Gender differences in reactions to injustice[1]

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Abstract

Purpose – The purpose of this paper is to examine gender differences in reactions to pay inequity and procedural justice. Specifically, the study seeks to reveal whether these gender differences can be explained by pay comparisons and knowledge of pay.

Design/methodology/approach – Structural equation modeling was utilized to analyze survey data that were combined with archival pay data representing a sample of 416 employees of two universities in Finland.

Findings – Male employees were found to be more sensitive toward pay inequity than female employees. In contrast, procedural justice was more strongly related to the organizational commitment of female than that of male employees. These effects were partly explained by pay comparisons and knowledge of pay. While male employees were more likely to compare their pay with some external referents, female employees were more likely to compare their pay internally. Male employees were somewhat more familiar with the pay system. Differences in these variables relate to organizational commitment.

Research limitations/implications – Given the cross-sectional nature of the study, we encourage future research to look into how gender differences in reactions to injustice evolve over time.

Originality/value – The study provides evidence that female employees react to a lesser extent to pay disparities by continuing to show high commitment toward their organizations. This paradox could be diminished by ensuring that all employees have the same amount of information regarding pay, such as how their pay compares to other referent groups.

Keywords: Pay, Compensation, Gender differences, Organizational commitment, Organizational justice, Pay disparity

Paper type: Research paper.

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Introduction

In today's workplace, performance appraisal system can be a practical tool for inspiring employee commitment, motivation, and development if employees perceive their appraisals to be accurate and fair (Li and Cropanzano, 2009; Miller et al., 2012). The processes inherent in performance appraisal systems and related pay decisions can have an important influence on employees' reactions toward their work, supervisors, and workplace as a whole (Colquitt et al., 2005; Stone-Romero and Stone, 2005). For example, a lack of procedural justice, which refers to "the perceived fairness of the means used to determine the amounts of compensation employees receive" (Folger and Konovsky, 1989, p. 115), may result in reduced organizational commitment (Greenberg, 1990; Hon and Lu, 2010; Masterson et al., 2000; McFarlin and Sweeney, 1992; Sweeney and McFarlin, 1993). It may also reinforce feelings of dissatisfaction and discrimination (Jawahar and Stone, 2011).

Similarly, employees, who experience pay inequity, which "exists for a person whenever he perceives that the ratio of his outcomes to inputs and the ratio of other's outcomes to other's inputs are unequal" (Adams, 1965, p. 280), can experience negative emotional reactions, such as job dissatisfaction, distress (Fields et al., 2000), reduced well-being and respect for their jobs (Tepper, 2001), and emotional exhaustion (Van Dierendonck et al., 2001). In addition, pay inequity can result in feelings of anger, powerlessness, decreased satisfaction with various facets of the job, increased intentions to quit, and decreased organizational commitment (Stone-Romero and Stone, 2005). Because employees' reactions to pay inequity and their responses to procedural justice stimulate various organizational and individual outcomes, these areas have been researched extensively under the topic of organizational justice (Colquitt and Zipay, 2015; Li and Cropanzano, 2009; Miller et al., 2012).

Reactions to injustice may not be homogenous across different employee groups, such as women and men. The majority of studies predict that male and female employees react differently to pay inequity and procedural justice. Because of these expected gender differences, managers have been found to pay women less if they can provide an explanation (Belliveau, 2012). Empirical research has demonstrated that female employees often react less strongly to pay inequity than male employees (Heckert et al., 2002; Major and Konar, 1984; Peng et al., 2009). In contrast, female employees have been found to react more strongly to procedural justice than their male counterparts (Sweeney and McFarlin, 1997). Recent evidence using advanced techniques in cognitive neuroscience suggests that females react more to procedural (un)fairness than men, even if they do not always show it via expressed or noticed behavioral differences (Dulebohn et al., 2016). Only a few studies have attempted to explicitly account for the gender differences in the effect of pay inequity and procedural justice on organizational outcomes. The majority of previous studies have suggested that women place greater value on the fairness of workplace procedures than men, while men value financial rewards more than women. These differences have been argued to relate to status differences such as men's greater prestige and access to resources in many contexts (Clay-Warner et al., 2013). Nevertheless, we do not fully know why female employees, despite earning less than their comparable male counterparts, often continue to show stronger attachment to their organizations.

Against this backdrop, our study makes an important contribution by investigating whether pay comparison and knowledge of pay could explain gender differences in the effect of pay inequity and procedural justice on organizational commitment. We draw from social comparison theory (Festinger, 1954) and the gender socialization perspective (Stockard, 1999) to explain gender differences in reactions to injustice.

Theory and hypotheses

Although equity theory generated a considerable amount of subsequent research in the area of organizational justice, "it did not fully explain perceived injustices that individuals experience in the workplace" (Miller et al., 2012, p. 265). Social comparison theory plays an explicit role in equity theory. It explains how individuals evaluate their own opinions and outcomes by comparing themselves with others. According to the theory, individuals find those with similar attributes and opinions to be relevant and thus influential (Suls et al., 2002). This may mean that those individuals who have lower pay expectations are expected to compare themselves with those individuals who have similarly lower pay expectations (Jackson and Grabski, 1988). In a similar manner, employees with lower pay expectations tend to build their pay expectations for others based on their knowledge of other employees with similar pay (Balkin and Gomez-Mejia, 2002).

Empirical evidence suggests that female employees tend to have lower pay expectations than their male colleagues. Sweeney and McFarlin (1997) demonstrated that female employees tended to under-reward themselves and acted more generously toward their co-workers than their male counterparts. Similarly, Keaveny and Inderrieden (2000) found that female employees reported that they deserved lower levels of pay than that reported by their male colleagues. Furthermore, both Heckert et al. (2002) and Keaveny et al. (2007) came to the conclusion that female employees had lower pay expectations than their male counterparts at both career entry and career peak, even after taking into account the length of their career and other career-related factors. Accordingly, in line with social comparison theory, we propose that although female employees are often under-rewarded, they tend to be less sensitive toward pay inequity and demonstrate higher organizational commitment when subject to pay inequity than their male counterparts due to their lower pay expectations:

- H1. Gender moderates the relationship between pay inequity and organizational commitment such that the relationship is stronger for male than for female employees.

Another rationale for why gender differences exist in organizational attitudes and behaviors comes from the gender socialization perspective. According to the perspective, gender socialization leads to the construction of a society where individuals are encouraged into certain social roles. Through gender socialization, men and women receive positive reinforcement when they behave in ways "appropriate" to their gender, while they receive negative reinforcement for behaving like the opposite gender (Smith and Rogers, 2000). Due to gender socialization, men and women obtain differential roles and positions in organizations. By following social conventions, men and women are socialized to perceive procedural justice differently. Female employees are likely to rely more on formal procedures and systems to obtain organizational outcomes due to a

history of gender discrimination and sex-role stereotyping that has excluded them from a fair decision-making process (Sweeney and McFarlin, 1997). The same treatment is perceived as fair by women and as unfair by men based on how they are socialized (Ngo et al., 2003). Consistent with this perspective, we expect men and women to differ in their reactions to perceptions of procedural justice. Also since procedural justice evaluations may have greater social significance for women than men (Dulebohn et al., 2016), female employees are expected to show a stronger reaction to procedural injustice by demonstrating lower organizational commitment:

- H2. Gender moderates the relationship between procedural justice and organizational commitment such that the relationship is stronger for female than for male employees.

Social comparison theory underlines that employees' reactions to pay inequity and procedural justice depend on relative comparisons with other individuals. Two types of pay comparisons can be distinguished: internal and external comparison. Internal comparison refers to a comparison with a target inside of an organization, while external comparison refers to a comparison with a target in a different organization (Sweeney and McFarlin, 2004). According to Jawahar and Stone (2011), there is a lack of research on whether gender has an impact on the type of pay comparison chosen. In line with the gender socialization perspective, we propose that female employees are likely to compare their pay with the pay of other female employees who have similar background, education, tenure, and so on. At the same time, because male employees are more likely to compare themselves with other male colleagues and friends working in similar positions, they are likely to evaluate their outcomes against a higher comparison standard. Because female employees tend to be paid less than male employees, they might base their outcome explanations on, and evaluate the fairness of their outcomes against a lower social comparison standard than male employees (Major and Konar, 1984). Hence, we suggest that pay comparison can, in part, explain gender differences in the effect of pay inequity and procedural justice on organizational commitment:

- H3. Gender differences in the effects of (a) pay inequity and (b) procedural justice on organizational commitment are mediated by pay comparisons (i.e. external and internal).

Knowledge of pay is another prominent factor that relates to employees' reactions to pay inequity and procedural justice (Leventhal et al., 1980). Individuals believe that they have the right to know how their outcomes are established. By providing information about how pay is determined, decision makers can prove that they have nothing to hide and ensure that rules are followed, which enhances procedural justice (Folger and Greenberg, 1985). The access to information on pay procedures signals that decision makers are honest and that the allocation process is fair (Cloutier and Vilhuber, 2008).

Empirical evidence suggests that female employees may lack access to informal communication networks that their male colleagues often possess and use to obtain knowledge of pay including pay raises, bonuses, and promotions (Sweeney and McFarlin, 1997). Brass (1985) proposed several explanations as to why female employees tend to be excluded from the "club," or "old boys" networks. According to his first explanation, female employees are not as aware of informal communication networks or as comfortable at building them as male employees are. Furthermore, female employees may feel uncomfortable in informal settings populated mainly by male colleagues and

may prefer interactions with persons of their own gender. Finally, male employees, as the typically dominant group in most business organizations, may wish to maintain that dominance by intentionally excluding female employees from informal interactions. As knowledge of pay can be related to how pay inequity is experienced and to the extent to which one experiences procedural justice (deCarufel, 1986) and female employees may lack knowledge of pay, we propose that knowledge of pay mediates the gender differences of pay inequity and procedural justice on organizational commitment:

- H4. Gender differences in the effects of (a) pay inequity and (b) procedural justice on organizational commitment are mediated by knowledge of pay.

Method

Data collection and sample

The data for this study were gathered through a web-based questionnaire, which was sent to a random sample of 1,000 academic and administrative personnel of two universities in Finland using a double-blind procedure. All universities in Finland had implemented a new pay system based on an evaluation of job demands and performance on the job. The objectives of the new salary system have been to promote fair salaries and to improve salary competitiveness for universities as employers, among others (Kekäle, 2008). Employees had been informed about their new pay levels before the study was conducted.

The survey data were supplemented with pay data from university records. The respondents were informed that the members of the research team would not have access to person identifiers and that the employer representatives, who provided records-based data for the sample, would not have an access to the completed questionnaires. The number of responses was 495, corresponding to an overall response rate of 49.5 percent.

Using the university records data for the entire sample, we performed an analysis of missing data using paired t-tests comparing the means of respondents and non-respondents with regard to gender, prior monthly pay level, and pay changes. No statistically significant differences emerged in any of these comparisons, thereby alleviating concerns that respondents may have differed on relevant dimensions compared to non-respondents. However, due to missing information in survey responses, the effective sample size for the analyses was n ¼ 416. A little more than half of the respondents were men (men n ¼ 230; women n ¼ 186).

Measures

Pay inequity. Aligned with Adams (1965) and Gerhart (1990), we examined the magnitude of differences in the current salaries of employees (mean 2,946 euro/month; SD 1,177), controlling for both key supply- and demand-side factors. On the supply side, standard measures for the amount of human capital were used (i.e. job tenure, supervisory position, type of contract, educational degree). On the demand side, job content was controlled through the use of job titles and supervisory performance appraisals. These factors are known to influence pay in universities based on the old pay

system (i.e. geographical location, tenure, supervisory position, job contract) and the new pay policy (i.e. education, performance, job content).

More specifically, as two universities in different geographical locations were studied, a dummy variable was used to control for organization (n1 ¼ 227; n2 ¼ 189). Work tenure measured in years employed by the current university (mean 12.57 years; SD 9.48) was included. A dummy variable were used to control for type of job contract (temporary n1 ¼ 201; permanent n2 ¼ 215). A dummy variable was included to control for supervisory position (no n1 ¼ 327; yes n2 ¼ 79). Performance appraisal was measured by including the most recent supervisory overall performance rating (mean 6.20; SD 1.36). Four dummy variables were used for highest education degree (comprehensive or upper secondary school n1 ¼ 39; higher vocational diploma or college level training n2 ¼ 48; higher education n3 ¼ 168; licentiate or doctor's degree n4 ¼ 161). Finally, eight dummy variables corresponding to job content were included (professor n1 ¼ 49; lecturer n2 ¼ 53; assistant professor n3 ¼ 39; researcher n4 ¼ 129; teaching or research assistant n5 ¼ 19; secretary n6 ¼ 19; specialized administrative personnel n7 ¼ 36; other administrative personnel n8 ¼ 31). All of these variables statistically significantly predicted the employee pay level (see Table I). We used the residual of this function as an indicator of pay inequity. A negative value indicates that the individual received less than typical in these universities, taking into account the above-mentioned demand and supply factors. A positive value indicated that the individual was paid more than usual (based on individual negotiations, some other informal procedures or exceptions to the main policy).

	Unstandardized β	SE	p-value
Intercept	2,789.63	188.51	0.000
Organization (dummy)	302.46	55.05	0.000
Performance appraisal score	118.09	19.10	0.000
Tenure (years)	12.39	3.21	0.000
No supervisory position (dummy)	−400.73	78.44	0.000
Temporary job contract (dummy)	−231.43	69.73	0.001
Job content = professor	1,650.32	129.84	0.000
Job content = lecturer	265.42	116.34	0.023
Job content = assistant professor	160.78	129.83	0.216
Job content = researcher	−174.38	111.57	0.119
Job content = teaching or research assistant	−73.58	153.85	0.633
Job content = secretary	−44.56	117.83	0.705
Job content = specialized administrative personnel	−324.17	138.04	0.019
Job content = other admin personnel	0[a]		
Education = comprehensive or upper secondary school	−1,274.41	121.44	0.000
Education = higher vocational diploma or college	−945.43	125.19	0.000
Education = higher education	−498.18	66.85	0.000
Education = licentiate or doctoral degree	0[a]		

Note: [a]This parameter is set to zero because it is redundant. $R^2 = 0.825$; $Adj\ R^2 = 0.811$

Table 1. Key supply- and demand-side factors predicting monthly

Procedural justice. The respondents were asked to indicate the degree to which they agreed with seven statements adopted from Colquitt (2001): "I have been able to express my views and feelings during job and performance appraisals"; "I have had influence over the pay decisions arrived at based on the job and performance appraisals"; "The job and performance appraisals have been conducted consistently"; "Pay decisions have been free of bias"; "Pay decisions have been based on accurate information"; "I have been

able to appeal pay decisions arrived at based on job and performance appraisals" and "Pay decisions upheld ethical and moral standards." A five-point Likert scale (from 1 ¼ I completely disagree to 5 ¼ I completely agree) was used. The coefficient α was 0.87.

Pay comparison. The respondents were asked to evaluate the degree to which they compared their pay to several internal and external targets on a five-point scale (cf. Sweeney and McFarlin, 2004). The items were measured with a five-point scale ranging from 1 ¼ little if at all to 5 ¼ a great extent. The external target items were: "pay of colleagues in different organizations with a similar degree"; "pay for the same jobs outside of the organization"; "union pay criteria" and "pay of spouse or closely related person." The coefficient α was 0.80. The internal target items were "pay criteria of the current system," "pay of fellow workers inside the organization," and "pay in the former system." The coefficient α was 0.60.

Knowledge of pay. A modified version of the base pay knowledge scale introduced by Mulvey et al. (2002) was used. The respondents were asked to evaluate how well they knew the pay system on a scale consisting of eight items: "I know the grade of my job"; "I understand the rationale for my job being placed in its grade"; "I understand how my base pay changes are determined"; "I understand how my pay grade is determined"; "I understand how my performance objectives relate to the success of the whole organization"; "I understand the key measures of my performance"; "I understand how my performance is measured" and "I know the influence my performance has on my base pay level." A five-point Likert scale (from 1 ¼ I completely disagree to 5 ¼ I completely agree) was used. The coefficient α was 0.86.

Organizational commitment. The strength of organizational commitment was measured by three items introduced by Klein et al. (2014): "How committed are you to your organization?"; "How dedicated are you to your organization?" and "To what extent do you feel bound to the future of the organization?." The items were measured with a five-point scale ranging from 1 ¼ little if at all to 5 ¼ a great extent. The coefficient α was 0.92.

Analytical approach

First, we performed a confirmatory factor analysis to assess the construct validity of our measures (excluding pay inequity) using structural equation modeling in AMOS 23.0, using the maximum likelihood method of estimation. Here, the five factors are allowed to correlate. The model fitted the data sufficiently well ($\chi 2$(df ¼ 242) ¼ 698.77; p ¼ 0.00; CFI ¼ 0.91; IFI ¼ 0.91; RMSEA ¼ 0.05; PCFI ¼ 0.73), indicating that it is plausible. To assess whether the effects were statistically significant, we used percentile bootstrapping with 2,000 resamples to test whether the indirect effects differed significantly from zero. The benefit of bootstrapping is that it avoids power problems derived from asymmetric and other non-normal sampling distributions of an indirect effect (MacKinnon et al., 2004). We estimated three models using full data in summated scales. To test H1 and H2, we estimated a "moderation only" multigroup model, where the effect of pay inequity and procedural justice on organizational commitment was estimated for both male and female employees. The second "mediation only" model demonstrates the indirect effects that form the basis of H3 and H4. The third "moderated mediation" model tests whether the indirect effects are conditional (i.e. the strength or direction of the effects vary between male and female employees). We further estimated the statistical significance of the indirect effects one mediator at a time, as recommended by Preacher et al. (2007).

Results

Table II presents the descriptive information and intercorrelations among all study variables. There are some differences between genders that are worth mentioning.

	Mean	SD	1	2	3	4	5	6	7
1 Gender (men, women)	1.45	0.50							
2 Pay inequity	0.00	490.13	−0.035						
3 Procedural justice	3.04	0.95	−0.128**	0.096	(0.87)				
4 External comparison	2.71	1.11	−0.003	0.019	−0.228***	(0.80)			
5 Internal comparison	2.75	1.01	0.076	−0.105*	−0.170***	0.401***	(0.60)		
6 Knowledge of pay	3.39	0.90	−0.085	0.054	0.581***	−0.254***	−0.203***	(0.86)	
7 Organizational commitment	3.22	1.15	0.098*	0.062	0.072	−0.087	0.142**	0.143**	(0.92)

Notes: $n = 416$. Cronbach α's are presented in parentheses. *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$

Table 2. Descriptives and interconections

There are no significant differences between male and female employees in pay inequity. However, we should note that female employees earn on average substantially (13 percent) less (w ¼ 2,722 euro/month) than male employees (m ¼ 3,127 euro/month, p 00.001), indicating a status difference between the two groups. Female employees also perceive a lower level of procedural justice (m ¼ 3.15, w ¼ 2.90, p 00.01). Nevertheless, female employees are more committed to the organization than male employees (m ¼ 3.12, w ¼ 3.34, p 00.05). On item level, female employees are less likely to know how base pay changes are determined (m ¼ 3.09, w ¼ 2.73, p 00.01), why their job is placed at a particular pay level (m ¼ 3.69, w ¼ 3.54, p 00.05) and what to do to increase pay (m ¼ 2.65, w ¼ 2.36, p 00.05) than male employees. Female employees are also more likely to compare their pay with fellow employees inside of the organization (m ¼ 2.49, w ¼ 2.76, p 00.05), whereas male employees are more likely to compare their pay to that for the same job outside of the organization (m ¼ 3.18, w ¼ 2.79, p 00.01).

Our "moderation only" model supports H1 and H2. Aligned with H1, the effect of pay inequity on organizational commitment is moderated by gender. The effect is statistically significant for male employees (0.174, p 00.05), whereas it is not statistically significant for female employees (see Table III). The effect of procedural justice on organizational commitment also varies by gender as proposed (H2), such that it is statistically significant for female employees (0.211, p 00.01) but not for male employees.

Our "mediation only" model provides support for the general idea that the direct effects of pay inequity and procedural justice on organizational commitment can be (at least partially) explained by our mediators: pay comparisons and knowledge of pay (see Figure 1). The overall indirect effect is statistically significant for both pay inequity (−0.028, p 00.05) and procedural justice (0.091, p 00.01). At the same, the direct effect

of pay inequity is statistically significant (0.084, p 00.05), but the direct effect of

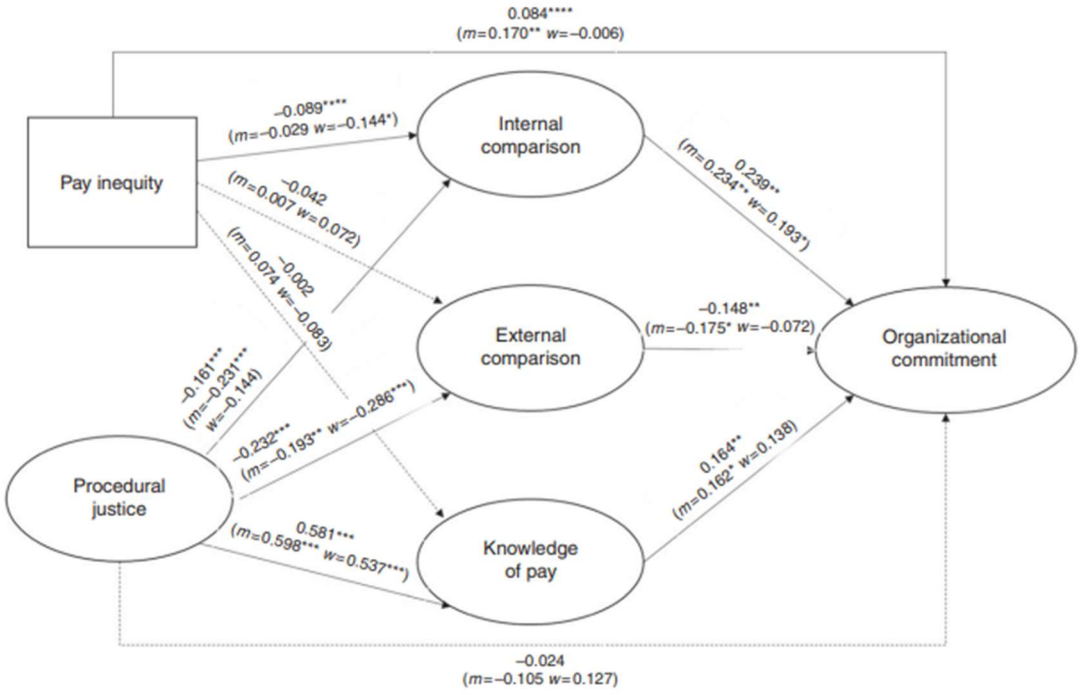
procedural justice is not. To analyze the boundary conditions for these effects further, we then estimated the effects for male and female employees using multigroup analysis (a "moderated mediation" model). Whereas the "moderation only" explains 3 percent (5 percent) of the variance in the organizational commitment of men (women) and the "mediation only" explains 7 percent, the "moderated mediation" model explains

9 percent (10 percent) of the variance in the organizational commitment of men (women). We first compared models with imposed and relaxed equality constraints

	Total effect	Direct effect	Indirect effect
Full data			
Pay inequity	0.056 (−0.026; 0.297)	*0.084* (0.008; 0.169)*	*−0.028* (−0.063; 0.000)*
Procedural justice	0.067 (−0.030; 0.173)	−0.024 (−0.146; 0.093)	*0.091* (0.024; 0.177)**
Men			
Pay inequity	*0.174* (*0.029; 0.297*)*	*0.170* (0.043; 0.296)**	0.004 (−0.038; 0.042)
Procedural justice	−0.028 (−0.155; 0.103)	−0.105 (−0.259; 0.059)	0.076 (−0.041; 0.185)
Women			
Pay inequity	−0.050 (−0.144; 0.058)	−0.006 (−0.111; 0.099)	*−0.044* (−0.102; −0.007)*
Procedural justice	*0.211* (0.058; 0.348)**	0.127 (−0.061; 0.307)	0.084 (−0.025; 0.206)

Notes: Standardized effect estimates and their 95 percent confidence intervals are reported. *$p < 0.05$; **$p < 0.01$

Table 3. Total, direct, and indirect effects in "mediation only" and "moderated mediation" models.



Notes: $n=416$ (men $n=230$; women $n=186$). Entries represent standardized regression weights for full data, men (m) and women (w). *$p<0.05$; **$p<0.01$; ****$p<0.001$

Figure 1. Structural equation modeling results

across groups. Our model that allows the paths to vary between groups did not provide a better fit than the one with equality constraints on the paths across groups ($\Delta\chi 2$(df ¼ 8) ¼ 12.78, p ¼ 0.12), which suggests that the models are invariant and that the groups are not different at the model level (Hayes, 2009).

Although there are no significant differences in the overall model between genders, there may still be differences at the path level (Hayes, 2009). By looking at the individual paths in the two groups, we note that the direct effect of pay inequity on organizational commitment is still significant for male employees (0.170, p 00.01). However, the indirect effect is not. Interestingly, for female employees, the opposite is true: the direct effect of pay inequity is not significant but the indirect effect is significant (−0.044, p 00.05). We also tested the statistical significance of the indirect effect using one mediator at a time. This analysis reveals that the indirect effect for female employees is carried through internal comparison (−0.035, p 00.05). The less female employees earn (compared to what they should be earning given the supply and demand factors), the more likely they are to compare their pay internally, which is in turn related to lower organizational commitment. For male employees, the relationship is simpler: the more they earn, the more committed they are, and vice versa. These gender differences support H3a but not H4a.

An analysis of the indirect effects of procedural justice on organizational commitment reveals an interesting and rather complicated pattern (see Figure 1). The "mediation only" model suggests that procedural justice is related to higher levels of knowledge of pay, which is related to higher organizational commitment (indirect effect 0.089, p 00.01). However, procedural justice is also related to lower levels of pay comparison (both external and internal). Whereas external comparison is related to lower organizational commitment (indirect effect 0.015, p 00.05), internal comparison, to the contrary, is related to higher organizational commitment (indirect effect −0.027, p 00.01). Because the indirect effects of pay comparisons are of opposite signs, the overall indirect effect is suppressed. A suppression effect can be stated to be present when the direct and indirect effects have opposite signs (Tzelgov and Henik, 1991).

Further, our "moderated mediation" model indicates some differences in the strength of the effects by gender. For female employees, the indirect effect of procedural justice on organizational commitment is not statistically significant (none of the indirect effects are, when tested individually). For male employees, when we test the indirect effects one at the time, we find that all of the individual indirect effects are statistically significant at p 00.10 level (knowledge of pay 0.107, p 00.05; external comparison, 0.020, p ¼ 0.079; internal comparison −0.033, p 00.05). However, the opposite signs cancel each other out, producing a total indirect effect that is not different from zero. Given the overall support for the indirect effects of procedural justice on organizational justice and differences by gender, we therefore conclude that our data provide support for H3b and H4b.

Discussion

The proliferation of organizational justice research includes many studies that explore gender differences in the effect of pay inequity (e.g. De Pater et al., 2014) and procedural justice (e.g. Dulebohn et al., 2016; Sweeney and McFarlin, 1997) on employee behavior

and attitudes, such as organizational commitment. Despite considerable attention and the progress made in this domain, more remains to be done. The gender literature continues to struggle with the question of why, even though female employees tend to earn less than their comparable male counterparts, they continue to be committed to their organizations at the same or even higher levels than their male colleagues (Clark, 1997; Jackson and Grabski, 1988; Muñoz-Bullón, 2010). We contribute to this debate by integrating social comparison theory and the gender socialization perspective into the analysis of gender differences in reactions to pay inequity and procedural justice.

As hypothesized based on social comparison theory, the results showed that male employees were more sensitive toward pay inequity. The lower the values on our pay inequity scale, indicating lower pay compared to others with similar supply and demand factors, the less committed male employees were toward the organization. For female employees, this was not the case. This finding suggests that male and female employees react relatively differently to the underpayment condition, and thus gender might act as a boundary condition for equity theory. The main principle of equity theory does not work to the same extent for male and female employees, an assertion that is consistent with the earlier criticism of equity theory (e.g. Huseman et al., 1987). This finding might also indicate that female employees tend not to perceive an income differential in the first place. The study thus provides evidence that female employees react to a lesser extent to pay disparities by continuing to be highly committed toward their organizations. These findings are in line with the gender socialization perspective, according to which male employees tend to be concerned with their dominant position and existing privileges in organizations and particularly sensitive to unfair compensation (Peng et al., 2009).

Furthermore, the finding that procedural justice was more strongly related to organizational commitment for female than male employees is consistent with the gender socialization perspective. The finding suggests that female employees are socialized to be more sensitive to organizational procedures and systems than men because of relational motivations (Dulebohn et al., 2016). Female employees may feel that they have to depend more on procedures and systems to gain desired organizational outcomes due to a history of discrimination and sex-role stereotyping (Clay-Warner et al., 2013; Sweeney and McFarlin, 1997). However, rather paradoxically, despite this sensitivity, women and men compare their pay differently on some dimensions and also feel that they have different levels of knowledge of some important pay issues. Based on mean differences, female employees less likely felt they knew how base pay changes were determined, for example, than their male counterparts. Female employees were found to compare their pay with fellow employees inside the organization, whereas male employees were more likely to compare their pay to pay for the same job outside of the organization.

Based on social comparison theory and the gender socialization perspective, we expected that pay comparisons and knowledge of pay would explain gender differences in the effect of pay inequity and/or procedural justice on organizational commitment. The results revealed that internal pay comparison mediated the effect of pay inequity on organizational commitment for women. This suggests that women, who are more likely to compare their pay with internal referents, are more committed even in the presence of pay inequity. Conversely, the opposing indirect effects of pay comparisons and knowledge of pay might explain why men are unaffected by procedural justice. In

presence of unfair procedures, men are likely to compare their pay with different targets, but because they also have more information about some pay-related issues, the overall effect is close to zero.

Our model does not fully explain gender differences in reactions to injustice. This may indicate that there are other factors that can explain those relationships. For example, it is unclear whether the gender differences are due to gender socialization. Based on social identity theory (Tajfel and Turner, 1979), both male and female employees estimate their deserved pay level on the basis of intra-group comparisons within a working environment where male employees are traditionally considered to be the advantaged social group and female employees tend to be disadvantaged. The attitudes of men are shaped by their own privilege and sense of the legitimacy of their dominant position. Therefore, they might base their working identity on pay and thus search for more information about pay and react more strongly to underpayment than female employees. Furthermore, according to social comparison theory, pay expectations can have an impact on the way employees react because employees' perceptions of the financial rewards of others are affected by their perception of whether their own opportunity is equal to the opportunities of others. Several studies have found that female employees had lower pay expectations than their male co-workers (Balkin and Gomez-Mejia, 2002; Jackson and Grabski, 1988; Keaveny and Inderrieden, 2000). We thus encourage future studies to extend the current investigation by examining the role of work identity and pay expectations.

Limitations and future directions

Despite its contribution, the present study has a number of limitations, which may suggest possible future directions for the research. First of all, the present study is based on cross-sectional data. Based on the data, we cannot conclude whether, for example, procedural injustice will lead to searching for more information about pay internally and externally, or vice versa, just that these two phenomena are related. The low reliability (α ¼ 0.60) of the internal pay comparison construct can be perceived as a methodological shortcoming. However, we note that the low reliability coefficient is due to the differential nature of the items (i.e. a new system was implemented but the old system still had an impact on employee pay; both are relevant internal targets but do not correlate highly as items). In this sense, the nature of the measure is more formative than reflective. Future studies could include specific questions about whether the respondents more often compare their pay against targets of same or different gender and more directly assess how much the respondents know about pay-related issues.

Second, because the study was conducted in the academic context of Finland, the findings may not be sufficiently generalized to all societies and to all organizational fields. The impact of internal and external comparisons on organizational commitment might differ by context. Here, external comparisons had a negative effect on organizational commitment, as the universities are public and do not offer very high salaries. Knowledge concerning the pay system might also have a negative impact depending on how the procedures are perceived (Burchett and Willoughby, 2004; Graham and Welbourne, 1999). Furthermore, male and female employees might perceive justice differently depending on whether the evaluation and performance appraisal is conducted by a male or female supervisor (Sweeney and McFarlin, 1997).

Cross-national and cross-industry research using gender-dyadic comparisons is thus needed to test the validity of the present study's framework.

Overall, the paper will hopefully stimulate more theoretical and empirical research on gender similarities and differences in responses to injustice. A broader empirical examination of the relationships between gender and status, general interest in pay, different aspects of organizational justice, and organizational outcomes based on the integration of organizational justice and gender theories may significantly advance the research in these fields.

References

Adams, J.S. (1965), "Inequity in social exchange", in Berkowitz, L. (Ed.), Advances in Experimental Social Psychology, Academic Press, New York, NY, pp. 267-299.

Balkin, D. and Gomez-Mejia, L. (2002), "Explaining the gender effects on faculty pay increases", Group and Organization Management, Vol. 27 No. 3, pp. 352-373.

Belliveau, M. (2012), "Engendering inequity? How social accounts create vs merely explain unfavorable pay outcomes for women", Organization Science, Vol. 23 No. 4, pp. 1154-1174.

Brass, D. (1985), "Men's and women's networks: a study of interaction patterns and influence in an organization", Academy of Management Journal, Vol. 28 No. 2, pp. 327-343.

Burchett, R. and Willoughby, J. (2004), "Work productivity when knowledge of different reward systems varies: report from an economic experiment", Journal of Economic Psychology, Vol. 25 No. 5, pp. 591-600.

Clark, A. (1997), "Job satisfaction and gender: why are women so happy at work?", Labour Economics, Vol. 4 No. 4, pp. 341-372.

Clay-Warner, J., Culatta, E. and James, K. (2013), "Gender and organizational justice preferences", Sociology Compass, Vol. 7 No. 12, pp. 1074-1084.

Cloutier, J. and Vilhuber, L. (2008), "Procedural justice criteria in salary determination", Journal of Managerial Psychology, Vol. 23 No. 6, pp. 713-740.

Colquitt, J. (2001), "On the dimensionality of organizational justice: a construct validation of a measure", Journal of Applied Psychology, Vol. 86 No. 3, pp. 386-400.

Colquitt, J. and Zipay, K. (2015), "Justice, fairness, and employee reactions", Annual Review of Organizational Psychology and Organizational Behavior, Vol. 2, pp. 75-99.

Colquitt, J., Greenberg, J. and Zapata-Phelan, C. (2005), "What is organizational justice? A historical overview", in Greenberg, J. and Colquitt, J. (Eds), The Handbook of Organizational Justice, Erlbaum, Mahwah, NJ, pp. 3-56.

deCarufel, A. (1986), "Pay secrecy, social comparison, and relative deprivation in organizations", in Olson, J. et al. (Eds), Relative Deprivation and Social Comparison, Erlbaum, Hillsdale, NJ, pp. 181-200.

De Pater, I., Judge, T. and Scott, B. (2014), "Age, gender, and compensation: a study of Hollywood movie stars", Journal of Management Inquiry, Vol. 23 No. 4, pp. 407-420.

Dulebohn, J.H., Davison, R.B., Lee, S.A., Conlon, D.E., McNamara, G. and Sarinopoulos, I.C. (2016), "Gender differences in justice evaluations: evidence from fMRI", Journal of Applied Psychology, Vol. 101 No. 2, pp. 151-170.

Festinger, L. (1954), "A theory of social comparison processes", Human Relations, Vol. 7 No. 2, pp. 117-140.

Fields, D., Pang, M. and Chiu, C. (2000), "A comparative field study of the effects of distributive and procedural justice in Hong Kong", Journal of Organizational Behavior, Vol. 21 No. 5, pp. 547-562.

Folger, R. and Greenberg, I. (1985), "Procedural justice: an interpretive analysis of personnel systems", in Powland, K. and Ferris, G. (Eds), Research in Personnel and Human Resources Management, JAI Press, Greenwich, CT, pp. 141-183.

Folger, R. and Konovsky, M. (1989), "Effects of procedural and distributive justice on reactions to pay raise decisions", Academy of Management Journal, Vol. 32 No. 1, pp. 115-130.

Gerhart, B. (1990), "Gender differences in current and starting salaries: the role of performance, college major, and job title", Industrial and Labour Relations Review, Vol. 43 No. 4, pp. 418-433.

Graham, M. and Welbourne, T. (1999), "Gainsharing and women's and men's relative pay satisfaction", Journal of Organization Behavior, Vol. 20 No. 7, pp. 1027-1042.

Greenberg, J. (1990), "Organizational justice: yesterday, today, and tomorrow", Journal of Management, Vol. 16 No. 2, pp. 399-432.

Hayes, A.F. (2009), "Beyond Baron and Kenny: statistical mediation analysis in the new millennium", Communication Monographs, Vol. 76 No. 4, pp. 408-420.

Heckert, T., Droste, H., Adams, P., Griffin, C., Roberts, L., Mueller, M. and Wallis, H. (2002), "Gender differences in anticipated salary: role of salary estimates for others, job characteristics, career paths, and job Inputs", Sex Roles, Vol. 47 Nos 3-4, pp. 139-151.

Hon, A. and Lu, L. (2010), "The mediating role of trust between expatriate procedural justice and employee outcomes in Chinese hotel industry", International Journal of Hospitality Management, Vol. 29 No. 4, pp. 669-676.

Huseman, R., Hatfield, J. and Miles, E. (1987), "A new perspective on equity theory: the equity sensitivity construct", Academy of Management Review, Vol. 12 No. 2, pp. 222-234.

Jackson, L. and Grabski, S. (1988), "Perceptions of fair pay and the gender pay gap", Journal of Applied Social Psychology, Vol. 18 No. 7, pp. 606-625.

Jawahar, I. and Stone, T. (2011), "Fairness perceptions and satisfaction with components of pay satisfaction", Journal of Managerial Psychology, Vol. 26 No. 4, pp. 297-312.

Keaveny, T. and Inderrieden, E. (2000), "Gender differences in pay satisfaction and pay expectations", Journal of Managerial Issues, Vol. 12 No. 3, pp. 363-378.

Keaveny, T., Inderrieden, E. and Toumanoff, P. (2007), "Gender differences in pay of young management professionals in the United States: a comprehensive view", Journal of Labor Research, Vol. 28 No. 2, pp. 327-346.

Kekäle, J. (2008), "The negotiation process toward the new salary system in the Finnish university sector", Higher Education Management and Policy, Vol. 20 No. 3, pp. 97-117.

Klein, H.J., Cooper, J.T., Molloy, J.C. and Swanson, J.A. (2014), "The assessment of commitment: advantages of a unidimensional, target- free approach", Journal of Applied Psychology, Vol. 99 No. 2, pp. 222-238.

Leventhal, G., Karuza, J. and Fry, W. (1980), "Beyond fairness: a theory of allocation preferences", in Mikula, G. (Ed.), Justice and Social Interaction, Springer-Verlag, New York, NY, pp. 167-218.

Li, A. and Cropanzano, R. (2009), "Fairness at the group level: justice climate and intraunit justice climate", Journal of Management, Vol. 35 No. 3, pp. 564-599.

McFarlin, D. and Sweeney, P. (1992), "Distributive and procedural justice as predictors of satisfaction with personal and organizational outcomes", Academy of Management Journal, Vol. 35 No. 3, pp. 626-637.

MacKinnon, D.P., Lockwood, C.M. and Williams, J. (2004), "Confidence limits for the indirect effect: distribution of the product and resampling methods", Multivariate Behavioral Research, Vol. 39 No. 1, pp. 99-128.

Major, B. and Konar, E. (1984), "An investigation of sex differences in pay expectations and their possible causes", Academy of Management Journal, Vol. 27 No. 4, pp. 777-792.

Masterson, S., Lewos, K., Goldman, B. and Taylor, S. (2000), "Integrating justice and social exchange: the differing effects of fair procedures and treatment on work relationships", Academy of Management Journal, Vol. 43 No. 4, pp. 738-748.

Miller, B., Konopaske, R. and Byrne, Z. (2012), "Dominance analysis of two measures of organizational justice", Journal of Managerial Psychology, Vol. 27 No. 3, pp. 264-282.

Mulvey, P., Le Blanc, P., Heneman, R. and McInerney, M. (2002), "The knowledge of pay study: e-mails from the frontline", World at Work, Scottsdale, p. 72.

Muñoz-Bullón, F. (2010), "Gender-compensation differences among high-level executives in the United States", Industrial Relations, Vol. 49 No. 3, pp. 346-370.

Ngo, H., Foley, S., Wong, A. and Loi, R. (2003), "Who gets more of the pie? Predictors of perceived gender inequity at work", Journal of Business Ethics, Vol. 45, pp. 227-241.

Peng, K., Ngo, H., Shi, J. and Wong, C. (2009), "Gender differences in the work commitment of Chinese workers: an investigation of two alternative explanations", Journal of World Business, Vol. 44 No. 3, pp. 323-335.

Preacher, K.J., Rucker, D.D. and Hayes, A.F. (2007), "Addressing moderated mediation hypotheses: theory, methods, and prescriptions", Multivariate Behavioral Research, Vol. 42 No. 1, pp. 185-227.

Smith, A. and Rogers, V. (2000), "Ethics-related responses to specific situation vignettes: evidence of gender-based differences and occupational socialization", Journal of Business Ethics, Vol. 28 No. 1, pp. 73-86.

Stockard, J. (1999), "Gender socialization", in Chaftez, J. (Ed.), The Handbook of the Sociology of Gender, Plenum Publishers, New York, NY, pp. 215-227.

Stone-Romero, E. and Stone, D. (2005), "How do organizational justice concepts relate to discrimination and prejudices?", in Greenberg, J. and Colquitt, J. (Eds), Handbook of Organizational Justice, Lawrence Erlbaum, Mahwah, NJ, pp. 339-469.

Suls, J., Martin, R. and Wheeler, L. (2002), "Social comparison: why, with whom, and with what effect", Current Directions in Psychological Science, Vol. 11 No. 5, pp. 159-163.

Sweeney, P. and McFarlin, D. (1993), "Workers' evaluations of the 'ends' and the 'means': an examination of four models of distributive and procedural justice", Organizational Behavior and Human Decision Processes, Vol. 55 No. 1, pp. 23-40.

Sweeney, P. and McFarlin, D. (1997), "Process and outcome: gender differences in the assessment of justice", Journal of Organizational Behaviour, Vol. 18 No. 1, pp. 83-98.

Sweeney, P. and McFarlin, D. (2004), "Social comparisons and income satisfaction: a cross- national comparison", Journal of Occupational and Organizational Psychology, Vol. 77 No. 2, pp. 149-156.

Tajfel, H. and Turner, J. (1979), "An integrative theory of intergroup conflict", in Austin, W.G. and Worchel, S. (Eds), The Social Psychology of Intergroup Relations, Brooks-Cole, Monterey, CA, pp. 94-109.

Tepper, B. (2001), "Health consequences of organizational injustice: tests of main and interactive effects", Organizational Behavior and Human Decision Processes, Vol. 86 No. 2, pp. 197-215.

Tzelgov, J. and Henik, A. (1991), "Suppression situations in psychological research: definitions, implications, and applications", Psychological Bulletin, Vol. 109 No. 3, pp. 524-536.

Van Dierendonck, D., Schaufeli, W. and Buunk, B. (2001), "Burnout and inequity among human service professionals: a longitudinal study", Journal of Occupational Health Psychology, Vol. 6 No. 1, pp. 43-52.

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