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OBJECTIFICATION AND CREATIVITY

BY

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DISSERTATION

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ABSTRACT

The current research investigates whether and how the objectification of individuals may affect their creative performance. Drawing upon the objectification theory, I posit that being viewed or treated as a non-human instrument for organizational use (i.e., objectification) hinders individual creativity. Further, I examine the underlying mechanisms and propose that objectification dampens creativity by constraining felt autonomy, decreasing a sense of uniqueness, and undermining intrinsic motivation. In a series of studies, I find evidence largely in support of these predictions. I discuss the theoretical contributions of these findings and the practical implications for organizations and individual professionals.

*I dedicate this work to the chase and search that I grew tired of, through which I learned to find,
and to every wind that blows in my face, with which I learn to sail.*

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“There you are, your own number on your very own door. And behind that door, your very own office! Welcome to the team, DZ-015.” (Mr. Warrenn, *Brazil*, 1985¹)

“It is very important that area managers understand that associates are more than just numbers. We are human beings. We are not tools used to make their daily/weekly goals and rates.” – Anonymous employee at Amazon’s New York warehouse JFK8 (Kantor, Weise, & Ashford, 2021²)

INTRODUCTION

Creativity, defined as the production of novel and useful ideas and solutions, is in increasing demand (Amabile, 1996). Creativity has been seen as a driving force of growth and success in today’s business world. The generation of creative ideas, products, and processes is considered a unique source of competitive advantage for organizations that will “...invariably result in identifiable benefits” (Anderson, Potocnik, & Zhou, 2014, p.1298). The desirability of creativity is perhaps the most salient when it is connected to important economic goals such as product sales, consumer evaluation, firm performance, and market share (Bell, 1992; Heunks, 1998; Im, Bhat, & Lee, 2015; Imran, Ilyas, Aslam, & Fatima, 2018). Consequently, many organizations are eager to solicit creative efforts from their employees. However, such desire for creativity is not always satisfied, as there could be other adverse influences in the organizational context that discourage creativity. The current research identifies one such influence that will likely thwart creative endeavors—organizations’ objectification of employees, defined as the

¹ <https://www.imdb.com/title/tt0088846/characters/nm0007183>

² <https://www.nytimes.com/interactive/2021/06/15/us/amazon-workers.html>

organizations' perception and treatment of individuals as non-human objects, tools, and instruments (Baldissarri, Andrighetto, Gabbiadini, & Volpato, 2017; Budesheim, 2014).

For example, imagine the following managerial scenario. A manager calls for ideas from employees for improving customer services and ends the conversation with the following message: "You are a valuable *asset* to this company. We rely on you to *capitalize on* your talent to generate *profit* for this company." Alternatively, the manager could say: "You are a valuable *person* to this company. We rely on you to make use of your talent to create *value* for this company." How will the different messages affect the message receivers' creativity? Upon receiving the messages, will the employees be more likely to pursue and share ideas that are pragmatic, feasible, and commonplace in the market, or ideas that are creative and original, the success of which remains to be seen?

At first glance both messages may seem well-intended and motivating. A closer look will reveal that the first message is comparing individuals to non-human instrument of profit. Such a comparison can exist in overt expressions such as "you are a valuable asset"; it can also be conveyed subtly by phrases such as "capitalize on" and emphasis on "profit" rather than "value". Given the increasing emphasis on market logic and economic goals such as efficiency and profitability in organizations (Lounsbury, 2002; Meyer & Hammerschmidt, 2006; Thornton & Ocasio, 1999; Zajac & Westphal, 2004), organizational contexts often talk about people as instruments of profit. For example, organizational discourse often refers to persons only "as a means to accomplishing organizational ends (e.g., 'people are an asset to be allocated')", or "as commodities, products, or resources of monetary value (e.g., 'human capital')" (Rochford, Jack, Boyatzis, & French, 2017, p. 9). According to Cheney and Carroll (1997), such discourses in and

around organizations are illustrations of the objectification of persons, that is, individuals come to be viewed and treated as objects, tools, and things.

Drawing upon objectification theory (Nussbaum, 1995), the argument developed in the current research is that an organization's tendency to objectify their members is incongruent with creativity, and such an incongruency may manifest in various forms, including the suppression of individuals' generation and disclosure of creative ideas.

The current proposal makes a number of contributions. First, it contributes to the objectification theory by joining the growing discussions on workplace objectification and examining the theoretical links between objectification and creativity. Second, the current research contributes to the creativity literature by identifying the conflict between organizational contexts that objectify their members and individual creativity.

OBJECTIFICATION

Objectification, defined as the perception and treatment of individuals as objects, is widely practiced and experienced in social life (Baldissarri et al., 2017; Budesheim, 2014; Haslam, 2006). Most research on objectification focuses on either sexual objectification or workplace objectification. Nussbaum (1995) offered a detailed proposal on seven concerns raised by objectification that has been applied to both the sexual and the work domain (Auzoult & Personnaz, 2016; Baldissari, Andrighetto, & Volpato, 2014): *instrumentality* (the target is treated as a means to someone else's ends), *denial of autonomy* (the target lacks self-determination), *inertness* (the target lacks in agency, and perhaps also in activity), *fungibility* (the target is replaceable), *violability* (the target lacks boundary integrity and can be broken into), *ownership* (the target is owned), and *denial of subjectivity* (the target lacks subjective experiences). I will return to a more detailed discussion on this account as well as its implications for creativity in a later section.

Causes of Objectification

Objectifying people is common in social and cultural life. For example, Fredrickson and Roberts (1997) posited that female can be objectified in social encounters and interpersonal communications, in which males conduct visual inspection of their body (i.e., male gaze) and deliver evaluative commentaries verbally. Communications as simple and innocent as a complement on one's appearance could engender feelings of sexual objectification because it encourages females to construct their self-worth based on their physical attributes that are subject to external sanctions (Quinn, Kallen, Twenge, & Fredrickson, 2006). Second, sexual objectification of females can happen as a result of being exposed to visual media portrayals of the male gaze, such as in magazines, advertisements, and pornography (Busby & Leichty, 1993;

Reichert & Carpenter, 2004). These analyses suggest that cues in the social environment can contribute to the experience of being objectified.

Similar to sexual objectification, workplace objectification has been found to be induced by the social environment individuals are embedded in and the social motives it engenders. For example, Belmi and Schroeder (2021) found that individuals are more likely to objectify others at work than outside of work; this tendency is attributable to individuals' higher motive to think strategically and calculatedly at work. These findings suggest that the social context of work and the motive induced by it are a major catalyst for objectification. Gruenfeld, Inesi, Magee, & Galinsky (2008) identified power disparities as a cause of objectification. They found that powerful people tend to view powerless people as tools for advancing their own interests. Uncertainty about relationships also contributes to objectification. Landau, Sullivan, Keefer, Rothschild, & Osman (2012) found that when managers were uncertain about their ability to cultivate positive relationships with employees, they tended to evaluate employees based on how they contribute to workplace goals rather than the broader array of attributes that make up their personalities.

A further way in which social environments and social motives can lead to objectification is through interacting with others as customers and clients. For example, theorists concerned with the health care industry have criticized the objectification of patients in medical practices (Haque & Waytz, 2012; Timmermans & Almeling, 2009). The objectification in the medical world is theorized to be driven by various factors such as the de-individualizing practices (e.g., patient anonymity), mechanization (e.g., thinking of patients as mechanical systems made up of interacting parts), and empathy reduction (e.g., disregarding patient's subjective experience of pain in order to achieve better medical problem solving) (Haque & Waytz, 2012).

Still more broadly, the modern economic system of capitalism and the industrial structure of work is theorized to objectify people. It is argued to render individuals as tools, instruments, and things that are interchangeable and owned by their employing organizations (Auzoult, 2020). For example, Marx (1844) generated the construct of alienation, which concerns the separation of individuals' work from themselves, thereby rendering their labor to a commodity for sale and objectifying the producers. Through this process, an individual is reduced to a means to an end, who exists to serve and is governed by the production of things. Consistent with this theorizing, the separation of workers from their work and the focus on work products has been found to exacerbate the objectification of workers (Andrighetto, Baldissarri, & Volpato, 2017).

Similarly, Fromm (1941, 2010) argued that in modern capitalism, workers are constrained in their movements and pace of work and placed in the role of an instrument at the service of machines. Workers' existence serves the sole purpose of increasing production, and they gradually internalize the demands of the industrial system and lose personal freedom (Blauner, 1964; Fromm, 1941, 2010). Lastly, Arendt (1958) raised the concern that the prioritization of the economic in the industrial system would reduce workers to *Animal Laborans*, or a passive entity whose agency and autonomy are neglected.

Extending these philosophical perspectives, empirical research links characteristics of job design to the objectification of workers (Andrighetto et al., 2017; Baldissarri et al., 2017). Andrighetto et al. (2017) found that factory workers whose work was described as repetitive, fragmented, and other-directed were perceived by others as objects (e.g., "instrument", "device", "tool", "thing" and "machine") rather than human beings (e.g., "human being", "person", "individual", "subject" and "guy"); these objectified targets were also perceived as *not* having mental states pertaining to perceptions (e.g., hearing and seeing), emotions (e.g., fear and

pleasure), thoughts (e.g., thinking and reason) and intentions (e.g., plans and wishes) (Mental State Attribution task (MSA); Haslam, Kashima, Loughnan, Shi, & Suitner, 2008).

Baldissarri et al. (2017) extended the association between these features of work tasks from objectification of others to self-objectification. In three experiments, they found that when participants were assigned to complete work tasks that were repetitive, fragmented and other-directed (e.g., repeatedly building a window out of five wooden pieces under time pressure vs. building an entire wooden house without constraint of time and material), they reported increased self-objectification as measured by (i) greater perceived similarity between oneself and objects and (ii) reduced ability to experience human mental states (Self-Mental State Attribution task (SMSA); Baldissarri et al., 2014).

Aside from the characteristics of the work task, organizational culture has also been found to relate to workplace objectification. This work draws on Quinn's (1988) four dimensional model of organizational culture, defining culture as consisting of (1) rules, i.e., encouraging respect for authority, rationality of procedures, and division of labor and written formal communication; (2) support, i.e., encouraging participation, cooperation, trust, and verbal and informal communication; (3) innovation, i.e., encouraging creativity, openness to change, participation and involvement; and (4) goals, i.e., encouraging attention to performance indicators and the accountability and accomplishment of employees. A survey study with more than 300 employees from various industries found that a rule-orientation culture positively associates with worker objectification, whereas support, innovation, and goals negatively associated with worker objectification (Auzoult & Personnaz, 2016). Another study with an experiment and a field survey using a diverse sample of workers found that perceived organizational support negatively associates with employees' felt objectification at work

(Caesens, Stinglhamber, Demoulin, & De Wilde, 2017). A field survey linked organizational injustice with perceptions of objectification (Bell & Khoury, 2011).

In addition to organizational maltreatment, leadership has been found to play a role in predicting objectification. Specifically, the perception of objectification is positively predicted by abusive supervision and negatively predicted by leader-member exchange (Caesens, Nguyen, & Stinglhamber, 2019; Stinglhamber, Caesens, Chalmagne, Demoulin, & Maurage, 2021).

Lastly, research has shown that work environment also explains objectification. Using both surveys and qualitative interviews, research found that different office designs predict different levels of objectification. For example, compared to a cell office, flex desks are more likely to lead employees to feel objectified (Taskin, Parmentier, & Stinglhamber, 2019).

In sum, objectification is a prevalent phenomenon shaped by the cultural milieu and social environment that individuals are embedded in. Particularly, the modern organizational context is permeated with elements that may propagate objectification. Factors such as interpersonal communications and interactions, power structure, organizational culture, work environment and task features have been found to promote the perception and treatment of individuals as objects, tools, and instruments.

Consequences of Objectification

Given the prevalence of objectification, mounting research has examined its consequences for the objectified individuals. Sexual objectification has a range of negative effects on individual well-being. For example, it has deleterious effects on health, including depression, shame, sexual dysfunction, and eating disorders (Breines, Crocker, & Garcia, 2008; Lindner & Tantleff-Dunn, 2017; McKinley & Hyde, 1996; Noll & Fredrickson, 1998).

Workplace objectification has also been linked to increased burnout and psychological strains as

well as decreased self-esteem (Baldissari et al., 2014; Caesens et al., 2017; Caesens et al., 2019; Nguyen & Stinglhamber, 2021; Stinglhamber et al., 2021; Szymanski & Feltman, 2015; Szymanski & Mikorski, 2016; Taskin et al., 2019). Particularly, several outcomes of organizational significance have been found to ensue from workplace objectification, such as decreased job satisfaction, decreased affective organizational commitment, decreased extra-role performance, decreased voice behaviors, decreased trust in organizations and increased turnover intentions (Bell & Khoury, 2016; Belmi & Schroeder, 2021; Caesens et al., 2019; Stinglhamber et al., 2021; Taskin et al., 2019; Väyrynen & Laari-Salmela, 2018).

Objectification can also harm task performance. For example, objectified females have been found to show decreased performance on math tests, Stroop color-naming tasks, Nonsense Syllogisms Tests, and spatial orientation tasks; these effects were proposed to be driven by attention being devoted to monitoring one's physical appearance when one is sexually objectified, thereby reducing the amount of attention available for the task at hand (Fredrickson et al., 1998; Hebl, King, & Lin, 2004; Quinn et al., 2006; Tiggemann & Boundy, 2008; Wiener, Gervais, Allen, & Marquez, 2013). Objectification's effects on motivation are a further basis for lowered task performance. For example, Baldissarri and Andrighetto (2021) found that after receiving objectifying treatment from the experimenter, individuals showed decreased work motivation, which led them to perform worse on a subsequent Stroop task and proofreading task.

In sum, objectification has detrimental effects on individuals' well-being. Particularly, work-based objectification has been found to negatively affect a range of attitudinal and behavioral outcomes in the workplace. The current proposal aims to join the growing research on the downstream consequences of objectification by investigating the tension between objectification and creativity.

The Tension Between Creativity and Objectification

Prior research shows that objectification dampens task performance by diverting individuals' attention away from the focal task and decreasing individuals' overall task engagement (Baldissarri & Andrighetto, 2021; Fredrickson et al., 1998; Hebl, King, & Lin, 2004; Quinn et al., 2006; Tiggemann & Boundy, 2008; Wiener, Gervais, Allen, & Marquez, 2013). These results could be taken to imply that objectification will indiscriminately decrease task performance regardless of whether the task involves creativity or not, thereby diminishing the theoretical meaningfulness of the link between objectification and creativity. While I acknowledge that the detrimental effect of objectification is observed across a wide range of behavioral outcomes, below I present arguments attempting to support the postulation that objectification might be particularly harmful to creativity.

First, creativity, along with knowledge sharing and change initiation, has been theorized as an extra-role behavior in the workplace because it often requires going beyond the confines of one's job description and be proactive and adaptive (Eldor & Harpaz, 2016). However, there are indications from the literature that objectification dampens extra-role performance but not necessarily in-role performance. Specifically, in a survey study on more than five-hundred employees, Taskin et al. (2019) found that felt objectification at work significantly negatively associated with extra-role performance. Interestingly, no relationship was found between felt objectification and in-role performance. That is, while objectified employees reported to have adequately performed the normal functions of their jobs, they were less likely to spontaneously and voluntarily exert additional efforts to help increase organizational effectiveness. To the extent that creativity involves the self-initiated alterations of the status quo that fall out of the

immediate expectations of one's normal job function (i.e., extra-role), it might be particularly susceptible to the impact of objectification.

Second, the proposition that objectification is uniquely incongruent with creativity can also find its root in the humanistic psychology theories. Specifically, Maslow (1968) proposed that creativity, along with spontaneity, expressiveness, and idiosyncrasy, are the epiphenomena of achieving self-actualization. Maslow regarded creativity as a fundamentally and inherently human practice and value, and the representation of the realization of "...the potentialities of a person" or the process of "...becoming a full human" (Maslow, 2013, p.279). Similarly, Fromm (1959) argued that the cultivation of creativity is equivalent to the cultivation of an individual human being's health, growth, and overall well-being. To the extent that objectification entails an adverse experience of stripping away one's individuality and infringing upon one's integrity as a human being, it may pose threats to the non-restrictive and enriching environment that is needed for individuals to achieve growth, self-actualization, and fulfillment of creative potentialities (Anderson, 1959).

Lastly, in a similar vein, creativity theorists have long proposed that creativity is a fundamental feature of human intelligence, and therefore a difficult hurdle to surpass for non-human entities such as tools and machines (Ritter & Rietzschel, 2017). For example, Guilford (1967) maintained that creativity is one of the most important domains in which humans are superior to and therefore differentiated from machines. Boden (1998, 2009) argued that human beings' ability to make sense of the huge store of knowledge and concepts actively and aptly in the creative process is likely inimitable even to the most advanced systems of machines. To the extent that creativity is uniquely and inherently connected to one's humanness, being dehumanized as an object will likely impede but not facilitate an individual's creativity.

Hypothesis 1. Objectification, i.e., being viewed or treated as objects is negatively associated with an individual's creativity.

The Potential Mechanisms Underlying the Tension Between Objectification and Creativity

Having made a general proposition about the incongruence between objectification and creativity in Hypothesis 1, next, I substantiate the claim by further identifying and concretizing the mechanisms through which the tension may play out. Specifically, I propose that objectification may hinder creativity by constraining felt autonomy, suppressing one's sense of uniqueness, and substituting extrinsic motivations for intrinsic motivations. I will discuss the three influences in order in the subsequent sections.

Of note, I acknowledge that the proposed mechanisms are theoretically interrelated. However, for conceptual clarity and comprehensiveness, the current research examines each of them separately. I invite the audience to inspect the argumentations below as an attempt to sketch out the interconnected frames that jointly constitute the foundation undergirding the predicted incompatibility between objectification and creativity. I will revisit the issue of the theoretical overlap of the proposed mechanisms and how more nuanced analysis of their interwovenness and subsumption can be achieved in future research in the general discussion.

Autonomy

First, objectification implies the denial of autonomy (Nussbaum, 1995), whereas creativity often requires autonomy. Self-determination theory defines autonomy as a psychological feeling of freedom and volition; it reflects the extent to which individuals make choices that are volitional and willingly enacted (Deci & Ryan, 2000). With autonomy, individuals are allowed to explore their own environment, determine their own course of action, decide for themselves what is important; by contrast, individuals lacking autonomy often

experience being controlled by external forces in their behaving, thinking, or feeling (Deci & Ryan, 2000).

Because objects are perceived as passive entities that are owned, controlled, and used, they cannot act on their own but instead are acted upon (Molina, Van de Walle, Condry, & Spelke, 2004). As objects, individuals are regarded as non-autonomous and inert; they are not allowed to act independently and treated as being incapable of activity or agency (Nussbaum, 1995; Zurbriggen, 2013).

Several studies supported the proposition that being objectified suppresses people's sense of autonomy. Specifically, in a series of experiments, Baldissarri et al. (2017) found that after working on an objectifying task (i.e., a task that is repetitive, fragmented, and other-directed), participants reported decreased belief in their free will. This finding was later replicated in a field survey with more than 300 employees, which shows that both (i) self-reported objectifying job features (i.e., repetitiveness, fragmentation, and other direction) and (ii) self-perception as being instrument like negatively associated with beliefs in personal free will (Baldissarri, Andrighetto, & Volpato, 2019).

The denial of autonomy would also imply higher rate of conformity, because forming one's own opinions rather than following those of others require a sense of agency and control over one's own actions (Alquist, Ainsworth, & Baumeister, 2013). Therefore, it follows that objectified individuals will likely show increased conformity. This proposal has been supported by empirical studies. Specifically, research found that after working on or writing about working on an objectifying task, participants reported greater conformity tendencies on a scale (Baldissarri, Andrighetto, Di Bernardo, & Annoni, 2020). Another study using a behavioral measure of conformity replicated this pattern and found that after completing an objectifying

task, participants showed increased tendency to adjust their judgments based on others' opinion (i.e., conformity) in estimating the number of dots in a visual test (Andrighetto et al., 2018).

There are abundant indications in the literature that autonomy and creativity go hand in hand. For example, in social perception, creativity is often attributed to individuals with high propensity to assert their autonomy and engage in self-direction (Proudfoot, Kay, & Koval, 2015). Further, creative activities have been found to entail an enactment of one's own preferences (Goncalo & Katz, 2020). Participation in creative activities feels liberating (Goncalo, Vincent, & Krause, 2015) and self-expressive (Rank, 1932), suggesting that being creative is congruent with having the latitude to apply self-governance without constraints (Dahl & Moreau, 2007). Indeed, creativity has been found to increase when individuals are afforded with the freedom to disregard rules and conventions and to diverge from the normative expectations from the external environment (Duguid & Goncalo, 2015; Gino & Wiltermuth, 2014).

More specifically, organizational theorists have argued that having freedom of choice in terms of work methods, pace, and effort helps individuals to break free from external controls, encourages risk taking and alternative thinking, and promotes novel combinations among multiple dimensions of a work task (Deci, Connell, & Ryan, 1989; Oldham & Cummings, 1996), all of which are believed to be conducive to creativity (Amabile, 1988; Oldham & Cummings, 1996). Direct evidence linking autonomy with creativity at work comes from a field survey with 167 dyads of supervisor and subordinate, which found that a working environment that supports autonomy will facilitate individual creativity (Wang & Cheng, 2010). Therefore, one reason objectification is in tension with creativity is because it can suppress individuals' autonomy.

Hypothesis 2a. Felt autonomy will partially mediate the relationship between objectification and creativity.

Uniqueness

A second way in which objectification could dampen creativity is through suppressing individuals' sense of uniqueness. Objectification likely entails the sense of fungibility, or the sense that individuals feel they are just another face in the crowd (Nussbaum, 1995). In contrast, creativity seems to thrive when individuals have a pronounced sense of uniqueness. According to objectification theory, objectified individuals are regarded as replaceable objects (Nussbaum, 1995). Evidence attesting to the notion of fungibility comes from an experiment using a body-face matching task (Gervais, Vescio, & Allen, 2012). Participants made more mistakes when pairing the body and face of targets who were sexually objectified than those who were not. These results suggest objectification likely diminishes the perceived uniqueness of individuals. In the workplace, objectified workers are fungible in the eyes of an employer, as they are often viewed as a set of body parts performing a job that another person (or even a machine) with similarly functioning parts could replace (Marx, 1844).

To the extent that the observers' objectifying perspective is internalized (Auzoult & Personnaz, 2016; Fredrickson & Roberts, 1997), it is plausible to argue that when feeling objectified by external influences, individuals' own sense of uniqueness will likely become suppressed. This internalization process is possible because people's sense of self is largely a reflection of how they are seen by others, and so is shaped by their social experiences (Cooley, 1902). Self-objectification, specifically, is argued to proceed through several steps (Costanzo, 1992). It begins with compliance with subtle external pressures that are objectifying, such as objectifying comments from others in social interactions. It proceeds through repeated exposures to and compliance with such pressures. It ends with the incorporation of the once socially imposed objectifying views into one's own sense of self (Costanzo, 1992). Therefore, to the

extent that particular social contexts such as the workplace accentuate individuals' awareness of the observers' perspectives on their fungibility as a non-human tool (Auzoult & Personnaz, 2016), certain objectifying experiences are likely to ensue, which through a socialization and self-regulation process could result in self-objectification and a lowered sense of unique self.

Creativity is more likely to bloom with a pronounced rather than suppressed sense of uniqueness. To be creative is to diverge in a novel direction from the status quo (Amabile, 1983). Creative ideas are often those that deviate from or even run counter to the existing knowledge (Ward, 1994). Given that creative ideas are unique, rare, and unusual, individuals with a propensity to stand out and assert their unique point of view are theorized to have more potential for generating creative outcomes (Förster, Friedman, Butterbach, & Sassenberg, 2005; Galinsky, Magee, Gruenfeld, Whitson, & Liljenquist, 2008).

Moreover, because creative ideas are often unorthodox and controversial, those who generate creative ideas may face rejection and disapproval from others (Amabile, Barsade, Mueller, & Staw, 2005; Mueller, Goncalo, & Kamdar, 2011). Therefore, the pursuing, communicating, and sharing of creative work likely requires one to be resistant of the pressure to conform and to be willing to stand the risk of criticism (Förster et al., 2005; Nemeth & Staw, 1989).

According to Fromkin and Snyder (1980), individuals with a pronounced sense of uniqueness are characterized by a lack of concern regarding social evaluation, a tendency to deviate from the established precedents, and a willingness to stand by their independent beliefs, ideas, and actions. These tendencies and characteristics have been identified by the above theorization as being conducive to creativity. Empirically, research has shown that a pronounced sense of being unique and distinct, or what has been called a differentiation mindset, is positively

associated with novelty seeking, nonconformity, and creative performance in ideation tasks (Burns & Brady, 1992; Kim, Vincent, & Goncalo, 2013). The above evidence and arguments suggested a positive link between an individual's creativity and their heightened sense of uniqueness. A plausible corollary is that a lowered sense of uniqueness is likely incongruent with the demands of creativity, therefore may at best fail to encourage creativity, and at worst hinder creativity. Taken together, I propose that objectification will likely impede creativity by suppressing a sense of unique self.

Hypothesis 2b. Felt uniqueness will partially mediate the relationship between objectification and creativity.

Intrinsic and extrinsic motivation

A third way in which objectification may suppress creativity is through the substitution of extrinsic motivation for intrinsic motivation. Motivation refers to a desire to engage in an activity. Such desires could be grounded in intrinsic reasons as well as extrinsic reasons (Ryan & Deci, 2000). Intrinsic motivation refers to the desire to do something for its own sake, because of an individual's own interest in and enjoyment of the task itself (Amabile, 1996; Ryan & Deci, 2000). In contrast, extrinsic motivation refers to the desire to do something for purposes outside of and separable from a task, such as an expected reward, evaluation, competition, and surveillance (Amabile, 1996; Deci & Ryan, 1985).

Amabile's (1988) componential theory of creativity identified intrinsic motivation, but not extrinsic motivation, as a facilitator of creativity. Since then, a plethora of research has tested the positive effect of intrinsic motivators on creativity. For example, curiosity and passion have been found to positively associate with creativity (Karwowski, 2012; Sternberg, Kaufman, & Pretz, 2002; Shin & Zhou, 2003). By contrast, extrinsic motivators have been found to dampen

creativity—individuals facing external evaluation or competition, being offered or reminded of the rewards to their work produced less creative outputs compared to their counterparts (Amabile, 1979, 1982a, 1985; Kruglanski, Friedman & Zeevi, 1971; McGraw & McCullers, 1979). Such effects are due to the constraints that extrinsic motivators imposed on individuals' cognitive flexibility; external factors such as evaluation or surveillance may engender apprehensions and concerns in individuals, limiting them from freely exploring the available choice set (Amabile, 1985).

Aside from cognitive flexibility, persistence is another pathway through which intrinsic motivation may benefit creativity (De Dreu, Baas, & Nijstad, 2008). To be creative requires the concentration of effort for long periods of time and the perseverance in the face of frustration (Amabile, 1983). When people engage in a task out of personal interest and passion, they tend to devote longer time and more effort to the task (Joy, 2004; Zhou & George, 2001), which will lead to increased creative performance in the task (Lucas & Nordgren, 2015).

Being objectified is likely to lead individuals to substitute extrinsic motivations for intrinsic motivations. As objects, individuals are regarded “as entities whose experiences and feelings need not be taken into account” (Nussbaum, 1995, p.257). In the things-like treatment of people, individuals are regarded as lacking the capacity for internal and subjective experiences, rendering their mental states, emotions, and thoughts irrelevant or unimportant (i.e., denial of subjectivity) (Zurbriggen, 2013). Consistent with these theoretical arguments, empirical research shows that the lack of subjective preferences evokes dehumanization; those that lack likes and dislikes are viewed by others as less human (Lopez, Woolley, & McGill, 2021). More directly, research on objectification shows that when objectified, individuals reported decreased internal mental states pertaining to perceptions, emotions, thoughts, and intentions (Andrighetto et al.,

2017; Baldissarri et al., 2017). Therefore, objectified individuals will likely stop asking what interests them and what gives them satisfaction and enjoyment as individual persons (Nussbaum, 1995). In sum, the denial of subjectivity in the objectification process will lead individuals to reduce their focus on their own interests and needs, resulting in the dismissal of intrinsic motivations.

As the significance of intrinsic motivators declines, it is possible that objectification reduces all motivation. But objectification also likely increases a focus on extrinsic motivators. As Nussbaum (1995) argued, objectified individuals are instrumentalized as they are treated as a means to someone else's ends. Therefore, objectified individuals are regarded as lacking intrinsic worth; they are only valuable to the extent that they serve the external observers' expectations and demands. This could increase objectified individuals' sensitivity to and focus on external motivators as those provide feedback about meeting external observers' expectations and demands.

In sexual objectification, females are instrumentalized based on the social value of their appearances. They are evaluated by the "beauty standards" that derive from the external audiences' expectations. Their sense of self-worth hinges on the instrumental value of their body parts for the use and pleasure of others (Bartky, 2012; Langton & Langton, 2009; Fredrickson & Roberts, 1997). More generally, envisioning oneself as an object necessarily implies that the criterion they use for evaluating and validating self-worth becomes narrowly contingent upon an external and impersonal valuation metric. For sexual objectification, the valuation metric is centered around one's physical appearance. For workplace objectification, the valuation metric is likely centered around one's usefulness in serving organizational goals. Therefore, when individuals are subordinated to the rationalities of a useful object, they tend to focus more on

their instrumental value rather than their inherent characteristics. Doing so implies that they will concentrate attention on an external valuation system and cater to the external observers' demands to prove their "usefulness". To the extent that workplace objectification makes salient a valuation metric that exists external to a focal individual, such a process will likely shift individuals' attention away from the intrinsic motivators towards the extrinsic motivators. More formally, I predict that objectification will likely lead to the decrease of intrinsic motivation and the increase of extrinsic motivation (i.e., a substitution), and the two changes in opposite directions will jointly lead to reduced creativity.

Hypothesis 2c. The substitution of extrinsic motivation for intrinsic motivation will partially mediate the relationship between objectification and creativity.

In hypothesizing about the mediation roles of intrinsic and extrinsic motivation, I largely draw upon classical creativity research in the 80s. However, it is important to acknowledge the latest developments in the contemporary motivation research, especially regarding the role of extrinsic motivation. For example, in a meta-analysis of over forty years of motivation research, Cerasoli, Nicklin, and Ford (2014) found that intrinsic motivation is key to performance; however, when extrinsic motivators such as incentives are directly linked to performance, the predictive power of intrinsic motivation on performance becomes weaker. The meta-analysis also reveals that intrinsic and extrinsic motivation affect different facets of performance, such that the former predicts quality and the latter quantity. A recent study by Kachelmeier, Wang, and Williamson (2019) provided support for the view that extrinsic motivation does not necessarily stifle creative performance. In two experiments, they found that providing participants with quantity incentives boosted the quantity of ideas generated; such a beneficial

effect of incentives spilled over to a subsequent task and increased the quality of creative solutions generated.

In the context of the current research, the aforementioned findings can be taken to imply three possibilities. First, to the extent that intrinsic motivation but not extrinsic motivation plays a primary role in determining creative performance as implied by Cerasoli et al. (2014), the dampening effect of objectification on creativity might be primarily explained by the decrease in intrinsic motivation but not the increase in extrinsic motivation. Second, when objectification entails the provision of incentives (e.g., monetary compensation) that are directly tied to creative performance, the negative impact of decreased intrinsic motivation on creativity might be countervailed by the presence of additional extrinsic motivators. Third, assuming that objectification decreases intrinsic motivation but increases extrinsic motivation, it is possible that such changes will only hurt the quality of creative solutions but not quantity. Here I do not make formal predictions regarding these speculations. Instead, I leave them as open questions that will be revisited in relation to the empirical results obtained.

Aside from Cerasoli and colleagues (2014), theorists such as Amabile and Pratt (2016) have also noted the need to rethink the motivation element in creativity research. Specifically, they proposed that some form of extrinsic motivators could enhance intrinsic motivation. For example, informational extrinsic motivators, such as feedback that allows one to grow and that confirms the value of one's creative endeavors, might act in concert with intrinsic motivation to increase creativity; such extrinsic motivators are therefore referred to as synergistic extrinsic motivators. Meanwhile, some extrinsic motivators are not synergistic but controlling in nature; their presence will lead people to feel controlled by an external force, thereby dampening intrinsic motivation and creativity. In addition to this new theoretical taxonomy of synergistic

and controlling extrinsic motivation, Amabile and Pratt (2016) also highlighted the importance of understanding the role of motivation in relation to the stage of the creative process. Specifically, they argued that intrinsic motivation (and relatively weaker extrinsic motivation) might be particularly beneficial in the first stage of task presentation and the third stage of idea generation, whereas stronger extrinsic motivation of the synergistic type is more important in the second stage of preparation and the fourth stage of idea validation and communication. This is because intrinsic motivation is more important to the novelty aspect of creativity, which is determined in the first and third stage, whereas extrinsic motivation is more important to the usefulness or appropriateness aspect of creativity, which is critical in the second and fourth stage (Amabile & Pratt, 2016).

In the context of the current research, I refrain from making formal predictions regarding the potential beneficial effects of extrinsic motivation on creativity based on the above theorization from Amabile and Pratt (2016). The refrain is motivated by two reasons. First, the seminal objectification theory from Nussbaum (1995) and the organizational research ensuing from this framework both have portrayed the objectification process as one that revolves around control. Theorists have described objectification as “the forced surrender of control over the act and product of labor...” (Bell, & Khoury, 2011, p.170); they have also described the objectifiers as having disproportionate control over the objectified (Galinsky et al., 2008) and those objectified as “...deprived of control over the central means of their self-definition as humans” (Nussbaum, 1995, p.263). A corollary of these theoretical perspectives is that the extrinsic motivations engendered in the objectification process are more likely to be of the controlling type (i.e., a deterrent to creativity) as opposed to the synergistic type (i.e., a facilitator of creativity). As the first attempt at addressing the relationship between objectification and

creativity, the current research therefore chooses not to put the primary focus on the potential beneficial effect of extrinsic motivation. Second, examining the facilitative role of extrinsic motivation requires specialized empirical designs, such as segregating the different stages of the creative process and providing participants with additional performance-contingent incentives. These specialized dedications may not be the most synergistic with other objectives of the current study.

Based on the confinement of the conceptual and empirical scope of the present research, I therefore do not formally theorize about the possible beneficial effects of extrinsic motivation on creativity. Instead, I leave them as open questions that will be revisited in the general discussion.

OVERVIEW

In sum, I propose that objectification negatively associates with creative performance because the objectification process constrains individuals' feelings of autonomy, reduces their sense of uniqueness, and encourages a focus on extrinsic motivations rather than intrinsic motivations. I conducted eight studies to test the above predictions. Study 1 used a survey method to test H1 correlationally. Additionally, the secondary goal of Study 1 was to provide initial evidence for the proposed mediation effects. Study 2 employed the critical incident methodology to investigate whether objectification at work negatively associates with organizations' endorsement of creative ideas. To follow up with the two survey studies and their correlational findings, Study 3 used an experimental design to causally examine the effect of objectification on perceived organizational desire and support for creativity. Next, Study 4 directly examined the effect of objectification on individual creative performance by using a recipe design task. It also causally tested the mediating roles of the three proposed mechanisms. Jointly, Studies 1-4 recruited diverse samples (i.e., working professionals, online participants), used both correlational and causal methods, and examined the different facets of creativity, including self-reported creative behaviors, occupational demand for creativity, organizational support for creativity, and actual creative performance.

To more robustly examine the mechanisms underlying the tension between objectification and creative performance, four more experiments were conducted. Study 5 aimed to test whether the experience of being objectified will causally decrease autonomy, sense of uniqueness, and intrinsic motivation. Moreover, to examine the conceptual distinctness of the proposed mechanisms, I conducted exploratory factor analysis in Study 1 and confirmatory factor analysis in Study 5. In the last three experiments, I followed the moderation-of-process

design (Spencer, Zanna, & Fong, 2005) to directly manipulate each of the hypothesized mediators and examined their causal effect on creativity, testing H2a (Study 6), H2b (Study 7), and H2c (Study 8) with different measures of creativity, respectively.

Of note, the studies also attempted to address concerns with several competing mechanisms, including status at work (Studies 1 & 2), power and affect (Study 3), and overall motivation (Study 4). The studies also examined the specificity of the relationship between objectification and creativity by testing whether creative (vs. noncreative) performance is particularly susceptible to the negative impact of objectification.

STUDY 1: FELT OBJECTIFICATION AT WORK AND CREATIVITY

The primary goal of study 1 was to provide an initial test of the proposed negative association between objectification and creativity. To do so, I used a survey method to measure self-reported objectification at work and creativity among a sample of working professionals with an online questionnaire.

Method

Participants

Three-hundred and twenty-two iMBA students at a mid-west university in the U.S. were recruited to take part in a study on “work experience” in exchange for course credits. Five participants didn’t complete the survey and were therefore excluded from the analysis, leaving a final sample of three-hundred and seventeen participants with an average tenure of 14.02 years (64% male; 53% White; $M_{\text{age}} = 37.53$; $SD_{\text{age}} = 8.03$).

Procedures

Participants were told that this was a survey about their current or most recent employing organization and that they were to complete a few unrelated tasks in this study. They completed a set of questions that were intended to measure creativity and objectification of self at work. Following that were measures gathering other job-related information as well as the demographics. All the participants answered the same set of questionnaires in English. Unless otherwise stated, all the measures in the current study were based on a seven-point scale (1 = strongly disagree, 7 = strongly agree).

Measures

Organizational objectification ($\alpha = .95$). An eleven-item scale from Caesens et al. (2017) was used to measure organizational objectification: (1) “My organization makes me feel

that one worker is easily as good as any other”; (2) “My organization would not hesitate to replace me if it enabled the company to make more profit”; (3) “If my job could be done by a machine or a robot, my organization would not hesitate to replace me by this new technology”; (4) “My organization considers me as a tool to use for its own ends”; (5) “My organization considers me as a tool devoted to its own success”; (6) “My organization makes me feel that my only importance is my performance at work”; (7) “My organization is only interested in me when it needs me”; (8) “The only thing that counts for my organization is what I can contribute to it”; (9) “My organization treats me as if I were a robot”; (10) “My organization considers me as a number”; (11) “My organization treats me as if I were an object”.

Occupation innovation index. As the first step towards investigating the relationship between objectification and creativity at work, I included multiple measures to assess various aspects of creativity, including subjectively reported creative behaviors and relatively more objective indicators of occupation level creativity. Specifically, for the latter, I used the Occupational Information Network (O*NET) database (Peterson, Mumford, Borman, Jeanneret, & Fleishman, 1999) to identify the level of innovation in participants’ jobs. O*NET has been widely used by prior research to investigate job creativity (e.g., Tierney & Farmer, 2011).

Participants were directed to the O*NET website and searched for the occupational code that best matched their job. In cases where no occupational code was a good match, participants provided a description of their job. Among all the participants, one-hundred and ninety participants provided codes were matched successfully with the O*NET database on job innovation. O*NET describes the occupation innovation index as the extent to which the job “requires creativity and alternative thinking to develop new ideas for and answers to work-related problems”. The index ranges from 0 to 100; the greater the score is, the more integral

innovation is to the job. Therefore, this measure can be taken to indicate the extent to which individuals are required to engage in creative activities at work.

Creativity at work ($\alpha = .92$). In addition to the objective indicator of occupation innovation, participants also self-reported their creative behaviors at work by using the nine-item scale from Carmeli and Schaubroeck (2007): (1) “I demonstrated originality in my work”; (2) “I took risks in terms of producing new ideas in doing my job”; (3) “I found new uses for existing methods or equipment”; (4) “I solved problems that had caused others difficulty”; (5) “I tried out new ideas and approaches to problems”; (6) “I identified opportunities for new products/processes”; (7) “I generated novel, but operable work-related ideas”; (8) “I generated ideas revolutionary to our field”; (9) “I served as a good role model for creativity”.

A secondary goal of Study 1 was to test the three proposed mechanisms for their mediation effects. To this end, participants reported felt autonomy, sense of uniqueness, and intrinsic and extrinsic motivation at work.

Autonomy ($\alpha = .89$). Participants reported on a three-item scale adapted from Hackman and Oldham (1975): “At work, I feel like...” (1) “I can use my personal initiative and judgment in carrying out my work”; (2) “I have considerable opportunity for independence and freedom in how I do the work”; (3) “I can decide on my own how to go about doing the work”.

Uniqueness ($\alpha = .76$). Participants reported on a four-item interchangeability scale adapted from Auzoult and Personnaz (2016): “At work, I feel like...” (1) “I am a unique person”; (2) “I am another face in the crowd” (r); (3) “I am different from other people”; (4) “I am replaceable by others” (r).

Intrinsic and extrinsic motivation ($\alpha = .93; .84$). Participants indicated how much they were driven by intrinsic and extrinsic reasons at work by using the scale from Tremblay

Blanchard, Taylor, Pelletier, and Villeneuve (2009): “Why do you do your work? Please focus on your current (or most recent) job and indicate to what extent each of the following items describes the reasons why you are presently involved in your work” (1 = does not describe me at all, 7 = describes me very well). Intrinsic motivation: (1) “Because I derive much pleasure from learning new things”; (2) “For the satisfaction I experience from taking on interesting challenges”; (3) “For the satisfaction I experience when I am successful at doing difficult tasks”. Extrinsic motivation: (1) “For the income it provides me”; (2) “Because it allows me to earn money”; (3) “Because this type of work provides me with security”.

In-role performance ($\alpha = .68$). Previous discussion noted that it might be of theoretical interest to examine whether objectification uniquely undermines creativity, or whether its suppressing effect is domain general such that being objectified will decrease all types of job performance across the board. Creativity, along with knowledge sharing and change initiation has been theorized as an extra-role behavior (Eldor & Harpaz, 2016). Therefore, it is theoretically plausible to use in-role performance as a comparison point against creativity. The goal was to examine whether objectification negatively associates with creative performance, more so than it does with in-role performance.

To measure in-role performance, participants evaluated the extent to which they completed the tasks and requirements as described in their job description on the seven-item scale from Williams and Anderson (1991): (1) “I fulfill responsibilities specified in my job description”; (2) “I adequately complete assigned duties”; (3) “I perform tasks that are expected of me”; (4) “I meet formal performance requirements of the job”; (5) “I engage in activities that will directly affect my performance evaluation”; (6) “I fail to perform essential duties” (r); and (7) “I neglect aspects of the job that I am obligated to perform” (r).

Controls. The following was collected as control variables: (1) gender (male, female, prefer not to say), (2) age (in years), (3) race (white, African American, native American, Asian, Native Hawaiian or Pacific Islander, other), (4) total work experience (in years), (5) tenure at the current/the last employing organization (in years), (6) wage structure (hourly wage, salary, other), (7) status at work (non-management, line management, middle management, executive management, other), (8) supervisory role (1 = yes, 0 = no), (9) organization size (less than 10 total employees, 10-100, 100-500, 500-1000, more than 1000), (10) organization type (government/public institution, private business/industry, private non-profit organization, other), (11) work status during covid (go to work as usual, working remotely, stopped working), (12) education (no formal education, completed primary/elementary education, completed secondary school/high school, some college/university, completed undergraduate college/university degree, completed advanced university/college degree such as Masters, Ph.D., etc.), (13) monthly income (in dollars)³.

Results

Table 1 presents the descriptive statistics and the correlations among the following key variables: organizational objectification, O*Net occupation innovation index, creativity at work, autonomy, uniqueness, intrinsic and extrinsic motivation, and in-role performance.

³ When the criterion variable was creativity at work, in-role-performance was also included as a covariate in the regression.

Table 1. Descriptive statistics and correlations among the key variables in Study 1 (n = 317)

<i>Variable</i>	<i>M</i>	<i>SD</i>	<i>Min</i>	<i>Max</i>	1	2	3	4	5	6	7
1. Objectification	4.01	1.43	1.00	7.00							
2. Job innovation index	69.69	9.77	43.00	91.00	-.15*						
3. Creativity at work	5.40	1.00	1.00	7.00	-.13*	.32***					
4. Autonomy	5.42	1.14	1.00	7.00	-.33***	.23**	.46***				
5. Uniqueness	4.72	1.15	1.00	7.00	-.56***	.29***	.39***	.42***			
6. Intrinsic motivation	5.70	1.28	1.00	7.00	-.15**	.09	.45***	.27***	.36***		
7. Extrinsic motivation	5.73	1.13	1.67	7.00	.16**	-.02	-.06	.03	-.13*	-.09	
8. In-role performance	6.22	.67	3.57	7.00	-.10 ⁺	-.06	.11 ⁺	.16**	.19**	.17**	.10 ⁺

Note 1. For the variable of job innovation index, sample size is n = 190.

Note 2. + $p < .100$, * $p < .050$, ** $p < .010$, *** $p < .001$

Objectification and O*Net occupation innovation index

With the one-hundred and ninety participants whose occupation codes were successfully matched with the O*Net database, I examined the correlation between their occupation innovation index and felt objectification at work. The analysis yielded a significant negative correlation ($r = -.15, p = .043$).

Objectification and self-reported creativity at work

Multiple regression was used to analyze the data, with creativity at work as the criterion variable and objectification as the key predictor. As expected, organizational objectification was negatively associated with creativity in the baseline model⁴ ($b = -.10, s.e. = .04, t = -2.60, p = .010$). I then ran the same regression with the full model with all control variables. Although the regression coefficient did not approach the conventional significant level, its direction was negative as predicted ($b = -.09, s.e. = .05, t = -1.87, p = .062$).

Objectification and in-role performance

Having documented a negative association between objectification and creativity, next I turned to in-role performance for comparison. Multiple regression revealed that objectification did not predict in-role performance in the baseline model ($p = .265$) or in the full model ($p = .491$). This was consistent with the literature that objectification uniquely undermines extra-role but not in-role performance (Taskin et al., 2019).

Exploratory factor analysis of the proposed mediators

Before commencing the mediation analysis, it is necessary to first examine whether the mediators' conceptual distinction is empirically corroborated. To achieve this, I conducted exploratory factor analysis (EFA) on the mechanism measures. Based on Kaiser criterion of

⁴ The baseline model only included three basic demographic variables as covariates: sex, age, and race.

eigenvalue greater than one, the principal-component EFA yielded four factors, jointly explaining 77% of total variance. All items loaded on their corresponding factors without cross loading (absolute value of factor loading > .490). Table 2 presents the results of EFA confirming the theoretical structures of the mediators.

Table 2. Factor loadings of the mediator measures in Study 1 based on EFA

Item	Factor1	Factor2	Factor3	Factor4
Autonomy 1	0.1275	0.8242	0.0594	-0.1375
Autonomy 2	0.1111	0.9087	-0.0053	-0.1621
Autonomy 3	0.1035	0.9094	0.0131	-0.1287
Uniqueness 1	0.3505	0.4333	0.0359	-0.6098
Uniqueness 2	-0.0623	-0.1454	0.1382	0.8456
Uniqueness 3	0.3526	0.17	0.0884	-0.4946
Uniqueness 4	-0.0176	-0.0637	0.1353	0.8419
Intrinsic motive 1	0.9096	0.0821	-0.069	-0.1257
Intrinsic motive 2	0.9418	0.0976	-0.0351	-0.1034
Intrinsic motive 3	0.9007	0.1567	-0.0298	-0.095
Extrinsic motive 1	-0.0793	0.0191	0.9256	0.0176
Extrinsic motive 2	-0.0648	0.0339	0.9302	0.0722
Extrinsic motive 3	0.0318	0.0194	0.7578	0.0903

Extraction method: principal-component factors. Rotation method: oblimin with kaiser normalization.

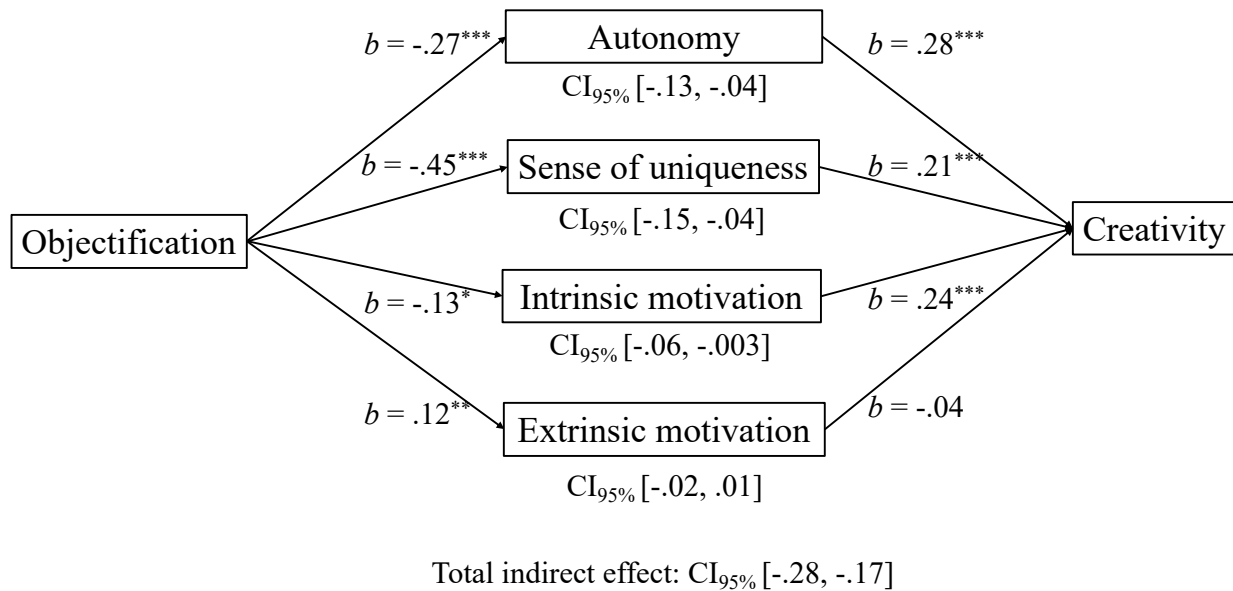
Note 1. Uniqueness 2 and 4 are reverse items and therefore have negative factor loadings.

Mediation analyses

I used the PROCESS macro package with 5,000 bootstrapped samples to test the mediation effects (Preacher, Rucker, & Hayes, 2007). With self-reported creativity as the dependent variable and objectification as the predictor, I first ran four separate mediation analyses with autonomy, uniqueness, intrinsic motivation, and extrinsic motivation as the

mediator, respectively. As predicted, autonomy (CI_{95%} [-.17, -.06]), uniqueness (CI_{95%} [-.26, -.12]), and intrinsic motivation (CI_{95%} [-.08, -.01]) significantly mediated the effect of objectification on creativity. However, no mediation effect was found for extrinsic motivation (CI_{95%} [-.02, .01]), as the 95% confidence interval included zero. Next, I tested a parallel mediation model by including all four mediators simultaneously. Results again supported the mediation effects of autonomy (CI_{95%} [-.13, -.04]), uniqueness (CI_{95%} [-.15, -.04]), and intrinsic motivation (CI_{95%} [-.06, -.003]), but not extrinsic motivation (CI_{95%} [-.02, .01]). Figure 1 presents the results from the mediation analyses. The mediation effects were robust to the inclusion of all control variables.

Figure 1. Mediation effects in Study 1



Note 1. + $p < .100$, * $p < .050$, ** $p < .010$, *** $p < .001$

Discussion

Objectification and creativity

Results from the survey study are largely consistent with the proposition that objectification negatively affects creativity. Specifically, Study 1 obtained a significant negative correlation between self-reported objectification and individuals' occupation innovation index, implying that individuals working in high innovation professions (e.g., video game designer) are less likely to feel objectified than those in low innovation professions (e.g., credit analyst). However, the innovation index only describes the extent to which a given occupation requires creative thinking and therefore does not necessarily speak to individuals' actual creative engagement at work. To address this limitation, I then examined the association between objectification and self-reported creative behaviors at work. Regression again revealed a negative relationship. Intriguingly, no relationship was found between objectification and in-role performance, suggesting that creativity is particularly susceptible to the deteriorating effect of objectification. In sum, with a correlational approach, Study 1 provided evidence largely in support of H1.

Mediation analyses

EFA supported the theoretical structure of the proposed mechanisms. Further, mediation analyses confirmed the indirect effects of autonomy, uniqueness, and intrinsic motivation. Of note, results showed that while objectification related negatively with intrinsic motivation and positively with extrinsic motivation as predicted, only intrinsic motivation was significantly associated with creativity. Therefore, for the proposed motivational pathway, the suppressing effect of objectification on creativity seems to be operating through intrinsic motivation alone.

Taken together, results lent full support to H1a and H1b, and partial support to H1c. I will revisit the issue with extrinsic motivation in the general discussion.

STUDY 2: FELT OBJECTIFICATION AT WORK AND THE ENDORSEMENT OF CREATIVE IDEAS

In Study 2, I sought to further test the tension between objectification and creativity. I deployed the critical incident methodology (Flanagan, 1954) to investigate whether individuals' past experience of producing and implementing creative outcomes is associated with felt objectification at work, such that objectified individuals will experience their employing organization as less supportive and appreciative of their creative work. The critical incident technique asked participants to reflect upon a recent incident where their idea was selected and implemented by their employing organization. More importantly, they were also asked to make attributions of the organization's endorsement of the idea, that is, the extent to which they believed the organization selected their idea because it was creative. After describing the idea and the incident in detail, individuals were then directed to an ostensible separate section where they answered questions on a battery about their employment, embedded in which was the variable of key interest, i.e., organizational objectification. The goal was to test whether individuals who reported high levels of felt objectification were less likely to recall incidents where their creative ideas were accepted and implemented by their organization.

In other words, the point of the current design was not to identify individuals who self-identified as creative or who worked in creative professions. Instead, consistent with prior research using this method (for a recent example, see Carnevale, Huang, Vincent, Farmer, & Wang, 2021), the focus was to ask participants to recall details about a specific event and examine how other factors (i.e., in this case, organizational objectification) might associate their experiences of that particular event. Doing so allows us to link felt objectification to specific instances where employees experienced varying degrees of appreciation for their creative output.

Method

Participants

Three-hundred and forty-four iMBA students at a mid-west university in the U.S. were recruited to take part in a study on “work experience” in exchange for course credits. No data was excluded. The sample had an average tenure of 14.00 years (60% male; 47% White; $M_{age} = 36.27$; $SD_{age} = 8.19$).

Procedures

Participants were told that this was a survey about their current or most recent employing organization and that they were to complete a few unrelated tasks in this study. Unless otherwise stated, all the measures in the current study were based on a seven-point scale (1 = strongly disagree, 7 = strongly agree).

Measures

Endorsing creativity ($\alpha = .85$). Participants were asked to think of one idea that they recently generated at work that was accepted and implemented. They described what the idea was, what problem the idea solved, and whom they shared the idea with. Next, participants were asked to reflect on the reasons why their idea was accepted and implemented by their employing organization and indicated their agreement with attributing the reason to the idea being creative: “The idea was accepted and implemented because the idea was...” (1) “creative”; (2) “innovative”; (3) “novel”.

Endorsing practicality ($\alpha = .90$). Additionally, participants also indicated their agreement with attributing the endorsement of the idea to its practicality: “The idea was accepted and implemented because the idea was...” (1) “useful”; (2) “practical”; (3) “feasible”. This measure was included in order to explore the specificity of the tension between objectification

and creativity; that is, whether objectification uniquely associates with the endorsement of creative ideas but not practical ideas. Attributions of idea endorsement to creativity and practicality were not significantly correlated ($r = .08, p = .110$), suggesting that participants were able to distinguish between the two dimensions of ideas.

After describing the critical instances in which their ideas were endorsed, participants were thanked and directed to a different section where they answered questions in a battery about their employment. To better triangulate on the construct of objectification, Study 2 used two established instruments of objectification that were different from Study 1. Of the two measures, one was focused on the organization's treatment of its members, the other was focused on a focal individual's self-perception. If these two different measures were to yield converging results, we would have more confidence in the robustness of the findings.

Objectification (a): Organizational treatment ($\alpha = .87$). Participants rated three statements on a seven-point scale from Bell and Khoury (2011): (1) "Does the organization treat you like a person or just another part of a big machine?" (1 = like a machine, 7 = like a person); (2) "Does the organization care about and value you based on who you are as a person, or based on your performance?" (1 = based on my performance, 7 = based on who I am); (3) "Is the organization concerned about your experience, desires, plans and feelings as a person, or does it think of you as a tool to use for its own goals?" (1 = as a tool, 7 = as a person). Results were reverse coded so that greater scores indicate greater objectification.

Objectification (b): Self-perception ($\alpha = .90$). Following Baldissarri et al. (2020), participants indicated perceive similarity between themselves and four objectifying terms on a five-point scale (1 = not at all similar, 5 = very similar): "At work, to what extent do you perceive yourself to be similar to..." (1) "a tool"; (2) "a thing"; (3) "an instrument"; (4) "a

machine”. Consistent with prior literature that being treated like an object is closely intertwined with viewing oneself as an object (e.g., Baldissarri et al., 2017), the two measures of organizational objectification and self-objectification were strongly correlated ($r = .52, p < .001$).

Controls. The same list of control variables as in Study 1 was included.

Results

Table 3 presents the descriptive statistics and the correlations among the following key variables: endorsement of creative ideas, endorsement of practical ideas, organizational objectification, and self-objectification.

Table 3. Descriptive statistics and correlations among the key variables in Study 2 (n = 344)

<i>Variable</i>	<i>M</i>	<i>SD</i>	<i>Min</i>	<i>Max</i>	1	2	3
1. Endorsing creativity	4.90	1.28	1.00	7.00			
2. Endorsing practicality	6.39	.78	1.00	7.00	.08		
3. Organizational objectification	3.45	1.73	1.00	7.00	-.23***	-.07	
4. Self-objectification	2.51	1.08	1.00	5.00	-.18**	-.07	.52***

Note 1. + $p < .100$, * $p < .050$, ** $p < .010$, *** $p < .001$

Objectification and the endorsement of creative ideas

Multiple regression was used to analyze the data. As expected, both organizational objectification ($b = -.17, s.e. = .04, t = -4.23, p < .001$) and self-objectification ($b = -.16, s.e. = .07, t = -2.48, p = .014$) were negatively associated with the endorsement of creative ideas.

Objectification and the endorsement of practical ideas

In comparison, neither organizational objectification nor self-objectification (p 's $> .261$) was associated with the endorsement of practical ideas, suggesting that objectification uniquely

undermines the support for creativity but not practicality. All results were robust to the inclusion of control variables.

Discussion

By using critical incident methodology, Study 2 demonstrated a negative correlation between felt objectification and attribution of idea endorsement to idea creativity. That is, the more participants felt objectified or self-objectified at work, the less likely they believed their employing organization endorsed their idea for its creativity. The results can also be taken to imply organizations that objectify their members are less interested in and appreciative of creative outputs, or at least they are experienced as such by their employees. Interestingly, Study 2 also found that felt objectification did not significantly correlate with attribution of idea endorsement to practicality. The differential associations between objectification and perceived endorsement of creativity and practicality again supported the view that objectification is particularly incompatible with creativity.

STUDY 3: THE CAUSAL EFFECT OF OBJECTIFICATION ON PERCEIVED SUPPORT FOR CREATIVITY

Study 3 sought to conceptually replicate Study 2 and use experimental method to address causality concerns. To this end, participants were randomly assigned to conditions where they recalled and described experiences in which they felt objectified or humanized. In addition, a third condition was included, where participants wrote about how they spent their day yesterday. The “writing about your day yesterday” task has been widely used by experimentalists as a control condition to contrast with various psychological experience, such as status (e.g., Blader, Shirako, & Chen, 2016), power (e.g., DeCelles, DeRue, Margolis, & Ceranic, 2012; Galinsky et al., 2003), religious thoughts (e.g., Krause, Goncalo, & Tadmor, 2021) and anger (e.g., Kilduff, Landis, & Menges, 2013). Including this neutral treatment condition in the current study will enable us to identify whether the proposed effect is driven by objectification, humanization, or both.

I conducted this study with participants on Amazon’s Mechanical Turk (MTurk). To make the study more psychologically involving, I leveraged the fact that the online participants (i.e., MTurkers) were in a sense working for the platform via which they were recruited and measured their perceived support from MTurk for creativity.

Method

Participants

One hundred and seventy-nine participants recruited from Amazon’s Mechanical Turk completed the study in exchange for monetary compensation. Participants qualified for the study if they were located in the United States and had an approval rate of above 95%. No data were excluded from the analysis (58% male; 78% White; $M_{\text{age}} = 40.16$; $SD_{\text{age}} = 11.82$).

Procedures

To measure the perception of MTurk's support for creativity, the current study examined the extent to which participants believed MTurk would prefer their creative ideas to practical ones. In addition, participants also rated MTurk on an established scale of organizational support for creativity.

Specifically, before receiving the objectification manipulation, at the beginning of the study participants were first asked: "Amazon's Mechanical Turk (MTurk) is looking to introduce new services and businesses onto the platform. What other services and businesses do you think Amazon's Mechanical Turk (MTurk) could provide? Please take a few minutes to generate the most creative, original, and unique idea that you can think of for the MTurk platform to introduce". Participants were also asked to generate a "practical, feasible, and useful" idea for solving the same problem. The order of the two idea generation requests was counterbalanced across participants.

All participants therefore generated two ideas for MTurk, one creative and one practical. Afterwards, participants proceeded to the manipulation phase where they were assigned to receive the objectification, humanization, or the neutral treatment. Following the recalling approach used in prior research (e.g., Loughnan, Baldissarri, Spaccatini, & Elder, 2017), to manipulate objectification, participants were asked: "Please list at least one reason why you might believe ...you are owned by MTurk as an instrument of profit (instrumentality & ownership); you are denied of autonomy when working on MTurk (autonomy); you are easily replaceable in the eyes of MTurk. (fungibility); MTurk views you as not having feelings and thoughts of your own. (subjectivity)".

By contrast, participants in the humanization condition were asked: “Please list at least one reason why you might believe ... you are a value to MTurk, not just a tool for making money (instrumentality & ownership); you have autonomy when working on MTurk (autonomy); you are unique in the eyes of MTurk (fungibility); your own feelings and thoughts are appreciated when working on MTurk (subjectivity).” Of note, these manipulations were designed to follow Nussbaum’s (1995) theory of objectification; the pertinent dimensions of objectification manipulated were specified in the parentheses (not presented to the participants).

In the control condition, participants were asked: “Please think about how you spent your day yesterday. Please describe in detail where you went, what you did, and any events/activities that you participated in.” Participants then answered questions to check the effectiveness of the objectification manipulation.

Next, participants were once again presented with the two ideas they came up with at the beginning of the study and indicated which idea they believed MTurk would be more interested in endorsing. Their response in this binary choice served as the first measure of perceived organizational support for creativity. In addition, participants also reported on a three-item scale intended to measure perceived support for creativity from MTurk.

Measures

Objectification manipulation check ($\alpha = .94$). To check the effectiveness of the objectification manipulation, all participants reported on four items on a seven-point scale adapted from Baldissarri et al. (2019) (1 = not at all, 7 = very much so): “When working on Amazon’s Mechanical Turk (MTurk), to what extent do you feel like...” (1) “a tool”; (2) “a cog in the machine”; (3) “an instrument of profit”; (4) “a number”.

Perceived organizational support for creativity (a): binary choice. To measure MTurk's support for creativity, after the manipulation stage participants were once again presented with the two ideas they came up with at the beginning of the study and indicated which idea they believed MTurk would be more interested in endorsing (1 = if creative idea was selected, 0 = otherwise). This binary response served as the first measure of perceived support for creativity.

Perceived organizational support for creativity (b): scale-based measure ($\alpha = .96$). Next, participants also reported on a three-item scale of organizational support for creativity adapted from Farmer, Tierney, and Kung-Mcintyre (2003): (1) "MTurk encourages new ideas"; (2) "MTurk is very supportive of creative work"; (3) "MTurk values original work". This continuous response served as the second measure of perceived support for creativity.

Controls. Prior research shows that power and affect can influence creativity (Bledow, Rosing, & Frese, 2013; Galinsky et al., 2008). Given that objectification has been found to negatively associate with power and emotional wellbeing (Baldissarri et al., 2014; Gruenfeld et al., 2008), the current study measured power and affect as controls. At the end of the study, participants reported on an eight-item sense of power scale from Anderson, John, and Keltner (2012) (sample items: "I can get people to listen to what I want") ($\alpha = .92$). They also indicated their discrete emotions on the PANAS scale from Thompson (2007) (Positive affect: $\alpha = .84$; Negative affect: $\alpha = .89$). ANOVA showed no significant differences across conditions in positive affect, negative affect, and power (p 's > .490), therefore ruling them out as potential confounds.

Results

Objectification manipulation check

Planned contrasts showed that participants in the objectification condition ($M = 5.33$, $SD = 1.55$) reported greater levels of felt objectification than those in the humanization condition ($M = 3.82$, $SD = 1.88$), $F(1, 176) = 23.43$, $p < .001$, $\eta_p^2 = .12$, and those in the control condition ($M = 3.97$, $SD = 1.74$), $F(1, 176) = 18.20$, $p < .001$, $\eta_p^2 = .09$. The humanization condition and the control condition did not differ from each other, $p = .641$. The results confirmed the effectiveness of the manipulation.

Perceived organizational support for creativity

First, I examined the binary response indicating the idea that participants believed MTurk would be more interested in endorsing (1 = creative idea, 0 = otherwise). 29%, 38%, and 46% participants in the objectification, humanization, and control condition indicated that MTurk would prefer their creative idea to their practical idea, respectively. Planned contrasts showed that the difference between the objectification and the humanization condition was not significant, $p = .309$; the difference between the objectification and the control condition was only marginally significant ($b = .75$, $s.e. = .39$, $t = 1.94$, $p = .053$). No difference emerged between the humanization and the control condition, $p = .340$.

Given that the humanization and the control condition showed no meaningful difference in reported objectification, as an exploratory effort, I then combined these two conditions and repeated the analysis. Results showed that those who were objectified (vs. not) were marginally less likely to select their creative (vs. practical) idea as MTurk's preferred choice ($b = -.57$, $s.e. = .34$, $t = -1.68$, $p = .093$)

Next, I examined the continuous measure of perceived organizational support for creativity. As predicted, planned contrasts showed that participants in the objectification condition ($M = 3.34, SD = 1.72$) reported lower levels of perceived support for creativity than those in the humanization condition ($M = 4.14, SD = 1.60$), $F(1, 176) = 5.29, p = .023, \eta_p^2 = .03$, and those in the control condition ($M = 4.12, SD = 1.83$), $F(1, 176) = 4.74, p = .031, \eta_p^2 = .03$. The humanization condition and the control condition did not differ from one another, $p = .940$. Again, combining the humanization and the control condition together, results showed that those who were objectified (vs. not) perceived MTurk as supporting creativity less, $F(1, 177) = 6.79, p < .001, \eta_p^2 = .04$. All results reported above were robust to the inclusion of the control variables.

Discussion

Study 3 built upon Study 2 by causally examining the effect of objectification on perceived support for creativity. Results were consistent with the prediction that objectified participants would experience their objectifier as valuing creativity less. Specifically, a lower percentage of participants in the objectification condition selected their creative (vs. practical) idea as MTurk's preferred choice. Although the difference did not approach the conventional significance level, the direction was consistent with the prediction. The lack of significant results could be due to the noise introduced by participants' own idiosyncratic ideas; although participants were instructed to generate "creative" and "practical" ideas for solving the problem facing MTurk, the actual creativity or practicality of the ideas were not guaranteed. Moreover, other dimensions of the ideas might also vary substantively across individuals. Therefore, when asked to choose between the two ideas, individuals' decisions might be affected by variations in factors other than just creativity or practicality of the ideas, posing challenges to detect the effect of interest.

To supplement the binary choice measure, I also measured organizational support for creativity by using an established scale that was likely less susceptible to noises. The scale-based measure showed converging patterns, such that after describing their objectification experience when working on MTurk, participants were significantly less likely to view their objectifier (i.e., MTurk) as supportive of creativity. Taken together, Study 3 causally established that an organization that objectifies its members will be perceived by its members as not valuing and supporting creativity.

STUDY 4: THE CAUSAL EFFECT OF OBJECTIFICATION ON CREATIVE PERFORMANCE

Studies 1-3 used correlational and causal methods to investigate the tension between objectification and various aspects of creativity, such as self-reported creative behavior, occupational demand for creativity, and perceived organizational support for creativity. Study 4 aimed to advance the investigation by directly examining individuals' performance in a creative recipe design task. Using the manipulations validated in Study 3, Study 4 further extended the design by measuring the three proposed mechanisms. In sum, the goals of Study 4 were twofold: examine the effect of objectification on creative performance and probe the underlying mechanisms with a causal design.

Method

Participants

Three-hundred participants recruited from Amazon's Mechanical Turk completed the study in exchange for monetary compensation. Participants qualified for the study if they were located in the United States and had an approval rate of above 95%. No data were excluded from the analysis (46% male; 80% White; $M_{\text{age}} = 40.51$; $SD_{\text{age}} = 13.41$).

Procedures

As in Study 3, participants were randomly assigned to one of the three conditions: objectification, humanization, and control. In order to enhance the objectification manipulation, one more step was added in the current study: participants in the objectified condition were addressed by their 14-digit MTurk worker ID throughout the task. This was consistent with the manipulation of instrumental treatment in prior research (Baldissarri & Andrighetto, 2021; Baldissarri et al., 2014; Caesens et al., 2017).

After the manipulation, participants answered the manipulation check items. Next, they were thanked and then introduced to a problem-solving task: “Amazon is considering expanding its business into the food manufacturing market by introducing its own brand of household food onto its e-commerce platform. As part of the product development process, Amazon.com is considering launching its own brand of burger. You are tasked with generating ideas for a new burger product. Currently the most popular product prototype in the market is the classic beef cheeseburger”.

The burger recipe design task was adapted from prior creativity research (Krause, Vincent, & Goncalo, 2020). Participants were provided with a wide variety of ingredients organized in four sections in sequence on one page to choose from: bun (one of 14 options), patties (any of 9 options), cheese (any of 13 options), and toppings (any of 71 options) (See Appendix A). Participants’ creative performance in the recipe design task served as the outcome measure. After completing the task, participants reported their felt autonomy, uniqueness, and intrinsic motivation when designing the burger recipe retrospectively. They also rated the recipe design task on difficulty and their general level of engagement. They then finished the study by reporting their demographics.

Measures

Objectification manipulation check ($\alpha = .93$). The same manipulation check items from Study 3 were used.

Creativity. Creative products are defined as those that break with the typical and introduce a novel approach that diverges from the status quo (Amabile, 1996), because “novelty is the defining characteristic of creative work over and above work that is solely useful or well done (Amabile et al., 2005, p.367). Following this widely used definition of creativity, we

assessed the novelty of each burger ingredient in a pretest with forty-nine participants recruited from the same MTurk population (53% male; 71% white; $M_{age} = 34.76$; $SD_{age} = 11.89$). The forty-nine participants rated one-hundred and seven burger ingredients for novelty on a seven-point scale. In line with the Consensual Assessment Technique (Amabile, 1982b), to generate a reliable measure of novelty for each ingredient, we averaged the ratings across all the raters. Absolute agreement was calculated by using intraclass correlation coefficient (ICC) in a two-way random effects model. Results suggested high agreement of ratings across the raters, $ICC = 0.97$, $95\%CI = [0.96, 0.98]$. To measure recipe creativity in the main study, I averaged the novelty scores of ingredients selected.

Mechanisms. In this study, I tested the three proposed mechanisms, namely autonomy, sense of uniqueness, and intrinsic motivation⁵. Participants indicated their agreement with the following three items on a seven-point scale (1 = strongly disagree, 7 = strongly agree). Autonomy adapted from Hackman & Oldham (1975): “There was no constraint on my freedom of choice when I was generating the recipe”. Unique-self adapted from Kim et al. (2013): “I expressed my unique personality when I was generating the recipe”. Intrinsic motivation adapted from Guay, Vallerand, and Blanchard (2000): “Generating the recipe was fun and enjoyable”.

Controls. Prior research suggests that objectification may decrease task performance by undermining general engagement and motivation (Baldissarri & Andrighetto, 2021). The current study examined whether the three proposed mechanisms will uniquely explain the relationship between objectification and creative performance above and beyond general motivation. To this end, at the end of the study participants reported their general work motivation with two items on

⁵ Based on results from Study 1, extrinsic motivation was not found to associate with creativity. Therefore, for parsimony, in the current study I only measured intrinsic motivation.

a seven-point scale (1 = strongly disagree, 7 = strongly agree): (1) “I tried hard to think of ideas for designing the recipe”; (2) “I felt motivated when I tried to design the recipe”. ($r = .58, p < .001$) In addition, participants also rated the perceived difficulty of the recipe design task on a seven-point scale (1 = very difficult, 7 = very easy).

There was no difference across conditions in perceived task difficulty ($p > .980$). However, participants in objectified condition ($M = 5.24, SD = 1.35$) reported lower levels of general motivation than participants in the humanization ($M = 5.91, SD = .94, F(1, 297) = 17.59, p < .001, \eta_p^2 = .06$, and the control condition ($M = 5.93, SD = .99, F(1, 297) = 19.99, p < .001, \eta_p^2 = .06$). There was no difference between the humanization and the yesterday condition ($p = .64$). These results suggested that objectification might affect creativity via reducing work motivation in general, an alternative account that I discussed further below.

Results

Objectification manipulation check

Planned contrasts showed that participants in the objectification condition ($M = 5.09, SD = 1.57$) reported greater levels of felt objectification than those in the humanization condition ($M = 3.46, SD = 1.70, F(1, 297) = 46.93, p < .001, \eta_p^2 = .14$, and those in the control condition ($M = 3.58, SD = 1.67, F(1, 297) = 41.93, p < .001, \eta_p^2 = .12$). The humanization condition and the control condition did not differ from one another, $p = .588$. The results confirmed the effectiveness of the manipulation.

Creative performance

Planned contrasts showed that participants in the objectification condition ($M = 3.28, SD = .91$) generated recipes that were less creative than those in the humanization condition ($M = 3.49, SD = .79, F(1, 297) = 2.81, p = .095, \eta_p^2 = .01$, and those in the control condition ($M =$

3.52, $SD = .86$), $F(1, 297) = 3.88, p = .050, \eta_p^2 = .01$. Although the results were in the predicted directions, the differences were only marginally significant. The humanization condition and the control condition did not differ from one another, $p = .800$.

Given the lack of meaningful differences between the humanization and the control condition in reported objectification in both Study 3 and Study 4, I combined these two conditions and repeated the analysis. Results showed that those who were objectified (vs. not) generated recipes that were significantly less creative, $F(1, 298) = 4.43, p = .036, \eta_p^2 = .01$.

Mediation analyses

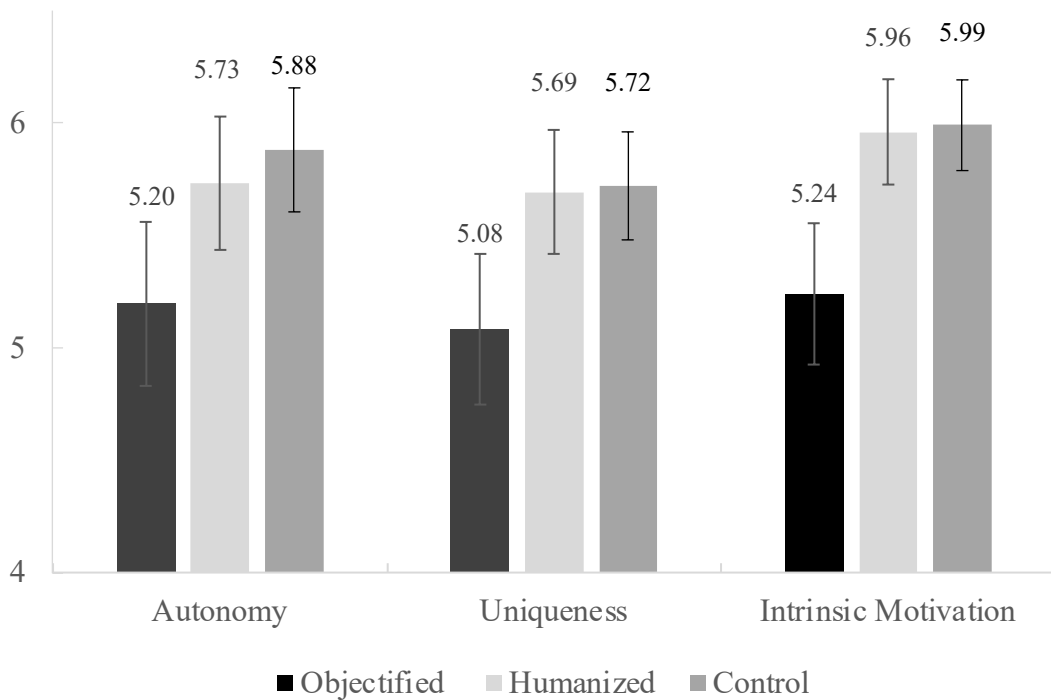
I first compared the means of each mediator across the three conditions. Results yielded converging patterns consistent with the predictions. Specifically, for felt autonomy, planned contrasts showed that the objectification condition ($M = 5.20, SD = 1.82$) was lower than the humanization condition ($M = 5.73, SD = 1.49$), $F(1, 297) = 5.47, p = .020, \eta^2 = .02$, and the control condition ($M = 5.88, SD = 1.45$), $F(1, 297) = 3.88, p = .050, \eta^2 = .01$. There was no difference between the humanization and the control condition ($p = .640$).

For unique self, planned contrasts showed that the objectification condition ($M = 5.08, SD = 1.68$) was lower than the humanization condition ($M = 5.69, SD = 1.38$), $F(1, 297) = 8.59, p = .004, \eta^2 = .03$, and the control condition ($M = 5.72, SD = 1.25$), $F(1, 297) = 9.88, p = .002, \eta^2 = .03$. There was no difference between the humanization and the control condition ($p = .89$).

For intrinsic motivation, planned contrasts showed that the objectification condition ($M = 5.24, SD = 1.56$) was lower than the humanization condition ($M = 5.96, SD = 1.17$), $F(1, 297) = 15.37, p < .001, \eta^2 = .05$, and the control condition ($M = 5.99, SD = 1.06$), $F(1, 297) = 17.58, p < .001, \eta^2 = .06$. There was no difference between the humanization and the control condition ($p = .86$). Figure 2 presents the ratings of the three mediators across the three conditions.

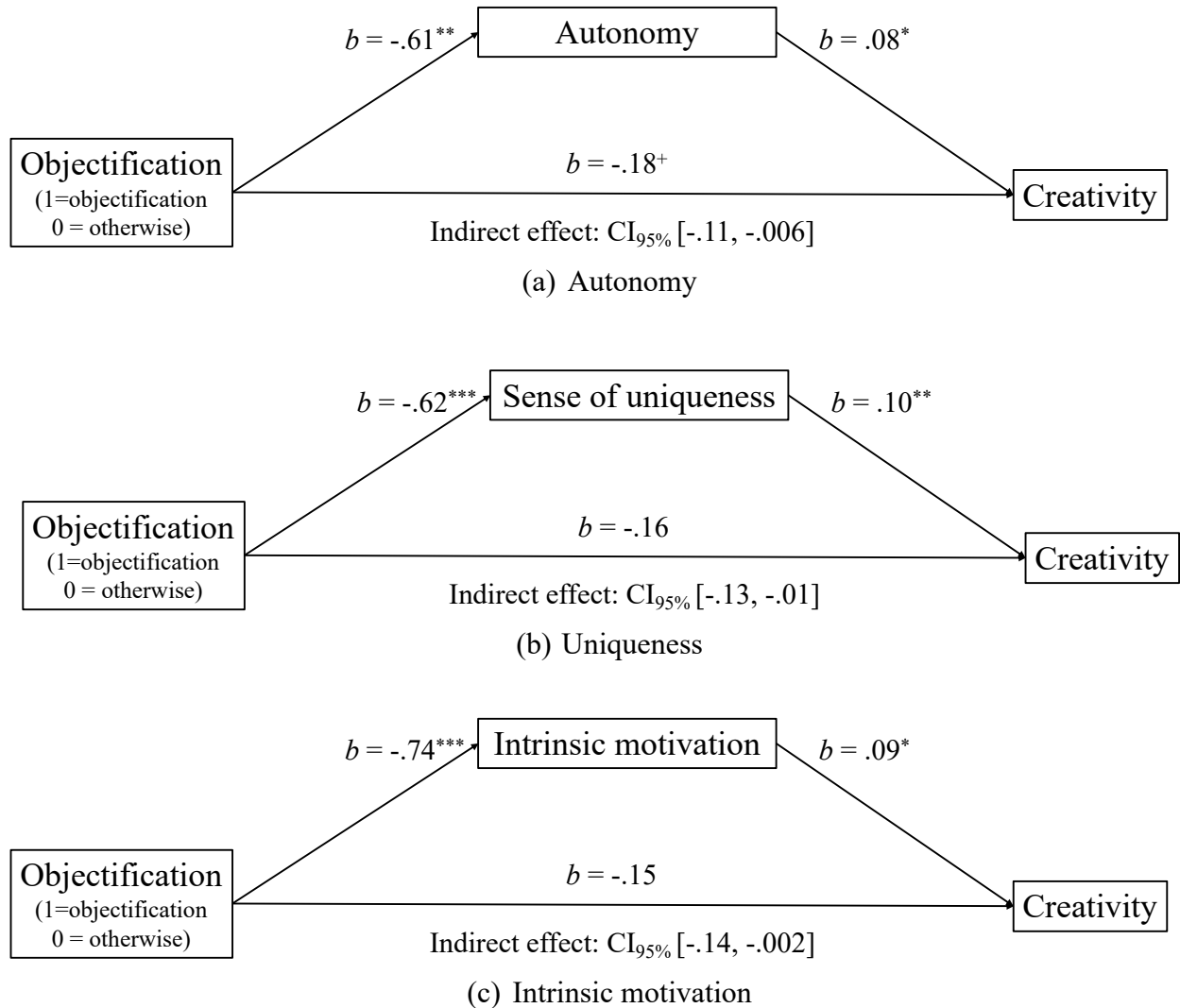
Again, because the humanization and the control condition did not show meaningful differences, I combined them in subsequent mediation analysis. For each mediator, I included condition (objectification = 1, otherwise = 0) as the predictor and recipe creativity as the criterion variable in a regression with the bootstrapping method (Hayes, 2017). Results supported the indirect effect of felt autonomy ($CI_{95\%} [-.11, -.006]$), sense of uniqueness ($CI_{95\%} [-.13, -.01]$), and intrinsic motivation ($CI_{95\%} [-.14, -.002]$)⁶. Figure 3 presents the results from the three separate mediation analyses.

Figure 2. Autonomy, uniqueness, and intrinsic motivation ratings across the three conditions in Study 4



⁶ I also tested a parallel mediation model including all three mediators simultaneously. None of the three indirect effects was significant: autonomy ($CI_{95\%} [-.08, .01]$), uniqueness ($CI_{95\%} [-.11, .01]$), and intrinsic motivation ($CI_{95\%} [-.10, .05]$).

Figure 3. Mediation effects in Study 4



Note 1. ⁺ $p < .100$, * $p < .050$, ** $p < .010$, *** $p < .001$

To address the concerns with alternative explanations, I ran the same analyses with general work motivation and task difficulty in the model as covariates. Results showed that the indirect effects of felt autonomy (CI_{95%} [-.09, -.001]) and unique self (CI_{95%} [-.13, -.02]) remained significant. However, the indirect effect of intrinsic motivation (CI_{95%} [-.10, .004]) was no longer significant.

Discussion

Study 4 showed that objectification reduced creative performance in a burger recipe design task, lending support to H1. Additionally, it also tested and confirmed the mediating roles of autonomy, uniqueness, and intrinsic motivation as predicted by H1a to H1c. After controlling for general work motivation, the indirect effects remained significant except for that of intrinsic motivation, suggesting that autonomy and uniqueness played unique roles above and beyond general engagement in explaining the dampening effect of objectification on creativity. Given that intrinsic motivation is theoretically a subcomponent of general motivation (Guay et al., 2000), it is not unexpected for it to lose predictive power once general motivation is accounted for. Of note, Study 4 measured the mediators with single items. While the single items kept the study succinct and therefore helped to reduce fatigue and retain participants attention, they might pose concerns with the validity of the measures. To address this limitation, Study 5 used established, multi-item scales to further validate the factorial structure of the mechanisms.

STUDY 5: CONFIRMATORY FACTOR ANALYSIS

The goals of Study 5 were two-fold: to validate the theoretical structure of the proposed mediators with confirmatory factor analysis (CFA) and to causally examine the effect of objectification on these underlying mechanisms.

Method

Participants

Two-hundred and two participants recruited from Amazon's Mechanical Turk completed the study in exchange for monetary compensation. Participants qualified for the study if they were located in the United States and had an approval rate of above 95%. No data were excluded from the analysis (56% male; 81% White; $M_{\text{age}} = 39.81$; $SD_{\text{age}} = 11.16$).

Procedures

Studies 3 and 4 confirmed that the humanization condition and the control condition were comparable. Therefore, in the current study I only retained two conditions: objectification and humanization. The same manipulation from Studies 3 and 4 were used. After the manipulation stage, participants reported on the mediator measures: autonomy, uniqueness, and intrinsic and extrinsic motivation.

Measures

Objectification manipulation check ($\alpha = .94$). The same manipulation check items from Studies 3 and 4 were used.

After receiving the manipulation, participants proceeded to rate the proposed mechanisms.

Autonomy ($\alpha = .92$). Participants reported on a three-item scale adapted from Hackman and Oldham (1975): "As an MTurker, I feel like..." (1) "I can use my personal initiative and

judgment in carrying out my work”; (2) “I have considerable opportunity for independence and freedom in how I do the work”; (3) “I can decide on my own how to go about doing the work”.

Uniqueness ($\alpha = .86$). Participants reported on a four-item interchangeability scale adapted from Auzoult and Personnaz (2016): “As an MTurker, I feel like...” (1) “I am a unique person”; (2) “I am another face in the crowd” (r); (3) “I am different from other people”; (4) “I am replaceable by others” (r).

Intrinsic and extrinsic motivation ($\alpha = .92; .68$). Participants indicated how much they were driven by intrinsic and extrinsic reasons to work for MTurk by using the scale from Tremblay et al. (2009): “Why do you work for MTurk?” (1 = does not describe me at all, 7 = describes me very well). Intrinsic motivation: (1) “Because I derive much pleasure from learning new things”; (2) “For the satisfaction I experience from taking on interesting challenges”; (3) “For the satisfaction I experience when I am successful at doing difficult tasks”. Extrinsic motivation: (1) “For the income it provides me”; (2) “Because it allows me to earn money”; (3) “Because this type of work provides me with security”.

In order to assess whether the proposed mechanisms are distinguishable from general work motivation, in the current study participants also rated their general work motivation with two items on a seven-point scale (1 = strongly disagree, 7 = strongly agree): (1) “I work hard for Amazon’s Mechanical Turk”; (2) “I feel motivated when working on Amazon’s Mechanical Turk”. ($r = .53, p < .001$)

Results

Objectification manipulation check

Planned contrasts showed that participants in the objectification condition ($M = 5.00, SD = 1.52$) reported greater levels of felt objectification than those in the humanization condition (M

= 3.68, $SD = 1.80$), $F(1, 200) = 33.17$, $p < .001$, $\eta_p^2 = .14$, confirming the effectiveness of the manipulation.

Confirmatory factor analysis

I fitted the data with a five-factor model: autonomy, uniqueness, intrinsic motivation, extrinsic motivation, and general motivation. Results from the CFA yielded acceptable fit⁷: All of the items showed significant standardized loadings on their corresponding factors (p 's < .05). The comparative fit index (CFI = 0.92), the Tucker-Lewis index (TLI = 0.89), the root mean squared error of approximation (RMSEA = 0.1), and the standardized root mean squared residual (SRMR = 0.08) all met or were very close to the recommended standards that indicated an acceptable overall fit (0.9, 0.9, 0.1, and 0.08, respectively) (Browne & Cudeck, 1992; Hu & Bentler, 1999; Pituch & Stevens, 2016; Schumaker & Lomax, 2016).

I then compared this model against four other alternatives: (1) a one-factor model where all items loaded on one single latent factor, (2) a two-factor model with autonomy and uniqueness combined as the first factor, and intrinsic, extrinsic, general motivation combined as the second factor, (3) a three-factor model with autonomy as the first factor, uniqueness as the second factor, and intrinsic, extrinsic, general motivation combined as the third factor, (4) a four-factor model with autonomy as the first factor, uniqueness as the second factor, intrinsic motivation as the third factor, extrinsic and general motivation combined as the fourth factor. The fitness indices including AIC, BIC, SRMR, TLI, CFI, RSMEA showed that the predicted five-factor model was superior to the alternatives. Table 4 presents the model fit comparisons.

⁷ I used SEM with the maximum likelihood estimation.

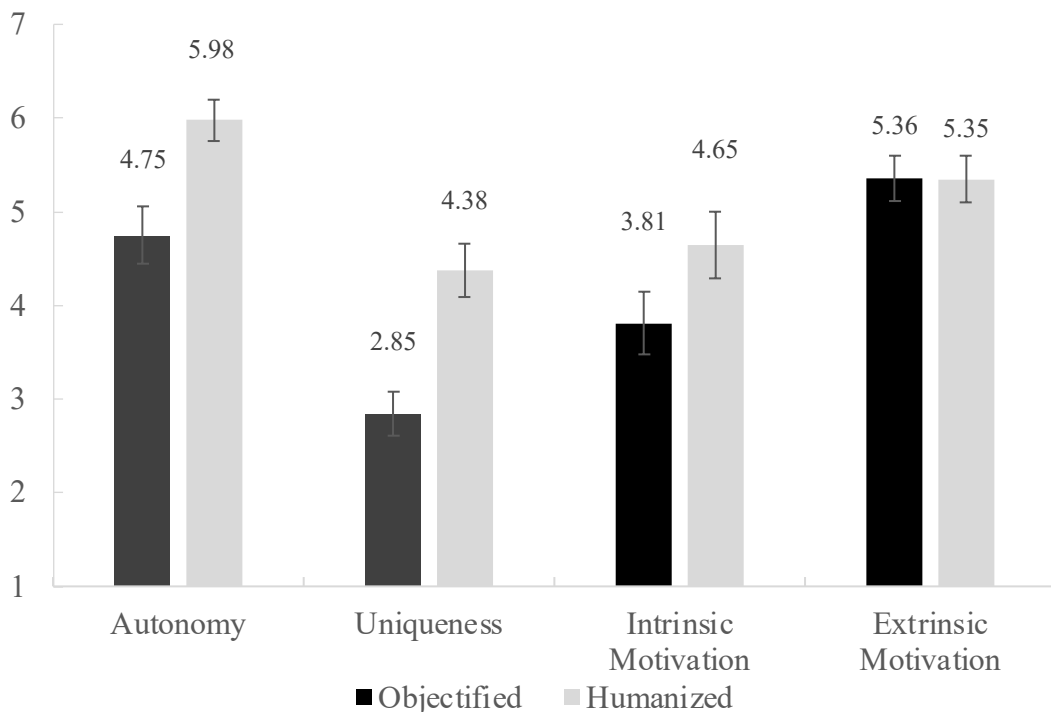
Table 4. Model fit comparisons in Study 5 based on CFA

Models	AIC	BIC	SRMR	TLI	CFI	RMSEA
One factor	10856.406	11005.278	0.145	0.37	0.46	0.238
Two factors: (autonomy + uniqueness) & (intrinsic + extrinsic + overall)	10510.367	10662.547	0.144	0.578	0.643	0.195
Three factors: autonomy, uniqueness, & (intrinsic + extrinsic + overall)	10245.213	10404.010	0.112	0.783	0.738	0.154
Four factors: autonomy, uniqueness, intrinsic, & (extrinsic + overall)	10062.937	10231.659	0.114	0.851	0.881	0.116
Five factors: autonomy, uniqueness, intrinsic, extrinsic, general motivation	9996.921	10178.876	0.081	0.892	0.917	0.099

Mechanisms movement across conditions

I then examined whether objectification would causally reduce autonomy, uniqueness, intrinsic motivation and increase extrinsic motivation as predicted. ANOVA confirmed that compared to participants in the humanization condition, those in the objectification condition reported lower levels of autonomy (objectification: $M = 4.75$, $SD = 1.58$ vs. humanization: $M = 5.98$, $SD = 1.14$), $F(1, 200) = 40.09$, $p < .001$, $\eta_p^2 = .17$, uniqueness (objectification: $M = 2.85$, $SD = 1.18$ vs. humanization: $M = 4.38$, $SD = 1.43$), $F(1, 200) = 68.48$, $p < .001$, $\eta_p^2 = .26$, as well as intrinsic motivation (objectification: $M = 3.81$, $SD = 1.73$ vs. humanization: $M = 4.65$, $SD = 1.79$), $F(1, 200) = 11.31$, $p < .001$, $\eta_p^2 = .05$. However, no difference was found in reported extrinsic motivation across conditions, $p = .942$. Figure 4 presents the means of the mediators across conditions.

Figure 4. Autonomy, uniqueness, intrinsic and extrinsic motivation ratings across the two conditions in Study 5



Discussion

Study 5 used CFA to establish the theoretical structures of the proposed mechanisms. The conceptual distinctness of autonomy, uniqueness, intrinsic motivation, extrinsic motivation, and general motivation was corroborated empirically. Specifically, the five-factor model yielded acceptable levels of fit; it was also superior to the other four alternatives based on fitness indices. In addition, Study 5 also causally examined the effect of objectification on each of the four mediator measures. Results were largely consistent with the predictions of H1a to H1c, such that objectification reduced felt autonomy, sense of unique self, as well as intrinsic motivation. However, contrary to the prediction, no effect of objectification was found on extrinsic motivation. In combination with the insignificant indirect effect of extrinsic motivation observed in Study 1, results of Study 5 again suggest that the role of extrinsic motivation in explaining the relationship between objectification and creativity might be negligible.

Taken together the EFA in Study 1 and the CFA in Study 5, we obtained empirical evidence that the three mediators of autonomy, uniqueness, and intrinsic motivation are distinguishable and that each one of the mediators may play a unique role in explaining the suppressing effect of objectification on creative performance. To provide further examination of the mediation effects, I conducted three experiments with the moderation-of-process design (Spencer et al., 2005) to directly manipulate each mechanism.

STUDY 6: FELT AUTONOMY AND CREATIVITY

The goal of Study 6 was to use the moderation-of-process design (Spencer et al., 2005) to test felt autonomy as the mechanism. It therefore deployed a 2 (objectifying vs. non-objectifying) by 2 (autonomy boost vs. no autonomy boost) between-subject factorial design. To the extent that objectification negatively affects creativity via suppressing felt autonomy, I expect to see that the negative effect of objectification on creativity will be observed among participants who do not receive autonomy boost. On the contrary, among participants who receive autonomy boost, I expect to see an attenuation or even the absence of the negative effect of objectification on creativity.

Method

Participants

Four hundred and three participants recruited from Amazon's Mechanical Turk completed the study in exchange for monetary compensation. Participants qualified for the study if they were located in the United States and had an approval rate of above 95%. No data were excluded from the analysis (44% male; 76% White; $M_{\text{age}} = 41.43$; $SD_{\text{age}} = 12.82$).

Procedures

Following the same procedures in Study 5, participants were first randomly assigned to recall and write about either objectifying or humanizing experiences when working on Amazon's Mechanical Turk. They then reported on objectification manipulation check items. Next, participants were randomly assigned to an ostensibly unrelated task where they received either the autonomy boost treatment or a neutral treatment. Adopting procedures from Lammers, Stoker, Rink, and Galinsky (2016), participants in the autonomy boost condition read the following: "Please recall an experience in which you were free and independent, meaning that

you could determine what you would get. It should be an experience in which you were free and independent to control your own fate”.

Participants in the no autonomy boost condition were asked to write about how they spent their day yesterday. In both the autonomy boost condition and the neutral treatment condition, participants were asked: “Try to relive the experience in your imagination and describe with as much detail as possible what you experienced, how you felt, and what you thought about.” They then reported on autonomy boost manipulation check items.

The random assignment resulted in the following distribution of cell sample: $n = 101$ in the objectified with no autonomy boost condition, $n = 101$ in the objectified with autonomy boost condition, $n = 104$ in the humanized with no autonomy boost condition, and $n = 97$ in the humanized with autonomy boost condition.

Finally, participants were directed to a creative problem-solving task where they were presented with seven items of Remote Association Test (RAT). The RAT has been used widely in prior research to measure creative performance (see Krause et al., 2021 for a recent example). Specifically, participants read the following instructions: “For each of the following items, 3 words and a blank will be presented. The task is to fill in a fourth word that is related to each of the 3 words provided. If you cannot guess the answer, place an ‘X’ in the blank. We are interested in your answers. Please do not search on the internet.” Participants were also given two examples (Example No.1: fish—mine—rush; the answer is “gold”. Example No.2: manners—round—tennis; The answer is “table”). Participants concluded the survey by reporting their prior experience with RAT and their demographic information.

Measures

Objectification manipulation check ($\alpha = .94$). The same as in Study 5.

Autonomy boost manipulation check ($\alpha = .91$). Following Lammers et al. (2016), to check the effectiveness of the autonomy boost treatment, participants rated the following four items on a seven-point scale (1 = *not at all*, 7 = *very much so*): “Just now, I had the feeling that I...” (1) “was able to do whatever I wanted to do”; (2) “could follow my own wishes or desires”; (3) “could freely choose to do whatever I wanted” and (4) “was independent from other people.”

Creative performance. Creative performance was measured by counting the number of RAT items that participants correctly solved (see Appendix B for the list of RAT items and the answer key).

Controls. To control for the potential influence of familiarity with and prior knowledge of the RAT, after completing the task participants indicated whether they had seen this kind of task before (1 = yes, 2 = no, 3 = not sure).

Results

Objectification manipulation check

Participants in the objectification condition ($M = 5.60$, $SD = 1.26$) reported greater levels of felt objectification than those in the humanization condition ($M = 4.99$, $SD = 1.53$), $F(1, 399) = 72.76$, $p < .001$, $\eta_p^2 = .15$, confirming the effectiveness of the manipulation.

Autonomy manipulation check

Participants in the autonomy boost condition ($M = 6.00$, $SD = .95$) reported greater levels of felt autonomy than those in the control condition ($M = 5.13$, $SD = 1.40$), $F(1, 399) = 51.84$, $p < .001$, $\eta_p^2 = .11$. No interaction effect of objectification and autonomy boost condition was found, $p > .610$. Results confirmed that the autonomy boost manipulation was effective.

Creative performance

Poisson regression was used to analyze the count data of creative performance (Coxe, West, & Aiken, 2009)⁸. The number of correctly solved RAT items was regressed onto the objectification condition (1 = objectified, 0 = humanized), the autonomy boost condition (1 = autonomy boost, 0 = no autonomy boost), and their interaction. Results show that the main effect of objectification was negative and significant ($b = -.02$, $s.e. = .09$, $z = -2.34$, $p < .020$), the main effect of autonomy boost was not significant ($p = .575$), the interaction effect was positive and marginally significant ($b = .22$, $s.e. = .12$, $z = 1.81$, $p = .070$). Although the interaction effect did not approach the conventional significance level, planned contrasts revealed that without autonomy boost, participants in the objectification condition solved significantly fewer problems than those in the humanized condition ($X^2 = 5.45$, $p = .020$); with autonomy boost, the negative effect of objectification on creative problem solving was no longer observed ($p = .833$). These results were robust to the inclusion of the control variable. Figure 5 presents the average number of correctly solved RAT items across the four conditions.

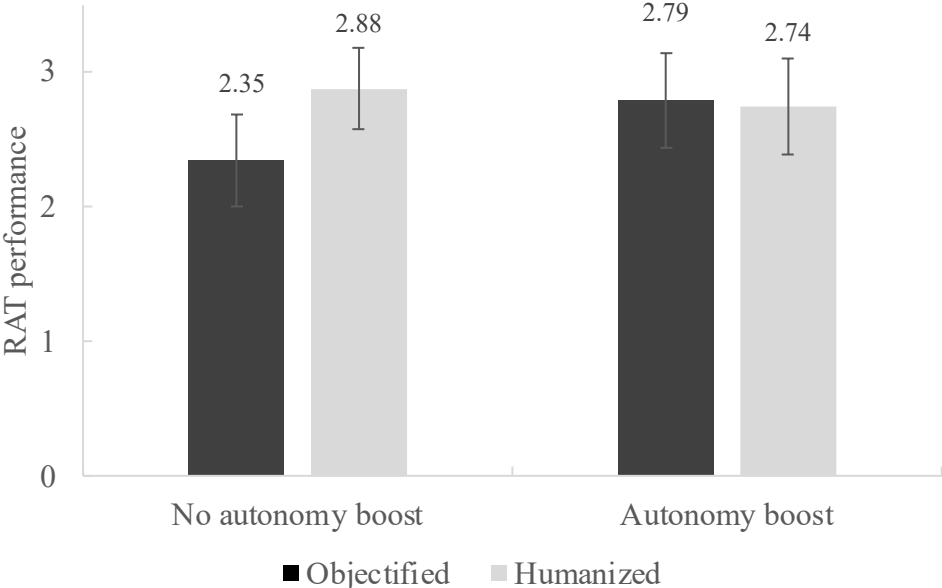
Discussion

Study 6 directly manipulated felt autonomy and observed that when objectified participants received autonomy boost, their creative performance was restored to a level that was comparable to participants who were humanized. In comparison, when participants were not given an opportunity to restore their sense of autonomy, objectification significantly undermined their creative performance. These results were consistent with the moderation-of-process pattern, such that the negative effect of objectification on creative performance was attenuated when

⁸ ANOVA yielded qualitatively similar results as Poisson regression.

participants' sense of autonomy was increased, lending support to the prediction of H1a that autonomy mediates the effect of objectification on creativity.

Figure 5. Number of correctly solved RAT items across the four conditions in Study 6



STUDY 7: SENSE OF UNIQUENESS AND CREATIVITY

The goal of Study 7 was to use the moderation-of-process design (Spencer et al., 2005) to directly manipulate the hypothesized mediator of felt uniqueness to demonstrate its causal effect on creativity. It therefore deployed a 2 (objectifying vs. non-objectifying) by 2 (uniqueness boost vs. no uniqueness boost) between-subject factorial design. To the extent that objectification negatively affects creativity via suppressing a sense of unique self, I expect to see that the negative effect of objectification on creativity will be observed among participants who do not receive uniqueness boost. On the contrary, among participants who receive uniqueness boost, I expect to see an attenuation or even the absence of the negative effect of objectification on creativity.

Method

Participants

Four hundred participants recruited from Amazon's Mechanical Turk completed the study in exchange for monetary compensation. Participants qualified for the study if they were located in the United States and had an approval rate of above 95% (44% male; 79% White; $M_{\text{age}} = 40.78$; $SD_{\text{age}} = 12.36$).

Procedures

Following the same procedures in Studies 5 and 6, participants were first randomly assigned to the objectification or the humanization condition. They then reported on objectification manipulation check items. Next, participants were randomly assigned to an ostensibly unrelated task where they received either the uniqueness boost treatment or the neutral treatment. Adapting procedures from Goncalo and Staw (2006), participants in the uniqueness boost condition were asked to first write three unique experiences in their life. Then, they were

asked to write three statements about why they think they are not like most other people. Lastly, participants wrote three statements about why they think it might be advantageous to “stand out” from other people. Participants in the neutral treatment condition were asked to write about their day yesterday. They then reported on uniqueness boost manipulation check items.

The random assignment resulted in the following distribution of cell sample: $n = 98$ in the objectified with no uniqueness boost condition, $n = 100$ in the objectified with uniqueness boost condition, $n = 97$ in the humanized with no uniqueness boost condition, and $n = 105$ in the humanized with uniqueness boost condition.

After the manipulation phase, participants were directed to a product development task, in which their creative performance was measured: “Amazon.com is considering expanding its business into the food manufacturing market by introducing its own brand of household food to its e-commerce platform. As part of the product development process, Amazon.com is considering launching its own brand of potato chips. You are tasked with generating ideas for new potato chips flavors. Currently the most popular potato chips flavors in the market include the following: #1 Barbecue, #2 Plain, #3 Salt and Vinegar, #4 Onion, #5 Jalapeno. Please take the next five minutes to write as many ideas as possible for potato chips flavors for Amazon.com.”

Seven participants failed to comply with the brainstorming instruction and did not generate any sensible ideas. Excluding them resulted in three-hundred and ninety-three participants in the final sample used in the analyses reported below⁹. No control variable was

⁹ The distribution of the seven participants was as the following: five in the humanized with boost condition; one in the objectification with boost condition; one in the objectified with no boost condition.

included in the study. Participants concluded the survey by reporting their demographic information.

Measures

Objectification manipulation check ($\alpha = .95$). The same as Study 5.

Uniqueness boost manipulation check ($\alpha = .85$). To check the effectiveness of the uniqueness boost manipulation, participants rated the following four items on a seven-point scale adapted from the interchangeability scale (Auzoult & Personnaz, 2016) (1 = not at all, 7 = very much so): (1) “I felt like a unique person”; (2) “I felt like another face in the crowd” (r); (3) “I felt like that I was different from other people”; (4) “I felt like I was replaceable by others” (r).

Creative performance. Based on the Consensual Assessment Technique, idea creativity was assessed by two trained coders blind to the condition and hypotheses. The coders independently assessed the ideas for creativity using a five-point scheme (1 = not at all creative, 2 = slightly creative, 3 = moderately creative, 4 = creative, 5 = highly creative). Ratings from the two research assistants showed acceptable levels of inter-rater reliability ($r = .88, p < .001$, Krippendorff’s $\alpha = .75^{10}$) and therefore were averaged. This composite rating served as the primary measure of creative performance. The number of ideas was used as a secondary measure tapping into the fluency of creative thinking (Nijstad et al., 2010).

Results

Objectification manipulation check

Participants in the objectification condition ($M = 5.25, SD = 1.45$) reported greater levels of felt objectification than those in the humanization condition ($M = 3.57, SD = 1.92$), $F(1, 391) = 95.24, p < .001, \eta_p^2 = .20$, confirming the effectiveness of the manipulation.

¹⁰ Krippendorff (2004) indicated the acceptable level of α as .667 or above.

Uniqueness boost manipulation check

Participants in the uniqueness boost condition ($M = 5.22$, $SD = 1.34$) reported greater levels of unique self than those in the control condition ($M = 4.56$, $SD = 1.55$), $F(1, 391) = 23.18$, $p < .001$, $\eta_p^2 = .06$. No interaction effect of objectification and uniqueness boost condition was found, $p > .15$. Results confirmed that the uniqueness boost manipulation was effective.

Creative performance

ANOVA was used to analyze the CAT based measure of idea creativity. Poisson regression was used to analyze the count measure of number of ideas (Coxe et al., 2009)¹¹. Idea creativity and idea quantity were regressed onto the objectification condition (1 = objectified, 0 = humanized), the uniqueness boost condition (1 = uniqueness boost, 0 = no uniqueness boost), and their interaction.

For idea creativity, ANOVA showed that the main effect of objectification was significant, $F(1, 389) = 13.69$, $p < .001$, $\eta_p^2 = .03$, the main effect of uniqueness boost was significant, $F(1, 389) = 8.87$, $p < .001$, $\eta_p^2 = .03$, and most importantly, the interaction effect was significant, $F(1, 389) = 6.32$, $p = .012$, $\eta_p^2 = .02$. Planned contrasts revealed that without uniqueness boost, participants in the objectification condition generated ideas that were on average less creative than those in the humanized condition, $F(1, 389) = 20.08$, $p < .001$, $\eta_p^2 = .05$; with uniqueness boost, the negative effect of objectification on creative problem solving was no longer observed, $p = .410$.

An alternative way to decompose the interaction pattern was to examine the following two contrasts: among objectified participants, those who did not receive uniqueness boost performed worse than those who did, $F(1, 389) = 15.08$, $p < .001$, $\eta_p^2 = .04$; among humanized

¹¹ ANOVA yielded qualitatively similar results as Poisson regression.

participants, whether or not receiving the uniqueness boost had no impact on their idea creativity, $p = .740$. Figure 6 presents the average idea creativity across the four conditions.

Next, I examined idea quantity as a secondary measure of creativity. Poisson regression revealed no effect of objectification, uniqueness boost, or their interaction (p 's $> .225$). Planned contrasts did not find any differences between the objectification and the humanization condition with uniqueness boost ($p = .867$) or without ($p = .318$). Figure 7 presents the average idea quantity across the four conditions.

Discussion

Study 7 observed that participants who were objectified and did not have the opportunity to restore their sense of unique self suffered the most in their CAT based measure of creative performance. These results largely fit the moderation-of-process pattern and therefore lent support to the prediction of H1b. However, results on the quantity of ideas did not support the moderation-of-process pattern. Participants generated substantively similar numbers of ideas across conditions; neither the main effect nor the interaction effect was observed. Taken together the results in Study 7, it seems that objectification does not necessarily affect the number of ideas generated; its deleterious effect is more visible when it comes to the actual content but not the sheer quantity of ideas. One reason behind the lack of condition difference in idea quantity could be due to the time limit imposed on the task. All participants were given the same and fixed amount of time (i.e., five minutes) to write down ideas, and the task automatically advanced after the allotted time had passed. If participants were allowed to voluntarily decide on how long to work on the task, the chances at detecting variations in idea quantity might increase.

Nevertheless, analysis of the creative content of the ideas was consistent with the moderation-of-process prediction, such that the negative effect of objectification on idea content

creativity (but not sheer quantity) was mitigated when participants' sense of unique self was restored. I will revisit the issue of idea quantity in the general discussion.

Figure 6. Average idea creativity across the four conditions in Study 7

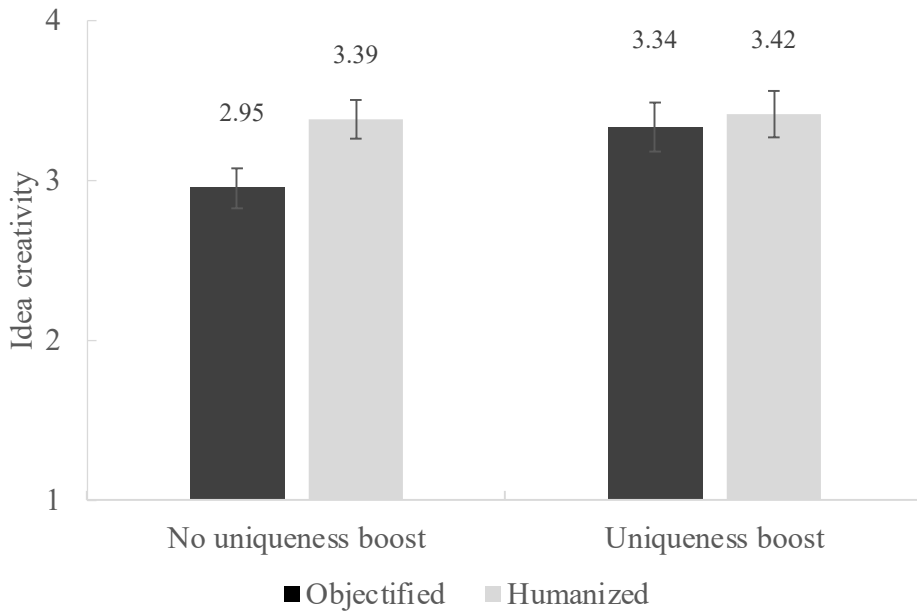
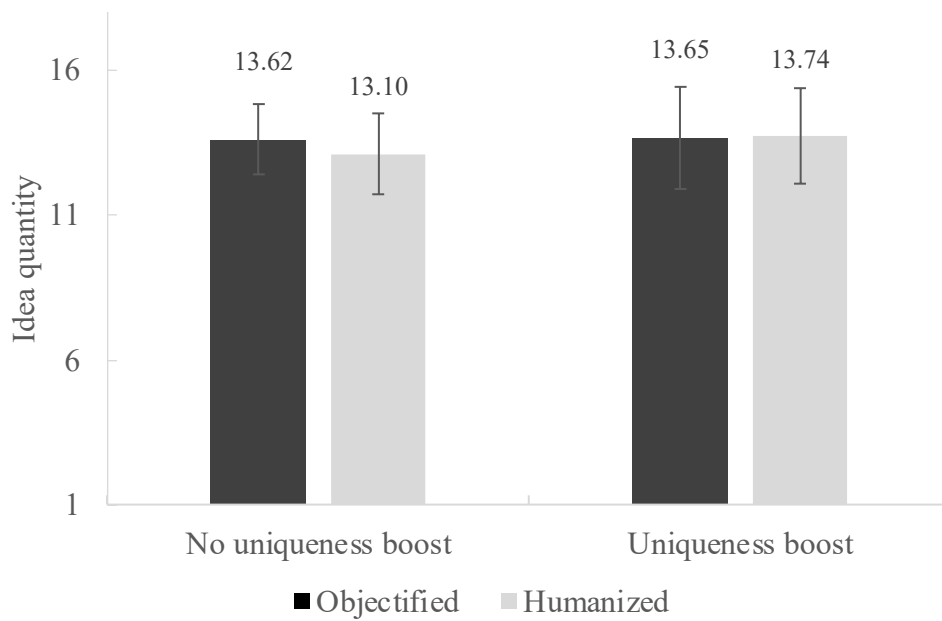


Figure 7. Average idea quantity across the four conditions in Study 7



STUDY 8: INTRINSIC MOTIVATION AND CREATIVITY

Hypothesis 2c predicts that objectification likely suppresses intrinsic motivation, which will in turn decrease creative performance. Study 8 aimed to test the proposed motivational pathway by using the moderation-of-process approach (Spencer et al., 2005). The study deployed a 2 (objectifying vs. non-objectifying) by 2 (intrinsic motivation boost vs. no intrinsic motivation boost) between-subject factorial design. I expect to see that the negative effect of objectification on creativity will be observed among participants who do not receive intrinsic motivation boost. On the contrary, among participants who receive intrinsic motivation boost, I expect to see an attenuation or even the absence of the negative effect of objectification on creativity.

Because the current study intends to induce participants' intrinsic motivation towards solving problems in a specific domain, it will need to target on a population with genuine passion and interest in a given domain. In her seminal work on intrinsic motivation and creativity, Amabile (1985) targeted on professional writers (e.g., poets, novelists) and induced their intrinsic motivation by asking them to rank order intrinsic reasons why they engaged in writing (e.g., "you like to play with words"). The current study therefore will need to set a pre-determined criterion by which to select subjects based on their voluntary participation in a certain domain of activity, in order to induce their intrinsic motivation towards working on problems in that given domain.

To achieve this, I targeted on dog/cat owners who presumably are intrinsically motivated to keep and care for pet dog/cat. Participants' creativity is measured by using a problem-solving task in the said domain of dog/cat keeping. Specifically, I asked participants to generate ideas for dog/cat toys. Intrinsic motivation boost was operationalized by assigning pet owners to generate pet toy ideas that matched with the kind of pet they own. That is, a dog (cat) owner will be

assigned to generate ideas for dog (cat) toys. By contrast, in the no intrinsic motivation boost condition, a dog (cat) owner will be assigned to generate ideas for cat (dog) toy. In addition to this (mis)match-based operationalization, I also adapted Amabile's (1985) procedures of inducing intrinsic motivation by asking participants to write about the intrinsic reasons why they enjoy keeping their pet dog (cat). In the no intrinsic motivation condition, participants will write about how they spend their day yesterday.

Method

Participants

Three-hundred and twenty-three participants that were either dog owners or cat owners were recruited from Amazon's Mechanical Turk panel. To promote data quality, participation was restricted to those who were in the United States and had a HIT approval rating of above 95%. In addition, to ensure the validity of the selective recruitment based on pet ownership, at the beginning of the survey, participants indicated whether they were (1) a pet cat owner, (2) a pet dog owner, or (3) neither. One participant who answered "neither" was precluded from the study. This resulted in two-hundred and ten dog owners and one-hundred and twelve cat owners in the final sample (37% male; 86% White; $M_{age} = 42.65$; $SD_{age} = 13.43$).

Procedures

Following the same procedures in Studies 5, 6, and 7, participants were first randomly assigned to the objectification or the humanization condition. They then reported on objectification manipulation check items. Next, participants were randomly assigned to an ostensibly unrelated task where they received either the intrinsic motivation boost treatment or a neutral treatment. Specifically, adapting procedures from Amabile (1985), in the intrinsic motivation boost condition, half of the cat(dog) owners were asked to write about three

experiences or occasions in which they felt keeping their pet cat(dog) was fun and enjoyable. They were asked to relive the experience in their imagination and describe with as much detail as possible. Participants in the no intrinsic motivation boost condition were asked to write about how they spent their day yesterday. They then reported on intrinsic motivation boost manipulation check items.

The random assignment resulted in the following distribution of cell sample: $n = 81$ in the objectified with no intrinsic motivation boost condition, $n = 76$ in the objectified with intrinsic motivation boost condition, $n = 82$ in the humanized with no intrinsic motivation boost condition, and $n = 83$ in the humanized with intrinsic motivation boost condition.

After the manipulation phase, participants were directed to a product development task, which served to measure their creative performance: “Amazon.com is considering expanding its business into the pet industry by offering more products for people who own pet cat(dog). As part of the product development process, Amazon.com is considering launching its own brand of cat(dog) toys. You are tasked with generating ideas for new cat(dog) toys. Currently the popular cat(dog) toys in the market include the following: #1 Rubber ball, #2 Squeaky stick, and #3 Scratch pad. For the next 4 minutes, please generate as many ideas as possible for new types of cat(dog) toys for Amazon.com to introduce to its e-commerce platform.”

Importantly, participants assigned to the intrinsic motivation boost condition generated pet toy ideas that matched with the type of pet they own, whereas those assigned to the no intrinsic motivation boost condition generated pet toy ideas that mismatched with the type of pet they own. Nine participants failed to comply with the brainstorming instruction and did not

generate any sensible ideas. Excluding the nine participants resulted in three-hundred and thirteen participants in the final sample used in the analyses reported below¹².

Participants concluded the study by reporting on the control variables described below and their demographic information.

Measures

Objectification manipulation check ($\alpha = .93$). The same as in Study 5.

Intrinsic motivation boost manipulation check ($\alpha = .93$). To check the effectiveness of the writing task in inducing intrinsic motivation, participants rated the following four items on a seven-point scale adapted from the intrinsic motivation inventory (McAuley, Duncan, & Tammen, 1989) (1 = not at all, 7 = very much so): (1) “I was thinking about how much fun I had”; (2) “I was thinking about how much joy I had”; (3) “I was describing something I was very interested in”; (4) “I was describing something I felt passionate about”.

Creative performance. Based on the Consensual Assessment Technique, idea creativity was assessed by two trained coders blind to the condition and hypotheses. The coders independently assessed the ideas for creativity using a four-point scheme (1 = not at all creative, 2 = slightly creative, 3 = creative, 4 = highly creative). Ratings from the two research assistants showed acceptable levels of inter-rater reliability ($r = .70, p < .001$, Krippendorff's $\alpha = 0.69$ ¹³) and therefore were averaged together. This composite rating served as the primary measure of creative performance. In addition, the number of ideas generated was also of interest as a secondary measure, because idea quantity is theorized as indicating the fluency of creative thinking (Nijstad, De Dreu, Rietzschel, & Baas, 2010).

¹² The distribution of the nine participants was as the following: 3 from the objectified & boost condition; 3 from the humanized & boost condition; 1 from the objectified & no boost condition; 2 from the humanized & no boost condition.

¹³ Krippendorff (2004) indicated the acceptable level of α as .667 or above.

Controls. Given the unique context of pet keeping, several additional measures were included to rule out their potential influence on creative performance in developing pet toy ideas. Specifically, the componential theory of creativity identified domain specific knowledge as a predictor of creativity (Amabile, 1983). It is therefore important to control for participants' experience and knowledge in the domain of pet keeping in general and pet toy in particular. To this end, the following measures were collected: (1) number of pet cat(s)/dog(s) that participants currently own, (2) years of experience in keeping pet cat(s)/dog(s), (3) self-reported knowledge of and expertise in pet toys for cat(s)/dog(s). For knowledge: "how knowledgeable are you about pet toys for cat(s)/dog(s)" (1 = not at all knowledgeable, 7 = highly knowledgeable); For expertise: "how much expertise do you have in pet toys for cat(s)/dog(s)" (1 = a novice, 7 = an expert). These two items were averaged to create a composite measure of self-perceive knowledgeability ($r = .88, p < .001$). In addition, participants also reported (4) how frequently they purchase pet toys for their cat(s)/dog(s) (1 = never, 2 = 1-5 times a year, 3 = 5-10 times a year, 4 = almost monthly, 5 = almost weekly, 6 = almost daily). Finally, to account for the possibility that toy ideas for different types of animals are inherently different in their creativity, a dummy variable indicating toy type was included as a control (1 = toy ideas for cat, 0 = toy ideas for dog).

Results

Objectification manipulation check

Participants in the objectification condition ($M = 4.93, SD = 1.43$) reported greater levels of felt objectification than those in the humanization condition ($M = 3.16, SD = 1.60$), $F(1, 311) = 105.86, p < .001, \eta_p^2 = .25$, confirming the effectiveness of the manipulation.

Intrinsic motivation manipulation check

Participants in the intrinsic motivation boost condition ($M = 6.07$, $SD = .91$) reported greater levels of intrinsic motivation than those in the control condition ($M = 3.97$, $SD = 1.60$), $F(1, 311) = 199.96$, $p < .001$, $\eta_p^2 = .39$. No interaction effect of objectification and intrinsic motivation condition was found, $p > .43$. Results confirmed that the intrinsic motivation boost manipulation was effective.

Creative performance.

ANOVA was used to analyze the CAT based measure of idea creativity. Poisson regression was used to analyze this count measure of number of ideas (Coxe et al., 2009)¹⁴. Idea creativity and idea quantity were regressed onto the objectification condition (1 = objectified, 0 = humanized), the intrinsic motivation boost condition (1 = autonomy boost, 0 = no autonomy boost), and their interaction term.

For idea creativity, ANOVA showed that the main effect of objectification was marginally significant, $F(1, 309) = 2.85$, $p = .093$, $\eta_p^2 = .01$, the main effect of intrinsic motivation boost was marginally significant, $F(1, 309) = 2.78$, $p = .097$, $\eta_p^2 = .01$, and most importantly, the interaction effect was significant as predicted, $F(1, 309) = 22.34$, $p < .001$, $\eta_p^2 = .07$. Planned contrasts showed that without intrinsic motivation boost, participants in the objectification condition generated ideas that were on average less creative than those in the humanized condition, $F(1, 309) = 21.06$, $p < .001$, $\eta_p^2 = .06$; with intrinsic motivation boost, the negative effect of objectification on creative problem solving was no longer observed, in fact, the objectification condition generated ideas that were on average more creative than those in the humanized condition, $F(1, 309) = 4.51$, $p = .030$, $\eta_p^2 = .01$.

¹⁴ ANOVA yielded qualitatively similar results as Poisson regression.

An alternative way to decompose the interaction pattern is to examine the following two contrasts: among objectified participants, those who did not receive intrinsic motivation boost performed worse than those who did, $F(1, 309) = 19.96, p < .001, \eta_p^2 = .06$; among participants who did not receive intrinsic motivation boost, those who were objectified performed worse than those who were humanized, $p < .001$. Figure 8 presents the average idea creativity across the four conditions.

Next, I examined the idea quantity as a secondary measure of creativity. Poisson regression revealed a significant interaction effect of objectification and intrinsic motivation boost ($b = -.34, s.e. = .09, z = -3.83, p < .001$). Further, planned contrasts revealed that among participants who were humanized, whether they received intrinsic motivation boost or not did not influence the number of ideas generated ($p = .560$). However, contrary to the prediction, among participants who were objectified, those who received intrinsic motivation boost generated significantly fewer ideas than those who did not ($X^2 = 22.71, p < .001$). Including control variables into the analyses did not substantively change any of the results reported above. Figure 9 presents the average idea quantity across the four conditions.

Figure 8. Average idea creativity across the four conditions in Study 8

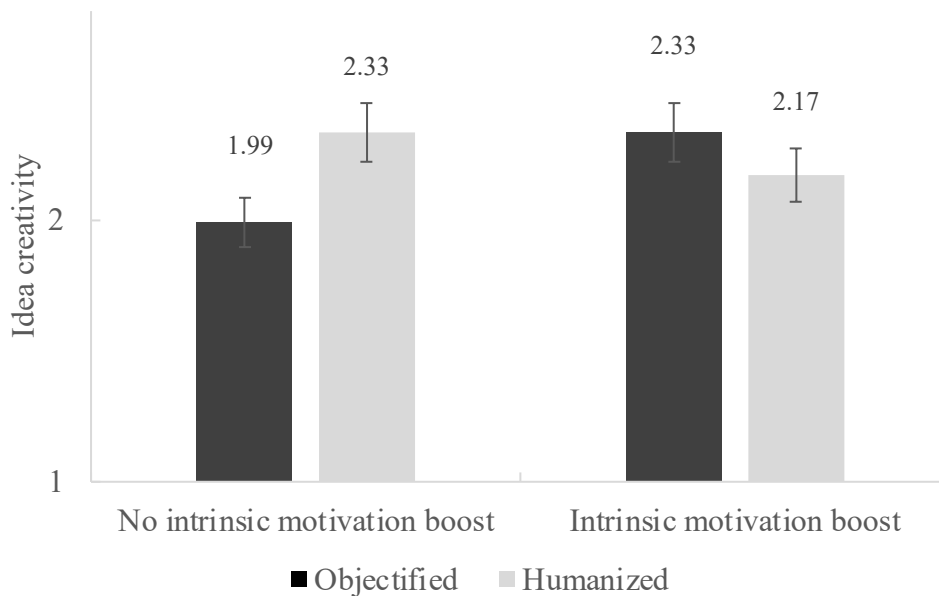
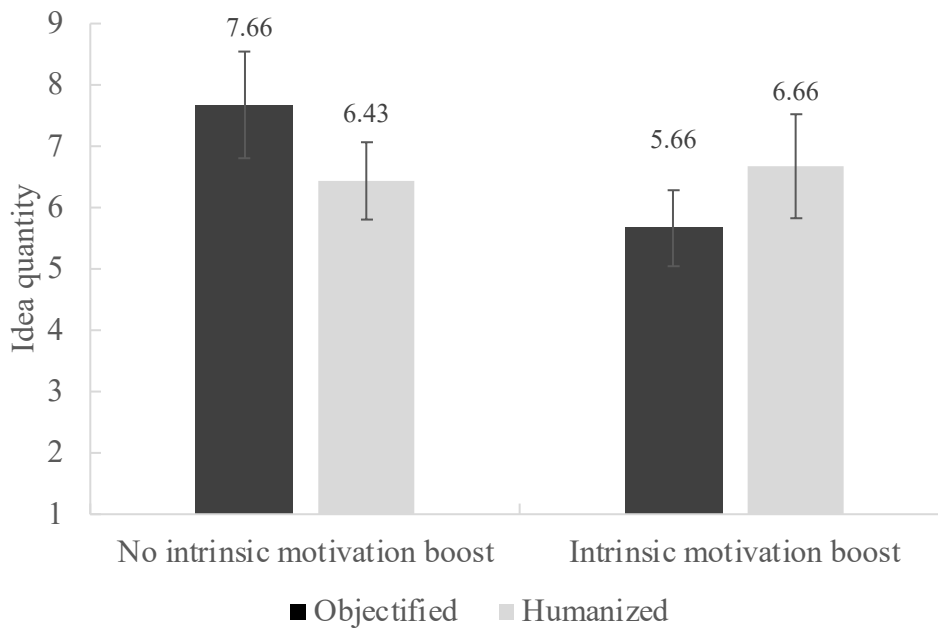


Figure 9. Average idea quantity across the four conditions in Study 8



Discussion

Study 8 showed that participants who were objectified and did not have the opportunity to restore their intrinsic motivation suffered the most in their CAT based measure of creative performance. These results supported the prediction of H1c.

However, similar to Study 7, the results regarding idea quantity in Study 8 did not fit the predicted moderation-of-process pattern. Among objectified participants, those who received intrinsic motivation boost generated fewer (but not more) ideas than those who did not. One possible explanation of this pattern could be how the task was interpreted by participants. Specifically, the instruction asked participants to generate “as many ideas as possible” in four minutes. When followed passively, this instruction could be viewed as emphasizing only the sheer quantity of responses. Therefore, objectified participants who had little intrinsic motivation might have passively complied with the instruction and wrote down responses mindlessly in the given amount of time. By contrast, when participants were able to derive joy from the ideation process (i.e., when they were intrinsically motivated), they might tend to devote more attention and consideration to the actual content of each idea, resulting in reduced quantity of ideas that were, however, on average of better creative quality. This speculation should be interpreted with caution, as this pattern of idea quantity was only observed once in the current study.

In sum, the results from Study 8 at least partially supported the mediating role of intrinsic motivation by showing that the negative effect of objectification on idea creativity (but not idea quantity) was mitigated when participants’ intrinsic motivation was restored.

GENERAL DISCUSSION

In light of the increasing demand for creativity, ample research has investigated the many factors contributing to creative efforts in the workplace. The current study joins the discussion by examining how organizations' objectification of employees might thwart the goal of supporting and cultivating creative outputs. Results from eight studies provided converging evidence in support of the proposition that being viewed or treated as a non-human object for organizational use will decrease individual creativity.

Specifically, a survey study with a sample of working professionals revealed that objectification negatively correlated with occupation level innovation as well as self-reported creative behavior at work. These correlational results provided initial support to H1. Next, using a critical incident methodology, Study 2 found that individuals experiencing high (vs. low) levels of objectification at work were less likely to recall incidents where their creative ideas were endorsed by their employing organization. Study 3 followed up with the correlational findings of Studies 1 and 2 by using an experimental design. Results again showed that feeling objectified causally decreased perceived organizational desire and support for creativity. Although Studies 2 and 3 did not directly examine individuals' actual creative performance, they provided auxiliary evidence consistent with the general proposition that objectification is in tension with creativity. Next, Study 4 used an experimental method and found that objectified (vs. not) individuals showed decreased creative performance in a recipe design task, directly testing H1.

To probe the mechanisms proposed in H2a to H2c, the mediator measures were submitted to an exploratory factor analysis in Study 1 and a confirmatory factor analysis in Study 5. Results confirmed the theoretical structure of the factors, lending support to each mediator's distinctness. The indirect effects were formally analyzed correlationally in Study 1 and causally in Study 4. In

addition, autonomy, uniqueness, and intrinsic motivation was each directly manipulated by using the moderation-of-process design in Study 6, 7, and 8, respectively. Results largely supported the predictions that the negative effect of objectification on creative performance could be partially explained by autonomy (H2a), a sense of uniqueness (H2b), and intrinsic motivation (H2c). Importantly, different measures of creativity were used across the studies, including self-reported creative behavior (Study 1), recipe design task (Study 4), RAT (Study 6), and brainstorming task (Studies 7 and 8). The diverse measures aided confidence in the robustness and generalizability of the mediation effects documented.

In addition to examining the main effect of objectification and the underlying mechanisms, the current research also addressed several competing mechanisms, including status at work (Studies 1 & 2), power and affect (Study 3), and overall motivation (Study 4). Of note, I also discussed the specificity of the relationship between objectification and creativity. Prior research shows that objectification dampens task performance by distracting individuals' attention and decreasing overall task engagement (Baldissarri & Andrighetto, 2021; Hebl et al., 2004; Fredrickson et al., 1998; Quinn et al., 2006; Tiggemann & Boundy, 2008; Wiener et al., 2013), implying that objectification will decrease task performance regardless of whether the task involves creativity or not. In response to this concern, the current research provided evidence that objectification might be particularly harmful to creativity. Specifically, the results showed that objectification uniquely negatively predicted creative performance but not in-role performance (Study 1), implementation of creative ideas but not practical ideas (Studies 2 & 3), and quality of creative solutions to problems but not mere quantity (Studies 7 & 8). Jointly, the eight studies provided converging evidence that objectification hinders creativity by constraining felt autonomy, decreasing a sense of unique self, and undermining intrinsic motivation.

Contributions

While research on sexual and workplace objectification has enriched our understandings of the psychological experiences and downstream consequences of being viewed and treated as an object, to my knowledge no study thus far has directly examined the implications of objectification for individual creativity. This research contributes to the objectification literature by identifying several pathways through which objectification may negatively impact creativity.

The current research also contributes to the creativity literature. Mounting work on creativity has examined antecedents of creativity from various perspectives, including individual characteristics (e.g., personalities), inter-personal relations (e.g., leader-subordinate dyad), as well as team and organizational factors (e.g., organizational climate) (for reviews see Anderson, De Dreu, & Nijstad, 2004; George, 2007; Shalley, Zhou, & Oldham, 2004). The current research contributes to the literature by advancing our understanding of organizational contexts that may inadvertently suppress creativity via treating individuals in an objectifying way.

The current research also has practical implications. To the extent that individual creative performance may collectively determine important organizational level outcomes such as innovation (Khessina, Goncalo, & Krause, 2018), organizations, particularly those that aspire to be an innovator in the market should be cautious of practices and communications that may be experienced by its members as objectifying. Also, for individuals whose professional aspirations or functions require the performance on creative tasks, it is advisable that they select, modify, or create their environment to the extent possible to avoid objectification, so that their creativity may best thrive. Lastly, by documenting and examining the conflict between objectification and creativity, the current research joins the call for extending and applying a humanistic approach in management practice (Melé, 2003).

Limitations and Future Directions

The current research has some limitations that may point to potential avenues for future research. First, among the proposed mechanisms, although H1a and H1b stipulating the effects of autonomy and uniqueness, respectively, received empirical support, the prediction of H2c was not fully borne out. Specifically, H2c predicts a substitution effect, such that objectification will lead to the decrease of intrinsic motivation and the increase of extrinsic motivation, and these two changes in opposite directions will jointly explain reduced creativity. This prediction regards both intrinsic and extrinsic motivation as integral to explaining the suppressing effect of objectification on creativity. However, the mediation analyses confirmed only the role of intrinsic motivation.

Specifically, Study 1 found that while intrinsic motivation significantly mediated the relationship between objectification on creativity, extrinsic motivation did not, as it showed no significant correlation with creativity ($r = -.06, p = .276$). In Study 5, objectification causally reduced intrinsic motivation but did not change extrinsic motivation ($p = .942$), failing to support the prediction that objectification will make extrinsic motivators a more salient concern. Taken together, these results suggested that the role of extrinsic motivation in explaining the relationship between objectification and creativity might be negligible. Here I speculate about the reasons why the mediating effect of extrinsic motivation was not observed. First, although a well-established scale was used in the current research, participants' ratings of extrinsic motivation could be subject to a ceiling effect, as indicated by the mean score (5.72) leaning towards the high end of the seven-point scale in Study 1. Additionally, In Study 5, the scale showed relatively low level of reliability, as the Cronbach's alpha fell below .7. This could be because some statements in the scale, such as "I work for MTurk because this type of work

provides me with security”, were not entirely applicable to the context of online workers’ employment with MTurk, which was short-term and insecure in nature. Future research could further investigate the role of extrinsic motivation by using refined and more accurate instruments to capture meaningful variations across participants in normal work settings as well as online platforms.

Aside from changing the empirical tool deployed, a second direction for improvement is to revisit and revise the prediction made in H2c by incorporating a more comprehensive theoretical analysis on the motivational pathway underlying objectification and creativity. Specifically, while creativity research based on the dichotomy of intrinsic and extrinsic motivation has been fruitful in making empirical and theoretical discoveries (e.g., Amabile, 1979, 1982a, 1985; Kruglanski et al., 1971; McGraw & McClellers, 1979), theorists of motivation (Deci & Ryan, 1985, Ryan & Deci, 2000, 2017, 2020) have proposed to expand the understandings of motivation from the simple dichotomy to a more nuanced spectrum inclusive of varying degrees of internalization. According to the organismic integration theory (Deci & Ryan, 1985), extrinsic motivation can range from external regulation, to introjection, to identification, and to integration, reflecting a continuous process of internalizing the external motivators. Because the current research only focused on the two far ends of the taxonomy (i.e., intrinsic vs. extrinsic), it was silent to how objectification might have moved individuals long the motivation continuum. Future research could further examine whether objectification promotes or hinders the internalization of the extrinsic motivators, and how each increment on the continuum might correspond to an increase or decrease in creativity.

Future research could also incorporate insights from the contemporary motivation research. For example, by meta-analyzing forty years of empirical studies, Cerasoli et al. (2014)

found that intrinsic motivation is a stronger predictor of performance than extrinsic motivation. The results of the Study 1 in the present research seemed to be consistent with this observation, where only intrinsic motivation but not extrinsic motivation demonstrated significant relationship with creative performance. The meta-analysis also made two additional findings. First, when incentives are directly (vs. indirectly) linked to performance, the predictive power of intrinsic motivation on performance becomes weaker. Second, intrinsic motivation predicts quality of performance, whereas extrinsic motivation predicts quantity. While the current research did not provide performance-based incentives for participants and therefore was silent with respect to the first piece of finding, there is some evidence that supports the second. Specifically, Study 8 in the present research showed that objectified participants who did not receive intrinsic motivation boost generated the greatest number of ideas, whereas those who did receive the boost generated fewer ideas that on average had better creative quality. In addition, the ideation tasks in Studies 7 and 8 didn't show any negative impact of objectification on idea quantity. Assuming objectification did decrease participants' intrinsic motivation in these experiments, such a change only affected the quality of creative ideas but not the quantity. These results were in line with the possibility that intrinsic and extrinsic motivation may differentially predict the quality and quantity of creativity.

Future research could address the latest discussions on the potential positive effects of extrinsic motivation. Specifically, creativity theorists such as Amabile and Pratt (2016) have noted three ways in which extrinsic motivation might facilitate creativity. First, while intrinsic motivation is particularly conducive to the novelty aspect of creativity, extrinsic motivation such as a desire to help others (i.e., prosocial motivation) may boost the usefulness aspect of creativity. Second, it is possible that some form of extrinsic motivation could enhance or support

intrinsic motivation, i.e., synergistic extrinsic motivation. For example, informational extrinsic motivators (e.g., feedback) might support intrinsic motivation, whereas controlling extrinsic motivators (e.g., which lead people to feel controlled) might not. Third, extrinsic motivation could be particularly helpful during the preparation and idea validation stage of the creative process, where the emphasis is shifted away from novelty towards the compliance with external expectations and directives (i.e., appropriateness and usefulness). The current research did not investigate the possibility that extrinsic motivation might play a facilitative role in the creative process. Specifically, it used all-encompassing measures of creativity without differentiating between the two criteria of novelty and usefulness and deployed performance tasks that did not partition the different stages of the creative process. Future research could address these limitations and focus on the potential positive link between extrinsic motivation and creativity.

To summarize, building upon the findings of the current study, I propose the following directions for future research: (1) use refined instruments to more accurately measure extrinsic motivation, (2) incorporate the organismic integration theory (Deci & Ryan, 1985) by considering how the objectification process may move individuals along the continuum of internalization of motivation, (3) examine the relative predictive power of intrinsic and extrinsic motivation on creativity, (4) provide additional performance-contingent motivators in the objectification process and examine how extrinsic motivations of this type affect creativity, (5) examine the potential beneficial effects of extrinsic motivation by focusing on the different stages of the creative process and the different facets of creativity, such as quality vs. quantity and novelty vs. usefulness.

Aside from issues revolving around intrinsic and extrinsic motivation, the current research also has limitations in several empirical design strategies. First, the survey method used

in Study 1 prevented me from drawing causal inferences. Future research could deploy longitudinal design and collect data from different time points and sources to mitigate common method bias and increase internal validity. Second, Studies 7 and 8 measured creative performance by using timed brainstorming tasks. Results showed that only the creative quality of ideas showed patterns consistent with the predictions, while the quantity of ideas did not. One possible reason is that the fixed amount of time allocated to the tasks might have affected participants' behaviors, truncating the otherwise observable variations in number of ideas generated. Future research could allow participants to voluntarily decide when to commence and terminate their participation in the ideation task. Removing the time limit might enable us to better investigate the impact of objectification on quality and quantity of creative performance. A third limitation pertaining to study design is the choice of ideation task in Study 8, where participants were asked to generate pet toy ideas for either cat(s) or dog(s). Although the ideation task type was included in the analysis on a covariate as a robustness check, it still poses concerns with the comparability of creative performance—can ideas for cat toys be compared against ideas for dog toys? Future research could address this limitation by manipulating intrinsic motivation in a way that does not entail the deployment of different types of ideation tasks.

Apart from the aforementioned concerns with the empirical designs, the current research is also limited in its conceptual scope, specifically regarding the following three points, which I will discuss in order: the main proposition, the primary outcome, and the explanatory mechanisms.

First, the current research only focuses on the negative implications of objectification for creativity. However, it is possible that some form of objectification might serve important social functions and therefore can benefit creativity. As Davis (2003) put it, "...if people treat

themselves as a product, then they can beat the corporate world at its own game, turning the power of branding around to personal advantage” (p.50). Indeed, the self-branding literature suggests that if individuals highlight their uniqueness and reclaim their autonomy in participating in market transactions, they can develop a distinctive public image and gain market advantage, even if they are being objectified as a non-human entity (e.g., a brand) (Khamis, Ang, & Welling, 2017). What’s more, different individuals might react to objectification differently: while some may find objectification a particularly distasteful experience, others may be more accepting of it or even welcome it (Roderick, 2010). Similarly, theorists of sexual objectification have noted that being stripped of one’s humanness and reduced to a sexual instrument can be experienced as both derogatory and validating (Bearmean, Korobov, & Thorne, 2009). These discussions point to the possibility that objectification is not universally harmful. One possibility is that when an individual’s market value as an object hinges on one’s creative capabilities, the pressure of turning oneself into a non-human commodity may facilitate rather than inhibit creativity. Future research could further examine how different forms of objectification might affect individuals and their creativity differentially.

Second, the current research focuses primarily on creative performance as the downstream consequence of objectification. There could be other aspects of creativity that are also related to or affected by objectification, such as creative cognitive style (Miron, Erez, & Naveh, 2004), growth or fixed creative mindset (Karwowski, 2014), and creative self-efficacy (Tierney & Farmer, 2002). For example, given that objects are inert, objectified individuals may be inclined to see themselves as static, rigid, and incapable of growth, resulting in reduced confidence in exercising their own creative capabilities (i.e., low creative self-efficacy) as well as the denial of the possibility of obtaining further creativity (i.e., fixed creative mindset). Also, the

investigations in the current study are mostly based on momentarily induced episodes of objectification and their transient outcomes. Individuals who are chronically and repeatedly objectified over a long period of time might experience changes in their durable characteristics such as creative personality and creative cognitive proclivity. Future research could extend the findings of the current study by expanding the temporal scope of the investigation and examining a broader range of creativity related outcomes.

Lastly, the current research proposed and tested multiple theoretical links between objectification and creativity. The mechanisms are by no means an exhaustive account. Objectification might affect creativity via alternative pathways. For example, to the extent that objectification results in powerlessness (Gruenfeld et al., 2008) and power predicts construal level (Smith & Trope, 2006), objectification might change individuals' construal level. Those who are objectified might construe their work tasks, goals, and problems at a lower level, focusing attention on the concrete and the "how" rather than the abstract and the "why". In light of the empirical evidence linking high (vs low) level of construal with creativity (Mueller, Wakslak, & Krishnan, 2014; Polman & Emich, 2011), it is not groundless to posit that objectification will inhibit creativity indirectly by reducing the creators' construal level. Future research could further investigate alternative mechanisms underlying the conflict between objectification and creativity.

Lastly, an additional limitation is that although the current research tested and confirmed the distinctness of the proposed mechanisms using factor analysis, it regarded the mediators as parallel to each other and did not examine their potential nomological relationships. There are some indications from the literature that the mechanisms examined in the current study are causally related to each other. Specifically, a couple of studies have proposed autonomy as a

prerequisite to intrinsic motivation (e.g., Chou, Halevy, Galinsky, & Murnighan, 2017; Guay Boggiano, & Vallerand, 2001), while other theorists have argued that the need for uniqueness may breed the need for autonomy (Snyder & Fromkin, 1977). Given the interconnectedness of the three proposed mechanisms, it is possible that they could be attributable to a higher order superordinate construct. Future research could further investigate the theoretical structures of the mechanisms examined in the current study.

CONCLUSION

Organizations tout creativity while also aiming to capitalize on the work of their human resources. The current research investigates whether and how organizational objectification of employees, defined as the perception and treatment of individuals as non-human tools for organizational ends, may diminish individual creativity. Results supported the prediction that the objectification process can undermine creativity by constraining felt autonomy, suppressing one's sense of uniqueness, and decreasing intrinsic motivations. This work contributes to organizational research by identifying tensions at work that thwart creative effort.

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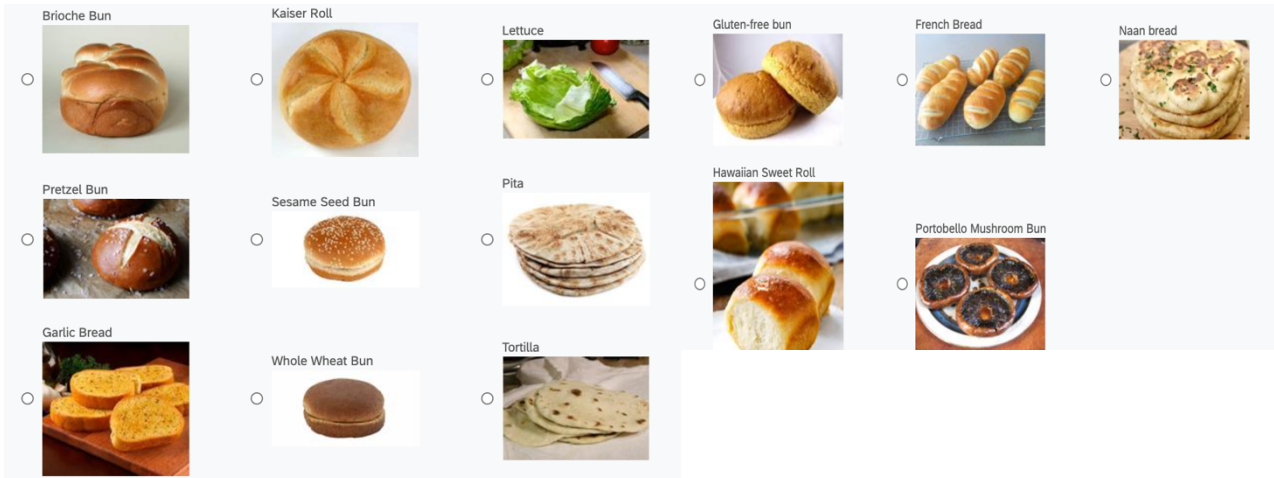
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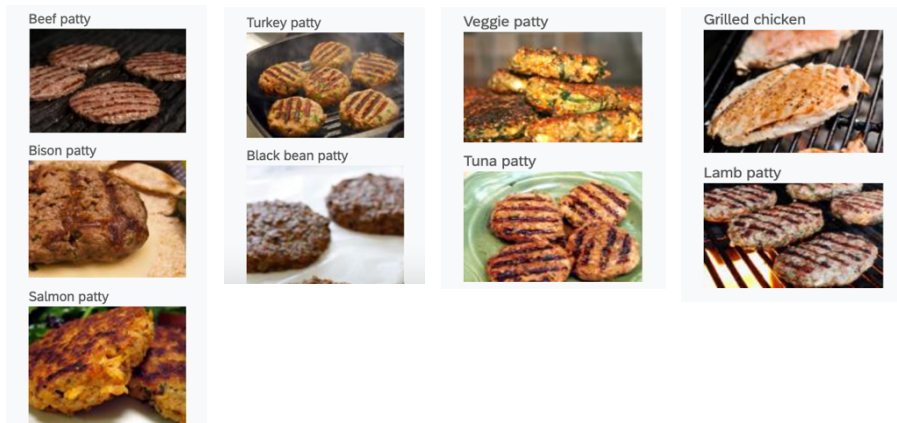
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APPENDIX A: LIST OF BURGER INGREDIENTS

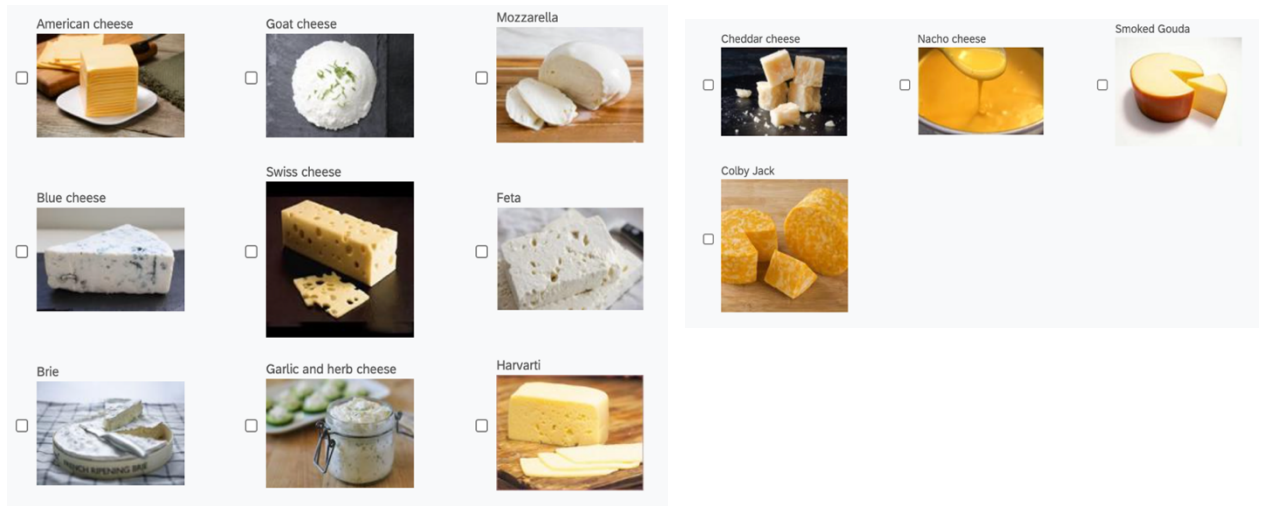
Buns

















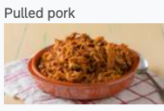












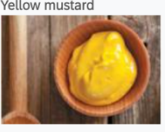




Patty

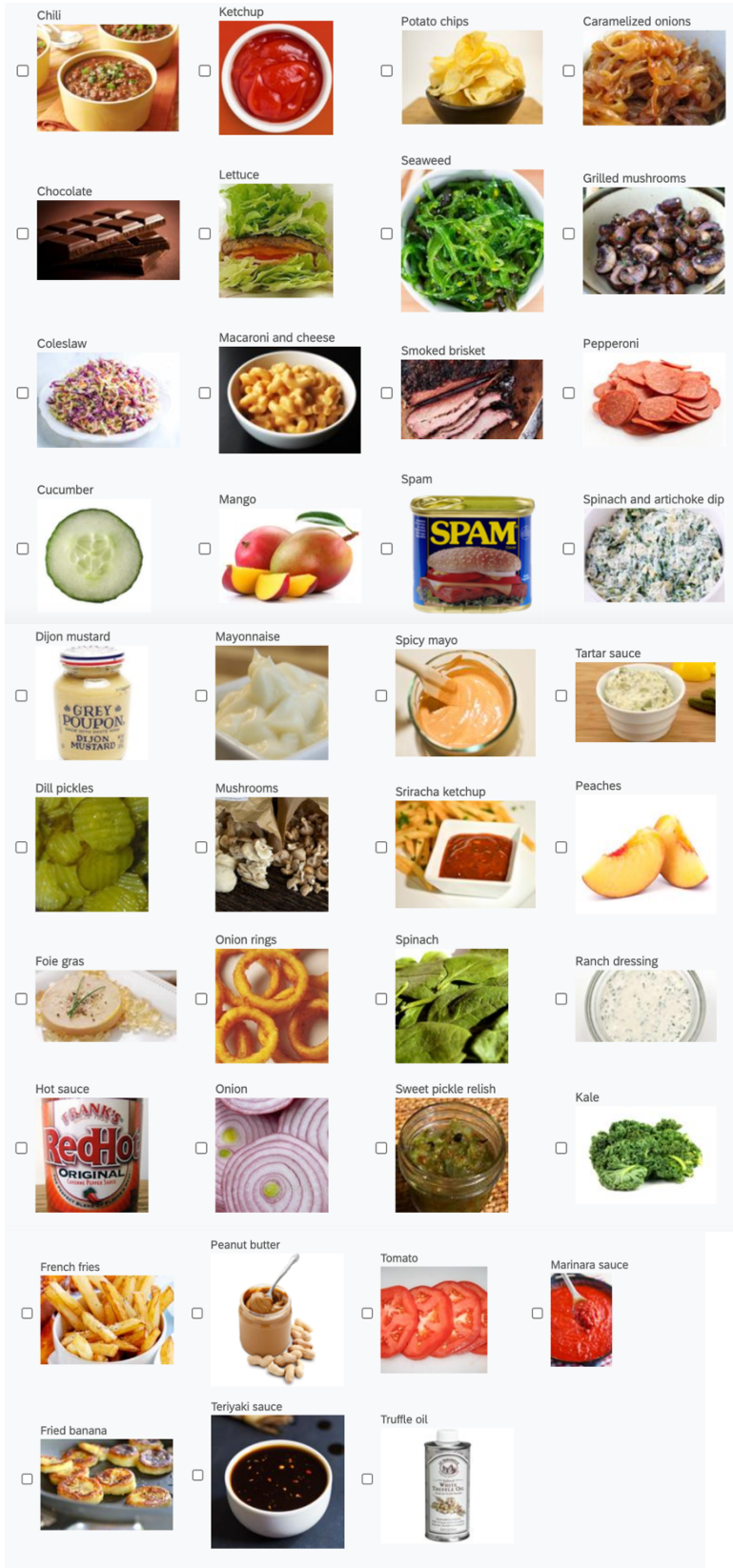


Cheese



Toppings

<input type="checkbox"/> A1 Sauce 	<input type="checkbox"/> Fried egg 	<input type="checkbox"/> Pesto 	<input type="checkbox"/> Wasabi 
<input type="checkbox"/> Alfalfa sprouts 	<input type="checkbox"/> Corn chips 	<input type="checkbox"/> Pineapple 	<input type="checkbox"/> Whole cabbage kimchi 
<input type="checkbox"/> Apple 	<input type="checkbox"/> Grilled eggplant 	<input type="checkbox"/> Prosciutto 	<input type="checkbox"/> Horseradish 
<input type="checkbox"/> Avocado 	<input type="checkbox"/> Grilled onions 	<input type="checkbox"/> Pulled pork 	<input type="checkbox"/> Hummus 
<input type="checkbox"/> Bacon 	<input type="checkbox"/> Guacamole 	<input type="checkbox"/> Roasted garlic aioli 	<input type="checkbox"/> Olive tapenade 
<input type="checkbox"/> Barbecue Sauce 	<input type="checkbox"/> Honey mustard 	<input type="checkbox"/> Roasted peppers 	<input type="checkbox"/> Ramen noodles 
<input type="checkbox"/> Brown mustard 	<input type="checkbox"/> Jalapenos 	<input type="checkbox"/> Roasted garlic 	<input type="checkbox"/> Yellow mustard 
<input type="checkbox"/> Caviar 	<input type="checkbox"/> In & Out Spread 	<input type="checkbox"/> Salsa 	<input type="checkbox"/> Strawberry jelly 



APPENDIX B: RAT ITEMS IN STUDY 7 AND THEIR ANSWER KEY

soul—busy—guard (answer: body)
athletes—web—rabbit (answer: foot/feet)
mower—atomic—foreign (answer: power)
arrow—laced—narrow (answer: straight)
sleeping—bean—trash (answer: bag)
wheel—hand—shopping (answer: cart)
force—line—mail (answer: air)