



All by myself: How perceiving organizational constraints when others do not hampers work engagement

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ARTICLE INFO

Keywords:

Organizational constraints
Work engagement
Polynomial regression
Perceptual congruence
Shared reality

ABSTRACT

Organizational constraints (OCs) represent work conditions that interfere with employees' performance. Although employees share the same work environment, perceptions of OCs may vary among team members. In this study, we examined employee–teammate perceptual congruence and incongruence regarding three types of OCs (i.e., social, structural, and infrastructure) and the associated consequences for employee work engagement among health care employees from two Spanish hospitals ($N = 141$). Multilevel polynomial regression with response surface analyses revealed that the perceptual congruence and incongruence effects depended on the type of OCs. Congruence in perceptions was linked with greater work engagement only for social OCs. Incongruence had an effect in cases of social and structural OCs, but not infrastructure OCs: work engagement was worse when an employee rated OCs as higher (i.e., more problematic) than their teammates did. Our findings suggest that the negative effects of OCs are additionally exacerbated by perceptual incongruence with teammates and indicate the need to include social contexts in the study of work environment perceptions.

1. Introduction

Although employees share the same work environment, their perceptions of its characteristics may vary. For example, individuals occupying different roles within teams often disagree when assessing organizational issues such as job content (Hsiung & Tsai, 2009), pay fairness (Malmrud et al., 2020) or levels of organizational learning (Tafvelin et al., 2017), and this disagreement is linked to negative employee and organizational outcomes. Possible discrepancies regarding aspects of the environment that require urgent attention, such as organizational constraints (OCs), seem especially problematic when maintaining and improving employees' engagement and performance levels. OCs represent things or situations that interfere with job performance because they prevent employees from operating at full capacity (Peters & O'Connor, 1980). Examples of OCs include malfunctioning equipment or conflicting organizational procedures.

Incompatible perceptions of such impediments among team members might effectively obstruct and minimize attempts to report impediments to management and address them. This, in turn, may impair employees' work performance and engagement. Such circumstances may be especially discouraging to an individual who observes a problematic issue in the workplace but finds that teammates' perceptions do not reflect this view.

Facing OCs creates a tendency to withdraw effort and may, therefore, have detrimental effects on work engagement (i.e., the vigor, dedication, and absorption experienced in relation to work; Schaufeli & Bakker, 2003; Sonnentag et al., 2012). Thus, while OCs are defined as factors that debilitate employee performance, we argue that their most proximal outcome is decreased work engagement, which then further translates into degraded individual, team, and organizational performance (Kim et al., 2012; Torrente et al., 2012). Employee work engagement is positively associated with various organizational

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<https://doi.org/10.1016/j.jbusres.2021.08.010>

Received 7 July 2020; Received in revised form 1 August 2021; Accepted 5 August 2021

Available online 12 August 2021

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performance metrics, such as return on assets, net margin, profitability and market value (e.g., Tobin's Q) (Salanova et al., 2012; Schneider et al., 2017). Additionally, work engagement is positively associated with employees' mental and physical health, acting as a pathway to promote workforce sustainability over time (Kim et al., 2012; Le Blanc & Oerlemans, 2016; Leijten et al., 2015; Salanova et al., 2011). Thus, we believe that it is especially relevant to investigate the link between OCs and work engagement because it may be the proximal outcome that further translates into employee performance, attitudes, and mental and physical health (Halbesleben, 2011).

Although numerous researchers have focused on the consequences of leaders' and teams' differing perceptions (Hasson et al., 2019; Mosson et al., 2018; Tafvelin et al., 2019; Vieira et al., 2020), little is known about the effects of congruence and incongruence between individuals and their teammates (Kristof-Brown et al., 2005). Specifically, the consequences of teammates' agreement or disagreement regarding OCs remain unexplored. Therefore, in this paper, we aim to explore perceptual congruence and incongruence between individuals and their teammates regarding various categories of OCs and the effects that potential similarities and differences between these perspectives might have on their work engagement levels.

In this study, we integrate the job demands–control–support model (JDCS; Häusser et al., 2010; Johnson & Hall, 1988; Karasek, 1979) with shared reality theory (Echterhoff et al., 2009) to answer the following question: Do congruent and incongruent perceptions of organizational constraints in a team matter for individual work engagement? By answering this question, our study makes two important contributions to the current research on work engagement and stress. First, we compare the perspectives of focal employees and their teammates, which, to the best of our knowledge, prior studies on OCs have not examined. Specifically, we investigate the effects of OCs on individuals based on the congruence and incongruence of their perceptions with those of their teammates. Thus, we are able to detect whether these perceptual (in)congruences have an additional effect on employee outcomes above and beyond the effects of OCs as stressors. This is a unique contribution to the work engagement literature that incorporates the social dimensions of perceptions beyond leader–subordinate hierarchical relations and focuses on teams as organizations' functional units. Comparing employees' perceptions within a team is possible thanks to the application of novel and advanced statistical methods (i.e., polynomial regression analysis with response surface analysis). This is a novel way of examining congruence and incongruence because it avoids collapsing person and team measures into a single score that captures fit, and it allows for a more nuanced evaluation of distances in perceptions of organizational phenomena.

Second, although most researchers have treated OCs as a unidimensional construct (Pindek & Spector, 2016), we propose differentiating these barriers based on whether their sources are social, structural, or infrastructural. OC differentiation advances stress theory by investigating whether employees may react to barriers in different ways depending on their type. In addition, different OCs might be subject to different patterns of perceptual congruence and incongruence and thus have varying levels of impact on work engagement or broader organizational phenomena. Moreover, OC differentiation has practical implications: various kinds of OCs exist (i.e., social, structural, and infrastructural), and eliminating them might require different interventions.

2. Theoretical background and research hypotheses

2.1. Organizational constraints

OCs are work conditions (e.g., interruptions, rules and procedures, faulty equipment) that inhibit, interfere with, or fail to support an individual's job task performance and act as barriers to motivation (Peters & O'Connor, 1980; Pindek et al., 2019). As such, OCs are classified as

hindrance stressors that result in employee strain (LePine et al., 2005). According to the JDCS model, a combination of high demands, low control, and low social support results in high strain for employees (Häusser et al., 2010; Johnson & Hall, 1988; Karasek, 1979). When facing OCs, employees might experience a lack of control over their working environment and the resources needed to complete their job-related tasks; this, in turn, hinders their performance and increases stress (O'Connor et al., 1984; Peters & O'Connor, 1980). For example, experiencing organizational constraints has been linked with work rumination, i.e., repetitive thoughts about work-related problems and the feelings associated with them, among nurses (Pindek & Gazica, 2020). In addition, disagreement with teammates on how to address OCs might also lead to a lack of social support, which affects strain and motivation (Johnson & Hall, 1988). Indeed, a recent meta-analysis demonstrated that OCs are linked with psychological (e.g., job dissatisfaction), physical (e.g., somatic symptoms), and behavioral (e.g., counterproductive work behaviors) manifestations of strain (Pindek & Spector, 2016). Other studies linked OCs with employees' turnover intentions (Stetz et al., 2007) and actual turnover (O'Connor et al., 1984). The experience of frustration that comes from facing OCs creates a tendency to withdraw effort; as such, it is also linked with reduced work engagement (Sonnentag et al., 2012) and more counterproductive behaviors (Striler et al., 2021).

Most researchers have treated OCs as a unidimensional construct (e.g., Fox et al., 2001; Kuyumcu & Dahling, 2014) by combining employee responses across various types of impediments, including insufficient supplies, conflicting demands, and interruptions by others. Those studies showed that, in general, more frequent constraints lead to worse employee well-being (Pindek & Spector, 2016). The problem with combining various OCs and creating a comprehensive measure for experienced OCs is that predictive value might be lost if, for example, certain OCs are related only to specific work outcomes. On a practical note, improving the work environment when constraints are conceptualized so broadly makes job design and redesign interventions less specific and less likely to target the real issues. For example, barriers resulting from social factors (e.g., disruptions by colleagues) require different remedies than barriers resulting from a lack of proper equipment.

Consequently, it is important to study specific constraints to verify their unique effects on relevant organizational and individual outcomes such as performance and work engagement (Liu et al., 2010; Martínez-Tur et al., 2005; Pindek et al., 2019). Accordingly, Martínez-Tur et al. (2005) divided constraints into two categories: social constraints (e.g., poorly trained staff) and technical constraints (e.g., inadequate amenities). Their study of organizations that manage sports facilities showed that the negative effects of technical constraints on customer satisfaction were greater than those of social constraints. Another example comes from Greiner et al. (1997), whose study on bus operators identified two types of OCs: constraints due to other people and due to resource blockages (e.g., lack of supplies). Liu et al. (2010) differentiated between interpersonal and job context constraints (e.g., poor equipment or lack of information) and showed that the meaning of these constraints differed depending on the cultural context (the United States vs. China).

Overall, the literature indicates that the impact of OCs on employee outcomes may depend on the specific type of constraint. Following Liu et al. (2010), we differentiate between interpersonal and job context constraints. We also argue that it is valuable to divide the latter and differentiate between infrastructural and structural constraints. First, they represent different aspects of the working environment: inanimate objects vs. information and procedures, respectively, and therefore may have different sources. Second, addressing them may require different strategies and levels of responsibility. Therefore, we study three categories of OCs: social, structural, and infrastructural. *Social constraints* represent interpersonal aspects at work and include interruptions by others, inadequate help, and tense relations with teammates and supervisors. *Structural constraints* represent barriers that capture how work

is designed and organized. Examples include conflicting demands or incomplete information. Finally, *infrastructural constraints* are barriers that relate to the material infrastructure of the workplace, such as faulty or insufficient equipment. Based on the JDCS model (Häusser et al., 2010; Johnson & Hall, 1988; Karasek, 1979), we predict that, overall, all OCs are negatively linked with work engagement; however, we believe that the strengths of their associations with work engagement may depend on the type of constraint, as well as the immediate social context and the perceptions of teammates. Below, we develop this reasoning

2.2. Perceptual congruence

When OCs hinder individuals from reaching their task goals, employees experience frustration and stress (Peters & O'Connor, 1980). However, employees typically work not in isolation but in teams and units to achieve organizational goals. When individuals are exposed to the same work environment, do they also perceive the same OCs? Below, we present the concepts of perceptual congruence and shared reality to explain how significant differences in the perception of OCs within teams affect employees.

Employee perceptions are influenced by individual differences, values, and mental scripts, all of which cause individuals to attend to different stimuli, interpret them through different lenses and recall information selectively (Wyer & Srull, 1986). It is, therefore, unsurprising that employees in one work unit may have different perceptions of the same workplace phenomenon. These ideas have led organizational and management researchers to explore *perceptual congruence*, or the extent to which two or more people or groups of people share perceptions of an object or an idea (Benlian, 2014; Hatfield & Huseman, 1982). In general, perceptual congruence among individuals in a work team is linked to positive employee and organizational outcomes, whereas incongruence has negative effects. For example, when leaders and teams agree about high levels of organizational support, team performance and positive affect also are high (Bashshur et al., 2011).

Although numerous studies have identified the negative consequences of disagreement between teams and their leaders, few researchers have explored the potential effects of congruence and incongruence between individuals and their teammates. Slocombe and Bluedorn (1999) found that individuals who agreed with their teammates on the preferred levels of polychronicity (i.e., the extent to which an individual prefers to be involved with several tasks simultaneously) maximized their levels of organizational commitment and performance, as indicated by their coworkers and supervisors. Similarly, Jansen and Kristof-Brown (2005) found that workers who agreed with their teammates on the preferred working speed and rhythm had higher job satisfaction levels and collaborative behaviors than individuals who disagreed with their teammates about the working rhythm.

However, these previous studies focused on fit in values or preferences between an individual and the teammates, while congruence and incongruence may also relate to the perceptions of organizational context, events and phenomena. Two concepts can be helpful here. *Employee–teammates perceptual congruence* is defined as the similarities between a focal employee and their teammates in perceptions of the same workplace phenomenon, and *employee–teammates perceptual incongruence* denotes possible dissimilarities. The perceptual congruence literature has only begun to explore the employee–teammates perspective and has focused mostly on leader–team perceptions (Kristof-Brown et al., 2005). However, studying perceptual congruence and incongruence between individuals and teammates is relevant for two main reasons. First, teammates and leaders influence each other's direct work environments. In general, teammates are more readily available and accessible than leaders, so their perceptions and experiences might influence an individual's well-being in the workplace to a greater extent than those of leaders. Employees may become aware of teammates' perceptions via direct communication, as well as observing verbal and nonverbal reactions to events (e.g., conflicts), procedures (e.g., salary

regulations), or decisions (e.g., setting goals, Van Hooftgem & De Witte, 2019). Employees strive to make sense of ambiguous social stimuli (e.g., lack of information or conflicting demands) by checking with others to validate their own experience (Weick et al., 2005). Private emotions are typically followed by social sharing in groups, and this process is even more pronounced when an emotional event strikes collectively (Rimé, 2007). Thus, reactions to an occurrence involving organizational constraints as a common experience are likely to be shared. Second, when agreement about problems in the organizational reality exists, proper actions can be taken to deal with such issues (Weick et al., 2005). Similarly, Weick & Sutcliffe, (2015) suggest that redundancies in organizational systems can facilitate performance and motivation. Congruence between teammates about perceptions of organizational constraints may reflect one form of redundancy, allowing teams to properly address the difficulties imposed by the existing constraints they can agree on. If team members agree that something constitutes an issue, the team may be more inclined to report it to management or proactively change the work environment to solve the problem. Thus, perceptual incongruence may hinder effective problem-solving at the team level and may even have negative social repercussions for individuals who experience high levels of incongruence with their teammates in the form of ostracism and mobbing (Howard et al., 2020). To further our understanding of how work engagement is affected by OCs, we need to consider congruence and incongruence in perceptions about them between focal employees and their teammates. This provides another element of understanding the complexity of the work engagement phenomenon.

2.3. Employee–Teammates perceptual congruence and incongruence regarding organizational constraints

Employees in an organization form part of a larger social context and, consequently, are affected by the common environment. Psychosocial processes, such as socialization, interactions and communication, as well as homogenous contexts such as common procedures, managerial decisions, and shared events, all facilitate the formation of shared experiences and may lead to similar perceptions among the team members (Klein & Kozlowski, 2000). All of this may result in shared perceptions about OCs by team members, and the OCs may form a group-level (i.e., supraindividual) construct, provided that their responses reveal substantial within-group agreement (Klein & Kozlowski, 2000).

Congruence in perceptions about the surrounding work environment is reassuring. Shared reality, i.e., an experience of having one's inner state be congruent with that of other people, especially those who are close or important, fulfills basic human needs for social connection (i.e., belonging) and validation (i.e., knowing) (Higgins, 2019). Congruence of perceptions with others validates judgments and helps individuals determine what is true (Higgins, 2019). Thus, when an employee's perceptions of OCs are mirrored in their teammates' perceptions, he or she feels more certain about his or her own judgments. In other words, what he or she perceives as a problem actually is a problem. As a consequence, these shared perceptions may exert a strong effect on work engagement, making members of the same team feel connected, understood, and validated and thus willing to invest effort, dedication and concentration in their everyday work activities. Previous literature shows that job resources such as coordination, support and teamwork are positively related to work engagement within teams (Torrente et al., 2012). These specific resources might be a function of congruence on everyday phenomena that teammates experience at work. Perceptual congruence on negative aspects of everyday experiences at work, such as the prevalence of particular forms of organizational constraints, can also lead to lower levels of engagement. As the JDCS model posits, increased levels of demands combined with low levels of control and support hinder the motivational process, whereas increased levels of control and support enable the motivational process that leads to higher levels of

engagement and performance (Häusser et al., 2010; Karasek, 1979). We expect both of these effects to be maximized through the experience of employee–teammates perceptual congruence.

Differences in perceptions between individuals and their teammates, on the other hand, may create precarious situations, particularly when these differences relate to problems that require attention, such as prevalent OCs. Differences may be twofold in nature. First, an employee may perceive the problem to be more severe than his or her teammates do. In this case, the focal employee's levels for reported OCs are higher than his or her teammates' ratings (excess). Second, if an employee's rating is lower than his or her teammates' reports (deficiency), the focal employee perceives the matter to be less problematic. Do these two types of perceptual differences relate to employee engagement in a different manner?

The leader–team congruence and incongruence literature has indicated that when teams perceive that a highly problematic issue exists (e. g., supervisor's passive leadership; Hasson et al., 2019; Yang & Li, 2018) but the leader does not, this amplifies the negative repercussions of perceptual congruence and incongruence. When leaders do not notice problems, they are unable to offer help and take actions that correspond with the team's needs (Bashshur et al., 2011). Bashshur et al. (2011) demonstrated that the negative effects of disagreement were most amplified when managers perceived that the team received higher levels of support than the team itself reported. Similarly, in the case of employee–team congruence and incongruence, researchers have suggested that when individuals do not agree with their teammates on the pace and rhythm of work, they feel less satisfied with their jobs (Jansen & Kristof-Brown, 2005).

Based on previous research regarding the effects of perceptual incongruence, we expect incongruent perceptions within a team to prevent the team from solving problems or reporting them to management and, consequently, diminishing a person's level of work engagement. In addition, the lack of a shared reality poses a threat to the human need for connection and truth, negatively affecting individuals' well-being (Higgins, 2019). This is especially true when the lack of shared reality occurs for relevant issues, such as when an employee perceives that something is an impediment to the pursuit of his or her goals. However, when individuals do not see a particular issue as a barrier, they consider it irrelevant to themselves. Shared reality begins with the evaluation of relevance; in other words, human motivation for sharedness is especially true for issues considered relevant (Higgins, 2019). Thus, we propose that when teammates have different perceptions of a phenomenon, an individual employee may experience frustration with the inability to create social bonds and collective cognition and act on the problem. This is especially severe when the focal employee perceives the OCs to be more prevalent (i.e., they have high relevance for the individual/focal employee) than his or her teammates do compared to when the team perceives something to be a problem but an individual employee does not (i.e., it has low relevance for the focal employee).

We argue that some aspects of the work environment are more prone to perceptual incongruence. In particular, social aspects of everyday work are particularly ambiguous phenomena for which perception and interpretation vary significantly from one individual to the next (Gibson et al., 2009). Problems related to infrastructure, such as faulty equipment or insufficient supplies, leave less room for subjective interpretation compared to the experience of having enough social support or whether someone's behavior is disturbing to others. Thus, we expect that social constraints are subject to more variation in perceptions and that perceptual congruence and incongruence related to them may have more pronounced effects for employees. This can also apply to structural constraints (i.e., rules and procedures, training and instructions) in that the structural aspects of work are mediated by social interactions. In other words, individuals receive procedures and training through some form of social interaction (Salas et al., 2012). Employee onboarding programs and training workshops are clear examples of this. Pindak et al. (2019) found that social and structural aspects of work are

perceived as more constraining and have a greater impact on performance and motivation than those related to equipment (i.e., infrastructural aspects).

Overall, we believe that congruence and incongruence can play an important role in social OCs as well as structural OCs that employees make sense of through social exchange, while infrastructural constraints may not be affected by these processes. Previous studies that have differentiated between meaningful categories of constraints have found that those related to technical and material aspects of the work context have less impact on outcomes such as client satisfaction than so-called social or interpersonal constraints and have come to suggest that the effect of the former is dependent on the latter (Martínez-Tur et al., 2005). Similarly, Liu et al. (2010) found no significant differences in the perception of infrastructural constraints between workers from different countries, suggesting that differences in overall constraints come from social constraints. We decided not to include infrastructural constraints in our hypotheses due to their likelihood of not being subject to perceptual (in)congruence. Therefore, we hypothesize as follows:

Hypothesis 1a. *Congruence between an individual and teammates' perception of social OCs is linked with greater work engagement than incongruence such that the closer an individual's and teammates' perceptions are, the higher the levels of work engagement.*

Hypothesis 1b. *Congruence between an individual and teammates' perception of structural OCs is linked with greater work engagement than incongruence such that the closer an individual's and teammates' perceptions are, the higher the levels of work engagement.*

Hypothesis 2a. *Congruence between an employee and their teammates with regard to high social OCs levels is linked to lower work engagement levels compared to congruence with regard to low social OCs levels.*

Hypothesis 2b. *Congruence between an employee and their teammates with regard to high structural OCs levels is linked to lower work engagement levels compared to congruence with regard to low structural OCs levels.*

Hypothesis 3a. *When employees' social OCs levels are higher than their teammates' (excess), employees' work engagement is lower compared to when the ratings are lower than their teammates' (deficiency).*

Hypothesis 3b. *When employees' structural OCs levels are higher than their teammates' (excess), employees' work engagement is lower than when employees' ratings are lower than their teammates' (deficiency).*

3. Method

3.1. Participants and procedure

This study builds on data gathered as part of the evaluation of an intervention program in two public hospitals in Spain. The data used in this study were collected before any intervention activities were introduced, and thus, the findings were not influenced by the intervention. The aim of the intervention program was to comply with legal health and safety regulations for workers in public organizations and concerned a yearly evaluation of psychosocial factors and the mental health of the staff. The intervention program was structured in three distinct stages: (I) First, a psychosocial factors evaluation process by means of a survey and key stakeholder interviews following the procedure depicted in Salanova et al. (2012); (II) A proposal and implementation of intervention activities based on the results of the survey data; and (III) A post-intervention impact and results evaluation. The data used in the present study were gathered during the evaluation process described above before any intervention activities were introduced; hence, we do not expect the intervention process to have any influence on the data. Moreover, the participants were informed that the psychosocial factors evaluation process was conducted to comply with preset occupational health and safety regulations and that no information about the future intervention process was linked to it. The ethics committee of the first

author's host university granted ethical approval (Ref N° E-2019–02). Participants completed anonymous paper-and-pencil questionnaires and gave their informed consent to participate in this research project. Participants returned their questionnaires to the researchers in sealed envelopes placed in locked boxes distributed in the hospitals' staff resting areas. All hospital staff members were invited to participate ($N = 608$, distributed among 41 distinct teams), excluding team managers and area directors who participated in a parallel research project. A total of 164 completed surveys were returned (26% response rate). Of the collected responses, 23 were excluded due to incomplete data. The final sample consisted of 141 participants (63% female), distributed among 34 teams. The average team size was 3.8 ($SD = 1.1$), and team sizes ranged from 3 to 7 participants. The mean participant age was 43 years ($SD = 7.3$), and the participants averaged 13 years of tenure ($SD = 4.3$) at their current jobs.

3.2. Measures

We assessed OCs using the 11-item scale developed by Spector and Jex (1998). Respondents rated how often they found it difficult or impossible to perform their jobs due to specific types of situational constraints using a seven-point scale that ranged from 0 (*less than once per month/never*) to 6 (*several times per day*). To establish distinct constraint categories, two researchers first reviewed the items independently and categorized them. They derived three categories: constraints related to social aspects of the work environment (Soc OCs; $\alpha = 0.73$; 4 items: other employees, supervisor, interruptions, and inadequate help), constraints related to structural aspects of the job design (Str OCs; $\alpha = 0.85$; 5 items: rules and procedures, conflicting demands, inadequate training, incorrect instructions, and lack of necessary information), and constraints related to infrastructure (InS OCs; $\alpha = 0.80$; 2 items: poor equipment and lack of supplies). To validate the categorization, a group of six expert judges (researchers in organizational psychology, occupational health, and medical management) individually classified each of the original scale's 11 items into one of the three proposed categories (for a similar procedure, see Liu et al., 2010). The experts could also suggest an additional category if the list was not exhaustive. Based on the ratings, we calculated an interrater agreement index R_{wg} (Lindell et al., 1999) of 0.98, suggesting a high level of agreement among judges. This indicates high congruence among the experts with our proposed categorization of the 11 items for OCs. Additionally, we tested the resulting factor configuration using the confirmatory factor analysis approach (Field, 2009). While the proposed model fit the data significantly better than the different factor configurations used in previous studies (see Appendix A), the relative and absolute fit indexes were still unsatisfactory, $\chi^2(32) = 138$, $p < .001$, RMSEA = 0.15, CFI = 0.82, TLI = 0.75. However, in light of the need to separate the factors for both theoretical and practical reasons, as well as considering the results from the expert judges' evaluation process, we decided to continue forward with our proposed three-factor solution.

We measured work engagement using the Spanish-language adaptation of the 9-item short-version questionnaire of the Utrecht Work Engagement Scale (Schaufeli et al., 2006; Schaufeli & Bakker, 2003), which assesses the three aspects of work engagement: vigor, dedication, and absorption. Participants indicated the frequency of specific feelings and behaviors on a 7-point Likert scale that ranged from 0 (*almost never*) to 6 (*almost always*). Items included "At my job, I feel strong and vigorous" and "I'm enthusiastic about my job." The scale presented high internal reliability ($\alpha = 0.89$).

3.3. Analytical strategy

To investigate the relationship between OCs and work engagement, we performed multilevel modeling in which Level 1 indicated the individual employees nested within the work units (Level 2). Multilevel modeling was justified given a medium-sized coefficient for within-

group agreement in work engagement ($ICC[1] = 0.11$). The three OCs were grand-mean centered and entered together as Level 1 predictors of work engagement (Hox et al., 2017). We tested progressively more complex models following the recommendations of Edwards (1994), starting with a null model, a model with employee and teammates' perceptions as predictors, and finally, a model with polynomial terms as predictors (Hox et al., 2017).

To perform multilevel polynomial regression and test our hypotheses, we first calculated teammates' OC scores for each employee by aggregating the teammates' scores (for a similar procedure, see Li & Thatcher, 2015). To provide justification for such aggregation, we calculated within-group agreement ($ICC[1]$) and between-group differences ($ICC[2]$) for each type of OCs (see Table 1). Next, we analyzed the level of disagreement between individuals and their teammates. According to Fleener et al. (2010), a minimum of 10% disagreement between individuals and their teammates is necessary to pursue further analyses. Disagreement is defined as a difference of more than half a standard deviation from the mean on a standardized score of the set of predictors in the polynomial regression. We found more than 10% disagreement for all OC categories (see Table 2); thus, preliminary conditions for polynomial regression analyses are warranted.

Next, we performed multilevel polynomial regression to examine the effects of congruence and incongruence. Polynomial regressions permit the joint modeling of two opposing elements as part of the equation (Edwards, 1994; Shanock et al., 2010). The coefficients produced by the polynomial regressions are used as inputs for response surface analysis to describe how the two elements (self and teammates' perceptions) relate to work engagement when taken together. The two predictors were scale-centered to reduce multicollinearity and facilitate interpretation of the coefficients on the x–y plane, where the origin of the x-axis and y-axis is located (Edwards, 1994). Then, we created three new variables per OC dimension: the square of the centered employee's OCs, the cross-product of the centered employee and teammates' OCs, and the square of the centered teammates' OCs (Atwater et al., 2005; Edwards, 1994; Shanock et al., 2010). Next, to predict work engagement based on perceptual congruence regarding social constraints, we entered a set of five terms (centered employee's OCs, centered teammates' OCs, the square of the centered employee's OCs, the cross product of the centered employee and teammates' OCs, and the square of the centered teammates' OCs) into a single multilevel model. We performed this calculation for each of the three dimensions of the OCs. For all multilevel analyses, we used MLwiN software (Rasbash et al., 2012).

Finally, we calculated the surface test values to analyze the response surface patterns (Shanock et al., 2010). In addition, we generated three-dimensional graphs to provide a visual account of the data. We used the unstandardized regression coefficients from the MLwiN output to compute the surface test values a1–a4 (see Tables 3, 4 and 5 for formulas and test results). The provided values represent the slopes and curvatures of two distinct lines. The first line is the line of perfect agreement (represented by a thick line in Figs. 1, 2, and 3), which is represented by a1 (slope) and a2 (curvature). The slope represents the agreement level between two predictor variables related to an outcome, and the curve establishes whether the relation between ratings that are in agreement and the outcome is nonlinear. The second line is the line of incongruence (represented by a dashed line in Figs. 1, 2, and 3), which is represented by a3 (slope) and a4 (curvature). A significant curve indicates how the level of discrepancy between the two predictor variables relates to the outcome variable. The slope shows whether the link between incongruence and the outcome is stronger, depending on the direction of the disagreement (excess vs. deficiency).

4. Results

Table 1 presents the means, standard deviations, ICCs, and correlations. Table 2 shows the levels of agreement between individuals and their teammates for various categories of OCs: for Soc OCs, total

Table 1
Descriptive Statistics and Correlations Among All Study Variables.

	<i>M</i>	<i>SD</i>	ICC [1]	ICC [2]	1	2	3	4	5	6	7	8	9
1. Work engagement	4.17	0.91	–	–	–	–	–	–	–	–	–	–	–
2. Soc OCs, employee	2.37	1.21	–	–	–0.50***	–	–	–	–	–	–	–	–
3. Soc OCs, teammates	2.37	0.85	0.29	0.62	–0.03	0.39***	–	–	–	–	–	–	–
4. Soc OCs employee*teammates	0.80	1.22	–	–	0.47***	–0.46***	–0.23**	–	–	–	–	–	–
5. InS OCs, employee	2.46	1.31	–	–	–0.33***	0.78***	0.37***	–0.29***	–	–	–	–	–
6. InS OCs, teammates	2.46	0.84	0.11	0.35	–0.02	0.36***	0.83***	–0.16	0.41***	–	–	–	–
7. InS OCs employee*teammates	0.63	1.48	–	–	0.19**	–0.02	0.05	0.54***	–0.22**	–0.16	–	–	–
8. Str OCs, employee	2.66	1.33	–	–	–0.22**	0.32***	–0.05	–0.17*	0.45***	0.05	–0.12	–	–
9. Str OCs, teammates	2.66	0.96	0.27	0.60	–0.03	–0.05	0.18*	–0.06	0.05	0.37***	–0.19*	0.18*	–
10. Str OCs employee*teammates	0.49	1.30	–	–	0.22**	–0.04	0.06	0.26**	–0.22***	–0.01	0.48***	–0.57***	–0.36***

Note. OCs and work engagement were measured using 7-point scales.

$N_{employees} = 141$; $N_{teams} = 34$. *** $p < .001$. ** $p < .01$. * $p < .05$.

Soc OCs = social constraints; Str OCs = structural constraints; InS OCs = infrastructure constraints.

Table 2
Level of Agreement Between Individuals and Their Teammates for Various Categories of Organizational Constraints.

Agreement Groups	Soc OCs (%)	Str OCs (%)	InS OCs (%)
Individuals' ratings significantly higher	25.5	29.1	22.7
Individuals in agreement	44.6	38.3	42.6
Individuals' ratings significantly lower	29.9	32.6	34.7

$N_{employees} = 141$; $N_{teams} = 34$.

Soc OCs = social constraints; Str OCs = structural constraints; InS OCs = infrastructure constraints.

disagreement was 55.4%; for InS OCs, disagreement was 57.4%; and for Str OCs, disagreement was 61.7%. Therefore, polynomial regression analyses are warranted.

To establish the relationship between the different categories of OCs and work engagement, we performed multilevel analysis. Soc OCs were negatively related to work engagement ($\gamma = -0.42, p < .001$). For InS OCs ($\gamma = -0.07, p = .899$) and Str OCs ($\gamma = -0.11, p = .085$), the relations with work engagement were also negative but nonsignificant.

To test our hypotheses, we performed separate multilevel polynomial regressions for work engagement for each type of constraint following a progressive approach. The results appear in Tables 3–5. We started with a null (i.e., random intercept only) model, followed by a

Table 3
Results of the Hierarchical Polynomial Regression Analysis for Work Engagement Using Social Constraints (Soc OCs) as Predictors.

Fixed Effects	Null Model			Simple Model			Polynomial Model		
	γ	SE	<i>t</i>	γ	SE	<i>t</i>	γ	SE	<i>t</i>
Multilevel analysis									
Intercept, γ_{00}	4.17	0.09	46.33***	4.06	0.10	40.60***	3.99	0.12	33.26***
Employee, γ_{10} (b_1)				–0.43	0.06	–7.16***	–0.34	0.07	–4.85***
Teammates, γ_{20} (b_2)				0.24	0.09	2.66**	0.23	0.10	2.30*
Employee square, γ_{30} (b_3)							–0.04	0.05	–0.08
Teammates square, γ_{40} (b_5)							–0.05	0.08	–0.63
Employee \times teammates, γ_{50} (b_4)							0.30	0.08	3.75***
Surface response tests									
$a_1 = (b_1 + b_2)$							–0.11	0.08	–1.343
$a_2 = (b_3 + b_4 + b_5)$							0.21***	0.06	3.273
$a_3 = (b_1 - b_2)$							–0.57***	0.15	–3.785
$a_4 = (b_3 - b_4 + b_5)$							–0.39**	0.17	–2.295
Model fit									
<i>df</i>	1			2			5		
$-2 \times \log$	371.250			320.950			304.993		
$\Delta-2 \times \log$				50.302***			15.957**		

$N_{employees} = 141$; $N_{teams} = 34$. *** $p < .001$. ** $p < .01$. * $p < .05$.

simple model with regular predictors only (i.e., individual and teammates' rated OCs), and finally, the polynomial model including squared and interaction terms. According to Edwards (1994), the effects of (in) congruence are relevant and need to be further inspected with response surface analysis if adding the polynomial terms in the last step predicts incremental variance in the outcome or when either of the higher-order terms (i.e., squared or interaction terms) are statistically significant. As can be seen in Tables 3–5, these conditions were met for Soc and Str but not for InS constraints.

To calculate surface test values, we used the coefficients from the multilevel polynomial analyses (see Tables 3, 4, 5). The results are shown in Figs. 1, 2, and 3.

Concerning hypothesis 1a, which suggested that Soc OCs congruence is associated with greater work engagement than Soc OCs incongruence, the curvature was significant ($a_4 = -0.39, p = .023$). As depicted in the dashed line in Fig. 1, both types of incongruence were linked to lower work engagement, suggesting that work engagement decreases as discrepancy increases (a dome-shaped surface). Thus, hypothesis 1a is supported.

Thereafter, we tested hypothesis 1b, which suggested that Str OCs congruence is associated with higher work engagement than Str OCs incongruence. The findings showed that in this case, the curvature was not significant ($a_4 = 0.01, p = .937$). Thus, hypothesis 1b is not supported.

Next, we tested hypothesis 2a, where we expected that perceptual congruence between an employee and teammates is linked with

Table 4
Results of the Hierarchical Polynomial Regression Analysis for Work Engagement Using Structural Constraints (Str OCs) as Predictors.

	Null Model			Simple Model			Polynomial Model		
	γ	SE	t	γ	SE	t	γ	SE	t
Fixed Effects									
Multilevel analysis									
Intercept, γ_{00}	4.17	0.09	46.33***	4.14	0.09	46.00***	4.01	0.12	32.60***
Employee, γ_{10} (b_1)				-0.26	0.06	-4.33**	-0.22	0.06	-3.66***
Teammates, γ_{20} (b_2)				0.15	0.09	1.66	0.13	0.09	1.44
Employee square, γ_{30} (b_3)							0.05	0.04	1.25
Teammates square, γ_{40} (b_5)							0.01	0.06	0.16
Employee \times teammates, γ_{50} (b_4)							0.03	0.08	0.38
Surface response tests									
$a_1 = (b_1 + b_2)$							-0.09	0.08	-1.088
$a_2 = (b_3 + b_4 + b_5)$							0.08	0.06	1.315
$a_3 = (b_1 - b_2)$							-0.35**	0.13	-2.698
$a_4 = (b_3 - b_4 + b_5)$							0.01	0.15	0.079
Model fit									
df	1			2			5		
$-2 \times \log$	371.250			351.281			346.701		
$\Delta -2 \times \log$				19.969***			4.580		

$N_{employees} = 141; N_{teams} = 34$. *** $p < .001$. ** $p < .01$. * $p < .05$.

Table 5
Results of the Hierarchical Polynomial Regression Analysis for Work Engagement Using Infrastructural Constraints (InS OCs) as Predictors.

	Null Model			Simple Model			Polynomial Model		
	γ	SE	t	γ	SE	t	γ	SE	t
Fixed Effects									
Multilevel analysis									
Intercept, γ_{00}	4.17	0.09	46.33***	4.12	0.11	37.45***	4.00	0.13	30.76***
Employee, γ_{10} (b_1)				-0.17	0.06	2.83**	-0.08	0.07	-1.14
Teammates, γ_{20} (b_2)				0.08	0.10	0.80	0.13	0.13	1.00
Employee square, γ_{30} (b_3)							0.70	0.35	2.00*
Teammates square, γ_{40} (b_5)							0.03	0.09	0.33
Employee \times teammates, γ_{50} (b_4)							0.08	0.08	1.00
Surface response tests									
$a_1 = (b_1 + b_2)$							0.06	0.15	0.405
$a_2 = (b_3 + b_4 + b_5)$							0.17	0.11	1.520
$a_3 = (b_1 - b_2)$							-0.21	0.15	-1.404
$a_4 = (b_3 - b_4 + b_5)$							0.02	0.13	0.167
Model fit									
df	1			2			5		
$-2 \times \log$	371.250			362.514			356.907		
$\Delta -2 \times \log$				8.736**			5.607		

$N_{employees} = 141; N_{teams} = 34$. *** $p < .001$. ** $p < .01$. * $p < .05$.

individual well-being, such that the higher the congruent Soc OCs, the lower work engagement. The slope of the line of congruence was nonsignificant ($a_1 = -0.11, p = .181$), but the curvature was significant ($a_2 = 0.21, p = .001$). The graphical representation of the results (the thick line in Fig. 1) indicates that when an employee and their teammates agreed on low levels of social constraints, work engagement was high. Moving along the line of congruence, work engagement became lower the higher the Soc OCs ratings by employees and teammates were, but only to a certain point, after which work engagement was again higher. Thus, agreement about both low and high social constraints was linked with high work engagement. Therefore, hypothesis 2a is not supported. Next, we tested hypothesis 2b, focusing on the effects of perceptual congruence regarding Str OCs on work engagement (see Fig. 2). Both the slope ($a_1 = -0.09, p = .287$) and curvature ($a_2 = 0.08, p = .191$) of the line of congruence were nonsignificant. Therefore, Hypothesis 2b is unsupported.

Finally, we tested hypotheses concerning the effects of incongruence. Concerning the ratings of Soc OCs, the slope of the line of incongruence was significant ($a_3 = -0.57, p < .001$). As depicted by the dashed line in Fig. 1, both types of disagreement were linked to lower work engagement; however, when an employee’s perception of social OCs was higher than their teammates’ (excess), the employee’s work engagement was even more reduced compared to when their ratings were lower than their teammates’. Thus, hypothesis 3a is supported. Thereafter, we tested hypothesis 3b concerning perceptual incongruence concerning Str

OCs. As expected, the findings showed that the slope was significant ($a_3 = -0.35, p = .008$). The graphical representation of this result along the dotted line in Fig. 2 indicates that when an employee’s perception of structural constraints was higher than their teammates’ ratings (excess), engagement decreased compared to when an employee’s ratings were lower than their teammates’. Thus, hypothesis 3b was supported.

Finally, despite not having an established hypothesis and the lack of significant polynomial terms as a prerequisite for response surface analysis, we tested the effects of infrastructural OCs as an exploratory and complementary approach. A graphical representation of these results is presented in Fig. 3. First, we did not observe that perceptual congruence about infrastructural OC is associated with greater work engagement than incongruence ($a_4 = 0.02, p = .868$). Concerning the effects of incongruence, the slope was also nonsignificant ($a_3 = -0.21, p = .162$), indicating that the direction of incongruence did not matter for work engagement. For the effects of perceptual congruence regarding infrastructure OCs, the slope was nonsignificant ($a_1 = 0.06, p = .686$), and the relation was not curvilinear ($a_2 = 0.17, p = .131$). This indicates that there was no effect of congruence regarding infrastructure OCs.

5. Discussion

In this study, we aimed to examine how congruence and incongruence in perceptions between an individual and their teammates concerning organizational constraints affect work engagement. We found

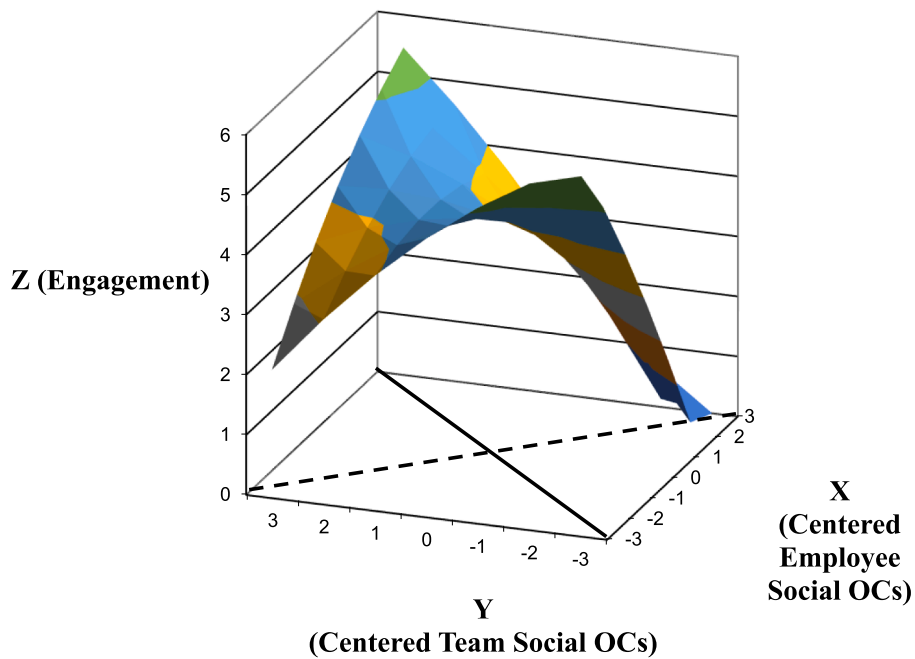


Fig. 1. Employee–teammates social constraints perceptual congruence (thick line) and incongruence (dashed line) effects on work engagement.

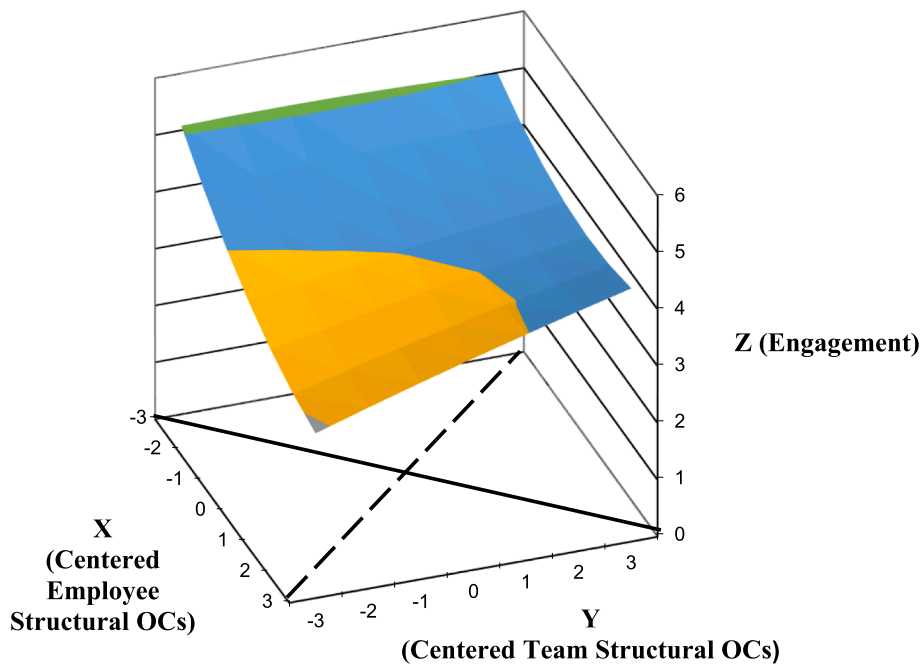


Fig. 2. Employee–teammates structural constraints perceptual congruence (thick line) and incongruence (dashed line) effects on work engagement.

that employee–team congruence and incongruence concerning social and structural constraints were linked with individual work engagement. More specifically, congruence regarding the existence of high and low levels of social constraints (i.e., interruptions, inadequate help, and relation with supervisors) was associated with greater work engagement. For social and structural constraints (i.e., rules and procedures, instructions and training), incongruence was related to lower work engagement levels: work engagement was low when individual employees experienced more OCs than their teammates did. Therefore, whereas the hypothesis on congruence could not be fully supported, the hypotheses on incongruence were supported for social and structural OCs.

Previous studies building on the framework of the JDCS model show that OCs have a generally negative effect on employees’ motivation (Pindek & Spector, 2016), and social and structural constraints are perceived to have a greater detrimental effect than those related to equipment and infrastructure (Pindek et al., 2019). Our results are in line with these findings and highlight the relevance of the social aspect of OCs as the primary element that affects work engagement. Thus, although most researchers have treated OCs as a unidimensional construct, we contribute to the literature by investigating the social, structural, and infrastructural components of OCs and by showing their differential effects. We further refine this idea by examining these constraints through the lens of perceptual congruence among work team

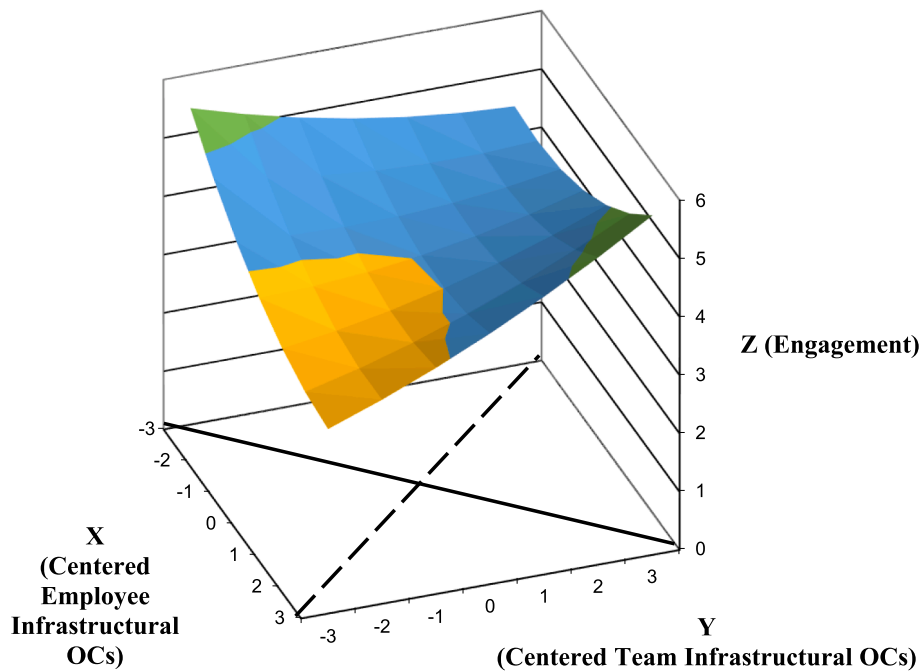


Fig. 3. Employee–teammates infrastructural constraints perceptual congruence (thick line) and incongruence (dashed line) effects on work engagement.

members. This incorporates an additional layer of complexity into the simple effect of OCs on work engagement. Incorporating different perspectives can strengthen the effects of specific categories of constraints with a significant social component.

Moreover, our findings represent a contribution to the literature on stress at work, specifically to the JCDS model, by showing how (in) congruence affects the analysis of work stressors and highlighting how specific processes within teams can change individuals' experiences of stress and engagement. Namely, congruence regarding social constraints was related to higher work engagement both when constraints were perceived as low and high. This pattern is intriguing, as it indicates that it is not only the level of constraints that matters but also whether the team members perceive them the same way. Congruence regarding high social constraint levels might allow the team to take appropriate actions based on their shared understanding of the situation. Thus, elevated engagement may indicate increased energy to deal with the issue. In addition, congruence might reflect shared awareness, which might be particularly reassuring when facing social stimuli such as social constraints. As a consequence, employees may exhibit stronger team identification by connecting to others who share their experiences. Indeed, research indicates that dyad members who experience shared reality feel more connected to each other (Rossignac-Milon et al., 2021). Consequently, team identification based on similarities may promote more work engagement (Torrente et al., 2013). Similarly, a recent study by Roczniowska & Richter (2021) also demonstrated that perceptual congruence between an individual and their teammates regarding a stressor—here, experienced qualitative job insecurity—was linked with higher work engagement (but not recovery from work), both for low and high values of job insecurity. Future research should further investigate the responsible mechanism.

Although congruence and incongruence were relevant for social OCs, they were less relevant for structural OCs and were unimportant for infrastructural OCs. This supports previous empirical studies' theories highlighting that perceptual congruence might be particularly relevant when stimuli are social (Gibson et al., 2009; Kristof-Brown et al., 2005). These stimuli might leave more room for interpretation and therefore make employees more easily influenced by whether other teammates agree with them about the experiences. For example, employees might need less reassurance that there truly is a constraint when it clearly

exists (e.g., the copy machine does not work) than they do for more abstract stimuli such as whether there is sufficient social support. Indeed, research supports the idea that people are more likely to create shared realities with others about targets that they are uncertain about, such as ambiguous stimuli (Pierucci et al., 2014). In addition, social constraints might be less noticeable, as this requires reflection, conversations, trust, and an open climate that facilitates identifying and solving problems.

Interestingly, the correlation between structural constraints and work engagement was nonsignificant. Without the nonlinear polynomial analysis, this may have been interpreted as a lack of relationship between work engagement and structural constraints. However, the more advanced analysis revealed that there is indeed a relationship between structural constraints and work engagement: perceiving frequent structural constraints when teammates do not was related to lower work engagement. These findings underline the importance of research that looks beyond acontextual individual perceptions. Moreover, our research corroborates and extends previous research in the field JDC model (Karasek, 1979) by including direct perceptions of individuals and their teammates as inputs, whereas recently published research using a similar methodological approach has utilized individual appraisals of coworkers' demands (Wemken et al., 2021).

In terms of practical implications, assessing levels of agreement or disagreement within teams regarding various types of constraints can be a good evaluation tool with which to establish grounds for organizational interventions aimed at addressing them. Diagnostic tools focused specifically on social and structural constraints can also provide useful information for team-based job crafting initiatives aimed at changing the work environment to better fit employees' needs and preferences (Tims et al., 2013). Similarly, team-focused interventions in the health care sector should focus on attaining basic levels of agreement regarding the social aspects of their everyday work to boost participants' engagement levels.

5.1. Limitations and future directions

Despite its significant contributions, this study is not without its limitations. First, our data derive exclusively from professionals belonging to the health care sector, so it is difficult to extend our results

to other sectors. Because health care is a group effort, social aspects of the environment might be especially relevant (Roczniewska et al., 2020), resulting in strong effects of social constraints and perceptual congruence on employee work engagement. A second limitation relates to our relatively small sample size, both in the number of individuals and teams. Although we complied with the minimum conditions for multi-level analysis (González-Romá & Hernández, 2017), it is necessary to increase sample sizes in future studies according to suggested guidelines to detect interaction effects (Murphy & Russell, 2016). It is possible that small effects were difficult to detect because there was insufficient power to observe them. A third limitation relates to the observed power: while the tests for hypotheses 1a, 3a and 3b were statistically significant with a p value of less than 0.05, the observed t -values corresponding to hypotheses 1a and 3b were below 2.81, which is the threshold of the conventional power level of 0.80 (Bliese & Wang, 2020). Scholars aiming to build on our findings should know that support for hypotheses 1a (observed power = 0.63) and 3b (observed power = 0.77) is relatively weak and requires further constructive replication. A fourth limitation is the low response rate compared to other studies carried out in Spain's health care sector (e.g., Hernández-Vargas et al., 2014; Olvera et al., 2017). This might have various causes, the most noteworthy being increased uncertainty due to the change of political management for the region's health care agency during the period when the data were collected (2019).

A fifth limitation relates to the possibility of other types of constraints that we might have failed to include due to the instrument we selected to measure OCs. In line with this limitation and considering the differences between our OC proposed categories and other constructs, it would be worthwhile to develop more accurate measurement instruments that can capture different types of OCs more clearly. A sixth limitation has to do with the presence of potential confounding variables in our study design that could alter the results and provide a richer and more detailed account of the potential effects of OCs when looking at them from the perspective of congruence. A recent meta-analysis on OCs suggests that they are strongly linked to other strain-related variables, such as workload, role conflict and role ambiguity (Pindek & Spector, 2016). Thus, future studies should strive to include such confounds and others to address method variance from a new perspective. Additionally, time-based study designs such as longitudinal and diary studies might help distinguish “substance from method” following the recommendations of Spector et al., (2019). A seventh limitation relates to the unsatisfactory psychometric properties of the OC scale (for supplementary analyses, see Appendix A). This is problematic because it can affect the interpretation of our findings, making it difficult to effectively differentiate between categories of OCs and their subsequent influence on work engagement. Despite this limitation, we believe our results are valuable because they provide more nuanced patterns of congruence and incongruence depending on the OC types compared to using the single-factor solution of the OC in the polynomial regression with surface response analyses (for details, see Appendix B).

In this project, we decided to focus on work engagement as an important proxy for employee job performance. However, it is worth noting that the relationship between work engagement and performance might be reciprocal in nature (Robbinson & Gifford, 2014). Thus, future research should strive to include performance measures and metrics to further illustrate the process where work engagement might act as a potential mediator that facilitates achieving high levels of individual, team and organizational performance from a multilevel perspective. Similarly, exploring outcomes related to relevant business metrics and performance indicators such as return on investment, return on assets, and specific key performance indicators depending on the type of organization would yield valuable information on the financial impacts of perceptual congruence and incongruence.

In future studies, it would be interesting to explore whether the results persist or change in various work settings. Health care is a particularly team-based sector that relies heavily on coordination and

communication; in sectors such as IT or manufacturing, congruence and incongruence might affect employee outcomes differently, and constraints other than social constraints might play a larger role. We also consider further development of measures of OCs that are able to clearly distinguish between meaningful categories and present robust psychometric properties, to be a vital challenge that remains to be addressed. Thus, we would like to call for more research focusing on the development of new and more robust measures of OCs. Sociotechnical systems theory may provide a potentially valuable framework to develop such measures (Appelbaum, 1997; Castille et al., 2017). Another line of future inquiry is the exploration of congruence and incongruence in different cultural contexts. Spain tends to be considered a collectivistic, hierarchical country compared to northern European countries, where individualism is more evident and power distance tends to be smaller (Hofstede Insights, 2020). Thus, the effects of incongruence in perceptions with relevant others may be amplified in this cultural context, and further cross-cultural research is warranted. Finally, because we showed that congruence has an important effect on work engagement, it is worthwhile exploring specific antecedents of team congruence formation, such as team reflexivity, team learning, and leadership styles that promote open communication.

5.2. Conclusions

As major job stressors, OCs prevent employees from translating their motivation and ability into high productivity. In this paper, we demonstrated that not only do high OC levels decrease employees' work engagement but also—and most importantly—this effect is exacerbated when an employee's perceptions of a problematic issue are not reflected in his or her teammates' perceptions. We also showed that some constraints have a higher probability of being perceived differently, which makes them more susceptible to perceptual congruence and incongruence effects. By acknowledging that OCs are susceptible to social processes involving comparisons and shared reality construction, we provide a better understanding of how OCs shape employee work engagement, which ultimately translates into organizational performance.

Funding

This research was funded by FORTE, grant number 2016–07182, and Universitat Jaume I, grant number E-2019–02.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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