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UNCOVERING THE COMPLEXITIES OF PAY FAIRNESS: AN EXPLORATORY STUDY ON THE MEASUREMENT AND NATURE OF PAY FAIRNESS

Introduction

The perception of being paid fairly is one of the most important aspects of almost all workplace settings and business relations. However, there is no consensus on how to define fair pay or how to measure employees' perception of pay fairness. Conceptually, pay fairness might be seen as stemming from a more general construct of organizational fairness that revolves around four main conceptual dimensions: distributive, procedural, interactional and informational fairness [Nicklin et al., 2014]. Distributive fairness [Adams, 1963] represents the fairness of the various outcomes received by employees in exchange for their work inputs. Procedural justice refers to the fairness of the processes by which outcomes are determined [Bobocel, Gosse, 2015]. Interpersonal fairness represents how employees are treated by others who execute organizational procedures. while informational fairness relates to the transparency and amount of information employees receive about organizational procedures and actions [Colquitt, 2001; Colquitt et. al., 2013].

The debate on various forms of organizational justice is often reflected in pay fairness research, resulting in different conceptualizations and measurements. It seems that the majority of pay fairness research ignores its potential multi-dimensionality, referring to one general construct of overall pay fairness. This is either with multi-item measures [Shaw, Gupta, 2001; Kim et al., 2019; Paoline III et al., 2018; Deconinck, Bachmann, 2007; Rouziou et al., 2018; Scott, 2018; Shields

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et al., 2012; Grodzicki, 2019; Salimäki, Jämsén, 2010; Kim et al., 2010] or with single item measures [Kao et al., 2018; Dornstein, 1989; Milner et al., 2015]. Other authors refer to two dimensions of distributive and procedural pay fairness [Hartmann, Slapničar, 2012; Meng, Wu, 2015] or three aspects of pay fairness: distributive, procedural, and interactional [Ramaswami, Singh, 2003; De Gieter et al., 2012]. Some use all four dimensions but merge them into a second-order general construct [Wu, Sturman, Wang, 2013]. There is ongoing debate on how to conceptualize and measure fair pay, with different approaches being used. Moreover, much of the current research treats pay fairness as a unidimensional construct, which contrasts with organizational justice theories where organizational fairness is usually seen as a multidimensional construct [Cohen-Charash, Spector, 2001; Colquitt 2001; Colquitt, et al. 2013; Nicklin et al., 2014]. These ambiguities are surprising given the significant role money plays in employment relations and are confusing, as they might lead to serious theoretical and practical consequences in research and remuneration practices. What is more, pay fairness is closely related to many lines of contemporary research on compensation systems, such as pay information exchange [Smit, Montag-Smit, 2019], pay transparency [Bamberger, 2023], fairness uncertainty [Brown et al., 2023], or information asymmetry [Brown et al., 2022]. Thus, the exploring dimensionality of play fairness is crucial for a better understanding employee perceptions and reactions to compensation systems.

From a theoretical standpoint, the current situation raises a question of the nature of pay fairness: Is pay fairness a unidimensional or multidimensional construct? Moreover, by using different conceptualizations (e.g., unidimensional vs. two-dimensional vs. three-dimensional) to capture seemingly the same construct of "pay fairness" in different studies, we might test different pay fairness theories. The lack of consensus in pay fairness conceptualization and measurement may not only hinder theoretical development but also suppress the transfer of findings from pay fairness research into a business context. Managers and HR specialists might struggle to draw inspiration from pay fairness research and literature if different studies under the same label of "pay fairness" measure different constructs, such as procedural or distributive fairness but label them as "pay fairness". In addition, it might be difficult to design pay schemas and remuneration systems that promote fairness if we do not understand the nature of employee perception of fair pay.

Thus, in this study, we aim to fill this gap in the literature and gain insight into the nature of pay fairness dimensionality and its measurement. To this end, we adopted a Confirmatory Factor Analysis (CFA) approach to test and compare the factorial validity of pay fairness models presented in the literature, including one, two, three, and four factorial models, and a second-order factor model integrates four dimensions into a higher-order general construct. Therefore, to gain insights into the dimensionality of pay fairness, we propose the following research question

1: *What factorial structure best fits the dimensionality of pay fairness when testing with a confirmatory factor analyst approach?*

Moreover, we aim to test the discriminant validity of pay fairness and its dimensions in relation to overall organizational justice perception. This might provide insight into the conceptual overlap between pay fairness and overall organizational fairness, helping to determine the extent to which pay fairness is distinct from the general experience of being treated fairly or unfairly by an organization. Therefore, we propose the following research question 2: *What are the relationships between the pay fairness dimensions and overall organizational justice?* Finally, we also intend to test the relationship of the pay fairness dimensions with the single-item measure of pay fairness. In recent years, single-item measures have increased in importance in human resource management [Matthews, Pineault, Hong, 2022] and single-item measures of pay fairness are often used [Kao et al., 2018; Dornstein, 1989; Milner et al., 2015]. However, it is unclear how single-item measurement relates to the dimensionality of pay fairness when measured with a multi-item approach. Thus, we aim to shed some light on these relationships and propose the following research question 3: *What are the relationships between pay fairness dimensions and single-item pay fairness measures?*

1. Measures. Pay fairness

To measure pay fairness perception, we have prepared a set of items inspired by previous research on justice [Colquitt, 2001] and pay fairness measurement [e.g., Scarpello, Jones, 1996; Hartmann, Slapničar, 2012; Meng, Wu, 2015; Ramaswami, Singh, 2003; De Gieter et al., 2012; Wu, Sturman, Wang, 2013]. Although different authors use different approaches when defining pay fairness dimensions, the essence of those definitions is described by Sturman and Wang [2013]: distributive pay fairness is the fairness of distribution outcomes, procedural pay fairness is the fairness of the procedures leading to distribution outcomes, interactional pay fairness is the fairness of the treatment that people receive from decision-makers, and informational pay fairness is the explanations provided to people that convey information about why procedures were used in a certain way. Drawing from those general definitions, we have developed the following precise definitions of pay fairness dimensions as the theoretical background for our measurement: *Distributive pay fairness* refers to the fairness of pay as an outcome of reciprocal relationships between employees and the organization. It represents employees' opinions of how fair the pay received by them is in relation to job demands they must face (e.g., time spent at work, stress generated by work), and inputs they provide for the job (e.g., work effort, work engagement, skills, experience) and their contribution to the outcomes of the job done by the organization (e.g., individual work results, influence on the success of the organization

as a whole). *Procedural pay fairness* refers to the fairness of pay-related processes and the fairness of an organization's pay regulations. It represents the employees' opinion on the fairness of pay-related procedures, and organizational practices of pay dispute resolution. This perception includes the fairness in implementing existing procedures in an organization's everyday operations. *Interpersonal pay fairness* refers to the perception of fairness in treatment by those who make pay decisions. It represents employees' opinions on how fair the pay decision-makers are and whether those responsible for pay treat employees with the respect they deserve. *Informational pay fairness* refers to the perception of pay information-sharing behaviors by those who make pay decisions. It represents employees' opinions on the level of transparency in pay decisions and access to information about changes in payroll regulations. The items we used to measure the aforementioned pay fairness dimensions, along with their descriptive statistics, are presented in Table 1.

Table 1. Descriptive statistics for items used to measure pay fairness dimensions

Dim	Item	M	SD	Sk	Ku
DF 1	Is your salary fair in relation to the results of your work?	2.48	1.12	0.49	–0.75
DF 2	Is your salary fair in relation to your professional skills?	2.58	1.15	0.29	–0.98
DF 3	Is your salary fair in relation to your work experience?	2.71	1.19	0.12	–0.96
DF 4	Is your salary fair in relation to the contribution you make to the final work of the organization in which you work?	2.45	1.13	0.42	–0.88
DF 5	Is your salary fair in relation to the amount of time you spend working?	2.76	1.21	0.28	–1.00
DF 6	Is your salary fair in relation to your work engagement?	2.47	1.18	0.54	–0.74
DF 7	Is your salary fair in relation to the effort you put into your work?	2.50	1.18	0.51	–0.75
DF 8	Is your salary fair in relation to the stress level your job is causing?	2.67	1.31	0.24	–1.15
PF 1	Are the employee remuneration procedures in your workplace fair?	2.86	1.15	–0.07	–0.96
PF 2	Are the procedures for awarding pay raises fair in your workplace?	2.76	1.15	–0.07	–0.91
PF 3	Are your workplace pay dispute resolution procedures fair?	3.03	1.08	–0.27	–0.37
PF 4	Are remuneration procedures once established in your workplace fairly applied?	3.39	1.07	–0.44	–0.36
IntF 1	Do the people who make your pay decisions treat you with respect?	3.99	1.05	–1.10	0.76
IntF 2	Are the people who make decisions about your pay fair to you?	3.47	1.02	–0.49	–0.20
InfF 1	Do people who make decisions about your pay keep you informed about changes in the payroll regulations?	3.35	1.36	–0.46	–1.06
InfF 2	Do people who make decisions about your pay give you clear information about your pay?	3.33	1.30	–0.38	–1.07

Note: Dim = Targeted dimension of pay fairness: DF = distributive fairness; PF = procedural fairness; Int = interpersonal fairness; Inf = informational fairness; Sk = Skewness; Ku = Kurtosis; For every item the response scale range from 1 – definitely not 5 – definitely yes.

Source: own study.

2. Correlates of pay fairness

Single item-pay fairness was measured similarly to other studies [Kao et. al., 2018; Dornstein, 1989; Milner et al., 2015]. We used a single-item measure to capture overall pay fairness perception by asking one question: *Do you think you are being fairly paid?* Responses were measured from 1 – definitely not – to 5 – definitely yes.

Organizational justice was defined as an employee's general feeling of fair or unfair treatment at work and was measured with single-item: *Overall, do you feel that you are being treated fairly at work?* This question was measured on a scale from 1 – definitely not – to 5 – definitely yes [Jordan, Turner, 2008; for a similar single-item approach to the measurement of facet organization justice].

3. Procedure and participants

The study was conducted online using Google Forms through the Prolific online system (https://www.prolific.com/) in September 2021. The survey included questions beyond those analyzed in this study, as it was part of a larger research project focusing on employee work perceptions. Prolific.com is a crowdsourcing research platform, and existing research suggests that utilizing such online tools ensures the collection of high-quality data and facilitates the inclusion of a diverse participant pool [Douglas, Ewell, Brauer, 2023]. The entire process is conducted anonymously, with researchers never having access to any personal data or directly contacting respondents. Participants are remunerated based on survey time. Given our specific focus on studying pay fairness, we employed a convenient sampling approach targeting working adults. To this end, we applied the following inclusion criteria to select participants from the Prolific portal: proficiency in Polish, residency in Poland, first language being Polish, full-time employment status, not being an entrepreneur, and having no student status. Every eligible Prolific member meeting these criteria had an chance to participate, rendering the selection procedure essentially random within these specified criteria. Although our sample is not representative of the entire population of Poland and all occupational sectors, we believe it is sufficient for the objectives of this study. Our aim is not to generalize the level of pay fairness in Poland but to show the complexity of pay fairness and provide first tests of the structure of pay fairness measurement. Our findings are meant to inform further exploration and research in this domain rather than draw broad conclusions about pay fairness levels in the entire population. The final sample comprises 213 participants, with a gender balance, representing various occupation groups according to the International Classification of Occupations (ISCO): managers –16 (7.5%), professionals – 65 (30.5%), technicians

and other associate professionals – 14 (7%), clerical support workers – 79 (37%), service and sales workers – 15 (7%), skilled farmers, forest workers and fishermen – 1 (0.5%), industrial workers and craftsmen – 5 (2%), plant and machine operators and assemblers – 11 (5%), workers doing simple work – 6 (3%), armed forces – 1 (0.5%). Detailed descriptions of our sample are presented in Table 2.

Table 2. Descriptive statistics of the research sample

Gender	Women 109 (51%); Men 102 (48%); 2 other (1%)
Age	M = 30.3 (SD = 6.83)
Tenure	M = 3.64 (SD = 3.65)
Working hours	M = 150 (SD = 42)
Net pay	M = 3756 PLN (SD = 1548)
Job contract	Indefinite period 143 (67%); Fixed-term 59 (28%); other 11 (5%)
Education	High school 71 (33%); Vocational 5 (2%); Bachelor's degree 48 (23%); Master's degree 85 (40%); PhD 4 (2%)

Note: M = mean; SD = standard deviation

Source: own study.

4. Results

In the first step of our analysis to answer research question 1: *What factorial structure best fits the dimensionality of pay fairness when testing with a confirmatory factor analysis approach?,* we conducted a CFA on various pay fairness factorial structures present in literature as described in the introduction. The results of this analysis are presented in Table 3. First, we tested the model based on four dimensions of procedural, distributive, interactional, and informational pay fairness. The initial results for four factorial models of pay fairness yielded fit indices df = 98, X^2 = 203, CFI =.953, RMSEA =.071 (90%CI [.057,.085]), and SMRM =.050, initially confirming its validity. Upon inspecting the modification indices provided by JASP software, we noted the suggestion to correlate error terms between items for distributive fairness 2 and 3 (see Table 1 for items details). This modification was suggested to have a significant effect on model fit. After incorporating this modification, the fit indices improved to: df = 97, X^2 = 172, CFI =.967, RMSEA =.060, (90%CI [.045.075]), SMRM =.049. Additionally, an analysis of the substantial meaning of item 2 (pay fairness in relation to professional skills) and item 3 (pay fairness in relation to work experience) suggests that the correlation between these items might be justified, as it seems to be rational that employee skills are related to their work experiences. Therefore, we maintained this error terms correlation in all subsequent analyses. Next, using the CFA approach, we tested a set of models presented in the literature

that are competitive with four-factorial models of pay fairness. The results of these analyses are presented in Table 3. We tested a *three-factor model* with (1) distributive, (2) procedural, and (3) interactional pay fairness, where interactional fairness was created from informational and interpersonal fairness items. Then, we tested a *two-factor model* with (1) distributive fairness and (2) a general procedural fairness factor, created from procedural, interpersonal, and informational fairness items. Next, we tested a *one-factor model* with all the items merged into one common factor. We also investigated the fit of a *second-order model*, where a second-order factor of general fairness was introduced to the four-factor model of pay fairness. In this model, items were indicators of four separate factors, and those four factors were indicators of the second-order factor of general fairness. Additionally, we tested a *two-factor D+P model* with only (1) procedural and (2) distributive factors, with interpersonal and information fairness items deleted from the model, as well as a *one- factor D+P model,* where items from distributive and procedural dimensions were merged into one factor. The results of CFA for all these analyses are presented in Table 3.

Table 3. CFA results for various pay fairness models

Model	df	X^2	CFI	RMSEA	95%CI RMSEA	SRMR
4 factors	97	171.8	.967	.060	.045.075	.049
3 factors	100	221.4	.946	.075	.062.089	.055
2 factors	102	230.1	.943	.077	.064.090	.056
1 factor	103	570.3	.792	.146	.134.158	.101
Second-order	99	172	.967	.059	.044.073	.049
2 factors D+P	52	94.3	.976	.062	.041.081	.043
1 factor D+P	53	284.4	.868	.143	.127.160	.087

Note:
4 factor = distributive, procedural, interpersonal, informational
3 factors = distributive, procedural, interactional (interpersonal + informational)
2 factors = distributive, procedural (procedural + interpersonal + informational)
1 factor = all items merged into one factor
Second-order = 4 factor model with higher order latent factor "general fairness"
2 factors D+P = distributive, procedural (only procedural items)
1 factor D+P = distributive and procedural item merge in one factor
See Table 1 for details of items in each factor. This error terms of items df_2 and df_3 were correlated based on modification indices. For all models, *X* square test p- value was< 0.05

Source: own study.

Analysis of fit indices for models tested in this study (see Table 3) revealed that, in terms of CFA fit indices, three models present a quite equivalent fit to the data: *the two-factor D+P model*, *the four- factor model,* and the *second-order model.* Therefore, in our study, the CFA approach alone does not suffice to resolve the issue of pay fairness dimensionality. However, as our preferred model based on organizational

justice theory was a four-dimensional one, and it seems to have the support, we assume that analysis from Table 3 confirms four-factorial models as the preferred model. In the next step of analysis, we calculated scores for each pay fairness dimension as the mean of items assigned to a given pay fairness dimension (see Table 1). We also calculated a general fairness score to represent the second-order factor, as the mean from four scores of pay fairness dimensions. Descriptive statistics, reliability estimates and correlations between calculated pay fairness dimensions are provided in Table 4.

Table 4. Descriptive statistics, Pearson correlations, and reliability estimates for pay fairness dimensions and general pay fairness

Variable	M	SD	Q1	Me	Q3	1.	2.	3.	4.	5.
1. Distributive pay fairness	2.58	0.97	1.88	2.38	3.50	.93				
2. Procedural pay fairness	3.01	0.93	2.25	3.00	3.75	.62	.85			
3. Interpersonal pay fairness	3.73	0.94	3.00	4.00	4.50	.54	.70	.77		
4. Informational pay fairness	3.34	1.19	2.50	3.50	4.00	.41	.61	.48	.75	
5. General pay fairness	3.17	0.82	2.53	3.16	3.84	.78	.89	.82	.79	.83

Note: p <.05 for all coefficients; pay dimensions 1–4 are mean values from items presented in Table 1 for a given dimension. General pay fairness is a mean from four fairness dimensions; Cronbach's alpha is in italics on the diagonal.

Source: own study.

The analysis of Table 4 seems to provide evidence of pay fairness multidimensionality. All dimensions of pay fairness present acceptable reliability with Cronbach's alpha of.75 or higher. Moreover, we might see that correlations between the four dimensions of pay fairness are moderate, with the highest for procedural and interpersonal fairness r =.70 R^2 =.49 and the lowest for distributive and informational fairness r =.41 R^2 =.17. This confirms that although pay fairness dimensions are related, they share not more than 50% of the variance with each other. This seems to suggest that they represent correlated but separated constructs.

The analysis of measures of central tendencies in Table 4 shows that the scores obtained by participants in each pay fairness dimension vary, with relatively lower scores for distributive fairness (median Me = 2.4) and the highest for interpersonal fairness (Me = 4). This suggests a different perception of different aspects of pay fairness, which also confirms the distinctiveness of four dimensions of pay fairness. The analysis in Table 4 also provides reference points and benchmarks for other pay fairness research, outlining low (Q1), medium (median) and high (Q3) values for every pay fairness dimension. To sum it up, answering research question 1, we might state that, in our opinion, based on CFA fit indices, factorial structure, and descriptive analysis, the best fitting structure of pay fairness is a four factorial structure consisting of distributive, procedural, interpersonal, and informational fairness.

Then, we proceed to answer research question 2: *What are the relationships of the pay fairness dimension with overall organizational justice?* First, we conduct a correlation analysis between the pay fairness dimensions and the organizational justice measure, obtaining r =.59, R^2 =.35 for distributive fairness, r =.68, R^2 =.46 for procedural fairness, r =.66, R^2 =.44 for interpersonal fairness and r =.47, R^2 =.22 for informational fairness. This analysis suggests that the highest proportion of variance, i.e., 46% organizational justice shares with procedural fairness, and this allows us to conclude that pay fairness dimensions do not substantially overlap with organizational justice. To gain further insight into the relationships between pay fairness and organizational justice, we have conducted a regression analysis in which we simultaneously included four pay fairness dimensions as predictors of organizational justice, this analysis is presented in Table 5.

Table 5. Regression analysis with pay fairness dimensions as predictors of organizational justice

	β	*b*	*p*	95% CI
Distributive fairness → organizational justice	.22*	.24*	.001	.11,.37
Procedural fairness → organizational justice	.29*	.34*	.001	.17,.51
Interpersonal fairness → organizational justice	.32*	.37*	.001	.22,.51
Informational fairness → organizational justice	.05	.04	.445	–.06,.14

Note: N = 213; Confidence intervals based on 1000 bootstrap replicates in JASP software

* $p < .05$ R^2 organizational justice = .55; β = standardized regression weights

Source: own study.

The model presented in Table 5 revealed that the four dimensions of pay fairness together explain about 55% of the variations in our single-item measure of organizational justice. This model also suggests that when controlling for other dimensions there is no evidence of the relationship between informational fairness and organizational justice β =.05; p =.445, whereas distributive β = .22; p = .001, procedural β = .29; p = .001, and interpersonal pay fairness β = .32; p = .001 present similar and rather weak associations, judging by their regression weights. The result of this analysis suggest that, although the pay fairness dimensions share some proportion of variance with organizational justice, the pay fairness dimensions might be considered different constructs with only weak to moderate relationships to organizational justice.

Finally, we attempt to answer research question 3: *What are the relationships of the pay fairness dimensions with the single item pay fairness measure?* First, we calculated Pearson correlations between pay fairness dimensions and the single item measure of pay fairness. This yielded r = .87, R^2 = .76 for distributive fairness, r = .66, R^2 = .44 for procedural fairness, r = .59, R^2 = .35 for interpersonal fairness and r = .43, R^2 = .18 for informational fairness. This analysis suggests that a single-item measure of pay

fairness that simply asks participants *Do you think you are being fairly paid?* has a quite substantial overlap with distributive fairness, but not with the other three pay fairness dimensions. We also conducted a regression analysis where we predicted single-item pay fairness simultaneously with four pay fairness dimensions. This analysis is presented in Table 6.

Table 6. Pay fairness dimensions as predictors of single-item pay fairness

	β	*b*	*p*	95% CI
Distributive fairness → single-item pay fairness	.74*	.87*	.000	.78,.97
Procedural fairness → single-item pay fairness	.16*	.20*	.002	.07,.33
Interpersonal fairness → single-item pay fairness	.08	.10	.079	–.01,.21
Informational fairness → single-item pay fairness	–.02	–.02	.706	–.09.06

Note: N = 213; Confidence intervals based on 1000 bootstrap replicates in JASP software
* $p < .05$ R^2 single-item pay fairness = .79; β = standardized regression weights

Source: own study.

The analysis presented in Table 6 revealed that the model with four pay fairness dimensions explains about 79% of the variation in the single-item pay fairness measure. However, we do not find evidence of a relationship between interpersonal fairness β = .08; p = .079 and information fairness β = –.02; p =.706 with single item pay fairness. Interestingly, distributive fairness β = .74; $p < .001$ has a much stronger relationship with single-item pay fairness than procedural fairness β = .16; p =.002. Moreover, when we drop all other pay fairness dimensions from the model, distributive pay fairness as a sole predictor of single-item pay fairness results in $R^2 = 76\%$ with β = .87; $p < .001$.

5. Discussion

The main aim of this study was to contribute to disentangling the puzzle of the nature of pay fairness. To make the first step in reconciling different views on pay fairness dimensionality present in the literature, we adopted the confirmatory factor analysis (CFA) approach supported by nomological network exploration. Using CFA, we compared competitive models of pay fairness dimensionality presented in the current literature. Our analysis reveals that among seven structural models of pay fairness inspired by pay fairness literature (see Table 3), three models present a quite equivalent fit to the data: a*2 factor D+P model* consisting of only distributive and procedural fairness items, a *4 factor model* consisting of only distributive, procedural, informational, and interpersonal pay fairness, and a *second-order model* integrating four pay fairness dimension into one higher-order latent factor. Based on the CFA

results and the substantial meaning of retained factors, we concluded that the 4 factors model of pay fairness, consisting of distributive, procedural, informational, and interpersonal pay fairness, might be the preferred model of pay fairness dimensionality. In comparison to *the second-order model,* the *4 factor model* is conceptually simpler and thus easier to interpret and apply in theoretical or practical settings. The *4 factor model* might also be also preferred over the *2 factor D+P model* because, while relatively simple, it still provides more information about employee pay perceptions in areas of pay decision-making than the *2 factor D+P model*, which is limited to procedural and distributive fairness. Thus, in answering research question 1: *What factorial structure best fits the dimensionality of pay fairness when testing with a confirmatory factor analysis approach?* We propose that pay fairness is not unidimensional but a multidimensional construct. The four-dimensional model (distributive, procedural, interpersonal, informational) inspired by organizational justice research might be preferred. However, this result must be replicated. Additionally, the subsequent analysis of the nomological network of pay fairness dimensions provides additional insight, leaving us with some unanswered questions related to the nature of pay fairness that require further attention.

To analyze the possible redundancy between pay fairness and organizational justice, we answer research question 2: *What are the relationships of the pay fairness dimension and overall organizational justice?* We have shown that although pay fairness dimensions and organizational justice are correlated, these correlations are moderate and explain less than 50% the variations in organizational justice. Moreover, in the regression model when all pay fairness dimensions were set as predictors of organizational justice, we did not find evidence that informational pay fairness is related to organizational justice (β =.05; p =.445). The other dimensions have moderate standardized regression weights ranging from.22 to.32, explaining about 55% of the variation in organizational justice perception. Thus, based on this analysis, we can state that organizational justice overlaps to some degree with three pay fairness dimensions (but not with informational fairness). This overlap is small enough that it cannot be seen as redundancy. Therefore the pay fairness dimensions cannot be considered simply as general organizational justice.

Due to the increasing interest in single-item measures of human resource management, we test research question 3: *What are the relationships of pay fairness dimensions and the single item pay fairness measure?* We tested this using the question "Do you think you are being fairly paid?" Our analyses do not reveal evidence that informational and interpersonal pay fairness are related to the single-item pay fairness measures used in this study, and procedural pay fairness was only weakly related. However, distributive pay fairness was a strong predictor of single-item-pay fairness and explains about 76% of the variation of single-item pay fairness. Thus, it might be concluded that our single-item pay fairness measures capture mainly distributive

aspects of pay fairness but to a lesser extent than the other three dimensions, and likely should not be seen as a substitute for multidimensional measurement.

In general, our analysis suggests that splitting pay fairness into the four dimensions contributes to a better understanding of pay perception among employees. It is feasible to speak about the four dimensions of pay fairness and treat pay fairness as a multidimensional construct instead of seeing it as a unidimensional entity.

Conclusion

From a theoretical standpoint, we suggest that the practice of treating pay fairness as a unidimensional construct has its serious shortcomings. Viewing pay fairness as a unidimensional construct might obscure its role in the workplace and deprive us of important information. We might draw more theoretical insights and inspirations for further research on the nature of pay fairness by splitting it into four dimensions. Additionally, based on the multidimensional structure of pay fairness perception, we suggest that the formation of pay fairness and its effects on employees might depend upon two separate processes involving both economic (i.e. distributive) and socio-symbolic (i.e. procedural, informational, and interpersonal) components. This multidimensionality suggests that pay and pay allocation procedures should not only be economically rational and justified but also should act as social symbols that maintain employee status, self-esteem, and reflect the quality of employee relationships with the organization. From a practical standpoint, our findings suggest that when designing and implementing remuneration systems, managers and compensation specialists should be concerned not only with the general perception of pay level or fair distribution of pay but also with dimensions of fair pay, such as informational, interpersonal, and procedural fairness. Remuneration systems need to be tailored accordingly to ensure employees experience fair treatment across all dimensions. Understanding these differences might allow organizations to better identify potential areas of employee pay-related concern. Furthermore, when evaluating existing remuneration systems, compensation and benefits professionals should take into account the multidimensional aspect of pay fairness.

Limitations and further research

The presented study explores a novel topic and is based on an online convenience sample; as such, it is not representative of specific occupational subgroups or the general population. The next research step might involve replicating this research in specific sectors to reveal sector-specific correlates of pay fairness and evaluate the

dimensionality invariance of pay fairness among employees from different occupations. Particularly interesting for further endeavors might be the investigation of pay fairness and its correlates in the public sector. Employees in this sector work in a specific social and economic context characterized by underfunding and bureaucracy on one side, but with high societal expectations regarding the quality of services on the other. In creating our measure, we strive to keep the assessment as short and informative as possible. Thus, we limit the number of items for interpersonal and informational fairness to a minimum, assuming that fewer factors affect those aspects of pay fairness than distributive and procedural fairness. Interpersonal and informational fairness heavily depend on one factor: the persons who made pay decisions, such as a supervisor. For the other two dimensions, there is a broader spectrum of perspectives we might inquire about. Therefore, future studies should attempt to replicate our findings not only using larger samples but also using different types or numbers of items. Moreover, an important avenue for future research might involve comparing the items used to measure pay fairness with the perception of pay transparency. It seems that among managers and laypersons, there is currently an implicit assumption that more transparent pay will be fairer. Thus, it is interesting to see if, among Polish employees, in a cultural context where individual pay is considered a secretive private matter, items capturing pay transparency perception will create a different construct or will be loaded on one of the four pay fairness dimensions, e.g., informational fairness. In conclusion, despite its limitations, we hope that our work may inspire a fruitful line of further research, assist practitioners in understanding the complexities of pay fairness, and contribute to the creation of fair compensation systems.

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UNCOVERING THE COMPLEXITIES OF PAY FAIRNESS: AN EXPLORATORY STUDY ON THE MEASUREMENT AND NATURE OF PAY FAIRNESS

Abstract

This study aims to enhance the understanding of pay fairness in workplaces, an essential yet often overlooked aspect of workplace social relations. Using confirmatory factor analysis, we compare seven models of pay fairness inspired by current literature. We propose that pay fairness should not be treated as unidimensional, but as a multidimensional construct. A four-dimensional model of distributive, procedural, interpersonal, and informational pay fairness may be preferred in theory and compensation practice. Results suggest that four pay fairness dimensions might have distinct roles in predicting employee work functioning, confirming the complex nature of employees' pay fairness perception.

Keywords: pay fairness, compensation management, confirmatory factor analysis, employee work functioning

JEL Classification Codes: J30, J33, I31

ANALIZA ZŁOŻONOŚCI POCZUCIA SPRAWIEDLIWOŚCI WYNAGRODZENIA: EKSPLORACYJNE BADANIE POMIARU I NATURY SPRAWIEDLIWOŚCI WYNAGRODZEŃ

Streszczenie

Badanie ma na celu pogłębienie naszego zrozumienia percepcji sprawiedliwości wynagrodzeń, kluczowego, ale często pomijanego aspektu relacji społecznych w miejscu pracy. Korzystając z konfirmacyjnej analizy czynnikowej, porównano siedem modeli czynnikowych sprawiedliwości wynagrodzeń inspirowanych aktualną literaturą. Wynik wskazują, że sprawiedliwość wynagrodzeń nie powinna być traktowana jako jednolity konstrukt, lecz jako konstrukcja wielowymiarowa. Model czterowymiarowy, obejmujący sprawiedliwość dystrybutywną, proceduralną, interpersonalną i informacyjną, może być preferowany zarówno w teorii, jak i praktyce wynagrodzeń. Cztery wymiary sprawiedliwości wynagrodzeń mogą

odgrywać różne role w przewidywaniu funkcjonowania pracowników, potwierdzając złożoną naturę percepcji sprawiedliwości wynagrodzeń przez pracowników.

Słowa kluczowe: sprawiedliwość wynagrodzenia, zarządzanie wynagrodzeniami, analiza czynnikowa, funkcjonowanie zawodowe pracowników

Kody klasyfikacji JEL: J30, J33, I31