



The influence of pay transparency on organizational citizenship behavior

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Abstract

Outcomes of recent institutional advances towards pay transparency on the individual level remain as unclear as resulting consequences for organizations due to scarce research. Particularly, the prevalent literature reveals a lack of studies which investigate the effect of pay transparency on organizational citizenship behavior (OCB). To provide clarity regarding the impact of pay transparency on OCB, this study uses a legislative change in Germany which requires the disclosure of selected pay-related information by regulated organizations to empirically investigate the transparency-OCB relation. To further address a common critique of pay transparency concerning potential negative effects of pay comparison among peers, relative standing is integrated as moderator to examine how the comparison of individuals' pay to that of referent others affects the link between pay transparency and OCB. Contrary to the theoretically derived expectations, pay transparency unfolds a significant negative effect on OCB while a moderation by relative standing cannot be supported. In joint consideration with other studies, findings imply that different forms of pay transparency can create varying consequences for OCB. Besides, the results aim to raise awareness among managers that disclosing pay-related information with little informativeness, or refrained disclosure are not optimal responses to regulatory changes towards more pay transparency as such strategies may result in a detrimental effect of pay transparency on OCB.

Keywords: Pay transparency; Organizational citizenship; Compensation.

1. Introduction

Despite late institutional pushes towards pay transparency in Europe (Veldman, 2017, p. 1) and North America (Belogolovsky & Bamberger, 2014, p. 1706) aiming to reduce socio-economic inequalities such as the gender pay gap, the actual effects of pay transparency on the individual level and resulting consequences for organizations are understudied (Colella, Paetzold, Zardkoohi, & Wesson, 2007, p. 55; Gupta & Shaw, 2014, p. 1; Marasi & Bennett, 2016, p. 50). Particularly, the link between pay transparency and organizational citizenship behavior (OCB) is ambiguous (SimanTov-Nachlieli & Bamberger, 2021, p. 230) although OCB constitutes a key component of job performance (Rotundo & Sackett, 2002, p. 66) and plays a vital role for organizational survival in the long term (Katz, 1964, p. 132). Regarding the literature, only three studies provide implications on the link between pay transparency and OCB. Marasi, Wall, and Bennett (2018, p. 70) infer from a statistically insignificant negative influence of pay secrecy on OCB that pay transparency creates a counter-directional, positive influence on OCB.

Further, an explorative study by Göbel, Weller, and Nyberg (2020, p. 6) empirically demonstrates that pay transparency negatively affects OCB. Findings of the latter correspond to those of Bamberger and Belogolovsky (2017, p. 658) who report a detrimental impact of pay transparency on helping behavior which is a central component of OCB (Organ, 1988, p. 4). Beyond the discursive inconsistency, critics of pay transparency argue that transparent pay structures may reveal potential differences in wages among employees and thus can result in detrimental behavioral outcomes such as reduced cooperation (Colella et al., 2007, p. 55). Yet, research on individuals' standing regarding their pay relative to that of peers as moderator of the pay transparency-OCB relation has not been tested yet. Hence, the aim for progressive coherence while reducing incompleteness of the pay transparency literature academically motivates the research question: Does pay transparency relate to OCB and does relative standing influence the relationship between the two concepts?

To empirically clarify the relation between pay trans-

parency and OCB, this research uses the introduction of a legislative change in Germany called “Transparency in Wage Structures Act” (TWSA) which requires regulated organizations to disclose selected pay-related information as pay transparency condition in a quasi-experiment. The effect of pay transparency on OCB is examined with a difference-in-differences estimation (DD). Subsequently, the moderation of the two concepts by relative standing of individuals’ pay compared to that of peers is analyzed with a difference-in-difference-in-differences estimation (DDD). Contrary to expectations derived from social exchange (Blau, 1984, p. 1), social comparison (Festinger, 1954, p. 117), and attribution theory (Miller & Ross, 1975, p. 213), results show a significant negative effect of pay transparency on OCB while the moderating role of relative standing cannot be supported. Whereas prevalent studies focus on extreme forms of pay transparency (Brown, Nyberg, Weller, & Strizver, 2022, p. 10), this study adds to the pay transparency literature by empirically investigating the effect of selective pay transparency as created by the TWSA on OCB. Further, this paper proposes that the selective pay transparency instated by the TWSA may not provide individuals with sufficient information to induce a significant moderating role of relative standing. Accordingly, the common critique that pay comparison among peers stimulated by pay transparency evokes negative behavioral consequences may not be fundamentally applicable. Regarding the practical motivation of this study, the findings aim to provide managers with strategic implications how to mitigate the negative effect of selective pay transparency as generated by the TWSA on OCB amidst a current trend towards more transparent wage structures (Belogolovsky & Bamberger, 2014, p. 1706; Veldman, 2017, p. 1).

The following segment provides an overview on the theoretical background of the concepts used to investigate the effects of pay transparency on OCB before contextualizing relative standing as potential moderator. Subsequently, methodology and details of the empirical analyses are presented, followed by the results. Finally, discoveries are discussed, and a summarizing conclusion is drawn.

2. Theoretical background

2.1. Pay transparency

Pay transparency can be defined as an equilibrium state without information asymmetry among actors (e.g. employer and employees) who possess pay-related information (Göbel et al., 2020, p. 1). Hence, pay transparency provides employees with unrestricted knowledge about other organizational members’ pay (Brown et al., 2022, p. 3).

Pay transparency is promoted by high pay information disclosure which refers to the act of communicating relevant pay-related information (Brown et al., 2022, p. 3). Fulmer and Chen (2014, p. 169), evaluate pay information disclosure according to the restrictiveness of the communicated information on the pay allocation (pay-outcome transparency),

on the process determining the pay distribution (pay-process transparency), and the liberty to share pay-related information with others (pay-communication transparency). Examined more closely, the assessment of pay information disclosure along the three orthogonal dimensions proposed by Fulmer and Chen (2014, p. 169) depends on the quantity, quality, and timing of the disclosed pay-related information (Brown et al., 2022, p. 5). Quantity indicates the amount of pay-related information accessible to an actor. Whereas some organizations provide their employees with pay-related information about every organizational member, other companies disclose no pay-related information (Marasi & Bennett, 2016, p. 52). Quality refers to the specificity of the reported metrics. Hereof, the informational content of individuals’ exact salary is richer than the one of aggregated metrics such as median pay (Colella et al., 2007, p. 58; Montag-Smit & Smit, 2021, p. 709; Smit & Montag-Smit, 2019, p. 538). Lastly, the timing dimension pertains the moment or period of disclosing pay information, e.g. during the recruiting of potential employees or during pay raise negotiations with existing employees. In summary, constant disclosure of high quantity and quality information on the pay allocation as well as on the underlying distribution process in combination with the freedom to exchange the obtained information with others inside and outside the organization pushes the receiver of pay-related information towards an informational state of pay transparency. Oppositely, persistent restrictive pay information disclosure characterized by low quantity and quality of pay-related information on the pay allocation as well as distributional process in interplay with a ban on exchanging the obtained information with others evokes a shift towards pay secrecy. Furthermore, studies conducted by Göbel, Weller, and Nyberg (n.d., p. 4) as well as Marasi and Bennett (2016, p. 52) investigated the multi-directionality of pay information disclosure. Both conclude that the sharing of pay-related information can occur through two distinct interactional channels, implying that employers and employees co-create pay transparency (Göbel et al., n.d., p. 4). On the one hand, a unidirectional exchange between the organization as sender and its employees as receivers of pay-related information promotes pay transparency in a top-down manner. On the other hand, employees exchange pay-related information multilaterally among each other and thus facilitate pay transparency emergently. In summary, sender-receiver interactions may be heterogenous regarding the participants of the information exchange and differ concerning the quality, quantity, and timing of the disclosed pay information. This can lead to different peculiarities on the three orthogonal dimensions of pay transparency proposed by Fulmer and Chen (2014, p. 169). Resultingly, a continuum ranging from pay transparency to pay secrecy is spanned with various incremental forms of the two extremes in between (Brown et al., 2022, pp. 3–4).

Assessing whether organizational policies and practices tend towards pay transparency or secrecy is relevant as both extremes and their incremental forms cause fundamentally different perceptions and attitudes. Policies and practices

related to pay secrecy induce employees to assume trust-reducing, malevolent intentions by their employer (Belogolovsky & Bamberger, 2014, p. 1708; Montag-Smit & Smit, 2021, p. 723). In line with the conceptualization of pay transparency and pay secrecy as opposites, scholars found that transparency concerning the pay allocation and the underlying distribution process enhances perceived fairness (Castilla, 2015, p. 328) and job satisfaction (Day, 2011, pp. 479–480; Futrell & Jenkins, 1978, p. 218) due to increased comprehensibility of pay-related decisions. Further, pay transparency facilitates trust because employees tend to interpret the disclosure of pay information by the employer as benevolent reduction of uncertainty concerning the link between performance and rewards (Belogolovsky & Bamberger, 2014, p. 1708; Montag-Smit & Smit, 2021, pp. 722–723; Schnackenberg & Tomlinson, 2016, p. 1797). However, Cullen and Perez-Truglia (2018, p. 39) empirically demonstrated that pay transparency generates perceived unfairness and reduces job satisfaction in case of unequal pay distributions among individuals in similar organizational roles because individuals tend to perceive the reasons of unequal peer pay distributions as non-meritocratic. Given these circumstances, a more secretive disclosure of pay-related information which does not allow inferences on the pay distribution among peers would avoid the detrimental effects described by Cullen and Perez-Truglia (2018, pp. 4–6). In sum, different forms of pay transparency and pay secrecy can create favorable as well as adverse effects.

2.2. Organizational citizenship behavior (OCB)

OCB describes voluntary extra-role behavior which positively impacts organizational effectiveness in sum but is not formally rewarded (Organ, 1988, p. 4). According to Smith, Organ, and Near (1983, p. 658), OCB can be directed at the organization (e.g. generalized compliance) and channeled towards individuals (e.g. support of coworkers). In addition to compliance and helping behavior, Organ (1988, p. 4) introduced courtesy, sportsmanship, and civic virtue as further dimensions of OCB. Courtesy refers to behavior which prevents cooperation and coordination problems (Konovsky & Organ, 1996, p. 255). Employees who handle work-related issues with positivity and resilience are characterized by sportsmanship (Konovsky & Organ, 1996, p. 255). Lastly, civic virtue relates to constructive participation in group or organizational issues (Konovsky & Organ, 1996, p. 257). Synopsized, the discretionary efforts associated with OCB go beyond formally required in-role performance for task completion.

The roots of OCB lie in role theory. Roles describe a bundle of behavioral expectations concerning a position within a social system (Dreitzel, 1980, p. 44; Nienhüser, 1993, p. 239). An organization regarded as social system rewards behavior displayed by individuals which is compliant with their jobs as social roles and punishes deviations from behavioral expectations (Dreitzel, 1980, p. 46; Matiaske, Wallmeier, & Weller, 2017, p. 256). Accordingly, an

organization's sanctioning power induces employees to fulfill their job duties explicated in job descriptions and labor contracts with in-role behavior (Weller, Matiaske, & Holtmann, 2007, p. 176). As formal contracts are notoriously incomplete, extra-role behavior which describes efforts beyond formally required in-role behavior becomes attached to jobs and enables organizations to cope with unexpected challenges outside the scope of their employees' role prescriptions (Katz, 1964, p. 132; Weller et al., 2007, p. 176). Consequently, extra-role behavior is essential for organizational effectiveness because discretionary efforts facilitate organizational contingency adoption (Burns & Stalker, 2001, pp. 103–108) and therewith assists organizational survival in the long-term.

Among the different concepts under the headline of extra-role behavior, the notion of OCB introduced by Organ (1988, p. 4) constitutes probably the most prominent type of extra-role behavior (Matiaske et al., 2017, p. 263). Although OCB is formally not part of the reward system, high OCB is associated with a positive effect on formal performance ratings and consequently fosters pay rises as well as promotions (MacKenzie, Podsakoff, & Fetter, 1993, p. 76). In turn, Schnake and Dumler (1997, p. 222) demonstrated that the compensation enhances OCB. Building on the give and take notion implied by MacKenzie et al. (1993, p. 76) as well as Schnake and Dumler (1997, p. 222), OCB can be embedded in the context of social exchange theory (Blau, 1984, p. 1). Social exchange processes encourage extra-role behavior whereas economic exchange induces in-role behavior (Matiaske & Weller, 2007, p. 515; Organ, Podsakoff, & MacKenzie, 2006, pp. 54–55). Moreover, different media are utilized to conduct the two types of exchange. Labor contracts are used to explicate the components of the economic exchange including expected in-role behavior and compensation ex-ante to labor provision (e.g. monthly wages in arrears to labor provision). Accordingly, compensation prompts in-role behavior (Matiaske & Weller, 2007, p. 515). Contrastingly, the elements of social exchange are rooted in an implicit psychological contract with unspecified conditions ex-ante to contracting (Rousseau, 1995, pp. 23–54). Rather, diffuse expectations concerning future obligations emerge during relational interactions between actors such as employees (e.g. expecting fair compensation) and employers (e.g. expecting OCB). Although the social and economic channel are reciprocal, the party which provides advance concessions within the economic exchange expects short-term compensation as agreed a-priori to contracting. Conversely to the transactional character of the economic exchange, the social exchange builds on mutual trust in the return of an appropriate compensation to the discretion of the exchange partner in the longer-term (Organ et al., 2006, pp. 54–55). Further elaborating on the antecedents of OCB, meta-analyses by LePine, Erez, and Johnson (2002, p. 59) and Organ and Ryan (1995, p. 787) found fairness and job satisfaction to promote OCB as both concepts induce reciprocation by individuals. Also, individual studies conducted by Konovsky and Pugh (1994, p. 664) as well as Colquitt, LePine, Piccolo,

Zapata, and Rich (2012, pp. 4–5) found empirical evidence that trust facilitates OCB as amplifier of the social exchange between the individual and the organization.

2.3. Relative standing concerning peer pay

First experiments on pay perceptions under conditions of pay secrecy by Lawler (1965, pp. 417–419, 1967, pp. 187–188) indicate that employees overestimate the pay of equal or lower positions within the organizational hierarchy. Conversely, employees tend to underestimate the pay of higher positions. Building on Lawler's (1965, pp. 417–419, 1967, pp. 187–188) findings, Cullen and Perez-Truglia (2018, pp. 4–6) assessed the behavioral impact of employees' distorted pay perception. The authors found that an increase of 10% in perceived peer pay (i.e. the pay of employees in a similar position) would decrease work hours by 9.4%, given that the focal individual's pay remains unchanged. Critics who thematize negative effects of pay transparency argue that transparent wage structures reveal potentially unequal pay allocations among peers and thus create negative effects of peer pay comparison as described by Cullen and Perez-Truglia (2018, pp. 4–6) and multiple other studies on job satisfaction (Card, Mas, Moretti, & Saez, 2012, pp. 2995–2996), fairness perception and productivity (Breza, Kaur, & Shamdasani, 2018, pp. 624–627), as well as turnover (Dube, Giuliano, & Leonard, 2019, p. 639).

The socio-psychological motive behind peer pay comparison lies in the inherent drive for comparison with referent others (Festinger, 1954, pp. 117–118). Hereof, positional goods such as pay serve as medium for comparison among peers (Frank, 1985, p. 101). Driven by uncertainty aversiveness (van den Bos & Lind, 2002, pp. 6–7), the disclosed pay-related information induces individuals to engage in pay comparison among peers for a more accurate determination of their relative standing. Exploring perceptual reactions to pay transparency, SimanTov-Nachlieli and Bamberger (2021, p. 237) found that perceived distributive justice of the pay allocation is dependent on the relative standing of individuals. Paying employees one standard deviation unit less than the mean pay of their reference group resulted in a significant negative effect on perceived distributive justice (SimanTov-Nachlieli & Bamberger, 2021, p. 237). Contrastingly, paying employees one standard deviation unit more than the mean pay led to a positive, yet statistically insignificant effect on distributive justice (SimanTov-Nachlieli & Bamberger, 2021, p. 237). Hereof, Cullen and Perez-Truglia (2018, p. 39) suggest that the negative effect on distributive justice emerges because individuals with a deprived relative standing tend to perceive the reasons behind an unequal pay distribution among peers to be non-meritocratic (i.e. gender bias or favoritism) and thus unfair. The perceived lack of procedural justice can be explained with a cognition-based perspective. The self-attribution error posits that people tend to attribute detrimental outcomes to external factors outside their scope of control (Miller & Ross, 1975, pp. 213–214). This psychological coping mechanism allows individuals to explain

their deprived standing while maintaining self-esteem (Heider, 1958, p. 173; Zuckerman, 1979, pp. 246–247) and perceived control over their environment (Kelley, 1971, p. 23; Langer & Roth, 1975, p. 951). Hence, the self-attribution error provides a possible explanation why employees tend to perceive the reason for unequal peer pay as non-meritocratic as supposed by Cullen and Perez-Truglia (2018, p. 39). The resulting perception of distributive unfairness leads employees with deprived relative standing to reduce their trust in an appropriate reward for their efforts (Austin, McGinn, & Susmilch, 1980, p. 439). In line with this theorizing, Brown, Ferris, Heller, and Keeping (2007, p. 67) provided empirical evidence of a negative association between upward peer pay comparison and job satisfaction. Regarding beneficial outcomes in contrast, the fundamental attribution error predicts that individuals attribute favorable occurrences to personal abilities due to overconfidence (Johnson & Fowler, 2011, p. 317; Miller & Ross, 1975, pp. 213–214). Accordingly, individuals with a beneficial relative standing tend to interpret the reasons behind their above-average pay to be meritocratic (i.e. based on performance and abilities), reinforcing the resulting perceived distributive justice of the pay allocation (Austin et al., 1980, p. 439). In analogy to this argumentation, SimanTov-Nachlieli and Bamberger (2021, p. 237) found that perceived distributive justice is higher among employees whose pay exceeds that of peers. Moreover, the feedback effect of reward positively reinforces trust among employees with relatively higher pay that future extraordinary efforts are recognized and rewarded appropriately by the organization (Matiaske & Weller, 2007, p. 516). Corresponding to this logic, Brown et al. (2007, p. 67) demonstrated that downward peer pay comparison enhances job satisfaction.

2.4. Effect of pay transparency on OCB

Following a social exchange perspective, compensation operates on the economic channel as extrinsic motivator for in-role performance (Matiaske & Weller, 2007, p. 515). Hence, Blau's (1984, p. 1) notion does not predict a positive influence of compensation on extra-role behavior as the latter is induced via processes on the social exchange channel. However, pay transparency adds a social dimension to compensation. Employees interpret the organization's motive behind the disclosure of pay related information as benevolent (Montag-Smit & Smit, 2021, pp. 722–723) because pay transparency raises the expectation that policies and practices determining the pay allocation (i.e. performance appraisals) are applied consistently and according to meritocracy (Castilla, 2015, p. 328). Accordingly, pay transparency reduces the uncertainty of the link between compensation and performance and thus improves trust in appropriate reward for future contributions (Belogolovsky & Bamberger, 2014, p. 1708; Schnackenberg & Tomlinson, 2016, p. 1797). The resulting perception of a fair pay allocation deploys a positive attitudinal effect on job satisfaction (Day, 2011, pp. 479–480; Futrell & Jenkins, 1978, p. 218). Accordingly, the employee's psychological contract with the organization (Rousseau, 1995, pp. 23–54) induces a feeling of unspecified

obligation to balance out the social exchange (Heider, 1958, p. 173) which may be fulfilled with reciprocating OCB since trust, perceived fairness, and job satisfaction antecede OCB (Colquitt et al., 2012, pp. 4–5; LePine et al., 2002, p. 59). Resultingly, pay transparency may create a positive effect on OCB:

Hypothesis 1: Pay transparency positively affects OCB.

2.5. Relative standing as moderator

The increase of pay-related information coming along with pay transparency motivates social comparison among peers due to more accurate information on pay as positional good (Festinger, 1954, pp. 117–118; Frank, 1985, p. 101; van den Bos & Lind, 2002, pp. 6–7). Further, social processes induce the formation of fairness perceptions (Colquitt, Conlon, Wesson, Porter, & Ng, 2001, p. 426). Employees who earn more than their peers perceive that the organization fulfilled its part of the psychological contract regarding appropriate compensation as individuals attribute their beneficial relative standing to their merit performance (Miller & Ross, 1975, pp. 213–214). The resulting trust in appropriate compensation reinforces the perception of high distributive justice and facilitates job satisfaction (Day, 2011, pp. 479–480; Futrell & Jenkins, 1978, p. 218). To balance out the organization's contribution to the social exchange, employees who earn more than their peers may further increase their OCB:

Hypothesis 2.1: The positive effect of pay transparency on OCB is stronger for individuals who earn more than their peers.

In contrast, employees who earn less than their peers experience a breach of the psychological contract as they perceive that the organization failed to compensate performance appropriately. Thereby, individuals tend to attribute their deprived relative standing to non-merit factors outside of their control (Miller & Ross, 1975, pp. 213–214). The resulting mistrust in appropriate compensation reduces perceived distributive justice and further job satisfaction (Day, 2011, pp. 479–480; Futrell & Jenkins, 1978, p. 218). Consequently, employees with deprived relative standing perceive their social exchange with the organization as unbalanced and thus may reduce their OCB to restore an equitable employer-employee relationship:

Hypothesis 2.2: The positive effect of pay transparency on OCB is weaker or becomes negative for individuals who earn less than their peers.

3. Methodology and empirical analyses

3.1. Context of the data collection: The German Transparency in Wage Structures Act

Late pushes by institutional forces across Europe towards pay transparency (Veldman, 2017, p. 1) translated to the

TWSA in Germany. The law was introduced in mid-2017 to reduce the gender pay gap (Bundesministerium für Familie, Senioren, Frauen und Jugend, 2017, p. 4). After a preliminary preparation time ending in early 2018, employees of German enterprises with a workforce greater than 200 people became equipped with the legal right to pro-actively request the median gross monthly pay and up to two further salary components such as benefits (Bundesministerium für Justiz, 2022, p. 1). The information is based on a reference group of at least six organizational members in a similar position but of the opposite-sex (Bundesministerium für Justiz, 2022, p. 1). Additionally, the employer must provide information about the process used for salary determination when an employee places a request based on the TWSA (Bundesministerium für Justiz, 2022, p. 1). Applying the typology by Brown et al. (2022, p. 5), the quality (mean pay), quantity (pay-related information restricted by gender and job similarity), and timing (pay-related information only requestable after entering an organization) of the disclosed pay information as required by the TWSA remain limited. Yet, the TWSA provides increased pay outcome as well as pay process transparency and has an indirect positive effect on pay communication transparency as the legislative change has been found to increase an emergent exchange of pay-related information among employees (Fulmer & Chen, 2014, p. 169; Göbel et al., n.d., p. 4). Taking the specifications of the legally required pay information disclosure into account, the TWSA creates a form of selective pay transparency.

3.2. Sample

This study is based on independent, cross-sectional survey data on the individual level gathered with an online survey described further in detail by Göbel et al. (n.d., pp. 14–15). The collected data is randomly drawn to reflect the average situation of German employees at the time of the data collection in five waves from December 2017 to 2020. The survey was emitted to employees of organizations affected by the TWSA (> 200 employees as treatment group) and employees of companies outside of the TWSA's scope (<= 200 as control group) while targeting a balanced ratio of treatment ($n_{\text{treated}} = 2510$) to control ($n_{\text{control}} = 2518$) group observations. The size of employers was limited to a range of 50 to 500. Participants who did not indicate yearly gross salary, size of their employer, industry, education, location, or OCB-related items were excluded from empirical analyses. The final sample used for analysis pools independent cross-sections and consists of $n = 5028$ observations.

3.3. Estimation strategy

This study uses the TWSA as shock in a quasi-experiment which introduces a pay transparency condition to regulated firms whereas companies outside of the law's scope remain unaffected. To examine the impact of pay transparency on OCB as perceived by individuals, this study deploys a difference-in-differences (DD) estimation based on multivariate linear regressions using ordinary-least squares (OLS)

for estimation (Wooldridge, 2019, pp. 431–436) to compare the development of mean OCB from before to after the introduction of the TWSA between treatment and control group. Consequently, inferences about the effect of the TWSA as transparency condition on OCB can be drawn. Results are subsequently utilized to support or reject hypothesis 1. To test hypotheses 2 and 3, a difference-in-difference-in-differences estimator (DDD) also based on multivariate linear regression using OLS for estimation (Wooldridge, 2019, pp. 436–437) is applied to support or reject the moderation of the pay transparency-OCB link by relative standing.

3.4. Dependent variables

The measurement of OCB as perceived by respondents was conducted with six items (Lee & Allen, 2002, p. 131). Answers ranged from 1 “Don’t agree” to 5 “fully agree” on a five-point scale. Half of the OCB items measured OCB aimed at individuals whereas the other half measured OCB directed at the organization. For analyses, the OCB subscales were aggregated to one OCB metric for each respondent by computing the mean over the single OCB items.

3.5. Independent variables

3.5.1. Treatment effect and moderation

The model used to test hypothesis 1 concerning the effect of pay transparency on OCB introduces the treatment effect $Time \times Treated$ which contains the interaction of the treatment group with the post-treatment period. The treatment group dummy *Treated* becomes 0 when individuals indicated that their organization employs 200 or less employees and thus is not regulated by the TWSA. Contrastingly, the *Treated* dummy takes the value of 1 when the organization employs 201 or more workers and hence is affected by the TWSA. The post-treatment dummy *Time* corresponds to 0 during the period prior to the introduction of the TWSA in year 2017 and is labelled 1 in the period after the treatment from years 2018 to 2020.

Hypotheses 2 and 3 referring to a potential moderating effect of relative standing are tested with the DDD model which additionally introduces *Relative standing* as variable to examine a triple interaction of $Time \times Relative\ standing \times Treated$. *Relative standing* constitutes a dummy variable which corresponds to 1 when employees earn less than their reference pay and takes the value of 0 otherwise. The underlying reference pay was computed in two ways. Models 2.1 - 2.3 (Table 4) use the median pay of the sample to assign values to the *Relative standing* dummy. Models 3.1 - 3.3 (Table 4) follow research by Schmidt (2017, pp. 10–13) to compute the reference pay based on comparable individuals.¹ Hereof, the reference pay for individuals is determined using the residuals of a multivariate linear regression to estimate the yearly gross pay² with OLS dependent on demographic

differences (age³, location⁴), human capital variables (education⁵, leadership role⁶, position⁷), and industry differences (size of the employer⁸, industry sector⁹). Positive residuals identify employees who earn less than the expected average pay of individuals with comparable characteristics. In this case, the dummy *Relative standing* takes the value of 1. Contrastingly, negative residuals depict employees who earn a salary higher than or equal to the expected average salary of individuals with similar characteristics. In such cases, the dummy *Relative standing* takes the value of 0.

3.5.2. Control variables

To demonstrate the robustness of the estimated effects, three different model versions with no (Models 1.1, 2.1, 3.1), partial (Models 1.2, 2.2, 3.2), and full (Models 1.3, 2.3, 3.3) control sets are included in Tables 3 and 4. Interpretations of the empirical results are based on the models with partial controls which account for age as maturing may influence altruism and thus OCB (Wagner & Rush, 2000, p. 379). Further, the models control for the existence of a human resource department¹⁰ because human resource professionals may actively design policies and practices to influence OCB and thus dilute the effect of the TWSA. Moreover, the covariate collective agreement¹¹ is included since employees with salaries determined by a collective agreement already know the salaries of their colleagues prior to the TWSA. This may distort the effect of pay transparency as created by the TWSA on OCB. Additionally, leadership roles are controlled for as this investigation focuses on horizontal peer pay comparison instead of vertical pay comparison to managers. The variable industry is introduced to extract varying levels of OCB across business sectors (Podsakoff, MacKenzie, Paine, & Bachrach, 2000, p. 513). Wave¹¹ controls for time fixed effects. In accordance with Göbel et al. (n.d., pp. 16–17), the models with full control variables additionally contain education, location, size of the employer, works council¹², union membership¹³, sex¹⁴, knowledge of the TWSA¹⁵, knowledge of the term gender pay gap¹⁶, as well as requests¹⁷ to account for systematic differences in the treatment and control group

³Measured in years

⁴0 = East Germany and 1 = West Germany

⁵1 = no degree, 2 = early high-school drop-out, 3 = secondary school degree, 4 = college/university qualification, and 5 = academic degree

⁶0 = no and 1 = yes

⁷1 = apprentice, 2 = intern, 3 = trainee, junior, 4 = Trained employee without completed vocational training, 5 = Specialist with at least two years of completed training, 6 = Third management level e.g. team leader, 7 = Second management level e.g. head of department, 8 = First management level e.g. CEO, 9 = other

⁸Measured by headcount

⁹1 = agriculture, forestry, and fishing, 2 = mining, 3 = energy and water supply, 4 = manufacturing industry, 5 = construction industry, 6 = trade, 7 = traffic, 8 = information and communication, 9 = tourism, accommodation and gastronomy, 10 = finance and Insurance, 11 = economical, scientific and self-employed services, 12 = education, 13 = health and social services, 14 = other services, 15 = public administration, 16 = other

¹⁰, 12-17 0 = no and 1 = yes

¹¹1-5

¹The multivariate linear regression used to determine individuals' reference pay can be replicated using the code appended separately to this study.

²Measured in €

and to further to reduce error variance in order to improve the precision of estimates.

4. Results

Table 1 reports descriptive statistics and Table 2 depicts correlations for variables used in the DD and DDD estimation models. Results of the econometric models used for hypothesis testing are reported in Tables 3 and 4.

Visualizing the data provides first insights to the effect of pay transparency on OCB as posited in hypothesis 1. Figure 1 shows the development of mean OCB over time, pooled according to treatment and control groups, and surrounded by error bands indicating the 90% confidence interval. The treatment group’s drop in OCB occurs in timely conjunction with the introduction of the TWSA in 2018. The mean OCB of the treatment group does not recover to its pre-2018 level and seems to be persistently lower than the mean OCB in the control group after the TWSA became effective in 2018. Contrastingly, mean OCB of the control group remains seemingly unaffected in 2018. To further investigate the relationship between pay transparency and OCB, algebraic modelling and the results of multivariate linear regression analyses are introduced in the next paragraph.

$\hat{\delta}_1$ depicts the DD estimator which allows to test hypothesis 1 by estimating the average treatment effect of pay transparency on OCB

$$\begin{aligned} \hat{\delta}_1 &= (\overline{OCB}_{Time=1,Treated=1} - \overline{OCB}_{Time=0,Treated=1}) \\ &\quad - (\overline{OCB}_{Time=1,Treated=0} - \overline{OCB}_{Time=0,Treated=0}) \\ &= \hat{\delta}_{DD}. \end{aligned} \tag{1}$$

To obtain an estimate for the causal impact of pay transparency on OCB, average OCB is computed before and after the introduction of the TWSA for organizations with more than 200 employees and organizations with 200 or less employees and subsequently subtracted. The result of $\hat{\delta}_1$ can be obtained by pooling the data over the dummies *Time* and *Treated* and running a multivariate linear regression using OLS to estimate¹²

$$\begin{aligned} OCB_{it} &= \beta_0 + \delta_0 Time_t + \beta_1 Treated_i + \delta_1 Time \\ &\quad \times Treated_{it} + Controls_{it} + u_{it}. \end{aligned} \tag{2}$$

The intercept β_0 represents the average OCB of employees in organizations with 200 or less workers before the TWSA was introduced. The parameter δ_0 captures the change in OCB of all employees in the sample from the pre-TWSA to the post-TWSA period to isolate the development of OCB over time which is not caused by the TWSA. β_1 measures the difference in OCB between organizations with 201 or more and 200 or less workers that is not due

to the TWSA. Primary focus of the analysis is the parameter $\delta_1 Time \times Treated$ which measures the change in OCB due to the TWSA, assuming that OCB did not systematically change for other reasons than the ones controlled for in Models 1.2 and 1.3 (Table 3). To examine the effect size, direction, and statistical significance of $\hat{\delta}_1$, multivariate linear regression analyses are applied. Results are reported in Table 3. The estimate¹³ of the interaction term *Time* \times *Treated* is significantly different from 0¹⁴. Accordingly, the development of mean OCB from the pre-TWSA to the post-TWSA period is significantly different between employees in regulated organizations compared to employees in unregulated organizations c.p., because the TWSA reduces OCB. Contrary to hypothesis 1, pay transparency caused by the TWSA unfolds a negative effect on OCB which remains stable across sets of control variables (Table 3).

Figure 2 provides an exploratory starting point for a first proposal on the potential moderation of the pay transparency-OCB relation by relative standing as posited in hypotheses 2 and 3. Figure 2 depicts a seemingly large difference in mean OCB of below and above median earners in the control group from the pre-TWSA period (before 2018) to the post-TWSA period (after 2018). Contrastingly, Figure 2 shows a relatively small difference in mean OCB of below and above median earners in the treatment group from before 2018 to after 2018. To derive statistically founded statements on hypotheses 2 and 3, algebraic analyses and multivariate linear regressions using OLS are applied. Formalized equations and regression results are shown and thematized in the following paragraph.

The model used to test hypotheses 2 and 3 extends the model introduced in (2) by adding a dummy variable for relative standing which indicates whether individuals earn less than a certain reference pay and interacting the newly introduced dummy with the existing variables

$$\begin{aligned} OCB_{itr} &= \beta_0 + \beta_1 Relative\ standing_r \\ &\quad + \beta_2 Treated_i + \beta_3 Relative\ standing_r \\ &\quad \times Treated_i + \delta_0 Time_t + \delta_1 Time_t \\ &\quad \times Relative\ standing_r + \delta_2 Time_t \\ &\quad \times Treated_i + \delta_3 Time_t \times Relative\ standing_r \\ &\quad \times Treated_i + Controls_{itr} + u_{itr}. \end{aligned} \tag{3}$$

In (3), the triple interaction $\delta_3 Time \times Relative\ standing \times Treated$ constitutes the average treatment effect whereas the pairwise interactions serve as controls for the individual effects of time, relative standing, and organizational size. Algebraic rearrangements yield the DDD estimator δ_3

¹³Model 1.2 (Table 3): $\hat{\delta}_{DD,Model1.2} = -0.184, p = 0.000147$

¹⁴Confidence level $\alpha = 0.001$

¹²The mathematical proof can be found in the appendix.

Table 1: Means and standard deviations

Variable	<i>M</i>	<i>SD</i>
1. OCB	3.85	0.69
2. Time	0.80	0.40
3. Treated	0.50	0.50
4. Relative standing calculated based on median pay	0.47	0.50
5. Relative standing calculated based on regressed reference pay	0.54	0.50
6. East/ West	0.77	0.42
7. Age	44.94	11.32
8. Sex	0.50	0.50
9. Wave	2.99	1.41
10. Education	3.74	0.93
11. Collective agreement	0.43	0.50
12. Size organization	231.42	139.98
13. Works council	0.46	0.50
14. HR department	0.91	0.29
15. Union member	0.16	0.37
16. Leadership role	0.36	0.48
17. Women percentage	43.09	17.70
18. Industry	8.56	3.96
19. Request	0.02	0.16
20. Knows the TWSA	0.25	0.43
21. Knows the term gender pay gap	0.27	0.44

n = 5,028

Note: *M* and *SD* are used to represent mean and standard deviation, respectively.

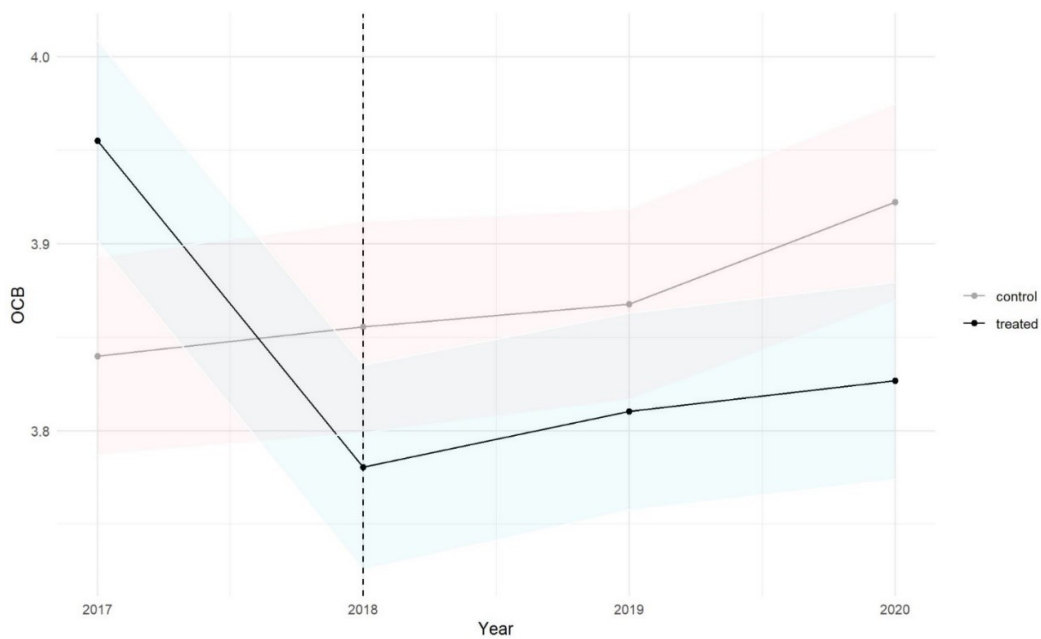


Figure 1: Visualization of Model 1.1 (Table 3) with 90% confidence intervals

Notes: Controls are omitted. Hence, the depicted values only match the estimates of Model 1.1 (Table 3) without controls.

Table 2: Correlations

Variable	1	2	3	4	5	6	7	8
1. OCB	(0.78)							
2. East/ West	-.00							
3. Age	.07***	.01						
4. Sex	.02	-.02	-.18***					
5. Wave	-.01	-.02	-.07***	-.02				
6. Education	.01	-.04***	-.13***	-.00	.05***			
7. Collective agreement	.09***	.04***	.07***	-.06***	.04***	-.00		
8. Size organization	-.02	.01	.05***	-.05***	.02	-.01	.18***	
9. Works council	-.00	.06***	.02	-.09***	.04**	.05***	.34***	.27***
10. HR department	.04***	.04***	-.07***	-.05***	.06***	.05***	.14***	.11***
11. Union member	.02	.02	-.00	-.08***	-.01	-.02	.24***	.11***
12. Leadership role	.14***	.00	.11***	-.18***	.01	.31***	.08***	.05***
13. Women percentage	.02	-.07***	-.01	.21***	.00	.06***	-.01	-.02
14. Industry	.00	-.07***	.01	.17***	-.02	.08***	-.04***	-.02
15. Request	-.01	.01	-.07***	-.04***	.05***	.04***	.11***	.15***
16. Knows the TWSA	.04***	.05***	-.03	-.09***	.06***	.18***	.08***	.07***
17. Knows the term gender pay gap	-.02	.05***	-.10**	-.03	.11**	.36**	.02	.02
Variable	9	10	11	12	13	14	15	16
10. HR department	.19***							
11. Union member	.26***	.07***						
12. Leadership role	.04***	.07***	.04***					
13. Women percentage	-.07***	-.02	-.08***	-.01				
14. Industry	-.09***	-.04***	-.08***	-.02	.75***			
15. Request	.11***	.03**	.16***	.07***	-.05***	-.03**		
16. Knows the TWSA	.08***	.06***	.09***	.16***	-.03**	-.01	.14***	
17. Knows the term gender pay gap	.02	.06***	-.01	.15***	-.00	.02	.07***	.31***

n = 5,028

Notes: **p < 0.05, ***p < 0.01. The value in parentheses denotes Cronbach’s alpha.

$$\begin{aligned}
 \hat{\delta}_3 = & \left[\left(\overline{OCB}_{Ti=1, Tr=1, RS=1} - \overline{OCB}_{Ti=0, Tr=1, RS=1} \right) \right. \\
 & \left. - \left(\overline{OCB}_{Ti=1, Tr=0, RS=1} - \overline{OCB}_{Ti=0, Tr=0, RS=1} \right) \right] \\
 & - \left[\left(\overline{OCB}_{Ti=1, Tr=1, RS=0} - \overline{OCB}_{Ti=0, Tr=1, RS=0} \right) \right. \\
 & \left. - \left(\overline{OCB}_{Ti=1, Tr=0, RS=0} - \overline{OCB}_{Ti=0, Tr=0, RS=0} \right) \right] \\
 = & \hat{\delta}_{DD, RS=1} - \hat{\delta}_{DD, RS=0} = \hat{\delta}_{DDD}
 \end{aligned}
 \tag{4}$$

Note: Time is abbreviated with Ti, Treated with Tr, and Relative standing with RS.

Similar to (1), the term in the first square bracket of (4) represents a DD estimator but only applied to observations that earn less than their reference pay. As control group, the first DD estimator uses individuals who are employed in organizations with 200 or less workers and earn less than their reference pay. Accordingly, $\hat{\delta}_{DD, RS=1}$ represents the influence of the TWSA on OCB among employees who earn less than their reference pay. Opposingly, the term in the second square bracket of (4) contains $\hat{\delta}_{DD, RS=0}$ which denotes the influence of the TWSA on OCB among workers

who earn the same as or more than their reference pay. Obtaining the DD estimators and subsequently computing the difference yields the DDD estimator $\hat{\delta}_{DDD}$ explicated in (4) which indicates the average difference in the effect of the TWSA on pay transparency due to relative standing. Further, OLS is applied to (3) to compute $\hat{\delta}_{DDD}$ which corresponds to the coefficient of *Time × Relative standing × Treated* reported in Table 4. Further, Table 4 includes two approaches to the determination of the dummy variable *Relative standing*. Whereas Models 2.1-2.3 assign values to *Relative standing* by using the median yearly gross pay of the sample, the second approach used for Models 3.1 – 3.3 defines an individual’s peer group for social comparison via characteristic similarities (e.g. age, industry, position). Yet, the triple interaction of *Time × Relative standing × Treated* Model 2.2 (Table 4): $\hat{\delta}_{DDD, Model2.2} = 0.110, p_{DDD, Model2.2} = 0.252$; model 3.2 (Table 4): $\hat{\delta}_{DDD, Model3.2} = 0.120, p_{DDD, Model3.2} = 0.223$ remains statistically insignificant in both approaches across all control variable specifications included in Table 4. The results propose that c.p. the difference in the average effect of

Table 3: Regression results of the DD with Time×Treated triple interaction

	<i>Dependent variable:</i>		
	OCB		
	Model 1.1	Model 1.2	Model 1.3
Constant	3.840*** (0.000)	3.587*** (0.000)	3.627*** (0.000)
Time	0.034 (0.302)	0.064* (0.091)	0.078** (0.046)
Treated	0.115*** (0.008)	0.078* (0.069)	0.108** (0.049)
Time × Treated	-0.190*** (0.000)	-0.184*** (0.000)	-0.185*** (0.000)
Wave = 2		-0.056* (0.072)	-0.061* (0.051)
Wave = 3		-0.080*** (0.009)	-0.086*** (0.006)
Wave = 4 ^a		-0.047 (0.118)	-0.054* (0.076)
n	5,028	5,022	4,902
R ²	0.005	0.040	0.046
Adjusted R ²	0.004	0.035	0.039
Residual SE	0.692 (df = 5024)	0.681 (df = 4996)	0.680 (df = 4865)
F Statistic	8.091*** (df = 3; 5024)	8.376*** (df = 25; 4996)	6.546*** (df = 36; 4865)
Controls	No	Partial ^b	Full ^c

Notes: *p < 0.1; **p < 0.05; ***p < 0.01. Values in parenthesis report p-values robust to heteroscedasticity.

^aWave 5 is used as reference category as time = 1 is identical to wave = 1.

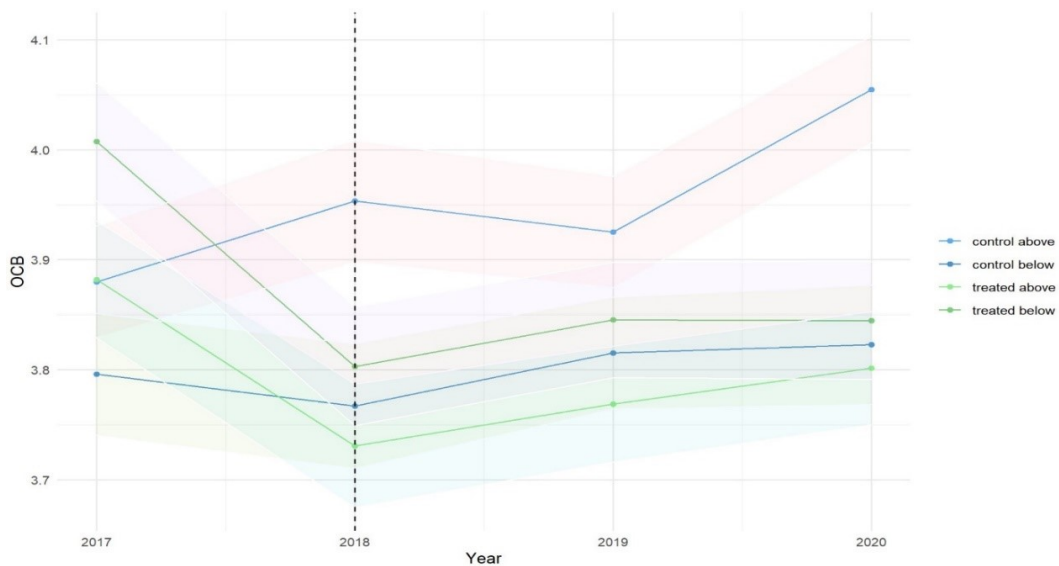


Figure 2: Visualization of Model 2.1 (Table 4) with 90% confidence intervals

Notes: Controls are omitted. Relative standing is determined via the median yearly gross pay of the sample. Hence, only the estimates of Model 2.1 (Table 4) match with the displayed values.

pay transparency on OCB is not significantly different from 0 between employees who earn less and employees who earn

Table 4: Regression results of the DDD with Time×Relative standing×Treated interaction

	<i>Dependent variable:</i>					
	OCB					
	Model 2.1	Model 2.2	Model 2.3	Model 3.1	Model 3.2	Model 3.3
Relative standing calculated using:	Median sample pay	Median sample pay	Median sample pay	Regressed reference pay	Regressed reference pay	Regressed reference pay
Constant	3.880*** (0.000)	3.637*** (0.000)	3.753*** (0.000)	3.809*** (0.000)	3.591*** (0.000)	3.657*** (0.000)
Treated	0.127** (0.026)	0.096* (0.088)	0.129* (0.050)	0.185** (0.011)	0.149** (0.034)	0.183** (0.021)
Time	0.088* (0.050)	0.107** (0.027)	0.122** (0.013)	0.098* (0.073)	0.116** (0.039)	0.146** (0.011)
Relative standing	-0.084 (0.156)	-0.029 (0.626)	-0.069 (0.260)	0.050 (0.415)	0.028 (0.642)	0.031 (0.621)
Treated x Time	-0.254*** (0.000)	-0.239*** (0.000)	-0.237*** (0.000)	-0.261*** (0.001)	-0.256*** (0.001)	-0.267*** (0.001)
Time x Relative standing	-0.091 (0.174)	-0.073 (0.269)	-0.069 (0.305)	-0.111 (0.108)	-0.104 (0.128)	-0.136** (0.050)
Treated x Relative standing	-0.041 (0.636)	-0.041 (0.639)	-0.049 (0.572)	-0.115 (0.203)	-0.117 (0.188)	-0.129 (0.152)
Treated x Time x Relative standing	0.118 (0.226)	0.110 (0.252)	0.105 (0.286)	0.116 (0.249)	0.120 (0.223)	0.136 (0.173)
Wave = 2		-0.058** (0.039)	-0.065** (0.040)		-0.048 (0.122)	-0.051 (0.102)
Wave = 3		-0.079*** (0.006)	-0.085*** (0.006)		-0.071** (0.021)	-0.075** (0.018)
Wave = 4 ^a		-0.047* (0.084)	-0.054* (0.077)		-0.041 (0.169)	-0.047 (0.124)
n	5,028	5,022	4,902	5,028	5,022	4,902
R ²	0.014	0.042	0.051	0.007	0.043	0.050
Adjusted R ²	0.013	0.037	0.043	0.005	0.037	0.043
Residual SE	0.689 (df = 5020)	0.681 (df = 4992)	0.679 (df = 4861)	0.691 (df = 5020)	0.680 (df = 4992)	0.679 (df = 4861)
F Statistic	10.308*** (df = 7; 5020)	7.622*** (df = 29; 4992)	6.474*** (df = 40; 4861)	4.802*** (df = 7; 5020)	7.687*** (df = 29; 4992)	6.449*** (df = 40; 4861)
Controls	No	Partial ^b	Full ^c	No	Partial ^b	Full ^c

Notes: *p < 0.1; **p < 0.05; ***p < 0.01. Values in parenthesis report p-values robust to heteroscedasticity.

^aWave 5 is used as reference category as time = 1 is identical to wave = 1.

as much as or more than their reference pay. Because relative standing does not significantly moderate the link between pay transparency and OCB, hypotheses 2 and 3 are rejected¹⁵.

5. Discussion

5.1. Discoveries

Hypothesis 1 theoretically derives a positive effect of pay transparency on OCB based on social exchange theory.

Yet, the empirical analyses find a significant negative effect. Drawing from research by Göbel et al. (N.d., p. 3) conducted with complementary plant-level data, organizations under the transparency condition did not actively increase pay information disclosure to provide employees with more pay transparency than required by the TWSA. Rather, pay information disclosure and the resulting pay transparency was kept at the legally required minimum or circumvented by organizations as the TWSA does not specify sanctions in case of violations (Göbel et al., n.d., p. 3; Weller & Göbel, 2019, pp. 21–22). In addition, only few individuals

¹⁵Confidence level $\alpha = 0.1$

enacted their right to request the median pay plus up to two wage components of an opposite-sex employee in a comparable position via the TWSA. The reason for little usage of the TWSA potentially stems from the constrained informativeness and incompleteness of the obtainable information which does neither allow inferences on the pay distribution of same-sex employees nor enable a comparison of the pay distribution between genders (Weller & Göbel, 2019, p. 22). Besides, employees are unlikely to completely know their rights due to the complexity of the TWSA requests (Weller & Göbel, 2019, p. 22). Possible circumventions by employers due to missing sanctions further hinder employees to exercise their right of information. However, public discussions and media coverage raised the expectation among employees that the TWSA would come along with increased pay transparency within organizations (Göbel et al., n.d., p. 22; Weller & Göbel, 2019, p. 23). Thus, employees may have implicitly added the expected increase in pay transparency to the psychological contract with their employers in case of a regulation by the TWSA. Yet, the actual implementation of the legislative change across affected organizations does not match with the aspiration raised by the government and reinforced by the media due to the TWSA's constrained informative value and resultingly little operational efficacy (Weller & Göbel, 2019, p. 22). Additionally, organizations do not voluntarily close the gap between the TWSA's aspired and actual effect by going beyond the legally required pay information disclosure (Göbel et al., n.d., p. 3). Rather, employees are left with uninformative and incomplete pay-related information or no information when organizations violate the TWSA (Weller & Göbel, 2019, pp. 22–23). Accordingly, the potentially positive effect of pay transparency on OCB as theorized in hypothesis 1 fails to materialize. The weak institutional pressure emitted by the TWSA combined with a lack of discretionary organizational support may lead to a disintegration of pay transparency as expected by employees and pay transparency as operationalized by organizations. The occurring gap between aspiration and reality may cause employees to perceive that the organization did not fulfill its part of the psychological contract. This theorizing is consistent with the findings by Göbel et al. (n.d., pp. 3–4) showing that employees of regulated plants increase the exchange of pay-related information among each other in search of an alternative source of information due to the non-informativeness of the TWSA combined with organizational passiveness to compensate this lack. Following Blau's (1984, p. 1) notion of social exchange, organizational failure to meet employees' pay transparency expectations via disclosure of pay-related information by exceeding the formally required minimum induces individuals to perceive their relationship with the organization as unbalanced on the social channel. Accordingly, employees reciprocate organizational behavior by reducing their discretionary OCB to rebalance the social exchange with the organization in a tit-for-tat manner.

Concerning hypotheses 2 and 3, no significant moderating effect of relative standing on the relation between pay

transparency and OCB derived from social comparison theory (Festinger, 1954, p. 117) and attribution theory (Miller & Ross, 1975, p. 213) was found. A possible explanation for the insignificance may be the restricted informativeness of requests based on the TWSA as noted earlier. The TWSA may not provide employees with sufficient information to cause social comparison which would allow a (more precise) determination of relative standing on the pay distribution among peers so that the resulting psychological attribution of the outcome would significantly influence the link between pay transparency and OCB. Accordingly, the prevalent critique that pay transparency leads to detrimental behavioral outcomes due to social comparison processes (Cullen & Perez-Truglia, 2018, pp. 4–6; Dube et al., 2019, p. 639) is not fundamentally acceptable. The statistical insignificance of relative standing as moderator implies that the pay transparency-OCB relation does not significantly change with regard to relative standing in case of selective pay transparency as created by the TWSA.

5.2. Academic and managerial implications

This study investigates the effect of selective pay transparency as created by the TWSA on OCB. Related studies tend to focus on the extremes of the continuum spanned by pay transparency and pay secrecy (Brown et al., 2022, p. 10). This paper constitutes a step towards a more nuanced approach to pay transparency. By reporting a negative effect of pay transparency on OCB contrary to the proposal by Marasi et al. (2018, p. 58), the investigation strengthens the suggestion by SimanTov-Nachlieli and Bamberger (2021, p. 230) that varying forms of transparency may lead to differential outcomes. Hence, this study contributes to a progressive coherence of pay transparency research. Also, the common critique that pay transparency negatively impacts employees' behavior because of social comparison is not supported in case of selective pay transparency as investigated in this study. Besides, this research integrates social exchange theory (Blau, 1984, p. 1), social comparison theory (Festinger, 1954, p. 117), and attribution theory (Miller & Ross, 1975, p. 213) to obtain a more sophisticated understanding of the socio-psychological mechanisms which are induced by pay transparency and influence behavioral outcomes displayed by individuals.

The paper also provides managerial implications. Usually, employers possess more pay-related knowledge than their employees. This creates one-sided perfect information in favor of organizations (Stiglitz, 1985, p. 24). If the underinformed actor is interested in the disclosure of pay information, the inferior party is likely to seek for a reduction of pay-related information asymmetry through interacting with the organization as superiorly informed sender and thus achieve a pay transparency equilibrium (Brown et al., 2022, p. 5). Due to a stronger relative position within the sender-receiver interaction, organizations can design pay communication policies and practices to steer the employees' knowledge of pay-related information. Consequently, a

company's pay information disclosure strategy can either facilitate or hamper pay transparency and thus influence OCB of employees. The results of this study imply that disclosing a minimum of pay-related information characterized by little informativeness or circumventing disclosure may not be an optimal response to a regulatory change towards more pay transparency. Regarding the introduction of the TWSA in Germany, such strategies result in a detrimental effect of pay transparency on OCB as the operationalized pay transparency may not be consistent with employees' expectations raised by institutional forces and media coverage.

5.3. Limitations and future research proposals

The prevalent study remains limited by the data used for the empirical analysis. Using the sample median of yearly gross pay fails to define a peer group for social comparison. The human capital variables used to estimate a reference pay via regression only approximately define an individual's peer group. Accordingly, the results used to test hypotheses 2 and 3 may be diluted. To define a peer group more precisely, team level data would be needed. Also, choosing an arbitrary cut off for the dichotomization of the relative standing dummy leads to an assignment of the value 0 to observations with a salary equal to reference pay. This might marginally blur effects associated with relative standing. Moreover, the causal interpretation conducted in section 4 assumes parallel trends in the control and treatment group as well as stable unit treatment values. Yet, the parallel trends assumption underlying the DD and DDD cannot be tested because only one wave of data was collected before the introduction of the TWSA. Also, this study interprets results of the DDD causally, despite between-group variance. Further, the findings regarding pay transparency are based on the introduction of the TWSA as transparency condition. Accordingly, this study investigates pay transparency as created by the TWSA. Hence, transferability of the findings to other settings may be limited because different forms of pay transparency created via laws with specifications different from those of the TWSA for instance may lead to differential outcomes than reported in this study.

Besides, this study is limited by its scope. The mechanisms used to connect pay transparency and OCB remain on a theoretical level and thus require empirical testing to develop a more sophisticated understanding of how the pay transparency-OCB relation works. Further research is also needed to examine how various dimensions of pay information disclosure and the resulting levels of pay transparency differ in their influence on employees' attitudes and behaviors. Therefore, structural equation modelling could be used to examine the weights on the links between the dimensions of pay information disclosure, resulting forms of pay transparency, attitudinal (e.g. motivation, commitment), and behavioral outcomes (e.g. turnover, OCB). Building on research by Göbel et al. (n.d., p. 22), the TWSA creates selective top-down pay transparency but also positive externalities on emergent pay transparency. This research does not further distinguish the influence of pay transparency on

OCB by channels used to obtain pay-related information. Accordingly, examining whether top-down transparency and bottom-up transparency created through the exchange of pay-related information among employees induce differing behavioral consequences may provide fruitful ground for future investigations. Hereof, disaggregating the latent concept of OCB into OCB directed at individuals and OCB addressed at the organization may deliver an answer to the question whether the addressee of the change in OCB corresponds with the sender of pay-related information. Lastly, coding relative standing as metric instead of dichotomous variable as conducted by [SimanTov-Nachlieli and Bamberger \(2021, p. 237\)](#) prevents loss of information and would allow future studies to investigate how attitudes and behaviors may change over an increasing distance to the reference pay.

6. Conclusion

This paper investigates the understudied relation between pay transparency and OCB as well as a potential moderation by relative standing. Building on social exchange, social comparison, and attribution theory, theoretical arguments for a positive effect of pay transparency on OCB and a moderating role of relative standing are developed. However, using a policy change (TWSA) as transparency condition in a quasi-experiment, the empirical analyses find a significant negative effect of pay transparency on OCB, whereas the moderation by relative standing is rejected. Resultingly, this research adds to the prevalent pay transparency literature by clarifying the effect of selective pay transparency as created by the TWSA on OCB which differs from theoretical predictions and thus highlights the need for a more nuanced approach to different forms of pay transparency. Further, a common critique of pay transparency is addressed by testing relative standing as moderator with insignificant results. To mitigate the negative effect of pay transparency on OCB, this study proposes that managers refrain from pay information disclosure strategies which provide employees with no or little meaningful pay-related information as reaction to legislative changes towards more pay transparency such as the TWSA in Germany.

References

- Austin, W., McGinn, N. C., & Susmilch, C. (1980). Internal standards revisited: Effects of social comparisons and expectancies on judgments of fairness and satisfaction. *Journal of Experimental Social Psychology*, 16(5), 426–441.
- Bamberger, P., & Belogolovsky, E. (2017). The dark side of transparency: How and when pay administration practices affect employee helping. *Journal of Applied Psychology*, 102(4), 658–671.
- Belogolovsky, E., & Bamberger, P. A. (2014). Signaling in secret: Pay for performance and the incentive and sorting effects of pay secrecy. *Academy of Management Journal*, 57(6), 1706–1733.
- Blau, P. M. (1984). *Exchange and power in social life*. New York: J. Wiley and Sons.
- Breza, E., Kaur, S., & Shamdasani, Y. (2018). The morale effects of pay inequality*. *The Quarterly Journal of Economics*, 133(2), 611–663.
- Brown, D. J., Ferris, D. L., Heller, D., & Keeping, L. M. (2007). Antecedents and consequences of the frequency of upward and downward social comparisons at work. *Organizational Behavior and Human Decision Processes*, 102(1), 59–75.
- Brown, M., Nyberg, A. J., Weller, I., & Strizver, S. D. (2022). Pay information disclosure: Review and recommendations for research spanning the pay secrecy–pay transparency continuum. *Journal of Management*, 48(6), 1661–1694.
- Bundesministerium für Familie, Senioren, Frauen und Jugend. (2017). *Das Entgelttransparenzgesetz: Informationen zum Gesetz zur Förderung der Entgelttransparenz*. <https://www.bmfsfj.de/resource/blob/117322/c9ef7c4bbe4822e644c94821b09aa88f/das-entgelttransparenzgesetz-informationen-zum-gesetz-zur-foerderung-der-entgelttransparenz-data.pdf>.
- Bundesministerium für Justiz. (2022). *EntgTranspG: Gesetz zur Förderung der Entgelttransparenz zwischen Frauen und Männern*. <https://www.gesetze-im-internet.de/entgtransp/BJNR215210017.html>.
- Burns, T., & Stalker, G. M. (2001). *The management of innovation*. Oxford University Press/Oxford.
- Card, D., Mas, A., Moretti, E., & Saez, E. (2012). Inequality at work: The effect of peer salaries on job satisfaction. *American Economic Review*, 102(6), 2981–3003.
- Castilla, E. J. (2015). Accounting for the gap: A firm study manipulating organizational accountability and transparency in pay decisions. *Organization Science*, 26(2), 311–333.
- Colella, A., Paetzold, R. L., Zardkoobi, A., & Wesson, M. J. (2007). Exposing pay secrecy. *Academy of Management Review*, 32(1), 55–71.
- Colquitt, J. A., Conlon, D. E., Wesson, M. J., Porter, C. O. L. H., & Ng, K. Y. (2001). Justice at the millennium: A meta-analytic review of 25 years of organizational justice research. *Journal of Applied Psychology*, 86(3), 425–445.
- Colquitt, J. A., LePine, J. A., Piccolo, R. F., Zapata, C. P., & Rich, B. L. (2012). Explaining the justice–performance relationship: Trust as exchange deepener or trust as uncertainty reducer? *Journal of Applied Psychology*, 97(1), 1–15.
- Cullen, Z., & Perez-Truglia, R. (2018). *How much does your boss make? the effects of salary comparisons* (Tech. Rep.).
- Day, N. E. (2011). Perceived pay communication, justice and pay satisfaction. *Employee Relations*, 33(5), 476–497.
- Dreitzel, H. P. (1980). *Die gesellschaftlichen Leiden und das Leiden an der Gesellschaft: Eine Pathologie des Alltagslebens* (3rd ed.). Stuttgart: Ferdinand Enke Verlag.
- Dube, A., Giuliano, L., & Leonard, J. (2019). Fairness and frictions: The impact of unequal raises on quit behavior. *American Economic Review*, 109(2), 620–663.
- Festinger, L. (1954). A theory of social comparison processes. *Human Relations*, 7(2), 117–140.
- Frank, R. H. (1985). The Demand for Unobservable and Other Nonpositional Goods. *The American Economic Review*, 75(1), 101–116.
- Fulmer, I. S., & Chen, Y. (2014). How communication affects employee knowledge of and reactions to compensation systems. In V. D. Miller & M. E. Gordon (Eds.), (chap. Meeting the Challenge of Human Resource Management: A Communication Perspective). New York: Routledge.
- Futrell, C. M., & Jenkins, O. C. (1978). Pay secrecy versus pay disclosure for salesmen: A longitudinal study. *Journal of Marketing Research*, 15(2), 214.
- Gupta, N., & Shaw, J. D. (2014). Employee compensation: The neglected area of HRM research. *Human Resource Management Review*, 24(1), 1–4.
- Göbel, L., Weller, I., & Nyberg, A. J. (n.d.). *How employers and employees react to rising pay transparency expectations: An exploratory study*. Manuscript submitted for publication.
- Göbel, L., Weller, I., & Nyberg, A. J. (2020). How employers and employees react to rising pay transparency expectations: An exploratory study. *Academy of Management Proceedings*, 2020(1), 17109.
- Heider, F. (1958). *The psychology of interpersonal relations*. John Wiley & Sons Inc.
- Johnson, D. D. P., & Fowler, J. H. (2011). The evolution of overconfidence. *Nature*, 477(7364), 317–320.
- Katz, D. (1964). The motivational basis of organizational behavior. *Behavioral Science*, 9(2), 131–146.
- Kelley, H. H. (1971). *Attribution in social interaction*. New York: General Learning Press.
- Konovsky, M. A., & Organ, D. W. (1996). Dispositional and contextual determinants of organizational citizenship behavior. *Journal of Organizational Behavior*, 17(3), 253–266.
- Konovsky, M. A., & Pugh, S. D. (1994). CITIZENSHIP BEHAVIOR AND SOCIAL EXCHANGE. *Academy of Management Journal*, 37(3), 656–669.
- Langer, E. J., & Roth, J. (1975). Heads i win, tails it's chance: The illusion of control as a function of the sequence of outcomes in a purely chance task. *Journal of Personality and Social Psychology*, 32(6), 951–955.
- Lawler, E. E. (1965). Managers' perceptions of their subordinates pay and of their superiors' pay. *Personnel Psychology*, 413–422.
- Lawler, E. E. (1967). Secrecy about management compensation: Are there hidden costs? *Organizational Behavior and Human Performance*, 2(2), 182–189.
- Lee, K., & Allen, N. J. (2002). Organizational citizenship behavior and workplace deviance: The role of affect and cognitions. *Journal of Applied Psychology*, 87(1), 131–142.
- LePine, J. A., Erez, A., & Johnson, D. E. (2002). The nature and dimensionality of organizational citizenship behavior: A critical review and meta-analysis. *Journal of Applied Psychology*, 87(1), 52–65.
- MacKenzie, S. B., Podsakoff, P. M., & Fetter, R. (1993). The impact of organizational citizenship behavior on evaluations of salesperson performance. *Journal of Marketing*, 57(1), 70–80.
- Marasi, S., & Bennett, R. J. (2016). Pay communication: Where do we go from here? *Human Resource Management Review*, 26(1), 50–58.
- Marasi, S., Wall, A., & Bennett, R. J. (2018). Pay openness movement: Is it merited? does it influence more desirable employee outcomes than pay secrecy? *Organization Management Journal*, 15(2), 58–77.
- Matiaske, W., Wallmeier, G., & Weller, I. (2017). Rollen, Extra-Rollenverhalten und Organizational Citizenship Behavior. In A. Martin (Ed.), (2nd ed., pp. 254–279). Stuttgart: Kohlhammer Verlag.
- Matiaske, W., & Weller, I. (2007). Do extrinsic rewards enhance organizational citizenship behavior? a study of public sector organizations. In *Public governance and leadership* (pp. 513–534). Wiesbaden: DUV.
- Miller, D. T., & Ross, M. (1975). Self-serving biases in the attribution of causality: Fact or fiction? *Psychological Bulletin*, 82(2), 213–225.
- Montag-Smit, T. A., & Smit, B. W. (2021). What are you hiding? employee attributions for pay secrecy policies. *Human Resource Management Journal*, 31(3), 704–728.
- Nienhüser, W. (1993). Rolle. In W. Weber, W. Mayrhofer, & W. Nienhüser (Eds.), (chap. Sammlung Poeschel: Bd. 127. Grundbegriffe der Personalwirtschaft). Stuttgart: Schäffer-Poeschel.
- Organ, D., Podsakoff, P., & MacKenzie, S. (2006). *Organizational citizenship behavior: Its nature, antecedents, and consequences*. SAGE Publications, Inc.
- Organ, D. W. (1988). *Organizational citizenship behavior: The good soldier syndrome. issues in organization and management series*. Lexington, MA: D.C. Heath and Company.
- Organ, D. W., & Ryan, K. (1995). A META-ANALYTIC REVIEW OF ATTITUDINAL AND DISPOSITIONAL PREDICTORS OF ORGANIZATIONAL CITIZENSHIP BEHAVIOR. *Personnel Psychology*, 48(4), 775–802.

- Podsakoff, P. M., MacKenzie, S. B., Paine, J. B., & Bachrach, D. G. (2000). Organizational citizenship behaviors: A critical review of the theoretical and empirical literature and suggestions for future research. *Journal of Management*, 26(3), 513–563.
- Rotundo, M., & Sackett, P. R. (2002). The relative importance of task, citizenship, and counterproductive performance to global ratings of job performance: A policy-capturing approach. *Journal of Applied Psychology*, 87(1), 66–80.
- Rousseau, D. (1995). *Psychological contracts in organizations: Understanding written and unwritten agreements*. SAGE Publications, Inc.
- Schmidt, J. (2017). *Unerwünschte Effekte von Lohntransparenz?* (Tech. Rep.). IW-Report. (21), 1–41. Retrieved from <https://www.iwkoeln.de/studien/joerg-schmidt-unerwuenschte-effekte-von-lohntransparenz.html>
- Schnackenberg, A. K., & Tomlinson, E. C. (2016). Organizational transparency. *Journal of Management*, 42(7), 1784–1810.
- Schnake, M., & Dumler, M. P. (1997). Organizational citizenship behavior: The impact of rewards and reward practices. *Journal of Managerial Issues*, 9, 216–229.
- SimanTov-Nachlieli, I., & Bamberger, P. (2021). Pay communication, justice, and affect: The asymmetric effects of process and outcome pay transparency on counterproductive workplace behavior. *Journal of Applied Psychology*, 106(2), 230–249.
- Smit, B. W., & Montag-Smit, T. (2019). The pay transparency dilemma: Development and validation of the pay information exchange preferences scale. *Journal of Applied Psychology*, 104(4), 537–558.
- Smith, C. A., Organ, D. W., & Near, J. P. (1983). Organizational citizenship behavior: Its nature and antecedents. *Journal of Applied Psychology*, 68(4), 653–663.
- Stiglitz, J. E. (1985). Information and economic analysis: A perspective. *The Economic Journal*, 95, 21.
- van den Bos, K., & Lind, E. A. (2002). Uncertainty management by means of fairness judgments. In *Advances in experimental social psychology* (pp. 1–60). Elsevier.
- Veldman, A. (2017). *Pay transparency in the EU: a legal analysis of the situation in the EU Member States, Iceland, Liechtenstein and Norway*. European Commission Publications Office.
- Wagner, S. L., & Rush, M. C. (2000). Altruistic organizational citizenship behavior: Context, disposition, and age. *The Journal of Social Psychology*, 140(3), 379–391.
- Weller, I., & Göbel, L. (2019). Ein Jahr Entgelttransparenzgesetz. Das Gegenteil von gut ist gut gemeint. *Ifo Schnelldienst*(72), 21–26.
- Weller, I., Matiaske, W., & Holtmann, D. (2007). Leistungsorientierte entlohnung, extra-rollenverhalten und commitment. In M. Moldaschl (Ed.), (2nd ed., chap. Arbeit, Innovation und Nachhaltigkeit: Vol. 3. Immaterielle Ressourcen: Nachhaltigkeit von Unternehmensführung und Arbeit I). München: Hampp.
- Wooldridge, J. M. (2019). *Introductory econometrics* (7th ed.). Mason, OH: Cengage.
- Zuckerman, M. (1979). Attribution of success and failure revisited, or: The motivational bias is alive and well in attribution theory. *Journal of Personality*, 47(2), 245–287.