

Organizational Justice and Secondary Traumatic Stress among Child Welfare Workers:
The Moderated Mediation Model

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Abstract

Objective: Secondary Traumatic Stress (STS) is documented as a common occupational hazard among child welfare workers. We examined the moderated mediation effects of distributive, procedural, and interpersonal justice on child welfare workers' STS.

Method: We analyzed survey data collected from 1053 child welfare workers in a Midwestern state in 2018. Participants were asked to rate their STS and perceived organizational justice using valid scales. Hypotheses were tested using multiple regression and the PROCESS macro.

Results: Distributive justice was a stronger factor associated with STS. The direct effect of procedural justice was not significant. However, it was associated indirectly with STS through distributive justice. Interpersonal justice was associated directly with STS. Furthermore, it moderated the association between distributive justice and STS.

Conclusion: Findings suggest that the different types of organizational justice have different functions in reducing child welfare workers' STS. This study can contribute to developing justice-oriented and trauma-informed organizations that prevent child welfare workers' STS and reduce its negative effects on themselves, organizations, and children in the child welfare system.

Keywords: distributive justice, procedural justice, interpersonal justice, secondary traumatic stress, child welfare

Clinical Impact Statement

All types of organizational justice were demonstrated to be protective factors in reducing child welfare workers' STS, albeit with different functions. Distributive justice can allow for the equal and fair distribution of job resources and demands that affect STS. Procedural justice can ensure this distributive justice through democratic and empowering processes. Interpersonal justice can directly reduce STS by fostering mutual peer support and also strengthen the effect of distributive justice by promoting fair treatment. While self-care practices have been emphasized in addressing STS, we demonstrate the importance of organizational justice to diminish STS.

Introduction

Secondary Traumatic Stress (STS) refers to psychological symptoms acquired indirectly through exposure to persons suffering from trauma (Bride et al., 2004). STS has been documented well as a common occupational hazard among professionals in health and human service organizations. In particular, child welfare workers often face more prevalent and severe STS due to the nature of their job responsibilities that require ongoing interactions with children who experience serious traumatic events, such as child abuse and neglect (Sprang et al., 2011). Some child welfare workers are more responsible for investigating the reports of child abuse and neglect, while others are more responsible for providing ongoing case management to children and families involved in the child welfare system. While these job functions are essential for enhancing child safety, permanency, and well-being, these can be emotionally challenging and result in a higher level of STS. Many studies have shown that STS harms child welfare workers' health, well-being, high-quality services, and retention (Caringi & Hardiman, 2011; King, 2022; Rienks, 2020). Furthermore, child welfare workers' STS can lead to long-term negative consequences for children and families with whom they work together, including decreasing their safety, permanency, and well-being (Denne et al., 2019; Hensel et al., 2015).

While emphasis has been placed on self-care practices to reduce STS and burnout (Bloomquist et al., 2015; Salloum et al., 2018), previous empirical and review studies have also shown that organizational factors significantly prevent STS and reduce its negative consequences in various practice settings (Janczewski & Mersky, 2022; Molnar et al., 2017; Singh et al., 2020; Sprang et al., 2021). In particular, some studies suggest integrating organizational justice practices within an organizational climate is effective in addressing occupational stress (e.g., STS) and improving workers' health and well-being (Baciu & Vîrgă, 2018; Caringi et al., 2017; Cropanzano et al., 2004; Steiner, 2017; Vermunt & Steensma, 2001, 2005). Similarly, recent studies integrate organizational justice practices into the

development of trauma-informed organizations. Organizations that utilize justice rules within their structures, processes, and relationships can better realize the impact of trauma, recognize its signs and symptoms, and respond to all types of trauma that their workers and clients experience by ensuring fairness in organizational structures, processes, and relationships (Esaki, 2020; Miller et al., 2022; Strand, 2018).

Organizational Justice and STS

Organizational justice refers to the perceived adherence to specific rules and guidelines that determine the level of fairness in distributing outcomes, making decisions, and building interpersonal relationships in organizations (Colquitt & Rodell, 2015). It is not a single construct but can take various forms: distributive, procedural, and interactional justice. According to Colquitt et al. (2001), distributive justice is more concerned with the fair allocation of outcomes. Similar to distributive justice, procedural justice indicates the structural aspects of fairness in organizations. However, procedural justice is different from distributive justice because it focuses on fairness in decision-making processes (Leventhal, 1980). Finally, unlike distributive and procedural justice embedded in organizational structures, interactional justice is embedded in human relations within organizations. It can be further divided into two subtypes: interpersonal justice and informational justice. Interpersonal justice is concerned with fair treatment among staff members, while informational justice is concerned with equal information sharing (Bies, 2005). In this study, we focus specifically on interpersonal justice because it has been demonstrated to be a significant factor in addressing workers' workplace stress and improving their well-being (Engstrom, 2019).

A few studies have examined how organizational justice can be useful to effectively reduce workers' stress and health in the child welfare systems. For example, Engstrom (2019) found that organizational justice, particularly interpersonal justice, helped child welfare workers build trust and

mutual support with their co-workers and supervisors, which in turn resulted in reducing their stress and enhancing their well-being. Despite the potential benefits of organizational justice, however, it remains unknown whether organizational justice can function as a significant protective factor to reduce child welfare workers' STS. It is important to note that the perception of justice is socially constructed (Colquitt & Rodell, 2015). In other words, workers' perceptions of what is fair and just in organizations can vary and produce different outcomes across different problems, contexts, and settings. Therefore, additional research is needed to directly examine the effect of organizational justice on child welfare workers' STS.

Moreover, previous studies do not fully explain the dynamic relationships among the different types of organizational justice in addressing workers' occupational stress. In general, previous studies have evolved into three different approaches to examining the effects of organizational justice on workers' outcomes. First, some studies have examined the direct effect of each type of organizational justice as unique and independent factors (Rai, 2015; Steiner, 2017). For instance, Steiner (2017) reviewed the literature on organizational justice and found that all types of organizational justice were associated with workers' psychological well-being, mental health (e.g., depression, anger, and insomnia), and burnout. However, Rai (2015) found that distributive justice was a stronger factor in improving the overall well-being of professionals working at health and rehabilitation centers than other types of organizational justice.

In contrast, other studies have examined the mediation effects among different types of organizational justice based on the assumption that there are causal relationships among distributive, procedural, and interactional justice (Cloutier et al., 2018; Day, 2011; Rupp et al., 2017). Some studies have shown that procedural justice influences distributive justice (Day, 2011; Rupp et al., 2017). Rupp et al. (2017) reviewed the literature on organizational justice and identified the complex role of

procedural justice. Procedural justice has been demonstrated to be a unique and independent factor associated with workers' various outcomes. At the same time, it often functions as a precondition of distributive justice and also affects organizational outcomes by interacting with other types of organizational justice, such as interactional justice. Similarly, Day (2011) found that distributive justice was a stronger predictor of pay satisfaction than other types of organizational justice. In addition to these direct effects, Day also showed the significant mediation effect of distributive justice, indicating that procedural justice increased distributive justice, which in turn led to higher satisfaction with pay.

Finally, additional studies have examined whether different types of organizational justice interact with one another and strengthen each other's positive outcomes (Cropanzano et al., 2004; Greenberg, 1993; Vermunt & Steensma, 2005). Vermunt and Steensma (2005) argue that one type of organizational justice can reduce the negative effects of injustice or strengthen the positive effects of other types in managing workers' stress. In particular, the positive effects of distributive and procedural justice may be strengthened when workers in the same organizations have high relational motives, such as respect and trustworthiness (Lin et al., 2011; Tyler, 1994). Also, the moderation effect of interactional justice can be supported by the literature that examines the effects of social support on workers' STS. Previous studies have continuously demonstrated that peer support was a significant factor in reducing STS through mutual coping strategies (Hensel et al., 2015; Molnar et al., 2017), especially among child welfare workers (Molnar et al., 2020).

Study Aims and Hypotheses

Previous studies provide a useful conceptual framework that hypothesizes the important roles that organizational justice can play in addressing child welfare workers' STS. However, there is a lack of empirical evidence to support this hypothesized framework in child welfare organizations. Therefore, further research is required to better understand the dynamic associations among the different types of

organizational justice in addressing child welfare workers' STS. This study can provide useful insights into developing more comprehensive and holistic approaches to reducing STS through fair organizational structures, processes, and interactions. Therefore, the purpose of this study is to examine the hypothesized moderated mediation effects of distributive, procedural, and interpersonal justice on child welfare workers' STS by analyzing survey data (N= 1056) in a Midwestern state in 2018. Specific hypotheses include:

- Hypothesis 1: Distributive, procedural, and interpersonal justice will be negatively associated with child welfare workers' self-reported STS, respectively.
- Hypothesis 2: Distributive justice will mediate the association between procedural justice and STS.
- Hypothesis 3: Interpersonal justice will moderate the direct and indirect effects of procedural and distributive justice on STS.

Method

Participants

Participants were recruited from child welfare workers working at public child welfare organizations in a midwestern state in 2018 as part of the Title IV-E Waiver Demonstration Project that evaluated the outcomes of child welfare policies, workforce, and services in the state. The invitation letter was emailed to the entire staff of child welfare agencies in the state by partnering with the central office in the state child welfare system. Although participants did not receive any financial incentives, they were allowed to complete the online survey during their work hours (response rate = 67%). This study was approved by the Institutional Review Board at the University (ID: 1302010762). Some cases were excluded from the final analysis if participants did not have an active caseload. This exclusion criterion would be logical because child welfare workers who don't have any direct contact with trauma

cases may perceive less STS. Listwise deletion was used to handle missing data because the percentage of overall missing cases was very low (1.3%).

Measures

Organizational Justice

Organizational justice is defined as workers' perceived adherence to justice rules in assessing distributive, procedural, and interpersonal justice (Colquitt & Rodell, 2015). The three types of organizational justice were measured by the modified version of the valid scale originally developed by Niehoff and Moorman (1993). Specifically, distributive justice was measured by using five items that assessed fairness in distributing workers' demands and resources (e.g., I consider my workload to be quite fair). Procedural justice was measured by using six items that asked workers to evaluate the following rules when managers make job-related decisions: consistency, bias suppression, accuracy, correctability, representativeness, and ethicality (e.g., to make job decisions, my manager collects accurate and complete information). Interpersonal justice was measured by selecting only three items designed to assess fair treatment with respect, kindness, and dignity (e.g., my co-workers treat me with kindness and consideration). Also, this subscale was modified to measure interpersonal justice with their co-workers. All items were rated on a five-point scale (1 = *strongly disagree* to 5 = *strongly agree*), with higher scores indicating higher levels of distributive, procedural, and interpersonal justice. All three scales showed excellent Cronbach's alpha scores: distributive justice = .81, procedural justice = .93, and interactional justice = .98).

STS

STS was measured by Bride et al.' (2004) valid scale, consisting of 17 items that asked workers to self-rate how often they experience STS symptoms. Specifically, this scale was designed to measure intrusion (e.g., my heart started pounding when I thought about my work with clients), avoidance (e.g., I

felt emotionally numb), and arousal symptoms (e.g., I had trouble sleeping). All items were rated on a five-point Likert scale from 1 (*never*) to 5 (*very often*), with higher scores indicating more frequent STS symptoms. Cronbach's alpha (.95) showed excellent internal consistency.

Control Variables

Workers' individual and work-related variables were included in the final analyses based on the key findings of previous studies that examine key factors of STS (Molnar et al., 2017; Singh et al., 2020). For individual characteristics, gender was measured as a dichotomous variable (0 = male, 1 = female). Similarly, race/ethnicity was divided into two groups (0 = non-White, 1 = White). Age was measured as a continuous variable (years). For work-related variables, work experience indicates workers' total years of employment at public child welfare organizations. A workload variable was measured by a single question that asked them to rate the manageability of their workload on a 5-point Likert scale (1 = *extremely unmanageable* to 5 = *extremely manageable*). Supportive supervision was measured by ten items obtained from Fukui et al. (2014). This scale asked workers to assess how often they receive emotional support from their supervisors on a five-point Likert scale from 1 (*never*) to 5 (*very often*). Higher scores indicate supervisors' more frequent emotional support (Cronbach's alpha = .97).

Data Analysis

This study employed multiple statistical methods to test three hypotheses. First, multiple regression analyses were used to examine the direct effects of procedural, distributive, and interpersonal justice on child welfare workers' STS. To test the second and third hypotheses, the study utilized the PROCESS macro in the SPSS program (version 4.1) developed by Hayes (2017). The PROCESS macro is a regression-based approach to testing mediation, moderation, and moderated mediation analyses. It has been widely used in a variety of disciplines because it is easy to use and provides accurate results

that are compatible with structural equation modeling if a proposed path does not involve latent variables (Hayes & Rockwood, 2020). Therefore, the PROCESS macro would be appropriate for our study. Specifically, PROCESS model 4 was used to test the second hypothesis for the mediation effect of distributive justice on the association between procedural justice and STS. PROCESS model 59 was used to examine the third hypothesis for the mediation effect of interpersonal justice on the direct and indirect effects of procedural justice on STS. As the moderator variable is continuous, the Johnson-Neyman technique was used to probe the significance of the moderation effects. This technique is particularly useful for examining the interaction effect of continuous variables because it identifies regions of the moderator where the effect of an independent variable on a dependent variable is significant (Hayes, 2017).

Results

Descriptive Statistics of Major Variables

Table 1 displays the characteristics of the study sample, which included a majority of female (84.38%) and White (78.65%) child welfare workers. The mean age of the workers was 35 years old ($SD = 10.20$, range = 20 ~ 70). On average, they had 3.24 years of employment at the public child welfare organization ($SD = 4.54$, range = 0 ~ 30). The average score for the manageability of workload was 3.10 ($SD = 1.04$). Additionally, the average score for supportive supervision was 3.77 ($SD = .97$). The average score of STS among child welfare workers was 2.28 ($SD = .81$), indicating that, on average, workers experienced a moderate level of STS. For organizational justice, they reported a relatively higher level of interpersonal justice ($M = 4.11$, $SD = .78$) than procedural justice ($M = 3.15$, $SD = .86$) and distributive justice ($M = 3.28$, $SD = .73$).

[Insert Table 1 Here]

Direct Effects of Organizational Justice

Table 2 presents the results of examining the direct effects of the three types of organizational justice on STS. Procedural justice ($B = -.175, p < .001$), distributive justice ($B = -.320, p < .001$), and interpersonal justice ($B = -.130, p < .001$) were significant predictors of workers' STS when their effects were examined separately. However, when all three variables of organizational justice were included in Model 4, the significant effect of procedural justice disappeared, suggesting the potential indirect effect of procedural justice on STS ($B = -.037, p = .324$). In contrast, the direct effects of distributive justice ($B = -.279, p < .001$) and interpersonal justice ($B = -.076, p < .05$) on STS remained significant even when controlling for all types of organizational justice. The results imply that child welfare workers may better manage their STS when organizational demands and resources are equitably distributed, and when they receive treatment with respect and dignity from their coworkers. Of control variables, STS significantly decreased when workers were older ($B = -.013, p < .001$), were female ($B = -.160, p = .014$), perceived a higher level of workload manageability ($B = -.105, p < .001$), and received a higher level of supportive supervision ($B = -.067, p = .016$).

[Insert Table 2]

Moderated Mediation Effects of Organizational Justice

First, we examined the mediating role of distributive justice in the association between procedural justice and STS using the PROCESS Model 4 (see Figure 1). Although the direct effect of procedural justice on STS was not significant ($B = -.037, p = .324$), the indirect effect of procedural justice on STS through distributive justice was significant ($B = -.117, 95\% \text{ CI } [-.158, -.079]$). In other words, procedural justice was positively associated with distributive justice ($B = .420, p < .001$), which in turn led to decreased STS ($B = -.279, p < .001$).

[Insert Figure 1 Here]

Next, we investigated the moderating effects of interpersonal justice on all possible associations among procedural justice, distributive justice, and STS using PROCESS Model 59. The results revealed a significant moderating effect of interpersonal justice on the relationship between distributive justice and STS ($B = -.121, p = .014$, see Figure 1). Figure 2 presents the clear pattern of the moderation effect. The negative effect of distributive justice on STS was stronger as interpersonal justice was higher. The Johnson-Neyman technique indicated that this significant moderation effect occurred only when interpersonal justice was 3.09 or higher. These findings indicate that the three types of organizational justice are interrelated, but play different roles in addressing child welfare workers' STS. In particular, distributive justice and interpersonal justice strengthen each other's buffering roles to reduce STS. In other words, the protective effect of distributive justice can be maximized when interpersonal justice is higher.

[Insert Figure 2 Here]

Discussion

Organizational justice has received significant attention as an organizational mechanism to address workers' occupational stress and improve their safety and well-being. However, the potential benefits of organizational justice have not been fully understood for child welfare workers who work with children and families who suffer from trauma. To address this research gap, we examined the specific roles that each type of organizational justice—distributive, procedural, and interpersonal justice—can play in preventing and reducing child welfare workers' STS. Overall findings suggest that organizational justice can become a protective factor in reducing child welfare workers' STS. This empirical evidence contributes to the existing literature that suggests its positive outcomes on workers' stress and well-being (Cropanzano et al., 2004; Steiner, 2017; Vermunt & Steemsma, 2001, 2005).

Furthermore, this current study provides additional insights into understanding the different roles of each type of organizational justice in addressing child welfare workers' STS.

First, we found that distributive justice was a stronger factor associated directly with child welfare workers' STS as compared to other types of organizational justice. This finding is not surprising given that many studies have demonstrated more significant and stronger effects of distributive justice on workers' health and well-being, such as emotional exhaustion and well-being (Rai, 2015; Tayfur et al., 2013). Child welfare workers may be able to reduce their STS if their organizations assign higher trauma-inducing cases in a fair distribution. For example, high trauma caseloads and workloads such as cases involving sexual abuse are significant job demands that create STS and intensify negative outcomes (Singh et al., 2020). In this study, we also found that manageable workloads were negatively associated with child welfare workers' STS. Therefore, distributive justice may allow child welfare workers to be assigned to equal amounts of variable caseloads and workloads, which can prevent unequal exposures to traumatic events and provide equal time for all workers to cope with their STS.

Second, procedural justice was not associated directly with child welfare workers' STS. However, we found the indirect effect of procedural justice, indicating that procedural justice significantly increased distributive justice, which in turn resulted in reduced STS. This finding is different from previous studies that emphasize the direct and independent effects of procedural justice on workers' stress and health (Cloutier et al., 2018; Steiner, 2017). However, it is similar to other studies that showed the mediation effect of distributive justice on the association between procedural justice and workers' outcomes (Day, 2011). Therefore, it can be suggested that procedural justice should be treated as a precondition to improving distributive justice required for addressing STS.

Finally, we found that interpersonal justice appeared to play two important roles in reducing child welfare workers' STS. Interpersonal justice had a direct, negative effect on STS. Interpersonal

justice can improve their health and well-being by facilitating peer support and mutual help (Steiner, 2017). Indeed, peer support is one of the key principles for building trauma-informed organizations (Substance Abuse and Mental Health Services Administration [SAMHSA], 2014). Peer support is vital to creating emotionally and physically safe environments through trust-building and collaborative approaches, which in turn results in promoting recovery and healing (SAMHSA, 2014). Furthermore, peer support is essentially grounded in horizontal relationships that connect all people who experience trauma within organizations (Miller et al., 2022). Interpersonal justice can play an important role in promoting peer support by enhancing trust, addressing power dynamics, sharing stressful experiences, and facilitating mutual coping.

Also, this study provides another noteworthy finding. The moderation effect of interpersonal justice was significant only when distributive justice was linked to child welfare workers' STS. Furthermore, this moderation effect was significant at the moderate and high levels of interpersonal justice, but not at the lower levels. Accordingly, it can be suggested that maintaining at least a moderate level of interpersonal justice can serve as a protective factor that strengthens the benefits of distributive justice in reducing STS. Vermunt and Steensma (2001) contend that one type of organizational justice can either strengthen the positive effects of other types of organizational justice or buffer the negative effects of injustice on workers' stress. In particular, this moderation of interpersonal justice can exist with distributive justice because of the nature of interpersonal justice. Interpersonal justice is often viewed as the human side of distributive justice (Greenberg, 1993).

Limitations and Future Research

There is no study without limitations. The first limitation stems from the measure of organizational justice. Although we used a valid scale to measure organizational justice, the scale was not originally developed to assess the level of fairness in addressing STS. The meanings of

organizational justice can differ according to different problems, people, and contexts (Colquitt et al., 2001). Therefore, it is important to develop a valid and reliable scale that best reflects organizational justice in addressing STS among child welfare workers. Second, this study did not measure informational justice as another type of organizational justice due to less consensus on conceptual distinction from procedural justice. However, Bies (2005) suggests that informational justice can be separated from procedural justice. Future research should focus on examining the effects of informational justice on child welfare workers' STS as well as its relationships with other types of organizational justice. Additionally, causal relationships among different types of organizational justice were not fully tested in this study due to the use of cross-sectional data. Although this study showed the possibility that procedural justice might affect distributive justice, a meta-analysis (Hauenstein et al., 2001) found that the relationship between procedural and distributive justice was bidirectional. In addition, the perceptions of organizational justice can change over time as they have more interactions and gain more experience in their organizations. It is important to assess how child welfare workers' perceptions of organizational justice change over time and examine how this trajectory affects their STS. Finally, due to the dataset limitations, this study did not examine how the perception of organizational justice and its effects are influenced by individual workers' multiple identities. For example, LGBTQIA+ workers might interpret organizational justice differently in both nuance and degree as compared to those from other gender identities. Additional research is needed to explore the varying effects of organizational justice on STS according to child welfare workers' multiple identities, such as gender and race/ethnicity.

Conclusion

We conclude this paper with implications for developing Justice-oriented and Trauma-responsive Organizations in the public child welfare system. We found that all types of organizational justice,

distributive, procedural, and interpersonal justice, are essential in reducing child welfare workers' STS through multiple pathways and dynamic moderations. This study can provide useful implications for developing trauma-informed organizations to address STS based on organizational justice theory. Justice-oriented and Trauma-responsive Organizations (JTO) are required to build and maintain organizational culture and climate that 1) ensure an equal distribution of resources and opportunities to address trauma (distributive justice), (2) engage child welfare workers in developing trauma-responsive policies and services (procedural justice), and (3) foster equal treatment and mutual support with supervisors and co-workers.

More specifically, child welfare organizations should equitably distribute organizational resources and supports that are essential for addressing workers' STS, including training to recognize and respond to STS, self-care activities, and supportive supervision (Sprang et al., 2021). Workers often assess the fair distribution of resources based on an equity rule, such as sharing resources according to individual contribution (Colquitt & Rodell, 2015). However, other rules, such as equality, may be more appropriate or desirable in distributing certain outcomes. Thus, child welfare organizations should first identify organizational resources and demands that significantly affect their workers' STS and then determine which justice rule is more appropriate for distributing each identified outcome.

Such organizational decisions should be reached through fair and democratic processes. Colquitt and Rodell (2015) and Leventhal (1980) provide a set of rules required to promote procedural justice. Adhering to these rules, child welfare organizations should include, engage, and empower child welfare workers in developing organizations' trauma-informed policies and procedures with their voices and input. In addition, this organizational procedure should be consistent across people and time, be free of bias, based on accurate information, be correctable if revisions are necessary, include all representatives, and uphold ethical and moral values (Colquitt & Rodell, 2015; Leventhal, 1980).

Finally, child welfare organizations should develop emotionally safe and trusting environments that encourage their workers to treat each other with respect, honesty, and dignity. When they are treated fairly by their co-workers, they are more willing to share their stressful situations and work together to cope with their job stresses and conflicts (Jude & Colquitt, 2004). However, it is important to note that interpersonal justice with different people in organizations, such as supervisors may also have a significant impact on reducing STS. Indeed, this study showed that supervisors' emotional support was negatively associated with child welfare workers' STS. It would be interesting to delve deeper into whether the effect of interpersonal justice with co-workers is comparable to or distinct from interpersonal justice with supervisors, and how these mutually influence each other in mitigating STS.

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Table 1*Descriptive Statistics*

Variables	<i>n</i>	%	<i>M</i>	<i>SD</i>
Secondary Traumatic Stress	1,053		2.28	.81
Procedural justice	1,047		3.15	.86
Distributive justice	1,047		3.28	.73
Interpersonal justice	1,047		4.11	.78
Worker's age	992		34.98	10.20
Worker's gender	1,031			
Male	161	15.62		
Female	870	84.38		
Worker's race/ethnicity	1,035			
White	814	78.65		
Non-White	221	21.35		
Years of working experience	1,053		3.24	4.54
Workload	1,046		3.10	1.04
Supportive supervision	1,045		3.77	.97

Note. *N* = 1,053.

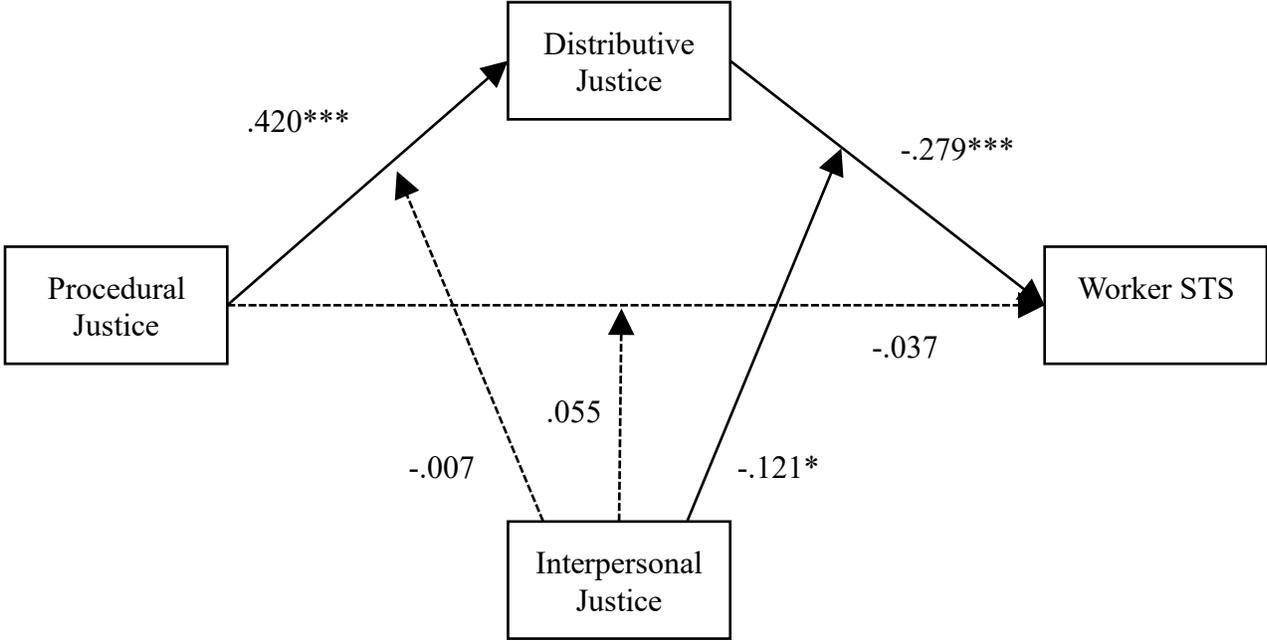
Table 2*Multiple Regression Model for Workers' STS*

Independent variables	Model 1			Model 2			Model 3			Model 4		
	B	β	SE									
Constant	4.238***		.170	4.463***		.170	4.431		.196	4.702		.193
Age	-.014***	-.174	.003	-.013***	-.164	.003	-.014***	-.170	.003	-.013***	-.162	.003
Gender – female	-.175**	-.078	.067	-.147*	-.065	.065	-.172*	-.076	.067	-.160*	-.071	.065
Race/Ethnicity - White	.071	.036	.059	.093	.047	.058	.065	.033	.059	.096	.048	.057
Years of working Experience	.012	.061	.006	.013*	.068	.006	.015*	.078	.006	.012	.063	.006
Manageability of workload	-.160***	-.204	.024	-.102***	-.129	.025	-.186***	-.237	.024	-.105***	-.133	.025
Supportive supervision	-.093**	-.109	.028	-.086**	-.101	.027	-.131***	-.154	.027	-.067*	-.079	.028
Procedural justice	-.175***	-.186	.032							-.037	-.039	.037
Distributive justice				-.320***	-.288	.038				-.279***	-.250	.045
Interpersonal justice							-.130***	-.124	.032	-.076*	-.073	.032
	$F(7, 960) = 27.866***$			$F(7, 960) = 34.862***$			$F(7, 960) = 25.660***$			$F(9, 958) = 28.089***$		
	$R^2 = .169, Adj R^2 = .163$			$R^2 = .203, Adj R^2 = .197$			$R^2 = .158, Adj R^2 = .151$			$R^2 = .209, Adj R^2 = .201$		

Note. $N = 1,053$.

Figure 1

Moderated Mediation Model for Workers' STS



Note. Dotted lines represent an insignificant path.

* $p < .05$, ** $p < .01$, and *** $p < .001$

Figure 2

The Moderation Effects of Interpersonal Justice on the Association between Distributive Justice and Workers' STS

