

**The influence of employees' perception on gender discrimination.
Adopting attribution theory perspective.**

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ABSTRACT

Gender discrimination is still present in today's labour market, and its perception by employees can have a strong impact on employee outcomes and attitudes. The purpose of this study is to examine which types of employees perceive gender discrimination the most and what the results are in terms of employee outcomes and attitudes. To this end, the study adopts the framework of attribution theory, which is widely used to study events in the workplace. The theory refers to the interpretive process that people use to judge the motivations behind an event. We examined the different configurations of employee attributions toward promotions, salary increases and career advancement and how they affect employee outcomes and attitudes in different ways. Based on a survey distributed in a large Italian bank and adopting the person-centered approach of the Latent Profile Analysis (LPA), we identified four different profiles of employees characterized by different configurations of attributions. Our results demonstrate that the profiles relate differently to work engagement and affective organizational commitment (AOC) based on their attributions to ability and effort or to gender, where attribution to gender represents a finding of perceived gender discrimination and thus a lack of distributive justice, but also of perceived organizational support (POS). For this reason, the profiles that attribute a role to gender discrimination in management decisions of salary increase and promotion are those that perceive a lower distributive justice and POS and consequently experience less work engagement and AOC. It is also observed that the actual gender pay gap of the role is not a significant predictor of profile membership, while age, seniority and even more clearly gender itself play a predictive role.

INTRODUCTION

Many organizations around the world are trying to embrace diversity and inclusiveness, but a diverse workforce can only be beneficial when there is equity in treatment, distributive justice, and a healthy work environment for all employees (Dongrey & Rokade, 2022). However, this is not always the case. In fact, women are underrepresented in top management positions, and gender discrimination is still present in the labor market in general and particularly at the higher levels of organizations (Ramos et al., 2022). As organizations with a diverse workforce grow, perceived injustices and discrimination are increasingly studied as they are linked to negative outcomes, especially with regard to distributive justice (Deepak, 2021). Various studies have shown the presence of gender discrimination in the workplace, and wage and career advancement discrimination are among the most common forms (Palumbo & Manna, 2020) and are expected to be linked to affective, cognitive, and behavioral components (Deepak, 2021).

Some research focusing on the effects of gender discrimination has been conducted by adopting the theoretical framework of relative deprivation theory (Triana et al., 2019; Foley et al., 2005), but the use of theories of distributive justice (Deepak, 2021; Russen et al., 2021; Sunaryo et al., 2021; Hang-yue et al., 2006) and social exchange (Dongrey & Rokade, 2022; Ramos et al., 2022) is more common. While many studies have mainly analyzed the tangible barriers underlying gender discrimination (Chauhan et al., 2022; Ramos et al., 2022; Michailidis et al., 2012; Ismail & Ibrahim, 2008; Foley et al., 2002), insufficient attention has been given to a comprehensive overview of the characteristics of gender discrimination and its consequences on individuals and organizations (Palumbo & Manna, 2020; Dhanani et al., 2018). In line with Martinko and colleagues (2008), attribution theory may provide a wide range of explanatory possibilities, and the use of attribution theories can explain the so-called "black box" between human resources and management decisions and employee outcomes (Hewett et al., 2018).

For this reason, we decided to adopt the framework of attribution theory and combine it with a person-centered approach to identify different profiles of employees with different attribution configurations focused on effort, ability, and gender identity where attribution to gender represents a finding of perceived gender discrimination. Employee attributions are how employees explain promotions and salary increases, and the configuration, i.e., profiles, of these attributions can affect work engagement, affective organizational commitment, and perceived organizational support in different ways.

THEORETICAL BACKGROUND AND HYPOTHESIS

Gender discrimination

Gender discrimination occurs when personnel decisions are based on gender characteristics rather than an individual's qualifications or job performance (Foley et al., 2005). Perceived gender discrimination is an individual's perception of being treated differently or unfairly because of his or her gender (Foley et al., 2005). Pay disparities and career advancement discrimination are among the most common forms of workplace discrimination (Gunderson & Lee, 2016; Palumbo & Manna, 2020). Indeed, employees who are discriminated against generally report unfair allocations of career advancement, promotions, and pay raises (Palumbo & Manna, 2020). Specifically, these practices could be used as a tool to disadvantage specific categories of employees, paving the way for less perceived justice in the workplace (Snyder et al., 2010).

The effects of gender discrimination can be analyzed from different perspectives, but the basic concept always remains the same: when there is no equity in promotions or pay raises for employees, especially women but also men, feel they are in an unfair organization (Ramos et al., 2022). In addition to the impact of discrimination on the individual and women directly, organizational injustice resulting from gender discrimination can produce negative consequences for the organization as a whole (Ramos et al., 2022). In fact, gender discrimination can produce effects on employee performance and other organization-relevant attitudes and behaviors, such as organizational commitment and affective organizational commitment (Dongrey & Rokade, 2022; Foley et al., 2005; Hicks-Clarke & Iles, 2000; Stamarski & Son, 2015; Tehseen, 2013), work engagement (Palumbo & Manna, 2020; Ramos et al., 2022; Sunaryo et al., 2021) and, through the theoretical lens of organizational justice, the effect can also be extended to organization trust (Ramos et al., 2022; Russen et al., 2021; Colquitt et al., 2013; Jiang et al., 2015).

As discussed in the introduction, several theories are adopted to study gender discrimination, among these the most popular are undoubtedly distributive justice (Deepak, 2021; Russen et al., 2021; Sunaryo et al., 2021; Hang-yue et al., 2006) and social exchange theory (Dongrey & Rokade, 2022; Ramos et al., 2022). Distributive justice is concerned with the perceived fairness of outcomes and how decision-makers divide resources (Tornblom & Kazemi, 2015). Most models of distributive justice support equity as the ultimate standard of fairness, where the norm of fairness states that individuals' outcomes should be proportionate to their contributions, so that those who contribute more receive more resources (Caleo, 2018). Research has indicated

that employees often identify justice issues (e.g., unfair administration of rewards, unfair evaluations) as sources of conflict between themselves and their organizations, and higher levels of perceived justice are generally correlated with more positive work attitudes and behaviors (Caleo, 2018). In addition to telling decision makers what they should do, distributive justice also outlines what they should not do; in fact, people react negatively when resources are distributed without following principles of fairness (Stouten et al., 2007).

Another rationale behind this link between justice and employee outcomes, trust, commitment, and so on may be social exchange and reciprocity theory, which emphasizes interpersonal transactions (exchange) and states that if employees perceive that they are treated fairly, equitably, and impartially by their employers, then they are more likely to reciprocate through positive attitudes (Agarwal, 2014).

As presented in the introduction section, many studies have focused on analyzing what the main barriers are in order to identify them and subsequently break them down, but a thorough analysis of the traits and configurations of gender discrimination and its effects on people and organizations has not received enough attention (Palumbo & Manna, 2020; Dhanani et al., 2018). Nevertheless, employee perceptions of gender discrimination should be of great interest nowadays given that many companies carry out diversity and equal representation statements towards employees (Russen et al., 2021).

Attribution theory. Identifying different profiles of employees

Among the theories used for the study of perceived discrimination and its effects on employees' outcomes, attribution theory does not appear, but it can be a valuable and useful theoretical perspective to investigate the cognitive process behind the perception of gender discrimination. Indeed, Martinko et al. (2006) state that attribution theory, particularly in organizational science, may provide a wide range of explanatory possibilities, and the use of attribution theories in the field of human resources have accelerated due to the resurgence of interest in the role of attribution theories in explaining the so-called "black box" between human resources and employee performance and outcomes (Hewett et al., 2018).

According to its definition, "attribution theory" is the interpretive process used by people to judge the motivations behind other people's behaviors and the underlying causes of their actions (Heider, 1958). Attribution theory is based on the idea that people are interested in understanding why an event occurred (Weiner, 1985). The idea of attribution is frequently used to explain frequent workplace events, such as the promotion or the pay increase of an employee,

and how these explanations (or attributions) affect a person's perspective of this and their ultimate contentment with the circumstance (Sharafizad et al., 2022; Jackson, 2019). Employees judge a promotion (or a salary increase) by determining whether they believe the person promoted was chosen fairly. How employees perceive the promotion affects both their future behaviors and actions and their perceptions of management decisions. Again, according to Weiner, causal attributions influence future expectations, emotions, and performance, leading people to respond emotionally (negatively or positively) based on the attributions they make about the reasons for their behavior after an event has occurred (Weiner, 2008).

Given that attribution theory provides a wide range of explanatory possibilities and that the existing literature on the topic discusses the existence of attribution styles, i.e., the tendency to make the same types of attributions in a wide variety of situations (Martinko et al., 2006), in our study, we identified different profiles of employees defined on the basis of different attribution configurations with respect to promotion, career advancement, and salary increase, namely attribution to ability and effort and attribution to gender, which will be discussed in more detail in the following paragraphs.

This will be done through a person-centered approach. The person-centered approach identifies distinct subpopulations (or profiles) of employees who exhibit different levels of some constructs or dimensions. In contrast to variable-centered analyses that assume that all employees come from the same population, person-centered analyses are specifically designed to qualitatively identify different profiles of employees characterized by different configurations of a construct or dimension (Morin, 2016; Fouquereau et al., 2020). These types of analyses thus provide an alternative way to study phenomena in organizations. The person-centered approach in fact treats people as a whole, in a more holistic way, and recognizes that a configuration of attributes (such as attributions) may be perceived differently and have different implications when combined than when used alone. Looking at the employee in a more holistic way and observing phenomena from the perspective of different profiles can be of great interest to an employee-centered function such as human resources, a function that is by the way generally among the most invested in creating a fair and discrimination-free work environment (Hang-yue et al., 2006). In conclusion we can state how the person-centered approach complements the variable-centered approach offering a unique viewpoint on an interesting occurrence (Kam et al., 2016).

Among other things, the choice to use a person-centered approach is part of a broader trend in organizational research that focuses more on the study of profiles, that is, subgroups of the entire population that exhibit homogeneity of characteristics or attributes, rather than the study of relationships between variables (variable-centered approach) (Kam et al., 2016).

In addition, to the best of our knowledge, there are no uses of person-centered approach in the case of employee attribution study.

Considering all the above, we propose the following hypothesis:

Hypothesis 1. Employees are grouped into distinct profiles with varying configurations of effort, ability, and gender attribution with respect to promotion and salary increase.

Attributions to ability and effort. Employee outcomes and attitudes

Weiner and colleagues state that each event is followed by a search for the cause of the outcome along three dimensions: locus of causality, stability, and controllability (Hewett et al., 2018). The locus of causality refers to how much a person believes he or she is personally responsible for an outcome in relation to other external variables. The locus of causality, which can be internal or external, is significant because it influences emotions. People who make stable attributions predict that the same causes and outcomes will continue to impact them in the future. Controllability refers to how much control people think they have over their environment.

Examples of typical attributions for outcomes are effort and ability (Martinko et al., 2006; Sharafizad et al., 2022), and in our research, these are used, considering them as unstable, controllable, and internals. This is because ability can also be perceived as unstable and controllable if learning is possible (Weiner, 1985). Attributes, such as ability and effort, that are unstable, controllable, and internals are usually associated with positive perceptions, leading people to accept similar management decisions in the future (Russen et al., 2021; Jackson, 2019). This could be explained because employees believe that the promotion or pay increase is fair and that everyone is given the same opportunities and criteria (Sharafizad et al., 2022). With distributive justice we refer to the perception of fairness of rewards among individuals within the organization (Russen et al., 2021). Results suggest that perceived distributive justice and fairness positively influence job satisfaction, job performance, work engagement, organizational commitment, and organizational trust (Aggarwal et al., 2022; Dongrey & Rokade, 2022; Sunaryo et al., 2021; Hang-yue et al., 2006). In line with equity theory,

employees show organizational commitment and an obligation to contribute to organizations when they perceive fair treatment from the organization (Sunaryo et al., 2021). It is also necessary to consider that Manzi et al. (2021) reports how in some studies the perception of equity emerged as the strongest predictor of POS.

Considering all the above, we propose the following hypothesis:

Hypothesis 2. Employees characterized by configurations with high levels of attributions to ability and effort will show the highest levels of perceived distributive justice, work engagement, affective organizational commitment, and POS.

Attributions to gender. Employee outcomes and attitudes

In the study we measure perceived discrimination as attribution to gender of promotions, career advancement opportunities, and salary increases and consider it an external, stable, and uncontrollable attribution, because we can consider gender in organizations as a socially constructed role that we are taught (Reed et al., 1994; Lehman, 1992). Indeed, the origins of an individual's locus of control may reflect a view of the social, political, economic, and structural environment in which he or she resides, and those who attribute to gender may view the event as controlled by external forces and may do so by recognizing discriminatory structures and attitudes in organizations and society (Reed et al., 1994). In our study, we do not refer to gender inequality as an inevitable result of some biological imperative, but as a phenomenon shaped by circumstances and experience. We assume that broad institutional, political, economic, and social forces have interacted to sustain subtle gender differences in the workplace (Reed et al., 1994).

Wage differential and career advancement discrimination are among the most common forms of workplace discrimination (Palumbo & Manna, 2020; Gunderson & Lee, 2016), and various research focuses on pay and promotions (Russen et al., 2021; Foley et al., 2002). These types of discrimination are expected to be linked to affective, cognitive, and behavioral components; in fact, perceived gender discrimination increases the perception of both male and female employees that they work in an unfair organization (Ramos et al., 2022).

The relationship between perceptions of justice and organizational and employee outcomes can be explained by social exchange theory, distributive justice, and equity theory. When there is no equity in women's promotion or pay increases, employees feel they are in an unfair organization, especially women, but also men (Ramos et al., 2022).

The literature suggests that perceived gender discrimination at work could negatively contribute to individual attitudes and behaviors, as well as organizational outcomes such as performance, organizational commitment, organizational justice, organizational citizenship behavior, job satisfaction, work engagement and welfare, among other aspects (Ramos et al., 2022; Russen et al., 2021; Triana et al., 2019; Stamarski & Son, 2015; Tehseen, 2013; Foley et al., 2005).

Perceived organizational support (POS) is defined as the extent to which the workforce recognizes that their contributions are valued and respected and that the organization cares about their well-being (Rhoades et al. 2001). Ismail and Ibrahim (2008) found that organizational support can help women advance by providing them with equal treatment and removing existing impediments in the organization. While a lack of organizational support for women's advancement can have an impact on job satisfaction and engagement, there is evidence that women receive a lack of peer and organizational support in organizations where there is perceived discrimination (Chauhan et al., 2022).

Considering all the above, we propose the following hypothesis:

Hypothesis 3. Employees characterized by configurations with high levels of attributions to gender will show the lowest levels of perceived distributive justice, work engagement, affective organizational commitment, and POS.

METHODS

Participants and procedures

The research was conducted within an Italian bank, distributing a survey to the entire employee population with the help of the HR department. In the design phase, we systematically reviewed item construction to ensure that ambiguous and unfamiliar terms were not included, and all the scales were translated into Italian. In the distribution phase, participants were reassured about the anonymity and confidentiality of the study and that since there were no wrong answers they could answer as honestly as possible. These strategies reflect standard survey practices but are also useful steps in reducing common method bias (Chang et al., 2010). Furthermore, the organization provided us data on employee compensation, job position, and some socio-demographic information.

Responses were collected from 1,651 employees, 1,150 men (69.65% of respondents) and 501 women (30.35% of respondents). Age ranged from 22 to 68 years, with an average of 44.48

(SD, 9.96) years. 96.43% were full-time workers, while 3.57% were part-time workers. 37.98% had a high school diploma, 2.12% had a bachelor's degree, and 59.90% had a master's degree.

Measures

All the items included in the questionnaire assess the variables through a 7-point Likert-type scale, ranging from 1 (Strongly disagree) to 7 (Strongly agree), except Work Engagement ranging from 1 (Never) to 7 (Always, every day). All respondents answered the same questionnaire. The scales used are detailed below.

Attributions. Leveraging the work of Weiner (1972) and Martinko et al. (2006), we developed a scale that measures the attributions of employees who are asked why they believe decisions on salary increases, promotions, and career advancements occur.

The scales used in the study were developed following the measurement procedures explained and summarized by Martinko et al. in a review (2006) concerning the attribution theory in industrial and organizational psychology. In the review it is pointed out that the researchers usually measure attributional explanations, the dimensions of the explanations, or both, when assessing intrapersonal attributions for an event. Explanations are the direct causes of an event that are asked of the respondent and can be, for example, ability, effort, task difficulty, or luck. In each case, regardless of the explanations measured, these explanations are evaluated by asking respondents to rate the extent to which an explanation is appropriate on a Likert-type scale. In this study, we focus on attribution to ability and effort versus attribution to gender discrimination; in fact, studying Martinko's review, many of the scales reported that refer to explanations for a specific event are precisely constructed by putting the respondent in a position to compare different attributions, in our case we did so in the questionnaire by constructing a dedicated section in which the respondent was asked to define the underlying motivations for the specific event of promotion and salary increase. Also, the factor analysis for the scale supported a two-factor structure. The items used are constructed as follows: (1) "Promotion and career advancement occur because a person has made an effort and demonstrated his or her abilities"; (2) "Salary increases occur because a person has made an effort and demonstrated his or her abilities"; (3) "Promotion and career advancement occur because a person belongs to a certain gender identity (man, woman, other); (4) "Salary increases occur because a person belongs to a certain gender identity (man, woman, other)".

Distributive Justice. Distributive Justice was assessed with a scale from Niehoff et al., (1993). The scale consists of three items investigating the perception of fairness linked to the distribution of resources and rewards and includes the following items: (1) “I think my pay level is fair”; (2) “Overall, the rewards I receive in this company are quite fair”; (3) “I feel that my job responsibilities are fair”.

Work engagement- ultra short. To measure Work Engagement, we used the ultra-short scale developed by Schaufeli et al. (2017). Schaufeli et al. (2017) state "based on face validity, theoretical reasoning, and previous feedback from respondents, three items from the UWES-9 were selected, each or each dimension of work engagement". The items selected were: (1) “In my work, I feel full of energy” (vigour); (2) “I am enthusiastic about my work" (dedication); (3) “I am immersed in my work” (absorption).

Affective Organizational Commitment (AOC). We measured AOC using the scale introduced by Allen and Meyer in 1990. The scale investigates attachment and emotional involvement with an organization and includes the following items: (1) “I feel emotionally attached to my organization”; (2) “This organization has great personal significance for me”; (3) “I feel a strong sense of belonging toward my organization”.

Perceived Organizational Support (POS). We measured POS using the scale proposed by Rhoades et al. (2001). This scale includes the following items: (1) “My organization is inclined to help me when I need a special favour”; (2) “My organization offers to help me when I have a problem”; (3) “My organization would forgive an honest mistake made by me”.

Covariates. Contextual factors that presumably influence employee attribution were incorporated into our study as covariates, which were tested to determine whether they predicted each individual's attribution profile. These predictors are demographic characteristics, i.e., gender, age and educational level; and some work-related factors, i.e., employee performance level, hours of learning and training, and the level of gender pay gap in the role. The appropriateness of adding gender as a contextual factor is also important on a theoretical level, as some studies point out that women perceive higher levels of gender discrimination than men; moreover, for women, the perception of gender discrimination has been associated with lower organizational commitment, which has suggested that women may attribute gender

discrimination to the organization to a greater extent than men (Rana & Singh, 2022; Foley et al., 2005).

Person-centered approach. Latent Profile Analysis

The study adopted a person-centered approach, relying on the Latent Profile Analysis (LPA) to identify profiles of employees based on their attributions to ability and effort or gender discrimination. To understand why we talk about person-centered approach in the case of Latent Profile Analyses we must first explain the main features of this technique.

LPA is a modelling technique for identifying unobserved subgroups of individuals, called latent profiles, from observed data and estimating the parameters of these profiles (Muthén & Muthén, 1998–2017). Therefore, LPA allows for the identification of unknown membership or heterogeneity in a population (Lim et al., 2020). The unobserved subgroups have different configural profiles of personal and/or environmental attributes (Spurk et al., 2020), that is, their responses to certain attributes are similar. In the research field of organizational and vocational behaviour, often these personal and environmental attributes are psychological constructs (Spurk et al., 2020).

LPA is a technique that can be compared with cluster analysis because both classify the sample into subgroups that have similar characteristics. The specific advantages of LPA over traditional non-latent clustering methods are that (a) LPA has a more rigid statistical approach to defining the number of subgroups; (b) individuals are grouped into clusters on the basis of membership probability calculated directly from the model; (b) variables can be continuous, categorical (nominal or ordinal) or a combination of these; and (c) demographic data and other variables can be used for profile description as covariates (or predictors) and distal outcomes (Spurk et al., 2020; Lim et al., 2020).

This study selected LPA primarily because it combines a person-centered approach with a variable-centered approach, focusing on the first. In other words, while though LPA, as a statistical method, uses variables, its emphasis is on the relationships between people, rather than the relationships between variables (Lim et al., 2020; Muthén & Muthén, 1998–2017).

LPA focuses on variable patterns (also known as LPA indicators) to determine profiles of people with similar patterns and compare these profiles with others in terms of combinations of indicators and their relationships with various predictors and outcomes (Spurk et al., 2020). Therefore, LPA is a great method for research examining the effects of qualitatively distinct configurations of variables (Spurk et al., 2020; Wang & Hanges, 2011). Qualitatively distinct configurations of variables are called shape differences (e.g., some indicators have relatively

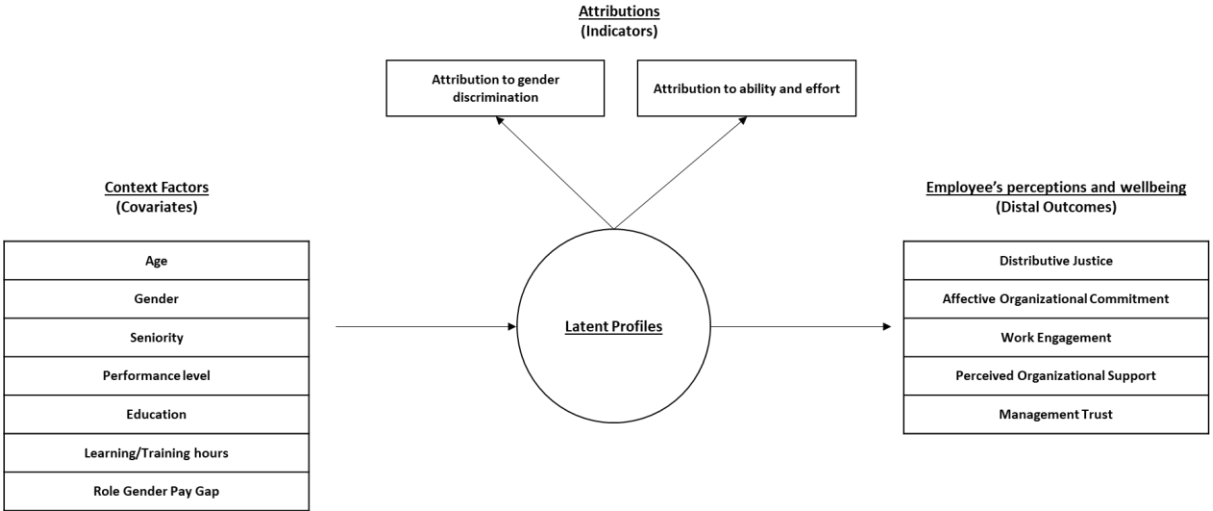
high levels and others have relatively low levels in one profile and the opposite in another profile). Conversely, quantitatively different configurations of variables are called level differences.

Analytical procedure

Firstly, descriptive statistics were used to show a general overview of the constructs considered. Secondly, we ran an Exploratory Factor Analysis (EFA) to assess the items composing the constructs analysed. Thirdly, Structural Equation Modelling (SEM) was used to test the hypotheses and the relationships between the various constructs. SEM combines factor and regression analyses on one or more dependent and independent variables (Muthén & Muthén, 1998–2017). We evaluated the fit of the model with the comparative fit index (CFI), Tucker-Lewis index (TLI), and root mean square error of approximation (RMSEA). Values above 0.90 and 0.95 for the CFI and TLI, respectively, are considered indicative of an adequate and excellent fit to the data, while values below 0.08 or 0.06 for the RMSEA, respectively, support an acceptable and excellent model fit (Marsh et al., 2005). All the analyses were carried out using MPlus 8.9 and Stata 17.

The LPA analytical framework adopted was developed based on the analytical steps proposed in the article by Ferguson et al. (2020). We adopted an LPA model with covariates and distal outcomes as shown in Figure 1.

FIGURE 1 Statistical and conceptual model



Note: Statistical and conceptual model of the LPA of attributions. The subgroups of employees are measured for their attribution to gender discrimination and attribution to ability and effort. Covariates on the left column are selected to specify employees' subgroups. Then the subgroups are analysed to predict the levels of employees' perception of distributive justice, Perceived Organizational Support, and wellbeing outcomes such as work engagement and Affective Organizational Commitment.

In our case, profiles were estimated based on the levels of and shape of their attribution's perception on the motivations behind salary increase, promotion, and career advancements. Attributions means were allowed to be freely estimated across the profiles, but the variances between the profiles were constrained to be equal. In LPA, the covariance structure of the variables is explained through the mean differences according to local independence assumption (Oberski, 2016). The parameters of the profile solutions were estimated using maximum likelihood with robust standard errors (MLR) (Muthén & Muthén, 1998–2017).

The following fit indices and statistical tests were used to define the number of latent profiles: (Nylund et al., 2007): (1) AIC index (Akaike Information Criterion), (2) BIC index (Bayesian Information Criterion), (3) aBIC index (adjusted Bayesian Information Criterion), (4) VLMR test (Vuong-Lo-Mendell-Rubin Test), (5) LMR test (Lo-Mendell-Rubin Test), (6) BLRT test (Bootstrap Likelihood Ratio Test), and (7) entropy value. Theoretical interpretability and meaningfulness of the profiles were also included among the selection criteria. In addition, the percentage of the sample that falls within the smallest profile was also considered; in fact, it may be a useful metric to support model maintenance decisions in terms of parsimony and significance.

Lower AIC, BIC and aBIC indexes values indicate the superiority of the model under consideration over other solutions (Ferguson et al., 2020). A statistically significant p-value for LMR, VLMR and BLRT tests indicates that a model with k number of profiles should be rejected over a model with at least $k + 1$ profiles (Ferguson et al., 2020). The entropy value indicates the quality of the profile: the closer the entropy value is to 1, the more accurately cases are classified in the profiles (Ferguson et al., 2020). Entropy values above .70 are considered acceptable (Ferguson et al., 2020). Regarding the smaller profile, it should be considered that if an additional profile includes only a small number of cases, the general rule being 3 percent or less, strong reasons are needed to support the addition of this profile, given the possibility of lower power, lower accuracy than the other larger profiles, and lower parsimony (Spurk et al., 2020).

After the profiles of employees' attributions were identified, we examined the relationship of context factors, demographic characteristics, and work-related factors, to attributions profiles. These analyses were performed by the R3STEP method (Mäkikangas et al., 2022). The R3STEP method uses multinomial logistic regression analysis to predict belonging to a profile with values of antecedent variables, in our case the context factors.

This approach consists of first identifying latent profiles, then, in Step 2, individuals are assigned to their most likely profile using the posterior probabilities provided by the initial LPA. The approach accounts for uncertainty in profile assignment, which is added to the model syntax using the estimated average classification errors for each profile from Step 2. In Step 3, the method simultaneously models the effects of covariates on or with the profiles (Ferguson et al., 2020). As the explanation above demonstrates, the R3STEP technique has two major benefits: it considers the different probabilities of belonging to the profiles, and the examined antecedent variables do not influence the content of the profile solution (Ferguson et al., 2020). Interpretation of the multinomial logistic regression analysis was performed reporting odds ratios (ORs) based on the regression coefficients of the models (Mäkikangas et al., 2022).

Then, in MPlus, we used the BCH-procedure to compare differences in the continuous outcome variables between groups. This approach uses Wald tests to compare the mean scores of the outcomes across groups, providing reliable results even for variables with nonnormal distributions (Spurk et al., 2020). The first step in the BCH method is again to determine the latent profiles without modelling the covariates. The second step, similarly to the R3STEP method, uses the participants' individual class probabilities to specify the likelihood that they will belong to each latent profile. Therefore, this method includes individual uncertainty in profile classification rather than average uncertainty.

The use of R3STEP for predictors and BCH for distal outcomes was suggested by Morin et al (2017), stating that BCH works better for continuous outcomes because it has less instability, in fact sometimes the nature of the profiles might change when applying the R3STEP approach.

Additional analyses were conducted on the gender pay gap. These were conducted to understand whether different attributions represented different perceptions based on actual experience of unequal treatment, at least on the pay side, or conversely whether they were differences that emerged independently of actual treatment by the company. The gender pay gap of the role was thus also adopted as covariates and predictors in the LPA model. It was calculated using the most adopted formula in the literature by following the following steps (OECD, 2023) (1) Calculating the median pay of men (M) and women (W) (2) Calculating the gender pay gap for each role using the formula $(M-W)/M$.

RESULTS

Descriptive statistics

Table 1 presents the means, Standard Deviations (SDs), the correlations between the studied variables and internal consistencies for the study variables. Table 1 shows a good and/or acceptable internal consistency for the latent variables considered in the model.

TABLE 1 Means, standard deviations, inter-correlations and internal consistencies*

	Mean	SD	WE	AOC	POS	DJ	A_Gender	A_A&e
1. Work Engagement	5.40218	1.085707	0.8349*					
2. Affective Organizational Commitment	5.250959	1.327796	0.6491**	0.9403*				
3. Perceived Organizational Support	5.084797	1.157821	0.4606**	0.5207**	0.8270*			
4. Distributive Justice	4.216031	1.382248	0.4463**	0.4386**	0.5060**	0.7773*		
5. Attributions (Gender)	2.612962	1.390919	-0.1746**	-0.2341**	-0.2446**	-0.1679**	0.9334*	
6. Attributions (Ability & effort)	4.581163	1.474351	0.4534**	0.4932**	0.5389**	0.6399**	-0.2407**	0.8688*

Note: ** = Significant at $p < 0.05$

Exploratory factor analysis

Although all measures have been already tested and based on the literature, we run an exploratory factor analysis including all 16 items corresponding to the 6 constructs analysed. This provides further evidence on the discriminant validity of the measures. We used the KMO test to evaluate sampling adequacy. All the items are greater than 0.80. The overall KMO for the complete model is 0.8075. This indicates that the proportion of common variance is low, and that data are suitable for PCA. Table 2 shows the results of the exploratory factor analysis. All factor loadings are greater than the 0.4 threshold and they all load on a single factor (no cross loadings with values greater than 0.3). The Cronbach's alpha values confirm the internal consistency reliability of the measures.

TABLE 2 Results of Exploratory Factor Analysis

Construct	Item	Factor Loading	Cronbach's Alpha
Attribution to Gender Discrimination	Promotion and career advancement occurs because a person belongs to a certain gender identity (man, woman, other)	0.7050	0.9334
	Salary increase occurs because a person belongs to a certain gender identity (man, woman, other)	0.7072	
Attribution to Ability and Effort	Promotion and career advancement occurs because a person demonstrates ability	0.6529	0.8688
	Salary increase occurs because a person demonstrates ability	0.6544	
Work Engagement	In my work, I feel full of energy	0.5887	0.8349

	I am enthusiastic about my work	0.5289	
	I am immersed in my work	0.5697	
Affective Organizational Commitment	I feel emotionally attached to my organization	0.5731	
	This organization has great personal significance for me	0.5844	0.9403
	I feel a strong sense of belonging toward my organization	0.5459	
Distributive Justice	I think my pay level is fair	0.5645	
	Overall, the rewards I receive in this company are quite fair	0.4720	0.8270
	I feel that my job responsibilities are fair	0.5760	
Perceived Organizational Support	My organization is inclined to help me when I need a special favour	0.6051	
	My organization offers to help me when I have a problem	0.5880	0.7773
	My organization would forgive an honest mistake made by me	0.5163	

Confirmatory factor analysis

We considered seven nested models with various numbers of factors. The goodness-of-fit indices of the measurement models are presented in Table 3. The seven factor model was retained as it showed an excellent fit of the data (CFI = 0.966; TLI = 0.958) and excellent model fit (RMSEA = 0.054).

TABLE 3 Results of the confirmatory factor analysis

Model	CFI	TLI	RMSEA	SRMR	χ^2	df	Difference
A-1 factor	0.566	0.499	0.212	0.122	7810.426	104	
B-2 factors	0.634	0.573	0.196	0.198	6600.909	103	-1.209.517
C-3 factors	0.745	0.697	0.165	0.105	4630.228	101	-1.970.681
D-4 factors	0.870	0.841	0.119	0.085	2402.517	98	-2.227.711
E-5 factors	0.936	0.919	0.085	0.057	1226.003	94	-1.176.514
F-6 factors	0.985	0.980	0.042	0.036	346.989	89	-879.014

Note: CFI = comparative fit index; TLI = Tucker-Lewis Index; RMSEA = root mean square error of approximation; SRMR= standardized root mean squared residual; difference = difference in chi-square between the consecutive models; * = Significant at $p < 0.01$

Class enumeration

Starting with a one-profile model, we progressively added more latent profiles until the key indices showed no sign of improvement: AIC, BIC, SABIC, and entropy.

Model fit indicators were compared stepwise to determine the number of latent profiles; the comparison is shown in Table 4. Although it is observed that the values of AIC, BIC and SABIC continue to decrease when new profiles are included in the models, the degree to which these values decrease begins to diminish significantly starting at the four-profile model. In fact, a visual examination of the elbow diagrams representing the AIC, BIC and SABIC indices (see Figure 2) suggests that the curves tend to flatten at the four-profile configuration. Although the

p-values for MLR and BLRT are significant for all models, the entropy value for the four-profile configuration is the highest for the analyzed models. In addition, the four-profile model adds, a group containing 6.42% of the sample, so it can be accepted according to the logic in terms of parsimony and significance of the size, however, the same cannot be said for the five-profile model.

In addition, the classification accuracy of employees into their most likely profile is shown in Table 5, these results indicate high classification accuracy, ranging from 86.6 to 93.1 percent, higher than the five-profile model (Table 6).

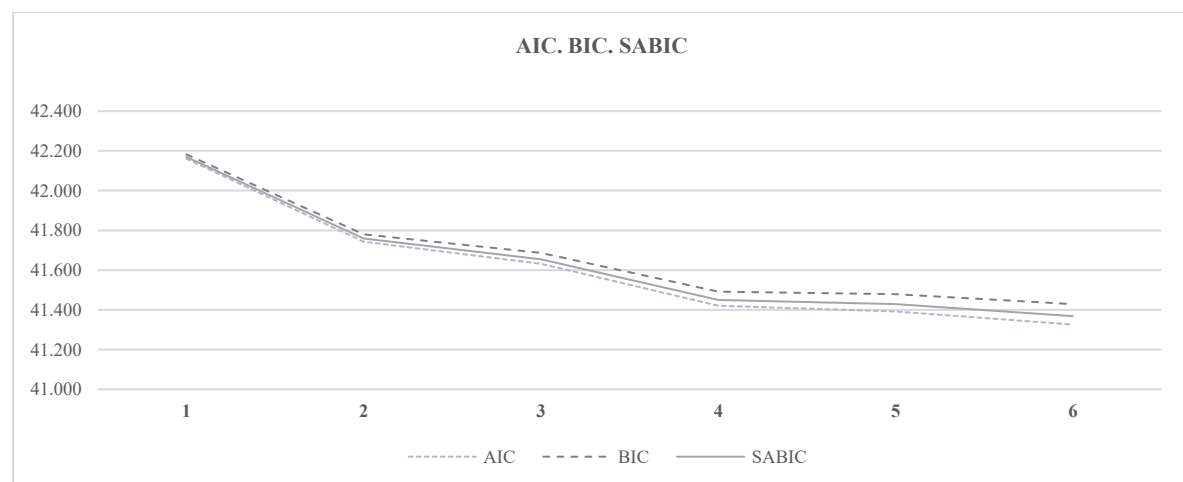
Taking the above into account and also checking the interpretability of the model and its adherence to the theoretical framework, it was decided to keep the four-profile model.

TABLE 4 LPA Model Fit Summary

Model	Log likelihood	AIC	BIC	SABIC	Entropy	Smallest class %	LMR p-value	LMR meaning	BLRT p-value	BLRT meaning
1	-21076.343	42160.685	42182.322	42169.615			--	--	--	--
2	-20864.452	41742.903	41780.767	41758.529	0.840	0.30769	0.0000	2 > 1	0.0000	2 > 1
3	-20805.931	41631.863	41685.954	41654.186	0.802	0.10660	0.0000	3 > 2	0.0000	3 > 2
4	-20697.382	41420.764	41491.083	41449.784	0.836	0.06420	0.0000	4 > 3	0.0000	4 > 3
5	-20680.174	41392.347	41478.893	41428.064	0.815	0.04906	0.0001	5 > 4	0.0000	5 > 4
6	-20644.029	41326.058	41428.831	41368.471	0.826	0.02423	0.0241	6 > 5	0.0000	6 > 5

Note: n = 1.651; The LMR test and the BLRT compare the current model to a model with k-1 profiles. LPA = latent profile analysis; AIC = Akaike's Information Criterion; BIC = Bayesian Information Criterion; SABIC = Sample-Adjusted BIC; LMR = Lo-Mendell Ruben; BLRT = bootstrap likelihood ratio test.

FIGURE 2 LPA Model Fit – Elbow diagram



Note: n = 1.651; LPA = latent profile analysis; AIC = Akaike's Information Criterion; BIC = Bayesian Information Criterion; SABIC = Sample-Adjusted BIC

TABLE 5 Class probabilities – Four-Profile model results

	1	2	3	4
1	0.887	0.023	0.079	0.011
2	0.024	0.894	0.046	0.036
3	0.027	0.042	0.931	0.000
4	0.028	0.106	0.000	0.866

Note: Model Average Latent Class Probabilities for Most Likely Latent Class Membership.

TABLE 6 Class probabilities – Five-Profile model results

	1	2	3	4	5
1	0.724	0.095	0.060	0.104	0.017
2	0.187	0.798	0.000	0.000	0.015
3	0.019	0.000	0.928	0.028	0.024
4	0.042	0.000	0.042	0.915	0.000
5	0.023	0.005	0.107	0.000	0.865

Note: Model Average Latent Class Probabilities for Most Likely Latent Class Membership.

Attributions profiles

Based on all available information, the four-profile solution was chosen for further analysis. The four profiles of employees' attributions are shown in Table 7 and Figure 3. The first profile contained 14.84% of the employees and was characterised by low level of attribution to gender discrimination and attribution to ability and effort. Hence, this profile was labelled "Disoriented" because it evidently believes that the reasons behind the salary increase and promotion choices are not to be found in the employee's demonstrated ability and effort, nor are they in any way attributable to gender discrimination. They apparently attribute the motivations behind salary increase and promotion to other factors not considered in this research. The second profile contained 26.65% of the employees and was characterised by high attribution to gender discrimination and medium attribution to ability and effort, for this reason it has been called "Trusting critics". In fact, this profile in part trusts in the equity of the events considered, as it attributes to the ability and effort shown by employees and so they give explanations that are internal, controllable, and unstable. On the other hand, they believe that

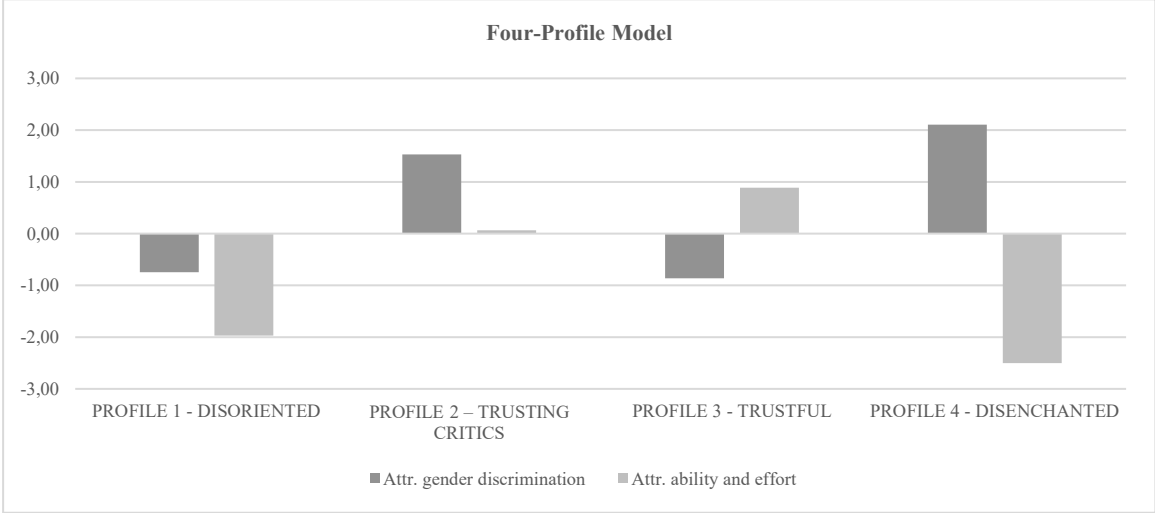
gender also has its own weight in justifying the workplace events analysed, and for this reason, we also consider it “critic” in that it traces a certain gender discrimination in management choices. The third profile is by far the most numerous and accounts for 52.09% of the sample: these are the employees who do not trace any aspect of gender discrimination in the company's salary increase and promotion decisions and who attribute these choices overwhelmingly to the abilities and efforts demonstrated by the employees; for these reasons they have been called “Trustful” as they trust in the equity of the company. The fourth and last profile, on the other hand, is the least numerous, representing only 6.42% of the sample, and has a high attribution to gender and a low attribution to ability and effort, thus they believe that there is a strong gender discrimination factor behind salary increase and promotion decisions. It was called “Disenchanted” because they do not justify workplace events with ability and effort but considering the gender, so an attribution that is external, uncontrollable, and stable.

TABLE 7 Four-profile model results

Variable/Profile	PROFILE 1 - DISORIENTED Low attribution to gender discrimination and ability and effort (n = 245; 14.84%)	PROFILE 2 – TRUSTING CRITICS High attribution to gender discrimination and medium attribution to ability and effort (n = 440; 26.65%)	PROFILE 3 - TRUSTFUL Low attribution to gender discrimination and high attribution to ability and effort (n = 860; 52.09%)	PROFILE 4 - DISENCHANTED High attribution to gender discrimination and low attribution to ability and effort (n = 106; 6.42%)
Attribution to gender discrimination	1.870 (0.734)	4.142 (0.734)	1.748 (0.734)	4.718 (0.734)
Attribution to skills and effort	2.613 (0.868)	4.645 (0.868)	5.471 (0.868)	2.076 (0.868)

Note: Values representing highest positive response are given in boldface. Means and standard deviations for variables across all profiles: Attribution to gender discrimination M = 2.613 (SD = 1.391). Attribution to ability and effort M = 4.581 (SD = 1.474).

FIGURE 3 Four-profile model results



Note: Profile means vs means across profiles in the indicators attribution to gender discrimination and attribution to ability and effort.

Covariates

Table 8 presents the results of an ANOVA and a multinomial logistic regression analysis in which the attributions profiles were predicted by some contextual factors that has been considered as covariates, i.e., demographic characteristics and work-related factors.

The results of the ANOVA analysis showed that latent profile is significantly different in the means for all the context factors, except for gender pay gap of the role and educational level. Comparing latent profiles, employees with "Disoriented" profiles tend on average to be relatively young, with relatively low seniority, lower average performance and higher number of hours of learning and training, in addition they are in low percentage women. "Trusting critics" are the oldest group, with relative high seniority, average performance, relative low hours of learning, and a percentage of female presence that is average for the overall sample, but the second highest after that of the "Disenchanted" profile and far from the low percentages of the "Trustful" and "Disoriented" profiles, if we compare the profiles with each other. The "Trustful" profile is the second oldest with an average age in line with the general average; seniority, performance and learning hours are also in line with the general sample. Female presence is in very low percentage compared to the general average and to the "Trusting critics" and "Disenchanted" profiles. The "Disenchanted" are the youngest, those with the least seniority, the lowest performance, the highest learning hours, and the highest percentage of female presence.

Once the covariates are included into a multinomial logistic regression, it can be seen that the significant effect of the covariates follows the logic presented above, although significant results focus mainly on the factors of gender, age and learning hours. Being older increases the probability of being part of profile "Trusting critics" and "Trustful" compared to "Disoriented", while between "Disoriented" and "Disenchanted" there is no significant increase or decrease in probability. Being more senior increase the probability of falling into "Trustful" rather than "Trusting critics". Having a higher performance increase the probability of falling into the profile "Disoriented" compared to the "Disenchanted". More hours of learning increase the likelihood of being in "Disoriented" or "Disenchanted" compared to profile "Trusting" and "Trusting critics". For women, the likelihood of falling into the "Trusting critics" or "Disenchanted" profiles is enormously greater than being part of the "Disoriented" and "Trustful" profile.

TABLE 8 Predictors of the Four-Profile Model

Covariates	Descriptive statistics (total means/frequencies)	F or Chi Square Test				(p)	Multinomial logistic regression											
		Group means/frequencies					Group 1 as the reference			Group 2 as the reference			Group 3 as the reference			Group 4 as the reference		
		Group 1	Group 2	Group 3	Group 4		Group 2 OR	Group 3 OR	Group 4 OR	Group 1 OR	Group 3 OR	Group 4 OR	Group 1 OR	Group 2 OR	Group 4 OR	Group 1 OR	Group 2 OR	Group 3 OR
<i>Continuous variables</i>																		
Age	44.48	42.05	45.70	44.92	41.38	0.000	2.009*	1.387*	0.918	0.498*	0.690*	0.457*	0.721*	1.448*	0.662	1.089	2.189*	1.511
Seniority	16.38	15.01	16.46	16.95	14.69	0.000	0.777	1.028	1.168	1.287	1.323*	1.504	0.973	0.756*	1.136	0.856	0.665	0.880
Performance	3.55	3.53	3.55	3.57	3.47	0.046	0.803	0.858	0.693	1.246	1.069	0.864	1.166	0.936	0.808	1.442*	1.158	1.237
Learning	2.55	3.03	2.45	2.40	3.08	0.000	0.893*	0.891*	1.013	1.120*	0.997	1.134*	1.122*	1.003	1.137*	0.988	0.882*	0.880*
Gender Pay Gap	0.27%	0.24%	0.29%	0.28%	0.20%	0.602	1.080	1.051	0.914	0.926	0.973	0.847	0.952	1.028	0.870	1.094	1.181	1.149
<i>Categorical variables</i>																		
Sex						0.000	3.155*	1.104	4.601*	0.317*	0.350*	1.458	0.906	2.857*	4.167*	0.217*	0.686	0.240*
Women	501	58	184	201	58													
Men	1150	187	256	659	48													
% Women	44%	24%	42%	23%	55%													
<i>Educational level</i>																		
Diploma or lower	627	82	166	344	35	0.147	0.929	0.888	0.991	1.076	0.956	1.067	1.126	1.046	1.115	1.009	0.937	0.897
Bachelor's Degree	35	4	7	22	2													
First Level Master	38	6	10	18	4													
Master's Degree or above	951	153	257	476	65													
% Master's Degree or above		62%	58%	55%	61%													

Note: Descriptive statistics. F/Chi-square test and multinomial logistic regression across latent classes for covariates.

*p <.05

Outcomes

To examine the links of the latent classes to the distal outcomes, the mean scores of Work Engagement, Affective Organizational Commitment, Distributive Justice, and Perceived Organizational Support were compared and tested across the four latent profiles (Table 9). The mean of the four latent profiles differs significantly in all outcome variables analysed, always following the same path. The "Trustful" employees have the highest values, the "Trusting critics" the second highest, then follow the "Disoriented" and at the bottom the "Disenchanted." This allows us to confirm hypotheses 2 and 3 stated earlier.

TABLE 9 Outcomes of the Four-Profile Model

Distal outcomes	Descriptive statistics			F test across each latent profile				
	Mean	Standard deviation	Min-Max	Group 1	Group 2	Group 3	Group 4	F test (p)
Work Engagement	5.402	1.086	1.00 – 7.00	4.732	5.363	5.765	4.340	0.000
Affective Organizational Commitment	5.251	1.328	1.00 – 7.00	4.442	5.035	5.794	3.848	0.000
Distributive Justice	4.216	1.382	1.00 – 7.00	2.885	4.309	4.820	2.307	0.000

Perceived Organizational Justice	5.085	1.158	1.00 – 7.00	4.394	4.936	5.572	3.572	0.000
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Note: Descriptive statistics and F test for distal outcomes.

Gender pay gap analysis

Table 10 shows that the positive gender pay gap (male median salary for the role > female median salary for the role) if present is generally slight (<5%) and negligible. The profiles with the least positive gender pay gap are the "Disenchanted" and the "Disoriented".

TABLE 10 Role gender pay gap for the four profiles

	PROFILE 1 - DISORIENTED	PROFILE 2 - TRUSTING CRITICS	PROFILE 3 - TRUSTFUL	PROFILE 4 - DISENCHANTED
% Employees in roles with positive gender pay gap	13.06%	17.50	15.93	7.55

DISCUSSION

The literature on gender discrimination has so far mainly used an approach focused on studying the factors that cause it and finding solutions to prevent it. Moreover, to the best of our knowledge it has never been treated using attribution theory as a theoretical framework and through a person-centered approach. Therefore, our study contributed to the literature by taking a person-centered approach and investigating gender discrimination through the lens of attribution theory to determine attribution profiles and whether these profiles can be differentiated based on their relationships to important employee outcomes and attitudes. We leveraged specifically the concept of locus of causality, stability, and controllability to interpret the different profiles of employees characterized by different attribution configurations.

Theoretical contributions

Using a large dataset of employees, we were able to identify four profiles that highlighted perceptions of attribution within the person toward salary increase and promotion. Moreover, our study shows that attributions not only determine individual understanding of the underlying causes of workplace events but also have a relationship with different employee outcomes and attitudes. In fact, we were able to identify meaningful differences between profiles in distributive justice, work engagement, affective organizational commitment, and perceived organizational support. Therefore, these results allowed us to accept the three hypotheses formulated.

Acceptance of the hypotheses allowed us to bring to light some interesting theoretical contributions, related to the method used or the theoretical framework or both.

A first key contribution is that the division of employees into profiles can be successfully conducted by referring to attribution theory. This employee profiling is made considering cognitive and subjective processes, i.e., attributions, and thus represents a new type of employee profiling in the literature. In any case, the interpretability and meaningfulness of these profiles can fit into the literature on attribution styles and locus of causality, stability, and controllability (Martinko et al., 2006).

A second interesting contribution is the finding that strong attributional “polarizations”, i.e., groups of individuals who attribute exclusively to one motivation to the exclusion of the other, are not common, but that in fact several attributions may compete together varying from profile to profile. In fact, the profiles differ both qualitatively, the so-called shape differences, and quantitatively, the so-called level differences. Looking at the results in fact for example the "Disenchanted" are differentiated by levels of attribution to ability and effort to the “Disoriented” only quantitatively, while with respect to the "Trustful" it is precisely the shape that is different. It is important to point out that these configurations would not have been captured using a variable-centered approach, whereas through the analyses performed we were able to understand the heterogeneity of employees' perceptions toward management decisions. A third major contribution is the fact that each of the four profiles reflects a certain cognitive structure in attribution by the employee that has strong impacts on distributive justice and thus on the other employee outcomes and attitudes studied in the present research. In fact, attributions, such as ability and effort, which are seen as controllable, internal, and unstable, are associated with more positive perceptions and attitudes and cause management decisions to be seen as an expression of distributive justice. In fact, if the employee believes that the underlying causes of the events in the workplace are attributable to him/her and that he/she can control and possibly improve them, then the employee will believe that these events (promotion or salary increase) are fair and that everyone is given the same opportunities and criteria, and therefore will perceive a high level of distributive justice and will experience more positive behaviours and attitudes. Conversely, if the employee perceives gender discrimination - which can also be traced within the framework of attribution theory, as an external, uncontrollable, and stable attribution - then he or she will perceive management decisions as unfair and will therefore perceive low distributive justice and have lower work engagement, AOC, and will also perceive lower support from the organization.

The study of predictors allowed us to highlight a fourth important contribution. In fact, we can see that these profiles are not particularly related to work-related factors but are instead mostly sensitive to demographic characteristics. Being a woman, in fact, implies a largely greater propensity to fall into the profiles that give greater weight to the gender discrimination component when it comes to identifying the motivations behind managerial choices (we are talking about the "Disenchanted" and "Trusting critics" profiles). This result agrees with the literature that states that women perceive the presence of gender discrimination more strongly. Being younger, on the other hand, implies a greater propensity to fall into those profiles that do not give particular weight to the logic of equity and distributive justice (we are talking about the "Disoriented" and the "Disenchanted"), believing that demonstrated ability and effort cannot be considered a motivation behind salary increase and promotion decisions. Among the work-related factors analysed, we note that only hours of training have some statistical significance and tell us how more training and learning results in a greater chance of falling into the profiles with low attribution to ability and effort. Great consideration should be given to the fact that the actual measured gender pay gap for the role has no impact on the determination of profiles. Therefore, attribution configurations do not appear to be influenced by an actual and not only perceived gender discrimination indicator such as the role gender pay gap, and thus appear to be determined primarily by demographic factors and possibly individual beliefs and sociocultural factors not considered in this study. This consideration is reinforced by analysis of the gender pay gap in the organization, which is practically absent and even more marginal precisely among those profiles that most perceive gender discrimination. Thus, these results show that, while many organizations are attempting to close the gender gap with tangible actions, some factors (likely cultural and social) shape individuals' attributions and continue to be valid. Indeed, individuals' attributions reflect a view of the social, political, economic, and structural environment in which they reside, and this view impacts the level of perceived distributive justice, organizational support, and well-being.

Practical contributions

The study also provides important insights for managers, human resource managers and organizations.

First, our study shows how organizations need to consider the attributional processes of their employees, which in fact have a great impact on their responses to management decisions in terms of perceptions, attitudes, and behaviours.

Second, it demonstrates that a person-centered approach can be a valuable technique for thoroughly understanding employees' diverse responses to management and human resource decisions.

Third, the study shows how important it is to make employees perceive fairness and the absence of discrimination. To this end, in addition to making salaries and roles more equitable with respect to gender identity, organizations should invest in awareness and communication campaigns. In fact, as seen in the theoretical contributions, attributions are often insensitive to actual job-related factors.

Fourth, since employees behave differently in the perception of events (such as promotions and salary increase), in addition to detecting these configurations using person-centered techniques, companies could go further and also think about structuring communication plans that take into account the different peculiarities of employees.

Limitations and further research

Despite some strengths of the present study, such as the focus on attribution theory and the characterization of profiles considering different perceptions, different predictors and different impacts on employee outcomes and attitudes, there are several limitations that need to be acknowledged. First, regarding the generalizability of the results, our sample is limited to employees in the banking sector. Therefore, the results of the study cannot be directly generalizable to other occupational groups working in different sectors. For example, employees in the banking sector might experience a smaller gender pay gap than in other sectors, as in the case of the dataset considered, where the gender pay gap is still marginal in the organization taken as a whole.

Second, this is a cross-sectional study and does not currently consider other waves of surveys to have attribution and perception data at multiple points in time.

Third, other variables could have been included, especially to have actual proxies for gender discrimination or the gender gap in general, in addition to the gender pay gap already measured, such as the adjusted gender pay gap or actual opportunities and criteria for access to promotions and career advancement. In fact, it should be noted that men occupy the highest positions overwhelmingly, but whether this is due to actual gender discrimination or other factors (e.g., seniority, performance, education, and training level) has not been studied.

Further research is needed, especially to investigate the socio-cultural factors that determine individual attributions. In addition, the phenomenon could be studied longitudinally to see whether or not profiles are stable and how they react to organizational changes. In addition,

more space could be given to attribution theory for the study of organizational decision-making and human resources.

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