

## RESEARCH ARTICLE

# Perceived unequal and unfair workplaces trigger lower job satisfaction and lower workers' dignity via organizational dehumanization and workers' self-objectification

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## Abstract

Despite the increasing wage disparities and the unfair distribution of resources in many organizations, there have not been enough academic explorations into the role of these contextual variables on dehumanization processes and psychosocial risk factors among employees. This project addresses how perceptions of economic inequality and unfairness in the distribution of resources can influence individuals' perceptions of dehumanization and self-objectification, and trigger detrimental consequences in the workplace. Using two correlational surveys in different cultural contexts ( $N = 748$ ), and two experimental studies ( $N = 662$ ), this research consistently shows that both high inequality and high unfairness perceptions decrease job satisfaction and dignity at work through dehumanization processes. Specifically, both inequality and unfairness increase perceived organizational dehumanization, which in turn increases participants' self-objectification. Self-objectification is associated with lower job satisfaction and dignity at work. This paper discusses the consequences of economic disparities on individuals' recognition of their own humanity.

## KEYWORDS

inequality, job satisfaction, organizational dehumanization, self-dehumanization, unfairness, workers' dignity

## 1 | INTRODUCTION

Rising wage inequality is a reality in most developed countries and their organizations (Autor et al., 2014; Piketty et al., 2014; Saez et al., 2019). In the United States, the wage gap in 2019 between the highest-ranked employee, for example a chief executive officer (CEO), and a typical medium-ranked employee was six times greater than the gap in 1980 (Institute for Policies Studies, 2021). In the United Kingdom, the mean annual compensation for the top 100 Financial Times Stock Exchange (FTSE) CEOs was £4,700,000, whereas for typical medium full-time workers it was £24,897; this means that CEOs earned 126 times more (Chartered Institute of Personnel and Development [CIDP], 2020). These economic disparities seemed to have been aggravated

by the coronavirus disease 2019 (COVID-19) pandemic (Darvas et al., 2020; Furceri et al., 2020). One prominent case during the pandemic was that of the Amazon workers who struggled with underpayment and poor working conditions (Sainato et al., 2020) whereas their CEO became the wealthiest man on earth (Reich et al., 2020).

Despite the negative effects these increasing wage disparities have on workers, there has been very little academic exploration of the role that perceived income inequality and unfair resource distribution within organizations have on psychosocial risk factors among employees (Bapuji et al., 2015; Jiang & Probst et al., 2019). Economic inequality within the organization, as well as receiving unfair treatment in the workplace (e.g., experiences of mistreatment, isolation, or ostracism) could favour perceptions of dehumanization or

even self-dehumanization (Bastian & Haslam, 2010; Desai et al., 2009; Renger et al., 2016). In this project we aimed to study the influence that perceived economic inequality and unfair resource distribution within organizations has on workers, including some psychological negative factors (e.g., lower job satisfaction and worker indignity). We also evaluated whether this influence is mediated by workers' perceptions of organizational dehumanization and self-objectification (i.e., self-dehumanization in the organizational sphere). Analysing how perceptions of these contextual variables can threaten individuals' recognition of their own humanity, and consequently their psychological well-being, will contribute to expanding knowledge of the possible antecedents of worker dissatisfaction.

### 1.1 | Inequality and unfairness: Triggers of negative consequences for workers

In an organizational context, economic inequality refers to differences in pay and available resources between lower level and upper level workers, which is reflected in what is commonly called pay or wage gaps (Shaw et al., 2014, 2002). According to the psychosocial perspective, perceiving economic inequality strongly affects an individual's psychological processes (Willis et al., 2022). That is, not only does the actual pay gap influence individuals' working conditions but also being aware of such a pay gap. For instance, when perceiving high economic differences in workplaces, people tend to regard their counterparts as a threat (Cheng et al., 2021). Apart from the ability to perceive inequalities, how people understand and evaluate inequalities (e.g., fair or unfair) is crucial in shaping their attitudes and behaviours (García-Sánchez et al., 2022), especially in circumstances where people witness injustices or unequal treatment and identify that fairness has been violated (Wright et al., 1990). In this research, we understand organizational unfairness as the employees' perceptions that their compensation is unfair and inappropriate in terms of task difficulty and responsibilities that are a part of their job when compared with other employees (Deutsch et al., 1985; Folger & Cropanzano, 1998). Organizational (un)fairness also refers to the allocation fairness of other job resources, such as equipment, work tools, training and promotional opportunities (Keshabyan & Day, 2020). Although they are different constructs, both economic inequality and organizational unfairness could have a similar impact on the workers' perceptions of the work environment. For instance, both could undermine organizational trust—that is, the employee's perception that the organization is concerned with their welfare, needs and desires, and that it looks out for their interests (Colquitt et al., 2007). Schulz et al. (2022) found that when pay inequality in an organization is too high, increasing pay inequality is related to decreasing employees' trust in their managers. Perceived organizational unfairness has also been associated with lower organizational trust (Malla & Malla, 2023) and lower trust in managers (Hubbell & Chory-Assad, 2005).

Workers' perceptions of their work environment have an important influence on job-related outcomes such as productivity, performance, job satisfaction or personal growth (Griffin, 2001). In this research,

we focused on two specific outcomes: worker job satisfaction (i.e., employees' sense of satisfaction with their work or their working conditions; Ugboro & Obeng, 2000), and worker dignity (i.e., the self- or other recognition of inherent human worth that everyone has or lacks after performing a work activity; Lucas et al., 2017; Thomas & Lucas, 2019). Job satisfaction is strongly related to working conditions and work relationships (Locke et al., 1976), so it is usually considered as a dynamic variable that can be strongly influenced by both job and organizational characteristics. Although dignity at work is understood to be a fundamental and unconditional requirement for each human being, and, therefore, relatively independent of the characteristics of specific tasks that workers perform (Lucas et al., 2015, 2017), it could be undermined when the work environment is hostile (Elaswarapu, 2016). Both job satisfaction and dignity could therefore be reduced in negative work environments in which workers perceive that their organization does not care about their welfare, interests, needs or desires.

Assuming that both economic inequality and organizational unfairness similarly impact workers' perceptions that their organization does not care about them (e.g., Malla & Malla, 2023; Schulz et al. 2022), we argue that these two contextual variables could have similar effects on workers' job satisfaction and dignity. Previous studies have shown that economic inequality undermines an individual's general well-being, happiness and satisfaction (Alesina et al., 2004; Delhey & Dragolov, 2014; Graafland & Lous, 2019; Lous & Graafland, 2022; Oishi et al., 2011; Tavor et al., 2017). Economic inequality also has an effect on people's lives across organizations (Amis et al., 2018; Bapuji et al., 2020; van Dijk et al., 2020). Specifically, greater pay inequality can diminish employees' job satisfaction (Pfeffer & Langton, 1993). Increasing wage gaps are associated with other negative outcomes that are strongly connected to workers' satisfaction, such as greater disruption of inter-office work dynamics (Baron & Pfeffer, 1994), or lower cooperation between employees (Bratanova et al., 2019). Perceptions of fairness or unfairness in resource distribution, salaries and other work-related incentives can also alter workers' lives (Rutte & Messick, 1995). According to equity theory (Adams et al., 1963), the perception of unfairness in aspects such as pay might negatively affect workers through increasing psychosocial risk factors (Greenberg et al., 2004, 2010; Howard & Cordes et al., 2010; Lang et al., 2011). Specifically, researchers have found that perceptions of organizational unfairness decrease job satisfaction (D'Ambrosio et al., 2018; Otaye & Wong, 2014; Sauer & Valet, 2013), or that it increases intentions to leave the organization (VanYperen et al., 2000) and absenteeism (Sauer & Valet, 2013).

This previous evidence, although scarce, has highlighted the link between job satisfaction on the one hand and economic inequality and organizational unfairness on the other; however, studies have not addressed the effect of these two aspects of the organizational context on other fundamental requirements of workers, such as the need for dignity. The causal relationship between economic inequality/organizational unfairness and job satisfaction/dignity has not been studied in depth. The mechanism that links the pathway between contextual inequities/unfairness and occurrences of these psychological risks remains unclear. For this project, we explore if other variables

also related to the perception that the organization does not care about its workers' welfare or interests, such as dehumanization at the workplace (Väyrynen et al., 2018), could explain the relation between inequality/unfairness and job satisfaction/dignity.

## 1.2 | Perceptions of organizational dehumanization and workers' self-dehumanization

Dehumanization processes refer to the perception of individuals or groups as lacking human traits (Haslam & Loughnan, 2014; Haslam & Stratemeyer, 2016). In the organizational domain, dehumanization usually refers to employees' perception that they are used as instruments for their organizations' goals (Bell & Khoury, 2011, 2016). The antecedents of organizational dehumanization include a wide range of motives that go from more contextual or environmental factors to more interpersonal or individual characteristics (Brison et al., 2022). For instance, dehumanization can easily emerge in the organizational context because it is an economic setting or scenario where the economic exchange is prioritized and individuals are usually judged based on their perceived economic value. On this matter, previous studies have found that commercial interchanges in companies' selection processes can lead to the dehumanized processing of candidates (Harris et al., 2014) or that valuing money above all could lead to perceiving others as lacking human mental capacities (Wang & Krumhuber, 2017). This exchange approach to social relationships has been even found in intimate relationships in which individuals can instrumentalize their partners to maximize self-gain (Wang et al., 2022). Similarly, evidence from the target perspective shows that when employees perceive that their organization does not care about their welfare and interests (i.e., it is untrustworthy) they feel that the organization views them merely as a tool for work (Väyrynen et al., 2018). For example, abusive leadership styles (Caesens et al., 2019; Sainz & Baldissarri, 2021) or perceived lack of organizational support (Caesens et al., 2017) have been associated with the appearance of dehumanization in the organizational sphere. Further, an organizational climate that values individuals by their usefulness or their economic worth without caring about workers' needs and interests, has an influence on individuals' self-perceptions. Specifically, previous research suggests that prioritizing money above other goals usually leads to individuals' self-dehumanization and to a tendency to separate from others in the workplace (Ruttan & Lucas, 2018). Overall, this evidence highlights that certain characteristics of the organizational environment (e.g., exchange mentality, money prioritization, low organizational trust) can trigger dehumanization processes. We therefore consider whether other broad characteristics of the organization that promote a negative and untrustworthy organizational environment, such as structural inequities and injustices, can also trigger dehumanization processes in this context.

Evidence, in the organizational context, has shown that organizational unfairness relates to higher organizational dehumanization (Bell & Khoury, 2016) or that receiving unfair treatment (e.g., being excluded or disrespected) could favour the perception of dehuman-

ization (Bastian & Crimston, 2014; Bastian & Haslam, 2010; Bastian et al., 2013; Renger et al., 2016). The increasing level of income inequality between top-level managers and lower-level workers favours the concentration of power in the hands of a few, leading to dysfunctional practices in the organization such as the stereotyping or the dehumanization of workers (Desai et al., 2009). Increasing levels of economic inequality make social stratification more salient and these conditions usually erode social cohesion and trust (Delhey & Dragolov, 2014) because in unequal contexts individuals and groups tend to compete among each other in order to reach their personal goals (Sommet et al., 2019). These competitive conditions have been found to trigger dehumanization processes in similar domains, for example in sports scenarios (Gallagher & Hessler, 1979) or in the sexual domain (Wang et al., 2021, 2022). For instance, in the latter context, a sense of competition in workplaces is associated with women's preference for appearance-oriented products and self-objectification tendencies. In fact, this latter evidence highlights how unequal and competitive scenarios do not only lead to the appearance of dehumanization of others but can also lead to self-internalization of these perceptions, favouring individuals perceived to treat themselves as an instrument or a tool to cope with the demands of the unequal contextual factors.

Workers' perceptions that an organization is dehumanizing them can trigger self-dehumanization processes. Research on dehumanization from the target perspective has found that the tendency to perceive oneself or one's in-group as being dehumanized leads many to internalize this perception to some extent and to consider themselves or their in-group as less than human (i.e., self-dehumanization or self-objectification; Bastian & Haslam, 2010). In the organizational context, recent evidence has supported the relationship between organizational dehumanization and workers' self-objectification. For instance, Sainz and Baldissarri (2021) found that, after being exposed to an abusive leadership style during the performing of an objectifying task, individuals felt dehumanized and this promoted self-dehumanization in workers (known as self-objectification in the work domain) and in students in an experimental task. These findings show how, apart from the contextual factors we previously mentioned, one of the main reasons why individuals lower feel less than human is in-depth perceiving that they are considered as less than human by others in the organization.

Apart from the antecedent variables that trigger the appearance of dehumanization processes, dehumanization and self-objectification have detrimental consequences in several domains. Specifically, self-objectification has also been associated with detrimental outcomes, such as mental apathy, reduced thought clarity, negative emotions (i.e., shame and guilt; Bastian & Haslam, 2010, 2011) and a decrease individuals' perceptions of subjective well-being (Sainz, Martinez et al., 2020) among other consequences. In the organizational domain, workers' perceptions of being objectified and used as mere resources within an organization (i.e., organizational dehumanization), as well as self-objectification from internalizing this dehumanization, are associated with lower employee job satisfaction, well-being, and workers' dignity (Sainz & Baldissarri, 2021; Sainz & Lobato, 2021). This also increases workers' turnover intentions, among other detrimental

outcomes for workers' well-being and organizational health (Baldissarri et al., 2022; Caesens & Stinglhamber, 2019; Caesens et al., 2017; Nguyen & Stinglhamber, 2021; Thomas & Lucas, 2019).

To summarize, although the interest in dehumanization processes in the organizational sphere has increased in recent years, more research is needed to address some of the triggers of organizational dehumanization and self-objectification. There has been little effort to understand whether contextual factors such as perceptions of differences in resource allocation within an organization (i.e., perceived inequality) and perceptions of (un)fairness in resource distribution (i.e., organizational unfairness) might affect how workers perceive the threat of organizational dehumanization and whether it triggers self-objectification and other negative consequences (e.g., low job satisfaction and dignity at work). Based on previous evidence, we consider that inequality and unfairness might contribute to creating a negative organizational climate that favours workers perceiving that they are being used as a tool for the company's means. Perceived dehumanization, in turn, would increase self-objectification among workers with detrimental consequences for their satisfaction and their perceptions of dignity.

## 2 | OVERVIEW

In this research, we propose that unequal and unfair scenarios decrease workers' satisfaction and dignity perceptions because they are dehumanized by their organization and then they self-objectify themselves. We conducted multiple studies to address the influence of perceived income inequality within organizations and organizational unfairness on the emergence of psychological risk factors for workers through organizational dehumanization and self-objectification. The organizational context was a suitable scenario for an analysis of the ways in which individuals are affected by perceptions of contextual variables and for studying dehumanization processes. We decided to focus on the organizational sphere because (a) work environments and work identity are important facets of people's lives (Miscenko & Day, 2015); and (b) research has highlighted the need to study perceptions of inequality in closer social circles and environments, rather than only looking at abstract understandings of societal inequality (García-Castro et al., 2020).

We aimed to test three main hypotheses through four studies. First, literature has suggested that economic inequality (Desai et al., 2009) and unfairness (Bell & Khoury, 2016; Stinglhamber et al., 2022) trigger dehumanization in the organizational context. Therefore, we hypothesized that both contextual factors would increase organizational dehumanization (Hypothesis 1a,b) as well as the tendency of workers to self-objectify (Hypothesis 1c,d). Based on evidence from other studies (e.g., D'Ambrosio et al., 2018; Pfeffer & Langton, 1993; Sauer & Valet, 2013), we predicted that economic inequality and organizational unfairness would decrease job satisfaction (Hypothesis 1e,f). We also anticipated that these contextual factors could decrease dignity at work (Hypothesis 1g,h).

Our second and third sets of hypotheses are related to the underlying mechanism that links the studied contextual factors and workers' job satisfaction and dignity. We propose that the direct effect of both economic inequality (Hypothesis 2) and organizational unfairness (Hypothesis 3) on job satisfaction and dignity at work would be sequentially mediated by organizational dehumanization (Mediator 1) and self-objectification (Mediator 2). Supporting these hypotheses, previous research has shown that (a) dehumanization in the organizational context is associated with detrimental consequences for workers, such as low job satisfaction and dignity at work (Caesens & Stinglhamber, 2019; Thomas & Lucas, 2019), and (b) that perceptions of organizational dehumanization increase self-objectification in workers (Sainz & Baldissarri, 2021). So, we predicted that dehumanization processes could drive at least some of the effects of economic inequality and organizational unfairness on job satisfaction and dignity.

To achieve our study goal, we first relied on correlational data (Studies 1 and 2) to check the relationships between the variables in two samples of workers. We then aimed to confirm the causal relationship between the variables in our model by applying a double randomization design, which consists of (a) manipulating the independent variable and measuring the mediator and the dependent variable in a first experiment and (b) manipulating the mediator and measuring the dependent variable in a second experiment (Pirlott & MacKinnon, 2016). Double randomization designs are recommended to provide experimental evidence about a mediation model because (a) the random assignment of participants to levels of the mediator satisfies the required criteria for testing causal links and (b) replicating the pattern of findings using a different operationalization of the mediating variable strengthens the capability to infer that the mediator is responsible for the pattern of results (Pirlott & MacKinnon, 2016). Thus, we performed our first experimental study (Study 3) by manipulating the perceived income inequality and the perceived organizational unfairness within an organization to test the effect of these predictors on the mediators (i.e., organizational dehumanization and self-objectification) and the outcome variables (i.e., job satisfaction and workers' dignity). Next, we carried out our second experimental study (Study 4) by manipulating organizational dehumanization to test the causal effect of this mediator on self-objectification and the outcome variables. Data and materials can be found online (<https://osf.io/eyh6d/>).

## 3 | STUDY 1

In Study 1, we explored the hypothetical relationship between variables in the Mexican context using a correlational methodology. We expected that perceived income inequality and perceived organizational unfairness would be associated with (a) higher perceptions of being dehumanized by the organization (Hypothesis 1a,b), (b) higher workers' tendency to self-objectify (Hypothesis 1c,d), (c) lower work satisfaction (Hypothesis 1e,f) and (d) lower perceptions of dignity in the workplace (Hypothesis 1g,h). Additionally,

we explored whether the possible relationships between perceived income inequality/organizational unfairness (Hypotheses 2 and 3, respectively) and the other detrimental outcomes for workers (i.e., worker satisfaction and dignity) were sequentially mediated by organizational dehumanization (Mediator 1) and self-objectification (Mediator 2).

### 3.1 | Method

#### 3.1.1 | Participants and procedures

The participants were Mexican workers from a range of different organizations and occupations who were recruited online through Prolific, an online survey service; participants were paid £0.50 per 5 min study. We used G\*Power to compute sample size for a small-medium effect (two predictors, 80% power,  $\alpha = .05$ ,  $f^2 = 0.03$ , minimum  $n = 325$ ; Faul et al., 2009). After collecting the data, we excluded five participants who did not meet one of the inclusion criteria (i.e., native Spanish speakers). The final sample was composed of 408 workers (245 men, 160 women, 3 others,  $M_{\text{age}} = 30.32$ ,  $SD_{\text{age}} = 9.66$ ). Once they agreed to participate, they were presented with the following scales.

#### *Perception of economic inequality and perception of organizational unfairness*

Using items adapted from Castillo (2011), we measured the workers' perceptions of inequality and unfair resource distribution within their organizations. For perceived economic inequality, we asked, 'In general, how much inequality [bosses earn a lot, employees only earn a little] or equality [everyone earns more or less the same] do you think exists in your organization?' For perceived unfairness of salary distribution, we asked the following question: 'In general, how fair or unfair is the distribution of wages in your organization?' Participants rated their responses for both items using a 7-point Likert scale (1 = *completely equal/fair*, 7 = *completely unequal/unfair*).

#### *Organizational dehumanization*

We used 11 items from Caesens et al. (2017) to measure employees' perceptions of being dehumanized at work (e.g., 'My organization regards me as a number';  $\alpha = .87$ ). Respondents rated each item on a scale from 1 = *not frequently* to 7 = *very frequently* to indicate the extent to which they thought their organizations considered them as resources.

#### *Self-objectification*

We measured respondents' perceptions of themselves as either instrument-like or human-like by asking them to what extent they perceived themselves as instruments (five items, e.g., 'machine', 'object',  $\alpha = .91$ ) and as humans (five items, e.g., 'human being', 'person',  $\alpha = .87$ ) when performing their daily tasks at work (Baldissarri et al., 2019). Respondents rated each of these items on a 7-point Likert scale (1 = *not at all*, 7 = *completely*). We used this to compute a self-objectification

index (machines scores minus human scores); higher scores indicated more self-objectification.

#### *Job satisfaction*

Using four items from Eisenberger et al. (1997), we measured employees' satisfaction with their current positions (e.g., 'All in all, I am very satisfied with my current job';  $\alpha = .91$ ). Respondents answered using a 7-point Likert scale (1 = *not at all*, 7 = *completely*).

#### *Dignity at work*

We administered the Spanish adaptation (Sainz & Lobato, 2021) of the 18-item Workplace Dignity Scale (e.g., 'I feel respected when I interact with people at work';  $\alpha = .94$ ) from Thomas & Lucas (2019). Respondents answered on a 7-point scale (1 = *strongly disagree*, 7 = *strongly agree*).

Finally, participants answered a single item regarding their objective economic status (1 = *less than MXN2600*, 11 = *MXN26,508 or more*; Mexican Secretary of Labor & Social Welfare, 2019) and a single item about their subjective socioeconomic status (10-step ladder; Adler et al., 2000). We included both measures as covariates in the analysis. Participants also provided demographic information (gender, age, nationality and language) and some details of their work position (years in the company, working hours, etc.). This information was included for exploratory purposes and can be found online (see [supplementary materials](#)).

### 3.2 | Results and discussion

First, we collected the data and then computed the descriptive statistics and correlations (Table 1). Second, we performed multiple regression analyses using perceived inequality and organizational unfairness as predictors of the variables included in the study (Table 2). As expected, both perceived inequality and organizational unfairness positively predicted organizational dehumanization and self-objectification (Hypothesis 1a-d) and negatively predicted workers' satisfaction and dignity (Hypothesis 1e-h).<sup>1</sup>

Next, we explored whether both perceived inequality and perceived organizational unfairness were associated with lower job satisfaction and lower dignity at work through organizational dehumanization and self-objectification. We carried out a sequential mediation analysis in PROCESS (model 6, bootstrapping 10,000 samples, 95% CI; seed = 978,911). Perceived inequality and perceived organizational unfairness were considered predictors (X), organizational dehumanization and self-objectification were considered the first and second mediators ( $M_1$ ,  $M_2$ ), and job satisfaction and dignity at work were considered outcome variables (Y). We conducted separate analyses for each outcome variable; however, to obtain the unique effect of each predictor on job satisfaction and dignity at work, we introduced the two predictors together into the analyses, instead of estimating two separate models with a single predictor each (Hayes et al., 2018). To do this in PROCESS, we included one of the predictors in the X's box



**TABLE 1** Descriptive statistics and correlations between the Study 1 and 2 measures.

	Study 1									Study 2
	Mean (SD)	1	2	3	4	5	6	7	8	Mean (SD)
1. Perceived inequality	5.33 (1.16)	-	.74*	.59*	.41*	-.44*	-.35*	-.042	-.15**	4.53 (1.58)
2. Perceived unfairness	4.37 (1.45)	.38*	-	.61*	.46*	-.54*	-.45*	-.08	-.16**	4.16 (1.49)
3. Organizational dehumanization	4.14 (1.22)	.27*	.28*	-	.71*	-.60*	-.57*	-.06	-.21*	4.19 (1.38)
4. Self-objectification	-2.16 (2.55)	.26*	.28*	.64*	-	-.65*	-.69*	-.05	-.24*	-1.85 (2.54)
5. Job satisfaction	5.08 (1.58)	-.29*	-.35*	-.46*	-.63*	-	.74*	.10***	.19**	4.71 (1.56)
6. Dignity at work	4.87 (0.71)	-.26*	-.23*	-.34*	-.58*	.72*	-	.13**	.26*	4.66 (.71)
7. Objective socioeconomic status	4.76 (2.48)	.06	-.07	-.12**	-.07	-.19*	.06	-	.28*	5.40 (2.89)
8. Subjective socioeconomic status	6.10 (1.50)	-.08***	-.12**	-.64	-.16*	.17*	.22*	.19*	-	5.71 (1.38)

Note: Correlations for Study 1 are below the diagonal line, and correlations for Study 2 are above the diagonal line.

\* $p \leq .001$ . \*\* $p \leq .05$ . \*\*\* $p \leq .09$ .

**TABLE 2** Regression analysis of perceived economic inequality and perceived unfairness at the workplace on the Study 1 and 2 variables.

	Organizational dehumanization		Self-objectification		Job satisfaction		Dignity at work	
	$\beta$ (SE)	95% CI	$\beta$ (SE)	95% CI	$\beta$ (SE)	95% CI	$\beta$ (SE)	95% CI
Study 1	$F(2, 407) = 24.59^*$ , $R^2 = 0.104$		$F(2, 407) = 23.98^*$ , $R^2 = 0.101$		$F(2, 407) = 35.98^*$ , $R^2 = 0.147$		$F(2, 407) = 18.72^*$ , $R^2 = 0.080$	
Perceived inequality	.19 (0.05)*	[0.092; 0.303]	.18 (0.11)*	[0.173; 0.614]	-.18 (0.07)*	[-0.371; -0.106]	-.20 (0.03)*	[-0.183; -0.059]
Perceived unfairness	.21 (0.04)*	[0.092; 0.261]	.21 (0.09)*	[0.197; 0.551]	-.29 (0.05)*	[-0.418; -0.205]	-.15 (0.03)**	[-0.124; -0.024]
Study 2	$F(2, 339) = 120.01^*$ , $R^2 = 0.412$		$F(2, 339) = 47.88^*$ , $R^2 = 0.217$		$F(2, 339) = 70.10^*$ , $R^2 = 0.290$		$F(2, 339) = 42.31^*$ , $R^2 = 0.196$	
Perceived inequality	.32 (0.06)*	[0.197; 0.440]	.15 (0.07)**	[0.007; 0.288]	-.09 (0.07)	[-0.220; 0.048]	-.05 (0.07)	[-0.189; 0.096]
Perceived unfairness	.37 (0.06)*	[0.251; 0.494]	.35 (0.07)*	[0.210; 0.491]	-.48 (0.07)*	[-0.609; -0.341]	-.41 (0.07)*	[-0.555; -0.270]

Note:  $\beta$  coefficients are standardized.

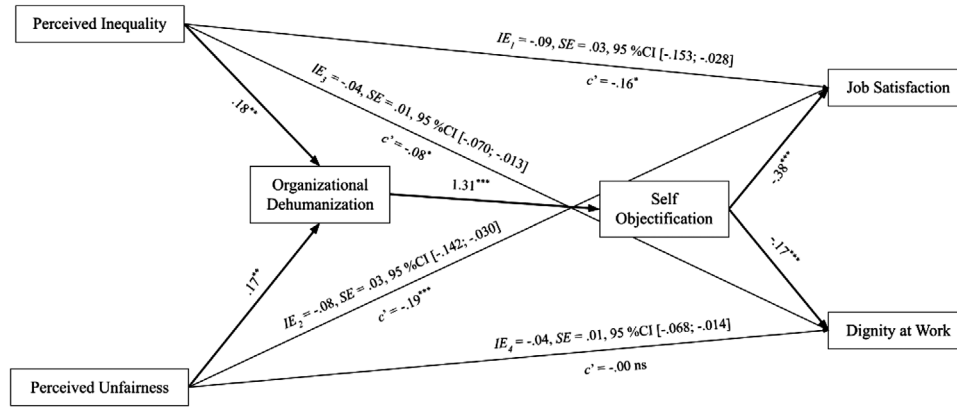
\* $p \leq .001$ . \*\* $p \leq .05$ . \*\*\* $p \leq .040$ .

and the remaining predictor as a covariate. To estimate the direct and indirect effects of each predictor, we executed PROCESS two times for each outcome variable, each time putting one predictor in the model as X and the remaining predictor as a covariate. Importantly, we set the same seed (seed = 978,911) for each analysis to ensure that the bootstrap confidence intervals were based on the same set of bootstrap samples from the data. This procedure allowed all of the resulting regression coefficients, direct effects, and indirect effects to be mathematically the same as if they were estimated simultaneously using a structural equation-modelling program (Hayes et al., 2018). We included participants' objective and subjective economic status as covariates (see [supplementary materials](#) for more details).

As Figure 1 shows, perceived inequality was directly related to both lower job satisfaction and lower dignity at work, whereas perceived organizational unfairness was only directly (and negatively) associated with job satisfaction; this was consistent with the previous

multiple regression analyses conducted. Furthermore, both predictors were indirectly related to both job satisfaction and dignity at work through organizational dehumanization and self-objectification. To be specific, both perceived inequality and perceived unfairness in the organizational domain were associated with higher organizational dehumanization ( $b_{\text{inequality}} = 0.18$ ;  $b_{\text{unfairness}} = 0.17$ ), which in turn was strongly associated with higher self-objectification ( $b = 1.31$ ). Self-objectification was also related to lower levels of job satisfaction ( $b = -0.38$ ) and to lower levels of dignity at work ( $b = -0.17$ ).

In short, the results suggest that perceiving an organization as unequal and unfair decreases workers' job satisfaction and dignity. This link seems to be due to the effect that organizational inequality and unfairness have on perceived dehumanization. In the following study, we aimed to address the limitations of using single items to capture the triggering processes (i.e., perceived economic inequality and unfairness).



**FIGURE 1** Sequential mediation model for the indirect effect of perceived inequality and perceived organizational unfairness on job satisfaction and dignity at work through organizational dehumanization and self-objectification (Study 1). Figure 1 shows, in a single figure, the two separate serial mediation analyses (one for each dependent variable). Unstandardized coefficients are shown. Participants' objective and subjective socioeconomic statuses were included as covariates.  $IE_1$  = indirect effect of perceived inequality on job satisfaction through organizational dehumanization and self-objectification;  $IE_2$  = indirect effect of perceived unfairness on job satisfaction through organizational dehumanization and self-objectification;  $IE_3$  = indirect effect of perceived inequality on dignity at work through organizational dehumanization and self-objectification;  $IE_4$  = indirect effect of perceived unfairness on dignity at work through organizational dehumanization and self-objectification. \* $p < .05$ , \*\* $p < .01$ , and \*\*\* $p < .001$ .

## 4 | STUDY 2

The aim of Study 2 was to replicate our previous findings with improved multi-item scales to capture participants' perceived economic inequality and unfairness in the workplace. Moreover, we conducted this study in Spain with the intention to extend findings from Study 1 to another cultural context. Study 2 also aimed to confirm the relationship between the two predictors (i.e., perceived economic inequality and perceived organizational unfairness) and (a) organizational dehumanization (Hypothesis 1a,b), (b) workers' self-objectification (Hypothesis 1c,d), (c) job satisfaction (Hypothesis 1e,f) and (d) dignity in the workplace (Hypothesis 1g,h). Furthermore, we sought to confirm the sequentially mediational effects of organizational dehumanization (Mediator 1) and self-objectification (Mediator 2) on the relationship between perceived economic inequality (Hypothesis 2), perceived organizational unfairness (Hypothesis 3), and the dependent variables (i.e., job satisfaction and dignity). Preregistration of the hypotheses can be found online: <https://osf.io/s93w8>.

### 4.1 | Method

#### 4.1.1 | Participants and procedures

We collected a total of 341 participants following the same procedure that was used in Study 1. One participant was excluded for not meeting one of the inclusion criteria (Spanish nationality), leading to a final sample of 340 Spanish workers (162 men, 177 women, 1 other;  $M_{\text{age}} = 32.16$ ,  $SD_{\text{age}} = 9.34$ ). Once participants agreed to participate, they were presented with the following scales.

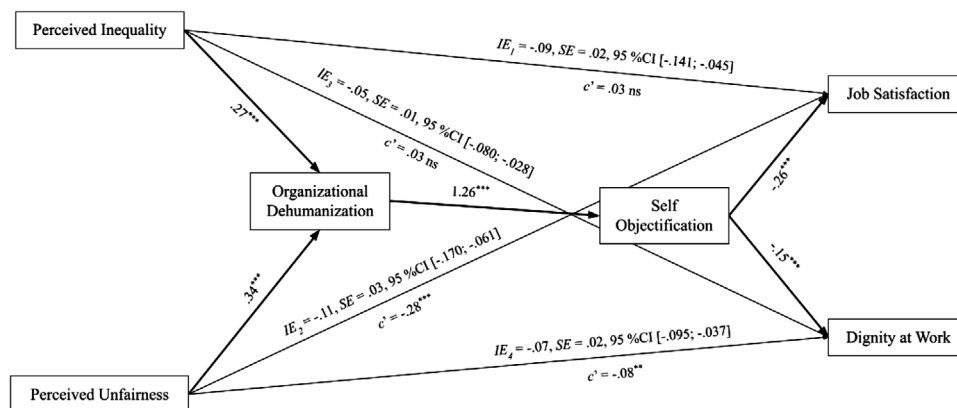
#### Perception of economic inequality and perception of organizational unfairness

To measure these two processes, we relied on previously used items from Sommet et al. (2019) about subjective inequality and beliefs about unfairness. To capture these processes in the organizational sphere, we modified these items and measured perceptions of economic inequality in salary and resource disparities with four items (e.g., 'The distribution of financial resources and employment benefits between employees in the highest and lowest positions in my organization is very unequal',  $\alpha = .94$ ). We used four more items to capture the perception of organizational unfairness (e.g., 'The distribution of income and employment benefits between the highest and lowest employees in my organization is unfair',  $\alpha = .86$ ; see [supplementary materials](#) for more details).

The other variables included in this study were the same as those in Study 1: organizational dehumanization ( $\alpha = .92$ ), self-objectification (machine words:  $\alpha = .93$ ; human words:  $\alpha = .87$ ), job satisfaction ( $\alpha = .92$ ) and dignity at work ( $\alpha = .96$ ). We also collected information on objective (monthly income divided in deciles) and subjective (10-step ladder) socioeconomic status, demographic information, and participants' work details (see [supplementary materials](#)).

### 4.2 | Results and discussion

As in the previous study, we computed descriptive statistics, correlations (Table 1), and multiple regression analyses using perceived economic inequality and organizational unfairness as the predictor variables of the remaining variables included in the study (Table 2). The results indicated that perceptions of both economic inequality and unfairness in the organizational domain were related to the outcome



**FIGURE 2** Sequential mediation model for the indirect effect of perceived inequality and perceived organizational unfairness on job satisfaction and dignity at work through organizational dehumanization and self-objectification (Study 2). Figure 2 shows, in a single figure, the two separate serial mediation analyses (one for each dependent variable). Unstandardized coefficients are shown. Participants' objective and subjective socioeconomic statuses were included as covariates.  $IE_1$  = indirect effect of perceived inequality on job satisfaction through organizational dehumanization and self-objectification;  $IE_2$  = indirect effect of perceived unfairness on job satisfaction through organizational dehumanization and self-objectification;  $IE_3$  = indirect effect of perceived inequality on dignity at work through organizational dehumanization and self-objectification;  $IE_4$  = indirect effect of perceived unfairness on dignity at work through organizational dehumanization and self-objectification. \* $p < .05$ , \*\* $p < .01$ , and \*\*\* $p < .001$ .

variables included in the study. However, the results also showed that, in this sample, the perceived level of organizational unfairness was a more reliable predictor of workers' job satisfaction and dignity at work than the perceived level of economic inequality, an outcome in favour of Hypothesis 1d, f, and h. Organizational dehumanization was positively predicted by both variables, in line with Hypothesis 1a,b<sup>1</sup>.

We also confirmed the same mediational model by using the specifications of the previous study; we conducted our sequential mediation analysis in PROCESS (model 6, bootstrapping 10,000 samples, 95% CI; seed = 978,911) by considering perceived economic inequality and perceived organizational unfairness as predictors (X), organizational dehumanization as the first mediator ( $M_1$ ), self-objectification as the second mediator ( $M_2$ ) and job satisfaction and dignity at work as outcome variables (Y). In line with our Hypotheses 2 and 3, the results in Figure 2 show that both perceived economic inequality and perceived organizational unfairness were indirectly related to both job satisfaction and dignity at work through organizational dehumanization and self-objectification.

In short, the results of this preregistered study, with a different sample and multi-item scales, strengthen the correlational evidence of the influence of perceived economic inequality and organizational unfairness on workers' satisfaction and perception of dignity, via organizational dehumanization and workers' self-objectification processes. Thus, these results replicate previous findings, differing only by their lack of a direct relationship between economic inequality and the outcomes. This lack of consistency might be driven by several factors, such as cultural differences in perceived inequity between the Mexican context and the Spanish context (Willis et al., 2022). These cultural factors are beyond the scope of this correlational evidence and will need further scrutiny. Regardless of this point, the evidence presented in this study relies on correlational data. To confirm the causal direction of our mediation model—namely, that economic

inequality and organizational unfairness decrease job satisfaction and workers' dignity by increasing organizational dehumanization and self-objectification (in that order)—we performed two experimental studies. We adopted a double randomization design (Pirlott & MacKinnon, 2016) to obtain evidence for the causal effect of X on  $M_1$ ,  $M_2$  and Y (first experimental study; Study 3), as well as evidence for the causal effect of  $M_1$  on  $M_2$  and Y (second experimental study; Study 4).

## 5 | STUDY 3

In this study, we aimed to examine experimentally the influence of perceived economic inequality in the workplace and perceived organizational unfairness on the variables we measured in the previous studies. This would allow us to confirm the causal effect that these two variables (X) exert on the mediators (M) and the outcomes (Y) of the model we proposed in Studies 1 and 2 as a first step in causally testing the full mediational model. Specifically, in this study we aimed to confirm the main effects of economic inequality in the workplace (high inequality vs low inequality) and of perceived organizational unfairness (high unfairness vs low unfairness); we expected that higher economic inequality and higher organizational unfairness would increase organizational dehumanization (Hypothesis 1a,b) and self-objectification (Hypothesis 1c,d) while decreasing worker job satisfaction (Hypothesis 1e,f) and dignity (Hypothesis 1g,h). Finally, we tested the possible sequential mediation effect of organizational dehumanization (Mediator 1) and self-objectification (Mediator 2) on the relationship between the predicting variables, i.e., economic inequality (Hypothesis 2) and organizational unfairness (Hypothesis 3), and the dependent variables (i.e., job satisfaction and workers' dignity). Preregistration of the hypotheses can be found online (<https://osf.io/6rxuv>).<sup>2</sup>



## 5.1 | Method: Pilot study

### 5.1.1 | Participants and procedures

First, we conducted a pilot study to test the experimental manipulation that we intended to implement in Study 3. In the pilot study, a total of 100 workers (69 men, 31 women,  $M_{\text{age}} = 28.05$ ,  $SD_{\text{age}} = 6.99$ ) participated. Recruited online by Prolific, these participants were paid £0.50 per 4 min study. Once workers agreed to participate in the study, they were told to imagine that they were beginning work with a new company; then, they were presented with some information about the company, including worker characteristics. Participants were assigned to one of four possible study conditions (see [supplementary materials](#) for a full disclosure of the manipulations).

#### Perceived economic inequality manipulation

To manipulate perceived economic inequality at the workplace, we told participants that the company had three different groups of workers: Group 3 (low-skilled/essential workers), Group 2 (workers in an intermediate position within the company [office job]) and Group 1 (company managers, supervisors). We then manipulated the distance (resources, salary, working conditions) between the groups. Workers from Group 2 had the same salary across conditions (40,000 MXN), and no other details about working conditions were provided. However, the salary and working conditions for workers from Groups 1 and 3 differed across the experimental conditions. In the high-inequality condition, workers from Group 3 had much lower salaries (less than 5000 MXN per month) and worse working conditions (5 days of vacation per year, weekend and holiday work), whereas Group 1 workers had higher salaries (more than 150,000 MXN per month) and much better conditions (4 weeks' vacation, travel vouchers). In the low-inequality condition, workers from Group 3 earned less than 30,000 MXN per month and had 2 weeks' vacation but did not work weekends or holidays, whereas workers from Group 1 earned more than 50,000 MXN per month, had 3 weeks of vacation, and received travel vouchers. In both conditions, we told participants that they were being assigned to Group 2 to ensure all participants were in the same position to judge the working scenario in the different experimental conditions (Sánchez-Rodríguez & Willis, 2021).

#### Perceived organizational unfairness manipulation

We further manipulated the perceived unfairness of salary and resource distribution within the organization by presenting information on how workers from Groups 1 and 3 performed in their daily activities. In the high-unfairness condition, we told participants that workers from Group 1, despite their high standing within the organization, were insufficiently skilled (they had been recommended for their positions and had lower qualifications) and insufficiently engaged with the company's goals and objectives (they delegated responsibilities and avoided working); in this condition, workers from Groups 2 and 3 performed well within the company and were adequately engaged in their tasks, but they were habitually overwhelmed fulfilling Group 1's

**TABLE 3** Descriptive statistics and differences between the manipulations of perceived economic inequality (high vs low) and perceived organizational unfairness (unfair vs fair) at the workplace in the pilot study.

	Perceived inequality	Perceived unfairness	Comparison between conditions
High inequality and unfair	6.36 (0.82) <sup>a</sup>	5.39 (1.40) <sup>a</sup>	<i>Inequality:</i> $t(98) = -6.93$ , $p < .001$ , <i>Cohen's</i> $d = 1.34$
High inequality and fair	6.07 (0.74) <sup>a</sup>	4.33 (1.39) <sup>b</sup>	
Low inequality and unfair	5.04 (1.49) <sup>b</sup>	4.91 (1.44) <sup>a</sup>	<i>Unfairness:</i> $t(98) = -5.39$ , $p < .001$ , <i>Cohen's</i> $d = 1.08$
Low inequality and fair	4.11 (1.32) <sup>b</sup>	2.95 (1.43) <sup>b</sup>	

Note: Comparisons:

<sup>a</sup>High inequality/unfair,

<sup>b</sup>Low inequality/fair.

responsibilities and tasks. These tasks exceeded the workers' competence and increased their risk of committing an error and losing their positions. In contrast, in the low-unfairness condition, we told participants that workers from Group 1 were sufficiently skilled (they had passed a competitive selection process and were highly qualified) and highly engaged with the goals and objectives of the company (they assumed the responsibility and worked hard); these workers also took on great responsibilities that increased the risk associated with their positions. In contrast, we told participants that workers in Groups 2 and 3 showed adequate job performance, were engaged with their tasks and did not bear sufficient responsibilities to jeopardize their positions.

#### Manipulation checks

After we presented the study participants with information about the company's structure and workers, we asked participants to report which of the three groups they believed they had been assigned to (categorical answers: Group 1, Group 2 or Group 3). Additionally, they rated any perceived economic inequality (in response to the item 'In general, how much inequality [i.e., bosses earn a lot, employees little] or equality [i.e., everyone earns more or less the same] do you think exists in this organization?') and perceived organizational unfairness (in response to the item 'In general, how fair or unfair is the distribution of salaries/resources in the organization?').

Results from this pilot study indicate that participants correctly identified the group they were assigned to (95% reported Group 2) and correctly identified the experimental conditions (Table 3). They perceived the organization as more unequal in the high-inequality situation than in the low-inequality situation, and they perceived resource distribution to be more unfair in the high-unfairness condition than they did in the low-unfairness condition. These results confirmed the effectiveness of our experimental manipulations.

5.2 | Method: Main study

Once we confirmed the usefulness of the experimental manipulations, we conducted the main study.

5.2.1 | Participants and procedures

We recruited Mexican workers from different organizations and occupations using Prolific and paid them £0.50 per 5 min. We computed the sample size for a small-medium effect (repeated ANCOVA, 80% power,  $\alpha = .05$ ,  $f = 0.15$ , minimum  $n = 432$ ; Faul et al., 2009), and the final sample was composed of 452 workers (270 men, 179 women, 3 others,  $M_{age} = 31.11$ ,  $SD_{age} = 10.34$ ) after applying the preregistered exclusion criteria. Once workers agreed to participate, we presented them with the experimental manipulation of inequality and unfairness and the following scales.

Manipulation of economic inequality at the workplace and organizational unfairness

In Study 3, we implemented the experimental manipulations of perceived workplace inequality and unfairness that we developed in the pilot study. Once participants were presented with one of the four possible conditions, they answered the same manipulation check question as in the pilot study and the variables were the same as in Studies 1 and 2.

In this study, participants also answered the scales by evaluating their hypothetical situation in the company in the following aspects: organizational dehumanization ( $\alpha = .89$ ), self-objectification (machine words:  $\alpha = .93$ ; human words:  $\alpha = .90$ ), job satisfaction ( $\alpha = .91$ ) and dignity at work ( $\alpha = .96$ ). Finally, participants reported objective/subjective economic status, demographic information, and their work details using the same measures as in the previous study (see supplementary materials).

5.3 | Results and discussion

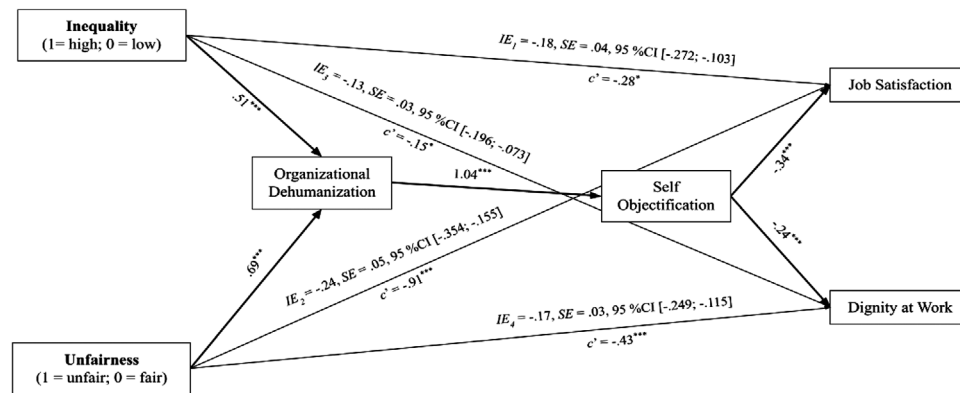
First, the results confirmed the effectiveness of the manipulation; nearly all (94%) participants correctly identified the worker group to which they had been assigned. Moreover, participants in the low-inequality situation perceived less inequality in the organization ( $M = 4.61$ ,  $SD = 1.45$ ) than did those in the high-inequality situation ( $M = 6.08$ ,  $SD = 1.03$ ;  $t(406) = 12.45$ ,  $p < .001$ ,  $d = 1.17$ ), and participants in the high-unfairness situation reported more unfair organizational resource distribution ( $M = 5.35$ ,  $SD = 1.53$ ) than did those in the low-unfairness situation ( $M = 3.98$ ,  $SD = 1.57$ ;  $t(450) = 9.39$ ,  $p < .001$ ,  $d = 0.89$ ).

Second, we performed ANCOVAs to identify differences in perceived organizational dehumanization and self-objectification, worker dignity and job satisfaction (within-subject factors) as a function of the economic inequality (high vs low, between-subject factors) and perceived organizational unfairness (high vs low, between-subject

TABLE 4 Effect of the manipulations of perceived economic inequality and perceived organizational unfairness at the workplace on the Study 3 variables.

	Inequality (main effect)		Unfairness (main effect)		Inequality and unfairness (interaction effect)		
	High	Low	Unfair	Fair	High inequality and unfair	Low inequality and unfair	High inequality and fair
Organizational dehumanization	$F_{(1,446)} = 23.45, p < .001, \eta_p^2 = 0.050$	$4.98 (0.075)$	$F_{(1,446)} = 42.85, p < .001, \eta_p^2 = 0.088$	$4.89 (0.074)$	$5.82 (0.107)$	$5.35 (0.106)$	$5.17 (0.104)$
	$5.50 (0.075)$		$5.56 (0.075)$				$4.62 (0.105)$
Self-objectification	$F_{(1,446)} = 31.91, p < .001, \eta_p^2 = 0.067$	$4.98 (0.075)$	$F_{(1,446)} = 64.99, p < .001, \eta_p^2 = 0.127$	$4.89 (0.074)$	$5.82 (0.107)$	$5.35 (0.106)$	$5.17 (0.104)$
	$0.84 (0.168)$	$-0.50 (0.168)$	$1.13 (0.170)$	$-0.79 (0.166)$	$1.67 (0.241)$	$0.59 (0.240)$	$0.02 (0.235)$
Workers' satisfaction	$F_{(1,446)} = 31.71, p < .001, \eta_p^2 = 0.066$	$4.28 (0.097)$	$F_{(1,446)} = 136.50, p < .001, \eta_p^2 = 0.234$	$4.69 (0.096)$	$2.77 (0.140)$	$3.39 (0.139)$	$4.23 (0.136)$
	$3.50 (0.097)$		$3.08 (0.099)$				$5.15 (0.137)$
Worker's dignity	$F_{(1,446)} = 26.16, p < .001, \eta_p^2 = 0.055$	$4.32 (0.060)$	$F_{(1,446)} = 97.64, p < .001, \eta_p^2 = 0.180$	$4.52 (0.059)$	$4.50 (0.086)$	$3.86 (0.086)$	$4.27 (0.084)$
	$3.88 (0.060)$		$3.68 (0.060)$				$4.77 (0.084)$

Note: Participants' objective and subjective socioeconomic status were included as covariates.



**FIGURE 3** Sequential mediation model for the indirect effect of perceived inequality (0 = low; 1 = high) and perceived organizational unfairness (0 = fair; 1 = unfair) on job satisfaction and dignity at work through organizational dehumanization and self-objectification (Study 3). Figure 2 shows, in a single figure, the two separate serial mediation analyses (one for each dependent variable). Unstandardized coefficients are shown. Participants' objective and subjective socioeconomic status are included as covariates.  $IE_1$  = indirect effect of inequality on job satisfaction through organizational dehumanization and self-objectification;  $IE_2$  = indirect effect of unfairness on job satisfaction through organizational dehumanization and self-objectification;  $IE_3$  = indirect effect of inequality on dignity at work through organizational dehumanization and self-objectification;  $IE_4$  = indirect effect of unfairness on dignity at work through organizational dehumanization and self-objectification. \* $p < .05$ , \*\* $p < .01$ , and \*\*\* $p < .001$ .

factors), controlling for participants' objective and subjective socioeconomic status (Table 4). The results indicated the main effects of both economic inequality and organizational unfairness: participants assigned to the high-inequality conditions (vs participants in the low-inequality conditions), as well as those assigned to the high-unfairness conditions (vs participants in the low-unfairness condition), scored higher on perceived organizational dehumanization and self-objectification, and they scored lower on job satisfaction and dignity. These results support Hypotheses 1a–h. Finally, we explored a possible interaction between the independent variables. Results did not show any interactive effect between inequality and unfairness (Table 4).

Third, as in previous studies, we computed two sequential mediational analyses (one for each dependent variable) using both organizational dehumanization and self-objectification as mediators of the relationship of economic inequality (high = 1, low = 0) and organizational unfairness (high = 1, low = 0) to the psychological risk factors (i.e., worker satisfaction and dignity). The results revealed that both inequality and unfairness had an indirect effect on job satisfaction and dignity at work, enacted through organizational dehumanization and self-objectification (Figure 3). Namely, participants assigned to the high-inequality (vs low) or high-unfairness (vs low) situations perceived to a greater extent that the organization dehumanized them, which in turn increased their self-objectification, and consequently, reduced their satisfaction and dignity at work. The results also showed that both economic inequality and organizational unfairness had a direct effect on job satisfaction and dignity at work independently of their effect through organizational dehumanization and self-objectification.

In short, in Study 3 we replicated, with an experimental methodology, the general pattern of results found in the correlational studies providing evidence of the causal impact that our independent variables exert on the mediators and the outcomes we measured. However, the causal effect of the sequential mediational model (i.e.,

the relationship between organizational dehumanization and self-objectification) needs further scrutiny. We therefore concluded this project by manipulating organizational dehumanization to confirm its effect on self-objectification and, consequently, on job satisfaction and dignity.

## 6 | STUDY 4

In this new experimental study, we aimed to confirm the causal relationship between organizational dehumanization on the one hand and workers' self-objectification, satisfaction and dignity on the other. By manipulating the mediational variable, we intended to confirm the causal impact of organizational dehumanization on the variables of interest to us (Pirlott & MacKinnon, 2016), thereby providing evidence of the indirect effect that we explored in the other studies. Specifically, in this study, we expected that higher (vs lower) organizational dehumanization would increase self-objectification (Hypothesis 1a) while decreasing worker job satisfaction (Hypothesis 1b) and dignity (Hypothesis 1c). Finally, we tested the possible mediating effect of self-objectification ( $M$ ) on the relationship between higher (vs lower) organizational dehumanization and workers' satisfaction (Hypothesis 2) or dignity (Hypothesis 3). Preregistration of the hypotheses can be found online (<https://osf.io/63528>).

### 6.1 | Method

#### 6.1.1 | Participants and procedures

We recruited online Mexican workers as in the previous studies. We computed the sample size for a small-medium effect (ANCOVA, 80% Power,  $\alpha = .05$ ,  $f = 0.20$ , minimum  $n = 199$ ; Faul et al., 2009). The final

sample was composed of 210 workers (108 men, 99 women, 3 others,  $M_{\text{age}} = 26.90$ ,  $SD_{\text{age}} = 6.22$ ). Once workers agreed to participate, we presented them with the experimental manipulation of organizational dehumanization and the following scales.

### Organizational-dehumanization manipulation

To manipulate the appearance of organizational dehumanization, we told participants, as in previous studies, to imagine that they were beginning work at a national company; we then presented them with some information about the company's organizational climate that they needed to read before answering some questions. Then they were assigned to one of the two possible conditions (high or low organizational dehumanization). To recreate the scenarios, we used the existing items of the organizational dehumanization scales that we used in previous studies (see the [supplementary materials](#) for full details). In the high-organizational-dehumanization condition, participants read that the organization treated its employees as tools to achieve success for the company; that the company values workers solely for their performance at work and for their financial contributions to work teams; and that the organization considers their employees to be machines, as objects or numbers in the company that can easily be replaced. In the low-organizational-dehumanization condition, participants read that the organization treats its employees as human beings who could undergo personal development in the company; that the company is interested in workers not only for their performance at work but for their personal contributions to work teams; and that the organization considers their employees to be people, as human beings, not simply numbers in the company, who cannot easily be replaced.

Once participants read about the company's organizational climate, they responded to the same scales used in previous studies: self-objectification (machine words:  $\alpha = .97$ ; human words:  $\alpha = .94$ ), job satisfaction ( $\alpha = .97$ ), and dignity at work ( $\alpha = .98$ ). After that, participants answered the manipulation check (i.e., the item 'In general, how do you think employees are treated in the organization?') to which possible responses ranged from 1 (*as tools/objects for the success of the company*) to 7 (*as human beings who will develop personally in the company*); we recoded participants' responses so that higher scores reflected a greater degree of perceived dehumanization). Finally, participants provided objective (income divided in deciles) and subjective economic status, demographic information and their work details (see [supplementary materials](#)).

## 6.2 | Results and discussion

The results confirmed the effectiveness of the manipulation: Participants in the low-organizational-dehumanization condition perceived less dehumanization from the organization ( $M = 1.63$ ,  $SD = 0.98$ ) than did those in the high-organizational-dehumanization condition ( $M = 6.48$ ,  $SD = 1.10$ ;  $t(208) = 33.79$ ,  $p < .001$ ,  $d = 4.68$ ).

Second, we performed ANCOVAs to identify differences in perceived self-objectification, worker dignity and job satisfaction (within-subject factors) as a function of perceived organizational dehumaniza-

tion (high vs low, between-subject factors), controlling for participants' objective and subjective socioeconomic status. The results indicated that there was a major effect on self-objectification (High:  $M = 2.73$ ,  $SD = 2.38$ ; Low:  $M = -3.75$ ,  $SD = 1.70$ ;  $F(1, 209) = 522.45$ ,  $p < .001$ ,  $\eta^2_p = 0.717$ ), workers' satisfaction (High:  $M = 2.03$ ,  $SD = 1.17$ ; Low:  $M = 6.20$ ,  $SD = 0.97$ ;  $F(1, 209) = 787.80$ ,  $p < .001$ ,  $\eta^2_p = 0.793$ ), and workers' dignity (High:  $M = 3.00$ ,  $SD = 0.85$ ; Low:  $M = 5.27$ ,  $SD = 0.60$ ;  $F(1, 209) = 510.52$ ,  $p < .001$ ,  $\eta^2_p = 0.713$ ): Participants did feel more self-objectified and had lower satisfaction and dignity on the high- (vs low-) organizational-dehumanization condition, in line with Hypotheses 1a–c.

Third, we computed two simple mediational analyses (one for each dependent variable) using self-objectification as mediator of the relationship between organizational dehumanization (high = 1; low = 0) and worker satisfaction/dignity (PROCESS, model 4, bootstrapping 10,000 samples, 95% CI; seed = 978,911). The results revealed that, through self-objectification, organizational dehumanization had an indirect effect on job satisfaction and dignity at work, in line with Hypotheses 2–3 (Figure 4). The results also showed that organizational dehumanization had a direct effect on job satisfaction and dignity at work independently of its effect through self-objectification. Covariates did not influence the results.

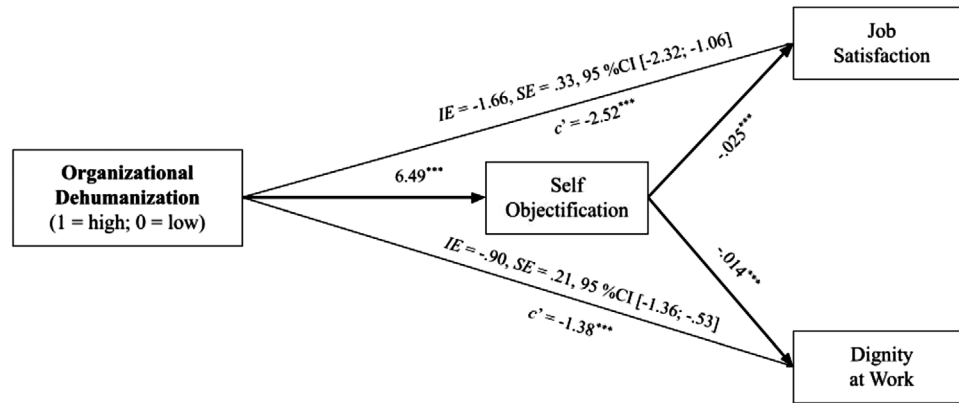
In short, in this study, we confirmed the causal effect that organizational dehumanization exerts on workers' self-objectification, satisfaction and dignity. Combined, the findings of Studies 3 and 4 provide evidence for the causal indirect effect that we studied.

## 7 | GENERAL DISCUSSION

With the present project, we aimed to analyse the role that dehumanization processes have in the relationship between certain characteristics of the organizational context, such as the perceived level of economic inequality in the workplace or perceived organizational unfairness, on workers' job satisfaction and on their perceptions of being treated with dignity. By conducting two correlational and two experimental studies, we found that perceptions of economic inequality and organizational unfairness triggered a decrease in both job satisfaction and dignity perceptions among workers. The relationship between these contextual variables and the detrimental outcomes seems to have been mediated sequentially by the perception of being dehumanized by the organization and the internalization of this dehumanization.

In this set of studies, we found a consistent pattern of results that highlights the importance of these findings. First, we found repeatedly that both economic inequality at the workplace and organizational unfairness decreased job satisfaction and dignity at work, which is consistent with previous research in the field showing that these two factors negatively affect people's lives across organizations (e.g., Amis et al., 2018; Bapuji et al., 2020; van Dijk et al., 2020). Specifically, our findings support those of previous studies that show that greater pay inequality (Pfeffer & Langton, 1993) and perceptions of organizational unfairness (D'Ambrosio et al., 2018; Otaye & Wong, 2014;





**FIGURE 4** Mediation model for the indirect effect of organizational dehumanization (0 = low; 1 = high) on job satisfaction and dignity at work through self-objectification (Study 4). Figure 4 shows, in a single figure, the two separate mediation analyses (one for each dependent variable). Unstandardized coefficients are shown. Participants' objective and subjective socioeconomic status were included as covariates. IE = indirect effect. \* $p < .05$ , \*\* $p < .01$ , and \*\*\* $p < .001$ .

Sauer & Valet, 2013) undermine employees' job satisfaction. However, the first contribution of our research is that we found that both economic inequality and organizational unfairness also impacted on other workers' characteristics, such as their dignity at work, something that, as far as we are aware, has not been addressed in previous studies. This could be due to the fact that both economic inequality and organizational unfairness contribute to a negative organizational climate in which workers perceive that their company does not care about their needs, objectives and desires (e.g., Malla & Malla, 2023; Schulz et al. 2022). Such a climate could affect psychological reactions that are highly dependent on job characteristics and working conditions—such as job satisfaction (Locke et al., 1976)—but also other psychological variables that are relatively independent of specific tasks' characteristics such as workers' sense of dignity (Elaswarapu, 2016). Thus, the present findings also align with previous research that shows the detrimental consequences of the increasing level of economic inequality (both objective and subjective) on the social climate and on individuals' well-being (Willis et al., 2022). This similar impact on the organizational climate could also explain why we did not find an interaction effect between the two predictors on the remaining variables. It seems that perceiving a high level of economic inequality or a high level of organizational unfairness is enough to trigger psychological risk factors in the organizational domain, which indicates that causing one single aspect of working conditions to deteriorate is enough to cause workers' perceptions about their working conditions to deteriorate.

The second contribution of our research is that we consistently found that both economic inequality in the workplace and organizational unfairness increased individuals' perceptions that their organization dehumanizes them, as well as increasing their own self-objectification. Previous research has identified how interpersonal factors (e.g., relationships with supervisors and co-workers; Caesens & Stinglhamber, 2019) and job characteristics (e.g., repetitive or fragmented tasks; Andrighetto et al., 2017) can trigger perceptions of dehumanization and even self-dehumanization. Our results extend those from previous studies by showing that contextual factors such as

the economic gap between workers and their perception of that gap as fair or unfair also favour organizational dehumanization. Our findings therefore contribute to knowledge about the antecedents of organizational dehumanization (Brison et al., 2022). Moreover, as previous studies have identified—at the societal level—the pernicious effects of economic insecurity on (de)humanization (Sainz, Loughnan et al., 2020), well-being (Sainz, Martínez et al., 2020) and other negative outcomes (e.g., Choi et al., 2020; Reeskens & Vandecasteele, 2017), the present findings highlight the need to focus on the influence of workers' economic grievances as possible factors that could cause the working environment and workers' psychological outcomes to deteriorate.

Third, the major contribution of this research is that it shows that the negative effects of economic inequality and organizational unfairness on workers' satisfaction and dignity were partially mediated by organizational dehumanization and self-objectification (in that order). Hence, our results contribute to an understanding of the psychological mechanism by which relatively structural characteristics of organizations have an impact on workers' well-being, as well as on their levels of commitment and productivity at work. The effect of dehumanization could also explain why the studied contextual factors influenced both a more malleable job-related outcome (i.e., job satisfaction) and a more inherent feeling (i.e., workers' dignity at work). Our results are thus in line with recent evidence showing that other antecedents of organizational dehumanization, such as organizational and job characteristics, increase self-objectification through workers' perceived organizational dehumanization (Sainz & Baldissarri, 2021). However, our results extend those previous findings by showing that (a) economic inequality and organizational unfairness also trigger these dehumanization processes and (b) that the effect of such contextual factors on organizational dehumanization, and consequently, on self-objectification, is a decline in job satisfaction and dignity at work. Nevertheless, across studies, economic inequality and organizational unfairness also had a direct effect on job satisfaction and dignity independently of their effects through the processes of dehumanization. Other psychological mechanisms, which might be related to a negative



and untrustworthy organizational climate, may also be playing a role in these relationships.

In sum, the four studies conducted in this research extend previous knowledge about the consequences of unfairness and economic inequality in the organizational context. Our research thus contributes to the existing research that examines perceived economic inequality at the organizational level. Moreover, as far as we know, our studies are almost the only ones that cover, simultaneously, the study of these two important characteristics of the organizational context as antecedents of organizational dysfunctional outcomes.

## 7.1 | Limitations and future research

Limitations apply to the present project. First, when testing the sequential mediation effect, we decided to perform two independent studies following a double randomization design (Pirlott & MacKinnon, 2016). We opted for this procedure due to the difficulty of using scenarios to manipulate our independent and mediator variables together in the same experimental study. However, different approaches could have been used and future studies could perform studies replicating our findings by conducting experiments in which both the independent and the mediator variables are manipulated (i.e., concurrent double randomization designs). Further, in our attempt to provide evidence of the sequential effects, we did not test the causal effect of self-objectification on the outcome variables. Nevertheless, previous research has experimentally tested the relationship between experimental manipulations of self-objectification and several detrimental outcomes (Baldissarri et al., 2022). Thus, it can be expected that a causal influence could be found between these variables and the outcomes we are measuring. Second, when analysing the influence of inequality and unfairness on the dependent variables included in our project we did not address in depth how individual workers' characteristics and circumstances might have shaped the relationship between our variables of the study. Our results indicated that participants' socioeconomic status did have a limited influence on our analyses. However, specific measures of individuals' standing, including their subjective positions in their organizations, would have been more effective for identifying possible interactions or moderation effects. Future researchers could overcome this limitation by addressing some of the potential moderating effects of individuals' perceived locations in their organizations' internal hierarchies (i.e., at the bottom, in the middle or at the top of the organization). It might be possible that individuals who perceived themselves at the very bottom of the organization (vs the ones that perceived themselves at the very top) would be more vulnerable to dehumanization and objectification processes, and thus, with lower satisfaction and dignity perceptions. Further, other conditions such as the type of work that workers perform (e.g., routine work), their stability at their company, the performance of work among others or in isolation, and other similar variables related to their working conditions might be relevant for identifying a different pattern of results that could provide information about other risk or protective factors that potentially increase or

ameliorate the detrimental effects of inequality and unfairness at the workplace.

In addition to addressing these limitations, our research could give rise to new studies that enrich the knowledge of the antecedents and consequences of organizational dehumanization and workers' self-objectification. Future studies can deepen the understanding of the psychological mechanism linking perceptions of inequality or unfairness with (self-)dehumanized perceptions in the workplace. On this matter, previous studies have explored how perceptions of inequality in society can favour a climate of individualism, competition and a lack of cooperation (Nishi et al., 2015; Sánchez-Rodríguez et al., 2019; Sommet et al., 2019). This hostile climate caused by increasing inequalities can be responsible for the perception of participants as mere means in the organizational context. In fact, previous research on perceptions of dehumanization has shown that threatening people's fundamental psychological needs, such as the need to belong or to hold positive self-esteem, is a precursor of dehumanization with detrimental consequences such as the experience of negative emotions (Demoulin et al., 2021). One could therefore expect that unequal and unfair scenarios, in which participants' psychological needs are neglected and people feel less connected to others, could finally lead to the appearance of organizational dehumanization and self-dehumanization.

Our aim was to analyse the role of perceptions of inequality and unfairness as two independent triggers of dehumanization and the outcome processes. The results highlighted that these variables had the expected effect on the outcomes and exploratory analyses (see for instance Study 3) indicated that these variables did not interact and seemed to operate independently. It could be reasonable to think that unequal and unfair organizations could have a more detrimental impact on workers' well-being than equal and fair contexts could have (Baron & Pfeffer, 1994). However, our exploratory analysis did not show this potential pattern of results. Why was there no interplay between two related processes that triggered similar outcomes to the same extent? This empirical question will require further research in future projects to disentangle the interplay between inequality and unfairness. In this regard, it might be possible that both inequality and unfairness are considered as different aspects of a broader construct such as detrimental working conditions that lead individuals to recognize that the lack of one of these aspects (e.g., being unfairly retributed) automatically leads to perceived poor working conditions even without the need for both processes to be present at the same time. This would imply that one variable might be enough to trigger workers' psychological processes and that the other related conditions do not necessarily magnify the already existing psychological risk factor. It might also be possible that to differentiate the effect of one variable from the other we should test the effect of other moderator variables. For instance, it might be possible that certain ideological variables, such as the meritocratic point of view or general beliefs in a just world, could moderate the effects of both triggers (García-Sánchez et al., 2022). Workers' status in the organization could play a similar role, as the relative position (high vs low) in the organization could make working conditions more or less harmful for certain workers. So, for instance, the unfair distribution of resources will not have the same effect on those who already

have them as those who lack them. However, the mechanisms or variables responsible for this lack of effect can only be hypothesized in the present project and will need further investigation.

Finally, our project has practical implications. Given that dehumanization processes, in their different manifestations, usually contribute to the escalation of existing conflicts or exacerbate detrimental outcomes by creating vicious circles of meta-dehumanization (i.e., the perception that your group is being dehumanized by others) among individuals and groups (Kteily et al., 2016), it seems necessary to develop strategies to reduce existing levels of economic inequality or provide fairer distributions of resources within organizational contexts to decrease dehumanization and promote a more cohesive climate.

In short, this research highlighted the increasing wage gap between workers and the unfair distribution of resources and salaries within the organizational context. These two contextual factors triggered workers' perception of being dehumanized by their organizations and of being considered less than human, which in turn lead to detrimental outcomes regarding workers' satisfaction with their working conditions and threatens their dignity.

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## Notes

<sup>1</sup>We computed alternative regression models in Studies 1 and 2 using participants' socioeconomic status (both objective and subjective) as the control variable. See online [supplementary materials](#) for these analyses.

<sup>2</sup>At this point we deviated from preregistered analyses. We preregistered that we would carry out multiple mediation analyses with PROCESS (model 4), considering organizational dehumanization and self-objectification as parallel mediators, to test Hypotheses 2 and 3. Following one reviewer's recommendations, we considered a posteriori a sequential mediation model rather than a parallel mediation model. The serial mediation analyses (PROCESS, model 6) are therefore considered exploratory in Studies 1 and 3. Parallel mediation analyses for testing the preregistered Hypotheses 2 and 3 in both studies can be found in the online supplementary material.

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## CONFLICT OF INTEREST STATEMENT

The authors declare that there is no conflict of interest.

## ETHICS STATEMENT

This project was approved by the ethical committee of the School of Psychology of the University of Monterrey in accordance with the APA Code of Conduct as well as the authors' national ethics guidelines.

## DATA AVAILABILITY STATEMENT

Data and materials of this project can be found online: <https://osf.io/eyh6d/>

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## SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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