1374.25) = 17.33^{***}$	$b = 1.74, t(1364.82) = 22.23^{***}$	[0.3, 0.46]
All controls	$b = 1.14, t(1367.09) = 17.28^{***}$	$b = 1.74, t(1360.35) = 22.25^{***}$	[0.3, 0.46]

$^{***} p < .001.$

Additional exploratory analyses. Given the data we had in hand, we conducted several exploratory analyses to gain a deeper understanding of our phenomenon (see Table 11). First, we examined how work interactions differ from personal interactions. As can be seen in Table 11, people perceive their work interactions and non work interactions quite differently. On the one hand, they found work interactions to be more task-based and to have more opportunities to demonstrate intellectual thought compared with non work interactions. On the other hand, they also found their work interactions to be more adversarial, less positive, more negative, and more deceptive compared with their non work interactions. And not surprisingly, they found work interactions to be less sexually or romantically charged compared with their non work interactions. However, it is interesting to note that even when we controlled for these broad psychological dimensions, our predicted effects remained robust: People were more likely to objectify others, $b = .24, t(1376) = 3.44, p < .001$, and think more strategically, $b = .59, t(1373) = 6.21, p < .001$, when they were in work interactions than in non work interactions.[9]

Second, we sought to examine whether objectification and calculative thinking were more prevalent in certain organizations than in others, as we did in Study 3a. Again, we focused our analysis on workplace interactions ($N = 894$) and conducted two linear mixed model analyses, regressing objectification (Model 1) and calculative thinking (Model 2) on organization size (1 = *10 or fewer employees*, 5 = *more than 1,000 employees*) and organization type (0 = *nonprofit organization*, 1 = *for-profit/government organization*) as fixed effects, and subject as a random effect. As in Study 3a, neither organization size nor organization type were significant predictors in both models ($ps > .32$). It is interesting to note that the DIAMONDS taxonomy was better in predicting variance in objectification and calculative thinking than were objective predictors such as organization type or organization size.

Finally, we examined what kinds of *non work* situations heighten the tendency to objectify others and to think calculatively. To examine this question, we focused our analysis on non work interactions ($N = 532$). On the one hand, we found that the same broad psychological dimensions were associated with objectification in non work interactions: People tended to objectify others when their non work interactions were characterized by *high degrees of duty and deception*, and *low degrees of intellect, positivity, and sociality*. On the other hand, the dimensions of adversity, mating, and positivity did *not* predict calculative thinking in non work contexts.

Discussion

Study 3b replicated and extended Study 3a, again showing that employed adults perceive more objectification in work than non work contexts but additionally examining how situational dimensions moderate the effect. At work, situations with more duty, negativity, and deception were associated with more calculative and strategic thinking and hence objectification whereas situations with positivity and sociality were less objectifying. Work contexts tended to have more of these types of situations than non work contexts, providing deeper understanding of which specific features make work contexts objectifying.

Study 4: Manipulating Calculative and Strategic Mindset

If there is more objectification in work than non work contexts because work elicits calculative and strategic mindsets, as we propose, then reducing calculative and strategic thinking should also reduce objectification. Moreover, the reduction should be stronger in work than non work contexts, because non work contexts are already characterized by lower levels of calculative and strategic thinking. Study 4 tests these propositions by comparing objectification during a paradigmatic work interaction (a business meeting) and a non work interaction (a date). We reasoned that this was a conservative test of our hypothesis given that mating situations are characterized by high calculative and strategic thinking (shown in Study 3b).

Method

We preregistered our hypotheses and analysis plan at https://aspredicted.org/bz4et.pdf.

Participants. We predetermined to recruit 800 participants. A total of 809 individuals from Amazon Mechanical Turk participated in this study in exchange for $0.50 (see Table 3 for demographics). These participants indicated in a prescreen questionnaire that they were single and employed.

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[9] Consistent with our theorizing, situational characteristics associated with more calculative and strategic thinking were also associated with greater objectification, and work (vs. non work) contexts tended to be rated more highly on these characteristics. An exception to these results, however, is the level of intellectual opportunity in the situation: situations with more intellectual opportunity elicited more calculative thinking but less objectification, and were more common in work (vs. non work) contexts.

Table 10

Relationship Between DIAMONDS, Objectification, and Calculative Mindset in Work Contexts in Study 3b

Dimension	Dependent variable		Example situation at work
	Objectification	Calculative	
Duty	$b = 0.18$, $t(857.14) = 7.68^{***}$	$b = 0.33$, $t(854.57) = 9.2^{***}$	"At 11:00 am I was starting a staff roundtable meeting in our conference room. This meeting is a chance for staff to discuss their projects and discern which direction they should take for problematic points in the process." (*High Duty*)
Intellect	$b = -0.16$, $t(884.17) = -5.43^{***}$	$b = 0.22$, $t(884.59) = 5.01^{***}$	"I was just wrapping up for the day on a new team project I had started earlier. My teammates and I were gathering our belongings, filing away paperwork and getting ready to begin again the next day. We were interacting with each other on work and personal issues. There were multiple parts to the project and each task were being filed away and getting done. We were getting ready to return to our office at this time and finish other work that needed to be done." (*Low Intellect*)
Adversity	$b = 0.07$, $t(884.06) = 1.65^{\dagger}$	$b = 0.02$, $t(883.51) = 0.30$	"I was having a frustrating conversation with the Lead/Senior Buyer. My boss is out of town, so the Senior Buyer is in charge, and she is being very nitpicky about how purchase orders are written. I'm not sure if she is really that neurotic about some of this stuff, or she is just trying to exert her power. But after 3 weeks of this, I am losing patience." (*High Adversity*)
Mating	$b = -0.03$, $t(856.78) = -0.64$	$b = 0.15$, $t(859.09) = 1.99^{*}$	"Today at 7:30 AM I was standing watch on the Quarterdeck, checking IDs of incoming sailors and contractors and making announcements over the loudspeaker in accordance with the schedule and daily activities of the ship." (*High Mating*)
Positivity	$b = -0.13$, $t(884.53) = -4.17^{***}$	$b = -0.11$, $t(884.13) = -2.41^{*}$	"I was just getting started at work. I come into the office at 8:00AM. I was still finishing up talking with coworkers in the morning and planning out my day. I was making a cup of coffee and waiting for my computer to load up." (*Low Positivity*)
Negativity	$b = 0.06$, $t(884.24) = 2.30^{*}$	$b = 0.09$, $t(883.69) = 2.15^{*}$	"I was orienting a new 50 year old nurse who tends to forget the things we told her yesterday. The person was just difficult to have her retain all the work she was supposed to do. From med pass, signing docs and charting, I felt like it was her first day again. I did my work and I did hers, it was kind of stressful and I was just glad it was almost over." (*High Negativity*)
Deception	$b = 0.07$, $t(846.47) = 2.81^{**}$	$b = 0.18$, $t(848.99) = 4.58^{***}$	"I had to meet with the county Inspector. He was going to inspect our electrical work that we did yesterday. He said that we had to revise our permit before he could sign off on it. So, the contractor and I drove to the county office to get it revised." (*High Deception*)
Sociality	$b = -0.21$, $t(882.21) = -7.27^{***}$	$b = -0.06$, $t(881.3) = -1.31$	"Today at 11 I was at work. I was in a IEP meeting with a student and his parents, the principal, and the counselor. The meeting was about the student's progress in my classroom." (*Low Sociality*)

Note. DIAMONDS = Duty, Intellect, Adversity, Mating, Positivity, Negativity, Deception, and Sociality.
$^{\dagger} p < .10.$ $^{*} p < .05.$ $^{**} p < .01.$ $^{***} p < .001.$

Design. Study 4 used a 2 (Context: Work vs. non work) × 2 (Calculative and Strategic Mindset: Control vs. Low) between-subjects experimental design.

Procedure. Participants in the work context conditions (non work context conditions) read the following:

Imagine that you are an entrepreneur (single) and hoping to start a business (romantic) relationship with someone. You join an online website to find a new business (romantic) partner. The service matches you with a potential partner who seems like a good fit. You go on a first meeting (date) with the other person.

In the control-mindset conditions, participants were given no additional information. In the low-mindset conditions, participants further read the following:

In the past, you've always been very strategic with how you approach potential business (romantic) partners. You don't just "go with the flow." You have a list of questions that you ask to evaluate whether the potential business (romantic) partner is the right fit. You make a decision about the person based on how they respond to the questions.

This year, however, you've decided to try something different. You've decided to go on this meeting (date) and just enjoy the moment, without actively calculating whether it will be worth investing your time in this person.

Next, participants answered the main dependent measures (described below) and a demographic questionnaire. They were thanked for participating.

Table 11
Additional Exploratory Analyses in Study 3b

Dimension	Work interactions, M (SD)	Personal interactions, M (SD)	Sig. test	Objectification in personal context	Calculative thinking in personal context
Duty	5.80 (1.31)	3.39 (1.80)	t(1409.50) = 30.85***	b = 0.07, t(524.40) = 2.64**	b = 0.21, t(515.22) = 5.84***
Intellect	4.31 (1.28)	4.01 (1.49)	t(1375.61) = 5.13***	b = −0.11, t(521.72) = −3.12**	b = 0.14, t(524.94) = 3.09**
Adversity	1.49 (0.84)	1.32 (0.60)	t(1360.70) = 5.60***	b = −0.12, t(521.81) = −1.34	b = 0.06, t(524.88) = 0.57
Mating	1.35 (0.75)	1.91 (1.45)	t(1363.61) = −10.51***	b = −0.03, t(524.92) = −0.80	b = 0.02, t(521.99) = 0.39
Positivity	3.87 (1.24)	5.12 (1.20)	t(1386.59) = −19.38***	b = −0.29, t(523.63) = −5.70***	b = −0.06, t(524.74) = −0.92
Negativity	2.79 (1.62)	2.01 (1.31)	t(1360.99) = 11.87***	b = 0.03, t(506.42) = 0.74	b = 0.12, t(517.07) = 1.89†
Deception	2.99 (1.70)	2.41 (1.50)	t(1297.59) = 9.37***	b = 0.11, t(467.09) = 2.73**	b = 0.19, t(427.81) = 3.68***
Sociality	4.61 (1.32)	5.32 (1.25)	t(1341.23) = −11.26***	b = −0.62, t(511.64) = −13.27***	b = −0.28, t(493.02) = −4.62***

† p < .10. ** p < .01. *** p < .001.

Calculative and strategic mindset. Participants responded to two items (r = .87): "During the meeting/date, how strategic will you be?" and "During the meeting/date, how calculative will you be?" (1 = *not at all,* 7 = *very much*).

Objectification. We assessed objectification three ways. First, we used a 10-item scale (α = .75) adapted from Gruenfeld and colleagues (2008): [During the meeting/date . . .] (a) "I will think more about what my potential business/romantic partner can do for me than what I can do for them"; (b) "I will be interested in the feelings of my potential business/romantic partner because I want to be close with them"; (c) "I will try to motivate my potential business/romantic partner to do things that will improve my business/romantic life ."; (d) "I will see the relationship as worth my time only if it helps me accomplish my goals"; (e) "I will find the conversation enjoyable even if I don't see a long-term partnership down the road"; (f) "My relationship with my potential business/romantic partner will be based on how much I enjoy our relationship, rather than how productive our relationship is"; (g) "I will cut the conversation short or change the topic if I find out my potential business/romantic partner isn't what I want or what I am looking for"; (h) "I will be disinclined to continue investing in the relationship if I find out that my potential business/ romantic partner is not a good fit"; (i) "I will think about other potential business/romantic partners who can offer the same thing to me." (1 = *strongly disagree,* 7 = *strongly agree*).

Second, we used a five-item measure (α = .94) adapted from Andrighetto and colleagues (2017). This measure asked participants to imagine being on their first meeting/first date, and whether they would see their potential business/romantic partner as . . . (a) "an instrument for accomplishing your professional/personal goals?"; (b) "a tool for your professional/personal goals?"; (c) "an object that could be used for your professional/personal goals?"; (d) "only a means to an end?"; (e) "something that could be disposed once they are no longer useful for your professional/personal goals?" (1 = *strongly disagree,* 7 = *strongly agree*).

Third, we adapted the seven-item measure (α = .87) that we created in Study 2 to capture the seven elements of objectification theorized in Nussbaum (1999): [During the meeting/date]: (a) "I would value my potential business/romantic partner primarily for what they can do for me" [instrumentality]; (b) "I would pay little attention to the wishes and desires of my potential business/romantic partner" [denial of autonomy]; (c) "I would treat my potential business/romantic partner as though they are replaceable" [fungibility]; (d) "I would push my potential business/romantic partner to do what I want" [violability]; (e) "I would treat my potential business/romantic partner as though they are an object" [ownership]; (f) "I would care about the thoughts and feelings of my potential business/romantic partner because I genuinely care about their personhood" [reverse-scored; subjectivity]; (g) "If my potential business/romantic partner disagrees with me, I would push for my own agenda" [inertness] (1 = *strongly disagree,* 7 = *strongly agree*).

These three measures of objectification were correlated with each other (rs = .64 to .80). Per our preregistration plan, we computed composites for each measure, standardized each, and averaged them to form an overall composite for objectification (α = .87).

Results

Main analysis. We predicted that participants would be inclined to adopt a more calculative and strategic mindset and, in

turn, view others in a more objectifying way when they needed someone in an organizational context than in a personal context, but that they would be less inclined to do so when they are nudged to think in a less calculative and strategic way. To test this hypothesis, we regressed our dependent variables (calculative and strategic mindset and objectification) on context (contrast-coded: -1 = Non Work, 1 = Work), mindset (contrast-coded: -1 = Control, 1 = Low), and their interaction. All results are visualized in Figure 4.

For both dependent variables, there was a main effect of context (calculative and strategic mindset: b = .18, $t(805)$ = 3.47, $p < .001$; objectification: b = .24, $t(805)$ = 8.26, $p < .001$), indicating that people intended to adopt a more calculative and strategic mindset and had a more objectifying view of their partner when they imagined meeting someone for the first time in a work context ($M_{calculative}$ = 3.41, $SD_{calculative}$ = 1.72, $M_{objectification}$ = .24, $SD_{objectification}$ = .81) than in a non work context ($M_{calculative}$ = 3.06, $SD_{calculative}$ = 1.63, $M_{objectification}$ = $-.24$, $SD_{objectification}$ = .91). There was also a main effect of mindset (calculative and strategic: b = $-.74$, $t(805)$ = -14.43, $p < .001$; objectification: b = $-.09$, $t(805)$ = -2.97, p = .003), indicating that people intended to adopt a less calculative and strategic mindset and had a less objectifying view of their partner when they were prompted to think in a less calculative and strategic way ($M_{calculative}$ = 2.50, $SD_{calculative}$ = 1.68, $M_{objectification}$ = $-.09$, $SD_{objectification}$ = .90) as compared with when they were not ($M_{calculative}$ = 3.97, $SD_{calculative}$ = 1.31, $M_{objectification}$ = .09, $SD_{objectification}$ = .87).

Importantly, for both dependent variables, these main effects were qualified by the hypothesized Context $\times$ Mindset interactions (calculative and strategic: b = -0.35, $t(805)$ = -6.73, $p < .001$; objectification: b = $-.16$, $t(805)$ = -5.32, $p < .001$). Although participants intended to be more calculative and strategic and had a more objectifying view of their partner when they imagined meeting someone for the first time in a work context than in a non work context, they became less inclined to do so when they were prompted to think less instrumentally (calculative and strategic: b = $-.34$, $t(805)$ = -2.31, p = .021; objectification: b = .17, $t(805)$ = 2.08, p = .038) as compared with when they were not (calculative and strategic: b = 1.05, $t(805)$ = 7.19, $p < .001$; objectification: b = .80, $t(805)$ = 9.58, $p < .001$).

Mediation. Finally, we performed a moderated mediation analysis. We conducted a bias-corrected bootstrap (10,000 iterations) in which the Context $\times$ Mindset interaction was the independent variable, calculative and strategic mindset was the mediator, and objectification was the dependent variable. The confidence interval excluded zero (95 CI $[-.15, -.08]$), indicating that the index of moderated mediation was significant. Indeed, the indirect effect of context on objectification via calculative and strategic mindset was larger in the control-mindset condition (95 CI $[.27, .47]$) than in the low-calculative mindset condition (95 CI $[-.23, .00]$).

Discussion

Overall, these findings indicate that participants in work contexts had a more objectifying view of their partner compared with participants in non work contexts because they tended to think more calculatively and strategically; however, inducing them to be less calculative and strategic reduced their tendency to objectify

others in work contexts versus non work contexts. Moreover, the effect of the reminder to be noncalculative and nonstrategic had a stronger impact in reducing objectification for work contexts than non work contexts, suggesting that it was not merely a demand effect.

Study 5: Objectifying Mission Statements

If objectification is more prevalent in work contexts because these contexts elicit calculative and strategic mindsets, as we hypothesize, this further suggests that there should be variation among work organizations to the extent to which they appear to endorse such mindsets and are consequently objectifying. To manipulate the mindsets promoted by organizations using an externally valid methodology, we collected publicly available mission statements from the 20 largest Forbes 500 companies,[10] expecting that these statements would naturally vary in the use of calculative and strategic language. We randomly assigned prospective job seekers to read a subset of statements in counterbalanced order and then report how much they think the organization objectifies its employees, how much they feel like they would belong in that environment, and how interested they would be in obtaining a position in that organization.

We predicted that perceived objectification would be associated with lower interest in working at the organization, and that this relationship would be mediated by participants' reduced sense of belonging. We also predicted that these relationships would emerge even after controlling for objective features of the company (e.g., size, industry, revenue and profits), as well as a wide range of demographic, personality, and employment history variables that could shape a job-seeker's interest.

Method

We preregistered our predictions and analysis plan for this study before conducting data analysis (see: https://aspredicted.org/y9ua7 .pdf).

Participants. We predetermined collecting 500 participants and overrecruited to meet this goal because we planned to select only adults actively looking for a job or open to new job opportunities. We posted a "HIT" ("Human Intelligence Task") for 600 participants on Amazon Mechanical Turk. Upon accepting, participants answered a short prescreen in which they were asked, "Which of the following statements applies to you?" (1 = I am actively looking for a job, 2 = I am not actively looking for a job, but would be open to new job opportunities, 3 = I am not actively looking for a job and am not open to new job opportunities at this time).

From this initial prescreen, 503 individuals (61% male; M_{age} = 35, SD_{age} = 10.81) met our eligibility criteria (i.e., selected response options 1 or 2) and completed the actual study. Most respondents were employed (73%), had been in their current place of employment for about four years, and worked in a team with about six people.

Procedure. We told participants that we wanted to understand "how people choose the companies at which they want to work."
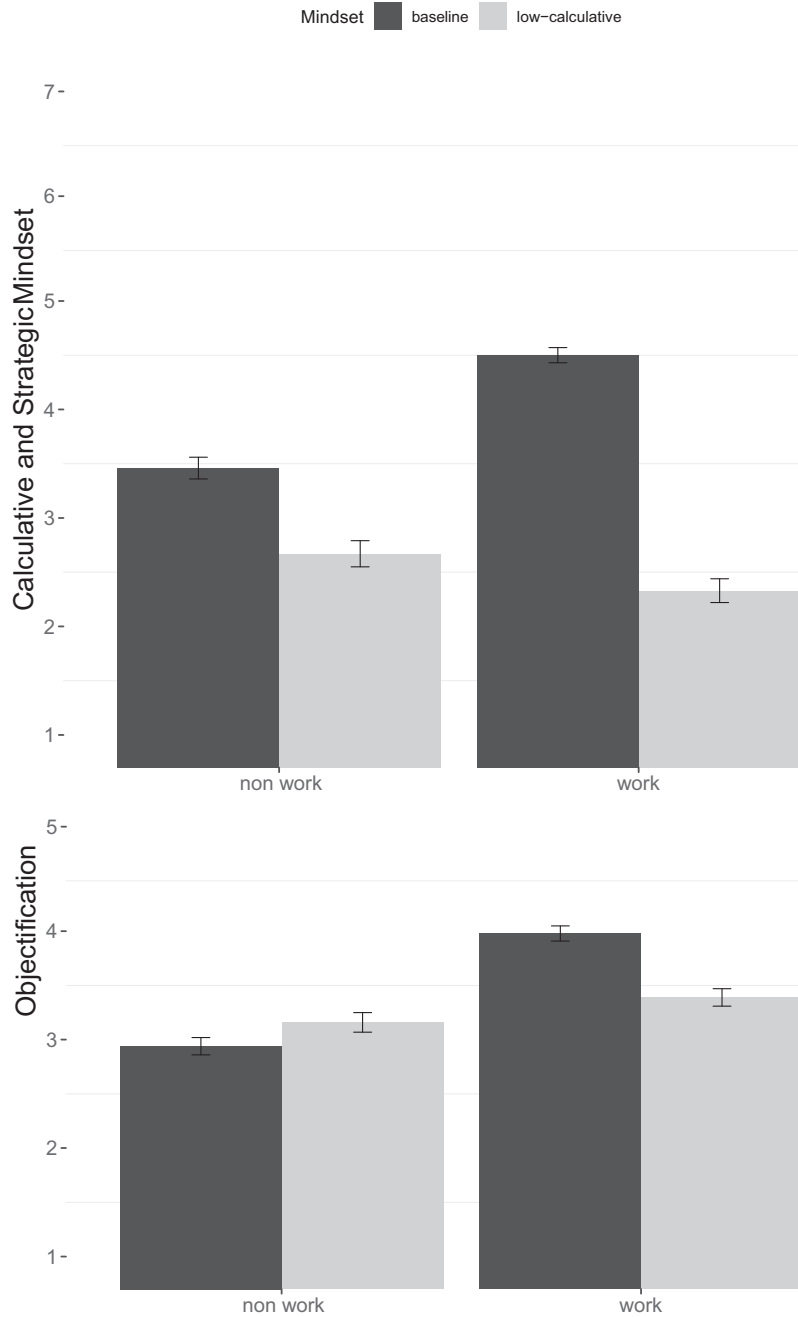
Figure 4. The effect of context and experimental condition on calculative and strategic mindset (top panel) and objectification (bottom panel) in Study 4. Error bars represent the standard error around the mean. To facilitate interpretation, we use the nonstandardized composite to visualize objectification.

After consenting to participate, participants read our experimental materials. The stimuli for this study consisted of the actual mission statements of the top 20 companies on the Fortune 500 list. We removed the company names from all the mission statements to minimize biased responding. As in Study 1, we used a stimuli sampling approach: Each participant was randomly assigned to evaluate four out of the 20 mission statements on the list. The ratings that they provided are described below.

Perceived objectification. After reading each mission statement, participants first reported how objectifying the organization seemed. We captured their impressions in two ways: First, participants answered a modified version of the seven-item objectification scale from Study 2, which captured all seven components of objectification (per Nussbaum, 1995): [This organization seems like the type of organization that . . .]: (a) "values employees primarily on what they can do" [instrumentality]; (b) "restricts

people's independence" [denial of autonomy]; (c) "treats employees as though they are replaceable" [fungibility]; (d) "pushes people to do something even if they are not physically well" [violability]; (e) "treats people as if they own them" [ownership]; (f) "does not genuinely care about people's thoughts and feelings" [denial of subjectivity]; and (g) "would not be responsive to its employees" [inertness] (1 = *strongly disagree*, 7 = *strongly agree*; α = .91). Second, we asked them a follow-up question: "In general, how much do you think this company objectifies its employees?" (1 = *not at all,* 7 = *very much*). As expected, responses to these two measures were highly correlated, $r = .81$, $p < .001$. Per our preregistered analysis plan, we combined them to form a composite for perceived objectification.

Sense of belonging. Second, we asked participants to answer a sense of belonging scale (Good et al., 2012), adapted to fit the context of this study: [If I worked at this company, I think I would feel . . .] (a) "like I belong"; (b) "like I fit in"; (c) "connected to others"; (d) "respected" (1 = *strongly disagree*, 7 = *strongly agree*; α = .98).

Interest. Third, we gauged participants' interest in the organization using two items: (a) "How much would you like to work for this company?" (1 = *not at all,* 7 = *very much*), and (b) "If you were looking for a job, would you consider applying to this company?" (1 = *definitely not,* 7 = *absolutely*). Responses were averaged, $r = .86$, $p < .001$.

Personality controls. After rating each of the four assigned mission statements, participants answered the Short Big Five Personality Questionnaire, the Social Desirability Scale-17 Questionnaire (α = .70), and the Machiavellian Personality scale from Study 3b (α = .89).

Employment questionnaire. Next, participants indicated their employment status (1 = *I am currently employed,* 2 = *I am not currently employed, but have been employed previously,* 3 = *I have never been employed*). Those who indicated that they were currently (*or previously*) employed were asked to indicate their current (*or most recent*) rank at work, their tenure at the organization, and the size and the type of organization that they work (*or worked*) for, using the same measures from Study 3b. Participants also reported whether they were currently (*or had been*) part of a work group (if they indicated yes, they specified how many individuals worked in their team), as well as how much power they feel at work (*or felt at their most recent job*) by answering the Personal Sense of Power Scale (Anderson, John, & Keltner, 2012; α = .86).

Demographic questionnaire. Finally, participants reported their age, ethnic status, gender, educational attainment, income, and subjective social class, using the same measures from Study 3b, their marital status (0 = *not married,* 1 = *married*) and whether they were currently a part-time or full-time student (0 = *no,* 1 = *yes*).

Calculative and strategic language. To examine whether calculative and strategic language in mission statements promotes objectification, we created our own dictionary of calculative and strategic words. To do so, two research assistants blind to hypothesis gathered the corpus of words in all of the mission statements (removing meaningless words such as prepositions, articles, pronouns, and verbs like "is"; $n = 845$ unique words). We divided the 845 words into eight sets of about 105 words each and asked 240 online participants (aiming for about 30 raters per word; 37.1%

Table 12
Descriptive Statistics and Zero-Order Correlations of Measured Variables in Study 5

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1. Gender	—	—																								
2. Ethnic status	—	—	-.07																							
3. Marital status	—	—	-.14	-.02																						
4. Student status	—		.09	-.10	-.07																					
5. Age	35.21	1.81	-.08	.14	.22	-.20																				
6. Subjective class	3.25	1.19	-.04	-.06	.26	.11	-.01																			
7. Income	4.80	2.84	.09	-.09	.30	.02	.06	.55																		
8. Education	3.73	1.16	-.05	-.06	.15	-.05	.10	.27	.23																	
9. Openness	5.05	1.28	-.14	.13	-.06	-.15	.09	-.05	-.01	-.05																
10. Conscientiousness	5.36	1.26	-.13	.06	.02	.02	.19	.04	.04	.00	.33															
11. Extraversion	3.47	1.61	.12	-.03	.07	.02	.19	.15	.17	.04	.25	.01														
12. Agreeableness	5.14	1.35	-.20	.03	.00	-.14	.00	.04	.04	-.06	.36	.42	.10													
13. Neuroticism	3.10	1.58	-.11	-.05	.00	.07	-.12	-.17	-.20	-.01	-.28	-.41	-.28	-.33												
14. Machiavellianism	3.39	1.39	.23	-.24	.06	.27	-.25	.15	.10	.11	-.38	-.37	.08	-.44	.25											
15. Social desirability	4.91	2.46	-.06	-.07	.13	-.03	-.06	.15	.14	.03	.13	.17	.08	.33	-.24	-.22										
16. Employment status	1.29	0.50	-.03	-.05	-.07	.11	-.10	-.11	-.22	-.09	-.05	-.05	-.12	.00	.09	-.05	.08									
17. Rank at work	1.63	0.87	.05	.01	.21	-.02	.16	.32	.31	.19	.03	.03	.17	.01	-.11	-.15	.06	-.15								
18. Organization size	2.76	1.32	-.04	.04	.03	-.01	-.04	.08	.05	.01	-.02	.08	-.08	.06	-.05	-.04	.01	.01	-.09							
19. Tenure	4.05	2.99	-.02	-.02	.23	-.16	.40	.11	.25	.06	.06	.18	.08	.08	-.13	-.11	.08	-.24	.30	.07						
20. Organization type	1.92	0.44	.06	-.01	-.14	-.03	.07	-.03	-.07	-.11	.18	.00	.02	.02	-.02	-.04	.04	.10	.00	-.04	-.01					
21. Group size	3.47	3.71	.08	.03	.08	-.10	.13	.08	.23	.08	.10	.10	.05	.09	-.12	-.06	.08	.01	.11	.23	.10	-.03				
22. Power	4.42	1.18	.03	-.18	.07	-.07	.11	.20	.02	.04	.24	.24	.24	.26	-.38	-.16	.11	-.10	.28	-.18	.19	-.04	.08			
23. Objectification	3.49	1.25	.20	.20	.10	.18	-.10	.04	.23	.09	-.35	-.43	-.13	-.43	.28	.59	-.13	-.06	.18	-.08	-.08	-.08	-.04	-.27		
24. Belonging	4.91	0.99	.00	-.11	.12	.04	.05	.28	.23	.10	.03	.09	.22	.25	-.17	.11	.24	-.09	.18	.02	.11	-.04	.04	.24	-.24	
25. Interest	4.78	1.06	-.01	-.08	.10	.07	-.01	.23	.19	.07	-.03	.00	.16	.16	-.04	.20	.25	-.08	.20	-.03	.07	-.02	.03	.15	-.09	.83

Note. Given our sample size, correlations of .09 or higher are significant at $p < .05$, .12 or higher are significant at $p < .01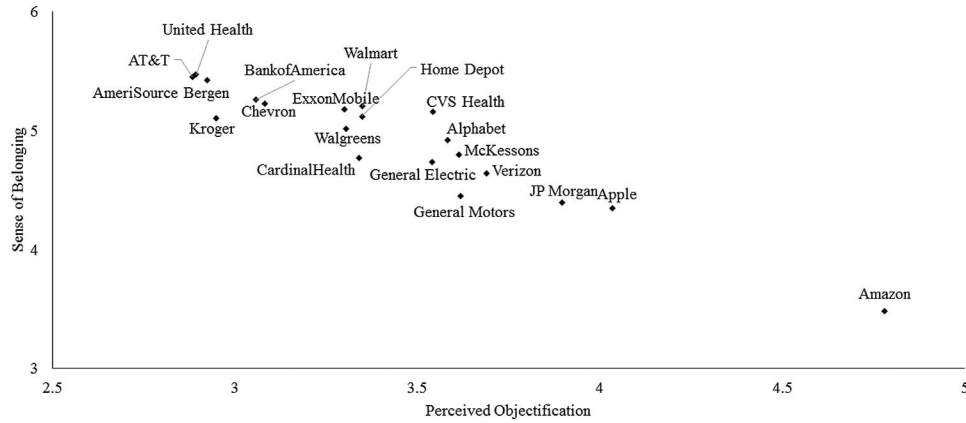$, and .15 or higher are significant at $p < .001$. Correlations of .09 or higher are significant at $p < .05$, .12 or higher are significant at $p < .01$, and .15 or higher are significant at $p < .001$.

Figure 5. Perceived objectification and potential job applicants' sense of belonging after reading mission statements from the top twenty companies on the Fortune 500 list in Study 5. In the actual study, no company names were used.

female, M_{age} = 36.34, SD = 10.31) to rate one set of words each on "How much does this word relate to being calculative and strategic?" (1 = *not at all related*, 5 = *very much related*; randomized order). We selected words rated as more than 1.5 standard deviations above the average (M = 2.76, SD = 0.48) to ensure each rating was above the scale midpoint (i.e., the cut-off was 3.5) and to try to develop a list of about 100 words total. Although this cut-off was arbitrary, we note that results are robust to various cut-offs. The final list of words (n = 122; e.g., achieve, career, data, profit, solution) showed high reliability (α = .96; see online supplemental materials for list). The mission statements ranged from having 3.49% to 14.80% calculative and strategic words (M = 10.03%, SD = 2.90%).

Objective company characteristics. As outlined in our pre-registration plan, we also compiled the following information for each organization on our stimuli list: (a) number of current employees, (b) sector, (c) revenue, (d) profit, (e) years in existence, (f) years on the Fortune 500 list, and (g) length of mission statement (measured using a word count). We controlled for these variables in our robustness tests.

Results

Descriptive statistics and zero-order correlations are summarized in Table 12.

Calculative and strategic language. Consistent with our expectation, mission statements with a higher percentage of calcula-

tive and strategic words induced a lower sense of belonging, r = −.45, p = .047, and were considered more objectifying, r = .54, p = .013, and less attractive places to work, r = −.46, p = .040.

Objectification, belonging, and interest working. At the aggregate level, as depicted in Figure 5, we found the predicted negative correlation between objectification and sense of belonging, r = −.94, p < .001. (Note that this association remained even after removing Amazon from the dataset).

To formally test our prediction that objectification would reduce participants' sense of belonging and interest in working for an organization, we used linear mixed model analyses, regressing interest in the company and sense of belonging on perceived objectification as a fixed effect, and participant and mission statement as random effects. We conducted these analyses both without and with covariates. The key results for these analyses are summarized in Table 13.

Supporting our hypothesis, the extent to which prospective job seekers perceived objectification from the mission statements negatively and robustly predicted their sense of belonging (all ps < .001) and their interest in the company (all ps < .001), even after accounting for the organization's objective characteristics and respondents' demographic characteristics, personality, and employment history.

We also predicted that participants' sense of belonging would mediate the relationship between perceived objectification and

Table 13
Relationship Between Perceived Objectification, Sense of Belonging, and Interest in Study 5

Control	Interest	Sense of belonging	Indirect effect
None	b = −0.80, $t(1242.77)$ = −42.46***	b = −0.73, $t(1428.12)$ = −45.10***	[−0.73, −0.65]
Demographic only	b = −0.81, $t(1191.730)$ = −42.94***	b = −0.73, $t(1427.61)$ = −45.53***	[−0.73, −0.65]
Personality only	b = −0.83, $t(1072.66)$ = −44.62***	b = −0.76, $t(1259.55)$ = −47.17***	[−0.71, −0.63]
Objective company features only	b = −0.78, $t(1781.31)$ = −40.22***	b = −0.71, $t(1835.30)$ = −43.04***	[−0.71, −0.63]
Work profile only	b = −0.81, $t(1273.62)$ = −42.79***	b = −0.74, $t(1362.85)$ = −45.25***	[−0.73, −0.65]
All controls	b = −0.83, $t(1605.64)$ = −42.56***	b = −0.75, $t(1696.73)$ = −45.01***	[−0.70, −0.62]

*** p < .001.

interest in working. Per our preregistration plan, we conducted bootstrapping mediation tests in which perceived objectification was the independent variable, sense of belonging was the mediator, and interest was the dependent variable. We conducted these tests without and with covariates. As can be seen in Table 13, the indirect effect was significant and robust.

Discussion

The results of Study 5 demonstrate that prospective job seekers react differently to each workplace organization's mission statement, reporting that they will feel a weaker sense of belonging to the organizations in which they perceive more objectification, and that they are less interested in working for such companies. Whereas our prior studies focused on how objectification arises as a consequence of being in a work or non work context, Study 5 instead examines how simply thinking about different workplaces can lead to different expectations of objectification.

These data further provide preliminary evidence for why certain organizations create the expectation of more objectification. In the stimuli set tested in Study 5, the least objectifying mission statement (from AT&T) starts with the statement, "Our passion to serve extends beyond our customers to our employees," illustrating how the organization prioritizes and values its employees. In contrast, the most objectifying mission statement in the stimuli set (from Amazon) emphasizes how people need to "accomplish more with less," and that employees are expected to meet "relentlessly high standards" that, to some, may seem "unreasonably high," illustrating Amazon's relatively colder and more objectifying view of its employees. Providing evidence for our prediction, organizations that appeared more objectifying also tended to contain more calculative and strategic language in their mission statements. For instance, Amazon's mission statement contained many words we a priori identified as calculative (e.g., "leaders have relentlessly high *standards*"; "we value *calculated* risk-taking"; "we focus on the key *inputs*").

It is important to note that we cannot infer that company mission statements causally induce objectification (or different mindsets) in the employees that work at these companies. Indeed, whereas company's missions are sometimes tightly coupled with employee outcomes (e.g., Blair-Loy, Wharton, & Goodstein, 2011), other times they appear to be decoupled from outcomes (e.g., Fiss & Zajac, 2017). Future research could examine how organizations' mission statements actually influence employee mindsets.

Moreover, although these results perhaps anecdotally suggest that some industries (e.g., finance, technology) may tend to put forth more objectifying mission statements than other industries (e.g., grocery, health), we cannot draw any clear conclusions about which *types* of industries or organizations are more or less objectifying from such a small and varied dataset of organizations. We return to the question of whether there are identifiable aspects of organizational culture that are associated with objectification in Study 6.

Study 6: Consequences in the Workplace

Study 6 more deeply examines the consequences of objectification by testing whether higher levels of objectification at work are associated with a lower sense of belonging, and consequently lower job satisfaction and prosociality, and higher incivility and turnover intentions. To comprehensively examine how much objectification occurs

in responders' workplaces, we measured three different forms of objectification but expected that each would yield similar consequences: seeing objectification, feeling objectified, and objectifying others. To test our hypotheses, we conducted a multiwave survey in which we temporally separated the measurement of our predictor and criterion variables to reduce common method bias (see Podsakoff, Mackenzie, & Podsakoff, 2012). At Time 1, we asked employed individuals to report how much objectification exists in their work environment; at Time 2, we measured their sense of belonging, job satisfaction, prosocial behavior, incivility, and intentions to quit.

Method

We preregistered our predictions and analysis plan for this study before conducting data analysis (see: https://osf.io/e38mb).

Participants and procedure. We intended to recruit at least 400 adults who were (a) not students, (b) employed full-time, and (c) part of a work group with at least three people. To reach this target population, we first conducted a large prescreen survey of more than 4,000 Amazon Mechanical Turk workers and paid them 25 cents to complete a "general social survey." In this prescreen, participants reported whether they were currently a part-time or a full-time college/graduate student (0 = *No*, 1 = *Yes*), whether they were currently employed (0 = *No*, 1 = *Yes*), whether they were part of a work group or a work unit (0 = *No*, 1 = *Yes*), and if so, the number of employees in their workgroup.

From this initial prescreen, we identified 1,317 individuals who met our eligibility criteria. We sent these individuals an invitation to participate in a two-part "general social survey." We told them that if they chose to participate, they would receive two surveys during the week, each of which would pay $1.50. To motivate individuals to complete both parts, we told them that they would earn an additional 50 cents if they completed both. To obtain our final sample of 400, we posted 900 open slots on MTurk; a total of 612 participated. Per our analysis plan, we excluded 143 from participating in the second part because their answers did not match what they reported in the prescreen.[11] Thus, after Time 1, we had 469 qualified participants.

A few days after taking the first survey, participants received an invitation to answer the second survey. A total of 440 (out of 469; 57% male, 43% female; M_{age} = 38.90, SD_{age} = 10.11) completed the second part (94% response rate). The majority of respondents had been in their current place of employment for about 6 years, and worked in a team with about seven people.

Time 1 measures. To examine how much objectification happens in the respondent's workplace, we asked participants to answer three key measures: (a) how much they see their co-workers objectify others at work (i.e., *seeing objectification*);

(b) how much they personally feel objectified by others at work (i.e., *feeling objectified*); and, (c) how much they themselves objectify others at work (i.e., *objectifying others*). In addition, we asked them to complete a demographic questionnaire and tell us about the culture in their organization more generally. We describe these below.

Level of objectification at work. To measure how much participants see *objectification* in their workplace, we asked them to answer 10 items adapted from a validated scale of objectification from Gruenfeld et al. (2008): (a) "In my workplace . . . most people primarily think about what others can do for them, rather than what they can do for others"; (b) ". . . most people contact others only when they need something from them"; (c) ". . . most people contact their coworkers only when they need their help to succeed"; (d) ". . . people develop relationships only because it helps them accomplish their own goals"; (e) ". . . people are connected to others simply because it is productive for them to do so, rather than because they enjoy each other's company"; (f) ". . . you can easily be replaced with someone else with the same skill set"; (g) ". . . if the nature of your job changed and you weren't helpful to people anymore, your relationship to those people probably won't continue"; (h) ". . . most people contact only the coworkers who are useful to them"; (i) ". . . people are interested in the feelings of their coworkers because they genuinely want to be close to them" (reverse-scored); and (j) ". . . people are connected to others simply because it is productive for them to do so, rather than because they enjoy each other's company" (1 = *strongly disagree*, 7 = *strongly agree*; α = .91).

After completing this measure, participants answered, "How often do you feel objectified at work?"[12] to provide a face-valid, simple measure of *feeling objectified*. Participants answered this question using a 5-point scale (1 = *never*, 2 = *a few times*, 3 = *some of the time*, 4 = *most of the time*, 5 = *all the time*). If they answered "never," they proceeded to the next page; if they answered one of the affirmative options, they received a follow-up open-ended question: "In what ways do you feel objectified at work?"

Next, to measure *objectification of others*, participants saw the following question: "How often do you objectify others at work?" (1 = *never*, 2 = *a few times*, 3 = *some of the time*, 4 = *most of the time*, 5 = *all the time*). Again, if they selected one of the affirmative options, they were asked to answer an open-ended question: "In what ways do you objectify others at work?"

These three measures were correlated (rs = .28 to .57, $p <$ .001). Per our preregistered analysis plan, we standardized all three measures and averaged them (α = .70) to form a composite for overall level of objectification at work. We use this overall composite in our main analysis, but also conducted preregistered exploratory analyses in which we entered each measure as a separate predictor in our regression models. We report these analyses after our key hypothesis tests.

Organizational culture profile. Participants also completed the Organizational Culture Profile (OCP; O'Reilly, Chatman, & Caldwell, 1991), a validated instrument for measuring people's perceptions of their organizational culture. We administered this measure so that we could control in our analyses for aspects of culture that might undermine the sense of belonging at work (such as aggressiveness; O'Reilly et al., 1991). Following prior work (O'Reilly et al., 1991), we had respondents sort 54 organizational

values into one of nine categories (1 = *not at all characteristic of my workplace*, 9 = *extremely characteristic of my workplace*). We then calculated composites for "innovation," "stability," "respect for people," "outcome orientation," "attention to detail," "team orientation" and "aggressiveness."

Demographic and employment questionnaire. Participants reported their age, ethnic status, gender, educational attainment, income, subjective social class (1 = *lower class*, 6 = *upper class*), rank at work, their tenure at the company, and the size and the type of organization that they work for, using the same measures from Study 1. Participants also reported whether they were part of a work group; if they indicated yes, they specified how many individuals worked in their team.

Time 2 measures. A few days after completing Part 1, participants received an invitation to complete Part 2, which contained measures of our dependent variables, as well as several additional measures that we intended to control for in our robustness tests.

Sense of belonging. First, participants reported their sense of belonging in their current job using a validated scale from Good and colleagues (2012). Sample items include, "At work, I feel . . . like I belong"; ". . . valued"; ". . . insignificant" (reverse-scored), ". . . respected" (α = .98).

Job satisfaction. Second, participants reported how satisfied they are with their current job using a validated scale from Judge, Locke, Durham, and Kluger (1998): (a) "I feel fairly well-satisfied with my present job"; (b) "Most days, I am enthusiastic about my work"; (c) "Each day of work seems like it will never end" (reverse-scored)" (d) "I find real enjoyment in my work"; (e) "I consider my job rather unpleasant" (reverse-scored; 1 = *strongly disagree*, 7 = *strongly agree*; α = .91).

Turnover intentions. Third, participants reported how long they intend to stay in their organization using a validated scale from O'Reilly and colleagues (1991): (a) "How long do you intend to stay in your organization?" (1 = *not for very long,* 5 = *a very long time*); (b) "If you have your own way, will you be working for your organization a year from now?" (1 = *definitely will not,* 5 = *definitely will*); (c) "How often do you think about quitting your job?" (1 = *never or very rarely,* 5 = *all the time*); and (d) "How often have you thought seriously about changing organizations since you started work?" (1 = *never or very rarely,* 5 = *all the time*). We created a composite (α = .92) after reverse-coding the first-two items so that higher scores on the composite reflect stronger intentions to leave.

Incivility. Fourth, participants reported the extent to which they had behaved rudely toward others at work using a validated scale from Blau and Andersson (2005): (a) "In the past year, how often have you . . . put down a coworker or were condescending to them"; (b) ". . . paid little attention to a statement made by a coworker or showed little interest in their opinion"; (c) ". . . made a demeaning, rude, or derogatory remark toward a coworker"; (d) ". . . addressed a coworker in unprofessional terms privately or publicly"; (e) ". . . ignored or excluded a coworker in a social

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[12] We also provided participants with a definition of objectification to help them make this assessment: "Objectification refers to . . . treating others as if they were objects and not human beings," e.g., "incidents in which someone uses others for personal gain."

Table 14

Example Narratives of Feeling Objectified (Left) and Objectifying Others (Right) in Study 6

I feel I am considered as just a number and judged on the amount of work I do and not by the kind of person I am. I can be easily replaced and my needs as a human being are often ignored. If I am sick or worn down, my condition is never taken in consideration. Working conditions are dangerous and if I were to become hurt I would be quickly replaced.	Though I hate to admit it, I sometimes objectify lower-level staff when I am under duress. I may make impersonal demanding requests of these colleagues and view this communication as a means to an end. I may not place enough emphasis on the human side of communication and simply focus on what I hope to accomplish.
People at work see me as a worker without my own opinions. I feel underappreciated and that I am just a robot who just does whatever others tell me. I do not feel like I have a voice in my work situation.	Sometimes I will objectify others who have specific knowledge I need for my work. I will use them for their knowledge but not interact with them on any other emotional level. For example I might ask someone for help running a program but not take any time to get to know them as a person.
I work in IT and am pretty much mostly needed when things go wrong. There are management members here that basically just use me as a tool to get their needs met and don't care what my workload is or how busy I am or if I am in the middle of helping someone else.	In the beginning I would befriend people just to know what was going on in the company, not really genuinely interested in other people. Now things have shifted. I am now senior management, so people do the same to me at this point.
People have given me tasks to do without thinking about how much effort it would take on my part. They just expect me to produce a result for them but don't appreciate the work it takes on my part. For example someone gave me some data to analyze but didn't take into account how busy I was with other work.	I have had to assign dangerous tasks to others without the option to consider the human factor. Getting the work done and production are the main priority.
There were times when upper management would use my skills to complete a project, and then give themselves credit for all of it. The fact that they never acknowledged my role makes me feel like an object.	I am guilty of having conversations to get information or to just be pleasant with a coworker rather than thinking about them as a complex human being. I sometimes don't think about their emotions and feelings.
People have used me specifically to get information about professional events to get a leg up. They pretended to be interested and engaged in conversation with me. I felt objectified because of the artificiality of the situation.	There are certainly people in my organization who I only interact with when I need them to help with a task. The guy who takes care of our phone system is a good example. Just today I needed him to correct someone's phone number. Beyond that, I can't remember the last time I spoke to him.
In a department meeting, potential new employees were referred to as "bodies." As in, "We need more bodies in department X." This made me feel like management saw all of the employees in terms of numbers and not as individuals.	I used people to perform menial tasks and then took credit for the larger goal it served when that was accomplished. I would thank the person but never really did much to do anything to acknowledge their contributions.
Some of my coworkers only interact with me when they need something from me or when they need my help accomplishing a task. They don't express interest in anything about me as a person in most contexts and will only do so if they require my assistance. I feel that otherwise, they wouldn't care to interact with me and don't spare me much thought either way.	There are a few relationships I have pursued at work solely because I need someone in a certain group who can do things for me. I befriended some staff members in a different department specifically so that I could ask them for occasional favors. I have to demonstrate that I am making an effort to connect despite not actually wanting to collaborate much with them.

conversation"; (f) ". . . made unwanted attempts to draw a coworker into a discussion of personal matters" (1 = *never,* 4 = *frequently*; α = .81).

Prosocial behavior. Fifth, participants completed a short measure of organizational citizenship behavior adapted from a validated scale from Yam and colleagues (2016): (a) "In the past year, how often have you . . . expressed loyalty toward your organization"; (b) ". . . taken action to protect your organization from potential problems"; (c) ". . . demonstrated concern about the image of the organization"; (d) ". . . willingly given your time to help others who had work-related problems"; and (e) ". . . shown genuine concern and courtesy toward your coworkers"; (1 = *never,* 4 = *frequently*; α = .81).

Personality controls. After answering our main dependent measures, participants answered the same personality control

scales described in Study 3 (i.e., the Short Big Five Personality Questionnaire, the Social Desirability Scale, the Machiavellian Personality Scale, and the Personal Sense of Power Scale).

Results

A few example narratives from the open-ended text questions (feeling objectified and objectifying others) are highlighted in Table 14. Descriptive statistics and zero-order correlations are summarized in Table 15.

Hypothesis tests. As outlined in our preregistration plan, we first regressed each of our dependent variables on objectification only. Then, we conducted robustness tests by adding covariates in the model (see Table 16).

Table 15

Descriptive Statistics and Zero-Order Correlations of Measured Variables in Study 6

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1. Gender	—	—																															
2. Ethnic status	—	—																															
3. Age	38.90	1.11	.00																														
4. Income	3.76	1.88	-.12	.19																													
5. Education	4.15	1.16	.15	-.02	.06																												
6. Subjective class	3.56	0.94	.00	.02	.02	.29																											
7. Openness	4.97	1.35	.14	.02	.05	.56	.42																										
8. Conscientiousness	5.74	1.15	-.11	-.07	.00	-.11	.00	-.03																									
9. Extraversion	3.74	1.52	-.03	.01	.17	.03	-.07	.03	.15																								
10. Agreeableness	4.88	1.39	.01	.05	.04	.07	.01	.14	.23	.19																							
11. Neuroticism	4.89	1.48	.03	-.05	.11	.02	-.08	.06	.09	.21	.24																						
12. Machiavellianism	3.15	0.91	.14	-.10	-.23	.15	.00	.09	-.12	-.14	.02	-.43	-.13																				
13. Social desirability	5.02	2.72	.02	-.08	.06	-.06	-.08	-.04	.04	.16	.07	.38	.23	-.31																			
14. Sense of power	4.84	1.25	.05	.09	.06	.18	.00	.21	.12	.31	.31	.25	.42	-.10	.12																		
15. Tenure	5.53	3.45	-.02	.07	.41	.15	-.01	.05	.00	.11	-.04	.04	-.06	-.06	-.03	.10																	
16. Rank at work	1.66	0.86	.09	.08	.11	.27	.03	.15	.02	.07	.10	-.04	.10	.13	-.06	.33	.17																
17. Org size	3.34	1.39	-.03	.02	-.10	.13	.08	.10	-.06	.02	.00	.04	.07	.01	.06	-.07	.00	-.18															
18. Organization type	1.90	0.54	.00	.03	-.05	-.03	.00	-.12	.11	.04	-.05	-.03	-.06	.00	.00	-.03	-.04	.06	-.09														
19. Group size	6.62	2.48	-.04	-.01	.04	.09	-.03	.02	-.02	.02	.01	.11	.08	.05	.11	.02	.02	-.03	.32	-.02													
20. Innovation	4.69	0.97	.00	-.07	-.13	-.01	-.10	.04	.04	-.04	.10	.05	.01	.09	.06	.03	-.02	.00	-.07	.02	-.05												
21. Stability	5.25	1.16	.04	.09	.04	-.12	-.01	-.05	.04	.00	-.04	.04	-.02	-.06	-.04	-.01	.08	-.08	.10	-.17	.00	-.29											
22. Respect	5.01	1.08	-.01	.00	.05	.03	.04	.08	-.02	.05	.04	.12	.05	.09	.09	.20	.04	-.04	-.08	.05	.04	-.08	.12										
23. Outcome orientation	5.39	1.12	-.06	-.03	.07	.01	-.01	.01	.02	.05	-.10	-.05	-.05	.06	-.02	-.09	.03	.06	.05	.00	.05	-.06	-.14	-.24									
24. Detail-oriented	5.34	1.24	.09	-.01	.05	.10	.09	.06	-.06	.00	-.11	-.10	-.05	.10	-.10	-.04	.01	.02	.02	.00	-.03	-.18	.00	-.09	.08								
25. Team-oriented	5.91	1.24	-.07	.01	.03	-.12	.05	.00	.02	.00	-.01	.06	-.05	-.15	.07	.01	-.06	-.08	.03	-.01	.00	-.15	-.10	.04	-.10	-.07							
26. Aggressive	4.82	1.43	.05	-.07	.01	-.01	-.10	-.07	.02	.00	-.05	-.03	.03	.15	.04	-.18	.07	.03	.03	.02	.00	.18	-.10	-.28	.20	.01	-.25						
27. Objectification	.00	0.79	.15	-.02	.01	.09	-.02	.01	-.09	-.05	-.13	-.31	-.16	.44	-.24	-.38	.00	.09	.03	.03	.03	-.01	.02	-.24	.13	.09	-.27	.27					
28. Belonging	4.46	1.18	.00	-.01	.06	.07	.07	.14	.08	.28	.29	.41	.47	-.27	.22	.72	.04	.10	-.03	-.04	-.03	.03	.01	.00	.26	-.16	-.11	-.22	.16				
29. Satisfaction	4.92	1.42	.04	.07	.08	.08	-.05	.17	.09	.22	.20	.34	.38	-.31	.19	.59	.03	.09	.04	-.07	.08	.06	-.02	.20	-.16	-.12	.14	-.45	-.22	.72			
30. Turnover	2.15	1.05	.01	-.07	-.04	-.03	.04	-.05	.00	-.14	-.12	-.27	-.18	.16	-.19	-.46	-.04	-.05	.04	.05	-.09	-.03	-.01	-.14	.16	.10	-.09	.18	.35	-.67	-.71		
31. Incivility	1.45	0.44	.06	.09	-.06	.05	.03	.06	-.16	-.17	-.07	-.46	-.18	.44	-.21	-.30	.04	.05	-.02	-.06	-.01	-.01	.09	-.12	.02	.07	-.14	.06	.40	-.36	-.33	.27	
32. Citizenship	3.15	0.63	.01	.10	.19	.00	.01	.01	.13	.29	.22	.32	.23	-.23	.13	.39	.11	.19	-.16	-.05	.03	.06	-.03	.04	.00	-.18	.06	-.13	-.26	.38	.39	-.34	-.25

Note. Given our sample size (*N* = 440), correlations of .10 or higher are significant at *p* < .05, .13 or higher are significant at *p* < .01, and .16 or higher are significant at *p* < .001.

Table 16

Relationship Between Perceived Objectification and Workplace Attitudes in Study 6

Controls	Job satisfaction	Intentions to quit	Incivility	Prosocial	Sense of belonging
None	$b = -0.82$, $t(438) = -10.64^{***}$	$b = 0.47$, $t(438) = 7.92^{***}$	$b = 0.22$, $t(438) = 9.19^{***}$	$b = -0.20$, $t(438) = -5.53^{***}$	$b = -0.81$, $t(438) = -13.52^{***}$
Demographic	$b = -0.85$, $t(432) = -11.13^{***}$	$b = 0.48$, $t(432) = 8.05^{***}$	$b = 0.23$, $t(432) = 9.26^{***}$	$b = -0.20$, $t(432) = -5.35^{***}$	$b = -0.83$, $t(432) = -14.17^{***}$
Personality	$b = -0.63$, $t(431) = -7.71^{***}$	$b = 0.41$, $t(431) = 6.29^{***}$	$b = 0.12$, $t(431) = 4.82^{**}$	$b = -0.12$, $t(431) = -3.04^{**}$	$b = -0.69$, $t(431) = -11.65^{***}$
Work profile	$b = -0.45$, $t(431) = -6.10^{***}$	$b = 0.25$, $t(431) = 3.99^{***}$	$b = 0.21$, $t(431) = 7.58^{***}$	$b = -0.11$, $t(431) = -2.89^{**}$	$b = -0.43$, $t(431) = -8.66^{***}$
Org culture	$b = -0.71$, $t(431) = -8.63^{***}$	$b = 0.42$, $t(431) = 6.55^{***}$	$b = 0.22$, $t(431) = 8.16^{***}$	$b = -0.19$, $t(431) = -4.74^{***}$	$b = -0.73$, $t(431) = -11.33^{***}$
All controls	$b = -0.27$, $t(411) = -3.23^{**}$	$b = 0.19$, $t(411) = 2.58^{*}$	$b = 0.10$, $t(411) = 3.56^{***}$	$b = -0.03$, $t(411) = 0.72$	$b = -0.33$, $t(411) = -6.02^{***}$

$^{*} p < .05.$ $^{**} p < .01.$ $^{***} p < .001.$

Table 17
Indirect Effect of Objectification on Various Workplace Attitudes via Sense of Belonging

Controls	Dependent variable			
	Job satisfaction	Intentions to quit	Incivility	Prosocial
None	[−0.79, −0.55]	[0.40, 0.58]	[0.03, 0.09]	[−0.20, −0.10]
Demographic	[−0.80, −0.55]	[0.43, 0.61]	[0.03, 0.10]	[−0.21, −0.11]
Personality	[−0.66, −0.43]	[0.35, 0.53]	[0, 0.06][a]	[−0.13, −0.04]
Work profile	[−0.39, −0.21]	[0.19, 0.35]	[0.02, 0.07]	[−0.08, −0.01]
Org culture	[−0.71, −0.47]	[0.34, 0.54]	[0.03, 0.09]	[−0.18, −0.09]
All controls	[−0.31, −0.14]	[0.14, 0.31]	[0, 0.03][a]	[−0.05, 0.01][a]

Note. Indirect effects marked with superscript a are marginally significant at 90% CI (i.e., the 90% confidence interval excludes zero).

sense of belonging: Employees also reported less job satisfaction and intent to engage in prosocial behavior at work and more intent to leave the organization and be uncivil to others. Furthermore, the extent to which people reported objectification in their workplace culture was associated with other problematic workplace behaviors such as bullying and hostility. Although these data are not causal, they are consistent with an extant literature and suggestive of the predicted negative consequences that objectification is associated with at work.

General Discussion

According to a recent survey, nearly 70% of American employees feel disengaged from their work and 51% are actively searching for new jobs and monitoring new openings (Gallup, 2018). Furthermore, in the same survey, only two out of every 10 employees reported that they have "a best friend in the workplace." Although many explanations may account for these findings (e.g., the role of globalization, the rise of the gig economy), the current article points toward one more possibility. Objectification (i.e., treating people akin to objects) may be especially common in the workplace, reducing civility and engagement.

The current paper's studies ($N = 2,712$) provide evidence that objectification—which involves seven features: treating people instrumentally, as lacking agency, experience, and autonomy, as being fungible and violable, and as property—is more prevalent in work contexts than in non work contexts. This increased prevalence occurs at least in part because people tend to think more calculatively and strategically about others in work contexts. Our research demonstrates that seeing the same person in an office versus a coffee shop, or expecting that an event will be work-related versus not work-related, changes the way we view and relate with others. Of course, not all workplace organizations elicit objectification to the same degree. Consistent with our proposed mechanism, companies with mission statements that contained more calculative and strategic language were also perceived as more objectifying, less attractive, and less respectful of people. And at least by some metrics, those intuitions appear to be right: Beyond dissuading job applicants, our data show that objectification is associated with problematic consequences. When people see and experience objectification at work, they also report lower job satisfaction and intent to engage in prosocial behavior at work, and more intent to leave the organization and be uncivil to others.

Theoretical Contributions

Philosophers, psychologists, and feminist theorists have long studied the concept of objectification (Fredrickson & Roberts, 1997; Gray et al., 2011; Gruenfeld et al., 2008; Kant, 1785/1998; MacKinnon, 1987; Nussbaum, 1999). To date, there has been much research documenting the experiences of those who are objectified, but less progress has been made in understanding who objectifies others and why. In social psychology, a frequently invoked explanation is power. Indeed, past research has found that people in high-ranking positions often objectify low-ranking targets (e.g., Gruenfeld et al., 2008; Haque & Waytz, 2012; for an exception, see Schroeder & Fishbach, 2015), potentially leading to extreme societal consequences (Fiske, 1991).[13] Departing from this traditional view, we provide one of the first demonstrations that even ordinary individuals routinely objectify others, suggesting that objectification may be more ubiquitous than previously thought. Specifically, our findings suggest that objectification is not something that *only* powerful people routinely do; it is something that people, in *general*, tend to do, especially when they are in work contexts, where they spend half of their waking lives. In this way, our work fits with other theoretical perspectives that propose that people commonly and even inadvertently tend to see others as less human than themselves (Schroeder & Fishbach, 2015; Waytz & Schroeder, 2014; Waytz, Schroeder, & Epley, 2014). Moreover, by showing that context influences people's calculative approach toward others, we add to prior research on how culture may influence value systems.

Of particular relevance, cultural scholars (e.g., Hofstede, 2011; Triandis, 2004) have noted that one dimension on which individuals across countries differ is in their tendency toward task-orientation (e.g., preference for achievement) versus person-orientation (e.g., preference for cooperation). Our research suggests that this task versus person dimension of culture might

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[13] Although not the purpose of our studies, we examined the relationship between power and objectification in our data. Findings were mixed: In some studies, we found that feeling powerful (Study 1: $b = .17$, $t = 9.73$, $p < .001$) or being in a high-ranking position (Study 6: $r = .11$, $p = .02$) predicted objectification of others at work. However, in the experience sampling studies we conducted, actual rank did *not* correlate with objectification of others at work (Study 3a: $r = -.09$, $p = .12$; Study 3b: $r = -.01$, $p = .87$).

connect to differences in work contexts (e.g., work ethics, norms) across countries.

Given the results in the current article, we wondered to what extent people would endorse that they personally objectify others. In a survey described as Supplemental Study S2 ($n = 301$; 52.16% female; $M_{age} = 36.32$, $SD_{age} = 11.45$) we asked people to report whether they are the type of person (or not) who engages in each of nine items on a prevalidated objectification scale (Gruenfeld et al., 20,018; e.g., "When I meet people, I think more about what they can do for me than what I can do for them"). Across the items ($\alpha = .78$), the majority of people reported they are not the type of person who objectifies others ($M = 67.37\%$, $SD = 27.2\%$), highlighting the socially undesirable nature of objectification. However, it is interesting to note that a not-insignificant minority of people do indeed report being the type of person who objectifies others, perhaps indicating that there are certain contexts (such as work contexts, as the current article suggests) where these behaviors appear acceptable. Future work could further examine which individual differences make people more or less likely to objectify others.

A second theoretical contribution of this research is that it takes objectification into a new direction as an explanatory construct. In prior research, objectification has been used to analyze hierarchical dynamics, such as when one group of people is oppressed by another more powerful group (Fanon, 1967; Gruenfeld et al., 2008; Nussbaum, 1999). Departing from this view, our research shows that objectification can also be a useful construct to understand lateral dynamics (e.g., how people objectify their peers) and the challenges faced by many contemporary organizations such as lack of motivation, reduced sense of belonging, and incivility among employees. Furthermore, to our knowledge, we are the first to systematically examine the psychological characteristics of work situations that elicit more (vs. less) objectification (testing H3a). We find that objectification at work is most likely when people believe that their primary and most important goal in the situation is getting things done, when people have limited opportunities to engage intellectually with others, when people perceive their situation as containing threats, problems, and conflict, when situations are unpleasant or anxiety-inducing, when people believe that their peers could be lying or deceptive, and when people believe they are in situations in which warmth or social interaction are not very important.

Third, our research adds to the ongoing debate among scholars about the consequences of objectification. Some believe that objectification is detrimental (e.g., Fredrickson & Roberts, 1997), whereas others contend that it is not (e.g., Orehek & Forest, 2016). Our findings align more with the former view. It is important to note, however, that our conceptualization of objectification is broader than in some prior research, which defined objectification primarily in terms of instrumentality, or perceiving people as tools to an end goal (Galinsky, Magee, Inesi, & Gruenfeld, 2006; Gruenfeld et al., 2008; Orehek & Weaverling, 2017). Thus, this prior work has mostly debated whether being treated instrumentally is good or bad. In the current investigation, we depart from this narrow assumption and incorporate other aspects of objectification. In so doing, we uncover evidence that objectification, at least in work contexts, can be detrimental.

Limitations and Directions for Future Research

The current findings raise new questions and opportunities for future research. First, our studies were conducted primarily in the United States, a largely individualistic culture. Some evidence suggests that work may be more communally oriented in collectivistic cultures (e.g., Japanese factories; Abegglen, 1958); they may consequently be less likely to elicit objectification. Our Study 6 provides preliminary evidence that workplace cultures that emphasize outcomes, aggressiveness, and detail orientation may be particularly susceptible to objectification, whereas those that emphasize teamwork and respecting people are less susceptible. But throughout the studies, we found no evidence that people who work in for profit and government institutions are more calculative and objectifying than those who work in nonprofit institutions. More research is needed to better understand why certain workplace cultures foster objectification and how individuals navigate those environments.

Second, this research may speak to an ongoing debate about whether organizations should be primarily humanistic or economic institutions. On the one hand, advocates of the humanistic view believe that organizations are deeply human institutions and thus should be primarily concerned with the development of human virtue to the fullest extent (Barnard, 1938/1968; Follett, 1925; Freeman, 2004/2016; Melé, 2003). According to these scholars, the primary purpose of an organization is to help humans fulfill their psychological needs, such as their need for social connection and self-determination (Cofer, 1959; Freeman, Harrison, Wicks, Parmar, & de Colle, 2010; Gruenfeld & Tiedens, 2010; Whyte, 1956). In contrast, the economic view suggests that the primary purpose of an organization is to maximize economic value for its owners and shareholders (Friedman, 1970), and that organizations operate most efficiently when they are depersonalized (Parsons, 1949; Weber, 1968). According to these scholars, friendships in organizations should not be encouraged because they threaten the instrumental goals of firms and their members (Parsons, 1949; Weber, 1968).

Our findings suggest that there may be undesirable consequences for individuals, teams, and organizations more generally when employees feel that they operate in a depersonalized environment. Broadly, our findings align more with the idea that individuals thrive when they feel connected to others at work (Baumeister & Leary, 1995; Brewer, 1991; Dutton & Ragins, 2007; Ferris et al., 2009; Spreitzer, Lam, & Fritz, 2010; Spreitzer, Sutcliffe, Dutton, Sonenshein, & Grant, 2005) and that teams and organizations could benefit from encouraging social connections and workplace friendships (Jehn & Shah, 1997; Lu et al., 2017). That said, an emerging body of research suggests that there may also be downsides to creating social connections and friendships at work; for example, friendships with coworkers may become problematic if friends become too distracted, hesitate to voice contrasting opinions for fear that they may harm the relationship (e.g., Loyd, Wang, Phillips, & Lount, 2012), or develop into exclusive cliques (for a review, see Pillemer & Rothbard, 2018).

Third, future research can explore how the experience of objectification at work may create consequences *outside* of work. For example, some research has found that when subordinates feel abused by their supervisors, they take out their frustration on family members, creating a more strained home environment (Hoobler & Brass, 2006). It is also possible that being in an objectifying environment can create identity changes over time.

Consistent with this possibility, a recent set of studies found that the more people prioritize money, the less they feel human (Ruttan & Lucas, 2018). And being constantly exposed to calculative and strategic thinking could lead people to adopt that mindset habitually, even in their personal (non work) lives. For example, a common organizational practice of paying people by the hour can lead people to adopt a "time is money" mindset, which in turn leads people to be more strategic about their time use outside of work (DeVoe & Pfeffer, 2007).

Fourth, future work could examine whether strategic thinking could decrease objectification under certain circumstances. It is theoretically possible that one could be strategic and arrive at the conclusion that the best course of action is to behave respectfully and be less objectifying of others. For example, if a manager believes that that their supervisor rewards respectful behavior in the workplace, strategic thinking might compel that manager to treat their subordinates politely and respectfully, at least in public. Such a behavior would be consistent with the observation that people can sometimes appear charismatic and ingratiating to attain desired ends, even when they are unsupportive and inconsiderate of others privately (Dahling et al., 2009). Strategic thinking might also prompt less objectification depending on the context (Pierce, Kilduff, Galinsky, & Sivanathan, 2013); for example, it is possible that strategic thinking may be associated with less objectification in work contexts that are relatively more cooperative, more pleasant, less deceptive, and less adversarial.

Finally, the current article considers objectification as a broad construct that incorporates seven dimensions. Future work could examine the whether each dimension has unique consequences. Of particular interest is that both denying agency *and* denying experience are elements of objectification, yet prior work has separated these into unique theoretical dimensions of person perception (e.g., Fiske, Cuddy, Glick, & Xu, 2002; Gray, Gray, & Wegner, 2007; Haslam, 2006). Whereas perceptions of agency are associated with human uniqueness (separating humans from animals), perceptions of experience are associated with human nature (separating humans from objects; Haslam, 2006; Haslam & Loughnan, 2014). Although perceptions of agency and experience are often positively correlated when evaluating individual targets (Nisbett & Wilson, 1977), they can become negatively correlated when evaluating groups (Judd, James-Hawkins, Yzerbyt, & Kashima, 2005) and nonhuman agents (e.g., Gray et al., 2007). Thus, extensions to the current research could disentangle the consequences of more experiential versus more agentic forms of objectification and examine what kinds of psychological situations at work are more strongly related to denial of agency than to denial of experience, and vice versa.

Conclusion

In his famous "formula of humanity," Immanuel Kant cautioned that one should "treat humanity . . . always as an end, never merely as a means" (Kant, 1785/1998). Expanding upon Kant's conceptualization of likening people to "means," the current article examines the phenomenon of *objectification*, seeking to understand when it occurs, how it develops, and what its consequences are in the workplace. We demonstrate that objectification is context-dependent, occurring more frequently in work than non work contexts because work contexts elicit stronger calculative and strategic mindsets whereby people think about the rational costs and benefits of how to spend their time and energy. Because most people spend the majority of their waking hours

in their place of work, these findings have widespread relevance. Objectification in the workplace is linked to incivility, reduced satisfaction, and broader workplace problems like hostility and bullying. Reshaping people's understanding of the purpose of business may be the first step to creating workplaces where people can truly thrive.

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