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EFFECTS OF ORGANISATIONAL JUSTICE AND JOB STRESSORS ON EMPLOYEE HEALTH: A MULTILEVEL MEDIATION APPROACH

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ABSTRACT

Research to date, has found that organisational justice enhances different kinds of work outcomes in an organisation. However, while most studies have investigated the effect of organisational justice on employees' outcomes via several mediational pathways, a lack of studies is evident on how organisational justice influences employee health via two different kinds of job stressors, namely challenge and hindrance stressors. Drawing from the notion that working conditions are created by upper-level management, the current study tested the influence of organisational justice via challenge and hindrance stressors. Using a cross-sectional multilevel design, 129 individuals from 25 manufacturing companies from Peninsular Malaysia were involved in the study. Results from a Hierarchical linear modelling (HLM) analysis indicated that all three, the procedural, distributive and interactional sub-dimensions of organisational justice had a positive relationship with challenge stressors but were not related to hindrance stressors. Interestingly, while hindrance stressors are commonly known to have detrimental effects on employee health, the study's results indicated that these relationships were positive. The study provides evidence that good management practices, mainly via organisational justice, not only boost employees' interpretation of job stressors as positive, but also improves their health.

Keywords: Organizational justice, challenge stressor, hindrance stressor, multilevel research.

INTRODUCTION

Organisational justice is an old concept that has emerged in the literature over past decades, yet it remains an important topic in explaining employees' well-being and organisational effectiveness (Colquitt, 2001; Elayan, 2024). In general, organisational justice reflects how employees perceive the justice and fairness of organisational practices, mainly via the following three important domains: procedural justice (fairness of decision-making processes); distributive justice (fairness of outcomes); and interactional justice (equity and fairness in interpersonal treatment by supervisors) (Colquitt, 2001). Organisational justice has been found to directly trigger employees' performance (Virgolino, et al. 2023); organisational citizenship behaviour (Changaranchola & Samantara, 2024); and job satisfaction (Lee & Rhee 2023). Several recent studies found that organisational justice also acted as predictor of employee health and well-being (Aggarwal & Mittal 2021; Cachón-Alonso & Elovainio, 2022). Most organisational justice research has heavily emphasised work outcomes, such as absenteeism or job performance (Ha & Moon, 2023); therefore, explanations have relied on social exchange theory (SET) (Cropanzano & Mitchell, 2005), which emphasises the exchange process between organisational context and work outcomes. For instance, Embalsado et al. (2025) found that supervisor and colleague autonomy significantly supported the predicted outcome of employee well-being. However, we have conceptualised organisational justice as part of organisational practices that trigger psychological health issues, mainly via the design of job characteristics (Demerouti et al., 2001; Dollard & Bakker, 2007).

Organisational justice has mainly been measured using a composite construct. However, it has recently been suggested that specific sub-dimensions of organisational justice, i.e., procedural justice, distributive justice and interactional justice be used, as each of these sub-dimensions reacts differently, thus resulting in different outcomes. For example, while distributive justice correlates with job satisfaction (Mulgund, 2022), procedural justice mainly predicts organisational commitment (Dawud et al. 2018). In addition, most studies on organisational justice and its outcomes have relied on individual-level analysis. It has recently been argued that a multilevel research approach is needed when examining organisational justice as the construct itself refers to the collective perceptions of fairness at the group or organisational level, rather than individual interpretation (González-Romá & Hernández, 2023). As supported by one meta-analysis, perceptions of organisational justice have a moderately positive correlation with individual-level work outcomes, such as job satisfaction and organisational commitment (r=0.27), indicating the top-down influence of organisational justice on outcome variables (Wolfe & Lawson, 2020). This finding suggests that organisational justice has sufficient effect on individual work outcomes, supporting the idea of top-down effects in organisational settings. While this finding does not specifically explain how organisational justice relates to job stressors or health outcomes, it suggests that organisational justice is a multilevel construct. Thus, the aim of the current study is to investigate the multilevel effect of sub-dimensions of organisational justice on employee health, with challenge and hindrance stressors acting as mediators.

This study contributes to the literature in several ways. Firstly, organisational justice has mainly been investigated using a composite construct as the measure. However, researchers distinguish sub-dimensions of organisational justice (i.e., procedural justice, distributive justice and interactional justice), as evidence to date has revealed that different sub-dimensions of organisational justice yield unique outcomes (Behson, 2021; Bobocel, 2021). Prior research has demonstrated that these sub-dimensions are intrinsically heterogeneous and have different influences on outcomes, such as turnover intention and work engagement (Lupșa et al. 2020). Distributive and interactional justice significantly influence employee performance and

engagement, although procedural justice may not exert a comparable impact (Sharma & Kumra, 2020). Secondly, while job stressors have usually been recognised as detrimental, scholars have recently argued that job stressors can be categorised into challenge–hindrance perspectives (Cavanaugh et al., 2000; Horan et al., 2020). Challenge stressors mainly trigger positive health outcomes (Rosen et al., 2020), while hindrance stressors could decrease employee health (Yang & Li, 2021). The current study incorporates both challenge and hindrance stressors as mediators, in alignment with contemporary theoretical advancements of justice–health models, thereby contributing significantly to research in organisational behaviour.

Thirdly, most researchers have investigated organisational justice within Western contexts, but studies from the perspective of Asian countries are scarce. It is important to realise this paucity of information in other cultural contexts, as the interpretation of organisational justice is also influenced by culture, with not all countries holding a similar view on how justice is interpreted (Cropanzano & Ambrose, 2015). These differences are expected as individualism, such as in the Western context, demonstrates personal autonomy and aspiration, while in Asian culture, for example, in Malaysia, individuals generally seek support in exchange for their loyalty (Hofstede Insights, 2021). It is therefore worthwhile to conduct research outside of the usual Western context.

ORGANISATIONAL JUSTICE AND ITS ASSOCIATION WITH CHALLENGE AND HINDRANCE STRESSORS

Research has consistently indicated that perceptions of organisational justice play a crucial role in shaping employees' perceptions and behaviours within the workplace. A just and equitable work environment promotes a constructive atmosphere, motivating employees to perceive new tasks as opportunities and to engage with enthusiasm. In contrast, perceptions of injustice can result in adverse work attitudes, causing employees to view their responsibilities as burdensome and potentially leading to resistance against new tasks or initiatives. Employees built their justice perception based on distribution norms and management procedures, as well as their interaction with fellow subordinates (Fauzi & Rahim, 2023). This dynamic can be analysed through Adams' (1965) equity theory which asserts that individuals assess fairness by comparing their inputs (effort, time, skills) with the outcomes they receive (pay, recognition). When individuals perceive this input–output ratio as fair, they are more inclined to experience favourable emotional and cognitive responses. The perception of inequity may result in distress and a reduction in motivation. When outcomes are perceived as equitable, challenging tasks may be regarded as opportunities for development. Perceptions of unfair outcomes can lead to the interpretation of similar tasks as obstacles which may increase frustration and foster a sense of disconnect.

The existing literature, although insightful, lacks robust empirical models that explicitly connect each sub-dimension of organisational justice to the classification of stressors as either challenging or hindering. We postulate that when organisations strategically prioritise different sub-dimensions of organisational justice, employees may start to exert more positive emotions in the workplace. For instance, with a focus on procedural justice, managers will reduce bureaucracy in work processes that could be a form of work hindrance and stimulate employees with more progressive and challenging tasks. Distributive justice reflects how employees feel valued by the organisation by aligning strategic goals to rewards distribution. This gap in the literature is addressed by the current study in its analysis of how sub-dimensions of justice influence the perspective of stressors, specifically regarding their complexity (challenge) and obstruction

(hindrance). The following hypotheses were formulated based on this three-dimensional framework of organisational justice, comprising distributive justice, procedural justice and interpersonal justice, alongside stressors which were categorised as either a challenge or a hindrance:

Hypothesis 1: Each of the following: (a) Distributive justice, (b) Procedural justice, (c) Interactional justice is positively related to challenge stressors.

Hypothesis 2: Each of the following: (a) Distributive justice, (b) Procedural justice, (c) Interactional justice is negatively related to hindrance stressors.

CHALLENGE AND HINDRANCE STRESSORS AND EMPLOYEE HEALTH

As briefly discussed previously, the two distinct categories of stressors are challenge stressors and hindrance stressors (Cavanaugh et al., 2000). Challenge stressors refer to the requirements of a job that are seen by employees as gratifying work experiences that create opportunities for personal development (Cavanaugh et al., 2000). Conversely, hindrance stressors refer to the demands of employees' employment that are seen as impediments to their personal development (Cavanaugh et al., 2000). In this context, stressors refer to the way in which workplace circumstances might affect an employee's health and well-being. For example, a manufacturing industry executive may interpret pressure as the lack of time to accomplish a project's stated objectives, resulting in strain and frustration.

An essential framework through which to understand the interplay of stressors and possible outcomes is the job demands–resources (JD-R) theory (Demerouti et al., 2001). This posits that two broad categories, namely job demands and job resources, characterise the job environment. Sustained physical or psychological effort, such as workload, time pressure or emotional demands, which can lead to strain and burnout when excessive, are considered as job demands. In contrast, job resources, including autonomy, social support and performance feedback, help employees to achieve work goals, reduce the impact of demands and foster personal growth and development. The JD-R model provides insights on the following two key psychological processes: the health impairment process, where high demands lead to energy depletion and health problems, and the motivational process, where sufficient resources enhance engagement and well-being (Bakker et al., 2023). With the original notion of the JD-R theory intended to investigate both negative and positive job environments (job demands vs. job resources), in general, the model emphasises job stressors as a form of job demand that triggers exhaustion and depression (Bakker & Demerouti, 2007). Although job resources are not part of the current study, several other studies on the JD-R theory have distinguished different kinds of job demands from negative, as well as positive perspectives. For instance, Salimzadeh (2021) found that performance pressure (a negative job demand) and work autonomy (a positive job demand) were positively related to well-being and teaching effectiveness. Similarly, Vacchi et al. (2024) elucidated that distress (a negative job demand) and eustress (a positive job demand) were positively related to positive reframing. As highlighted in these studies, not all job demands were solely negative. Therefore, the current study postulated job demands as challenge stressors (i.e., a positive phenomenon) along with hindrance stressors (negative job demands) to further elucidate the effect on employee health. Based on this notion, the following hypotheses were developed:

Hypothesis 3: Challenge stressors are positively related to employee health.

Hypothesis 4: Hindrance stressors are negatively related to employee health.

MEDIATING EFFECT OF STRESSORS

Studies in the literature have widely discussed the effect of job stressors on health and well-being. Yet, despite the close link, very few studies have assessed the effects of the organisational context, such as organisational justice, on employee health via challenge and hindrance stressors. While no clear evidence is available on how sub-dimensions of organisational justice are preceded by challenge and hindrance stressors, several studies exploring the organisational context, on topics such as leadership (Alhaidan, 2024) and perceived organisational support (Wattoo et al., 2018), have provided evidence on how higher-level organisational practices enhance employee well-being. This interplay posits around social exchange theory (SET) (Cropanzano & Mitchell, 2005), whereby these interactions are typically regarded as interdependent and reliant on the actions of another individual (Blau, 1964). For example, Rosen et al. (2020) found that managerial support might result in adverse indirect impacts on employee well-being through challenge stressors, highlighting the necessity for consistency and equity in the management of workplace stressors. Thus, in relation to our study, organisational justice is presumed to be a form of organisational practice that would significantly elevate employee health. When elevated levels of organisational fairness are recognised by employees, they tend to view challenging work situations as opportunities instead of threats, resulting in enhanced well-being and performance. Moreover, the current study suggests that each sub-dimension of organisational justice has a unique effect on employee health. Positive perceptions of organisational justice are anticipated to diminish hindrance stressors while promoting challenge stressors, will result in improved health outcomes. In line with the above points raised, our study examined the role of challenge and hindrance stressors in mediating the relationship between sub-dimensions of organisational justice and employee health by testing the following hypotheses:

Hypothesis 5: Each of the following: (a) Challenge stressors, (b) Hindrance stressors mediate the relationship between distributive justice and employee health.

Hypothesis 6: Each of the following: (a) Challenge stressors, (b) Hindrance stressors mediate the relationship between procedural justice and employee health.

Hypothesis 7: Each of the following: (a) Challenge stressors, (b) Hindrance stressors mediate the relationship between interactional justice and employee health.

METHODOLOGY

Participants and Procedures

The study employed a cross-sectional design using a multilevel quantitative research approach. Prior to data collection, approval was obtained from the university's research ethics committee. We also obtained voluntary involvement from employees participating in the study. As multilevel research requires a few participants from each group or organisation, we contacted the human resources (HR) manager at each selected organisation and sought permission to conduct a survey, explaining details about the purpose of the study. Once permission was obtained, we then contacted employees from each organisation via email. Initially, we contacted 215 individuals from 43 organisations seeking at least five participants from each organisation, as recommended by Hox and Maas (2010). However, the study attracted participation from only 129 individuals (i.e., 60%) across 25 organisations (58%). Even though participation at the group level was less than 30, the number suggested by Maas and Hox (2005), several scholars have argued that 25 teams should be adequate (Hoffman & Gavin, 2003; Mathieu & Chen, 2011).

Measures

To measure most items, a 5-point Likert scale was utilised, ranging from 1 for 'strongly disagree' to 5 for 'strongly agree'. The health construct was measured differently. All scales had good Cronbach's alpha (α) values as reported in Table 1.

Organisational Justice

Organisational justice was assessed by 15 items derived from Colquitt et al. (2001), these consisted of the three sub-dimensions of justice (distributive justice, procedural justice and interactional justice). Examples of organisational justice items were as follows: "The implementation of procedures in my organisation has been free of bias"; "The explanations by my organisation regarding all the procedures are reasonable"; and "All the procedures in my organisation uphold ethical and moral standards".

Stressors

Challenge and hindrance-related stressors were assessed using 11 items from Cavanaugh et al. (2000). Examples of hindrance stressor items were as follows: "The amount of red tape I need to go through to get my job done" and "The degree to which politics rather than performance affects organisational decisions" whereas, for challenge stressors, examples of items were "The amount of responsibility I have" and "The scope of responsibility my position entails". As the stressors' scales could vary across cultural contexts, an exploratory factor analysis was conducted. Challenge stressors and hindrance stressors reflected two different constructs, with each respective item pooling into its own specific construct.

Health

To assess the health of participants, the General Health Questionnaire-12 (GHQ-12) was utilised (Goldberg, 1972). Each item presented four possible responses, ranging from 1 for 'more than usual' to 4 for 'much less than usual'. Among the items were "Have you recently been able to concentrate on what you're doing?"; "Have you been recently feeling unhappy and depressed?"; "Have you been recently losing confidence in yourself?"; and "Have you recently been thinking of yourself as a worthless person?".

ANALYTICAL STRATEGY

As organisational justice, by its nature, is a multilevel construct, we first used *rWG[J]*, *F* and ICC values to establish our study's analysis. The *rWG[J]* values of all sub-dimensions of organisational justice were higher than 0.90, in accordance with LeBreton and Senter (2008). The intra-class correlation coefficient (ICC) values for each sub-dimension of organisational justice were considered adequate, with adequacy determined by values ranging from 0.05–0.20 (Bliese, 2000). In the current study, the ICC coefficient for procedural justice was 0.19, while the values for distributive and interactional justice were 0.19 and 0.17, respectively. We also ran a one-way random effect analysis of variance (ANOVA) for all three sub-dimensions of organisational justice with the following results: $F(_{III})=1.86$ ($p<0.05$) for distributive justice; $F(_{III})=1.64$ ($p<0.05$) for procedural justice; and $F(_{III})=1.55$ ($p<0.05$) for interactional justice.

The following three steps of analysis were utilised to test the hypotheses: lower-level effects, cross-level effects and mediation effects. The analysis began with the lower-level direct effects outcome variable regressed on dependent variables, followed by conducting the same process with the cross-level direct effects variables (Mathieu & Taylor, 2007). To assess the mediation effects, we next identified the following two pathways: the connection from the independent variable (X) to the mediator (M), designated as Path "a" (X → M), and the link from the mediator to the dependent variable (Y), designated as Path "b" (M → Y), while controlling for the direct path from X to Y (Baron & Kenny, 1986).

The researchers first tested Hypotheses 1(a), 1(b), 1(c), 2(a), 2(b) and 2(c), which proposed that the cross-level effects of all three sub-dimensions of organisational justice are related to challenge stressors and hindrance stressors. The researchers regressed the lower-level dependent variables (challenge stressors and hindrance stressors) on the upper-level variables (distributive justice, procedural justice and interactional justice), utilising the following equations for Models 1a, 1b, 1c, 2a, 2b and 2c. For instance, below are the Equations for Models 1a and 2c:

Equation (Model 1a):

$$Challenge\ Stressors = \beta_0 + r$$
$$\beta_0 = \gamma_{00} + \gamma_{01}\ (Distributive\ Justice) + u_0$$

Equation (Model 2c):

$$Hindrance\ Stressors = \beta_0 + r$$
$$\beta_0 = \gamma_{00} + \gamma_{01}\ (Interactional\ Justice) + u_0$$

Conversely, for the lower-level direct effects, Hypothesis 3 and Hypothesis 4 indicated that challenge and hindrance stressors would be related to employee health. In this case, the researchers regressed employee health on challenge stressors and hindrance stressors using the following hierarchical linear modeling (HLM) equation (Model 3c):

$$Employee\ Health = \beta 0 + \beta 1\ (Challenge\ Stressors) + \beta 2\ (Hindrance\ stressors) + r$$
$$\beta 0 = \gamma 00 + u0$$
$$\beta 1 = \gamma 10 + u1$$
$$\beta 2 = \gamma 20 + u2$$

To test Hypotheses 5(a), 5(b), 6(a), 6(b), 7(a) and 7(b), the researcher ran a mediation analysis. As suggested by Baron and Kenny (1986), we assessed paths "a" and "b" to examine the mediation components of the hypotheses. The parameter estimates from Models 1a, 1b, 1c, 2a, 2b and 2c were used again to assess the Path "a" (X → M) relationship. Subsequently, for Path "b", we regressed the lower-level variable, employee health, on challenge and hindrance stressors upon upper-level organisational justice sub-dimensions in Models 4a, 4b and 4c, using the following equation. The Model 4a Equation is shown as the example below:

Equation (Model 4a):
Level 1

$$Employee\ Health = \beta 0 + \beta 1\ (Challenge\ Stressors) + \beta 2\ (Hindrance\ stressors) + r$$
$$\beta 0 = \gamma 00 + u0$$
$$\beta 1 = \gamma 10 + u1$$
$$\beta 2 = \gamma 20 + u2$$

Level 2

$$\beta 0 = \gamma 00 + \gamma 01\ (Distributive\ Justice) + u0$$
$$\beta 1 = \gamma 10 + u1$$
$$\beta 2 = \gamma 20 + u2$$

The Monte Carlo method, considered the most appropriate assessment technique in multilevel research design (Selig & Preacher, 2008), was employed to assess the significance of the mediation analysis. In the current study, the researcher employed the Monte Carlo test with a 95% confidence interval (CI) and 20,000 iterations.

RESULTS

Hypotheses 1(a), 1(b) and 1(c) predicted the associations between the three sub-dimensions of organisational justice and challenge stressors. Congruent with our hypothesis, this study revealed a positive association between distributive justice and challenge stressors (Model 1a, see Table 2) with γ=0.14 and standard error (SE)=0.04 (p<0.01). We found that procedural justice was also positively associated with challenge stressors (Model 1b, see Table 2), with γ=0.13 and SE=0.04 (p<0.01). Interactional justice in Model 1c then had a positive association with challenge stressors, with γ=0.11 and SE=0.04 (p<0.05). Hence, Hypotheses 1(a), 1(b) and 1(c) were all accepted. Subsequently, though Hypotheses 2(a), 2(b) and 2(c) predicted a negative relationship between the three sub-dimensions of organisational justice and hindrance stressors, the results varied from our assumption, as the relationship between distributive justice and hindrance stressors was not significant (Model 2a, see Table 3), with γ=-0.02 and SE=0.12 (p>0.05). Similarly, procedural justice was not found to be related to hindrance stressors (Model 2b, see Table 3), with γ=-0.06 and SE=0.10 (p>0.05). In addition, Hypothesis 2c which postulated an association between interactional justice and hindrance stressors was also not significant, with γ=0.04 and SE=0.10 (p>0.05). Hypotheses 2(a), 2(b) and 2(c) were therefore all rejected.

Employee health was next regressed on the challenge stressor variables, as well as on the hindrance stressor variables. For Hypothesis 3, challenge stressors were predicted to be positively related to employee health,

whereas for Hypothesis 4, hindrance stressors were predicted to be negatively related to employee health. In accordance with Hypothesis 3, this study discovered a positive correlation between challenge stressors and employee health, as noted in Model 3c (see Table 4), with β=0.20 and SE=0.08 (p<0.01). Contradicting the Hypothesis 4 prediction, as shown in Model 3c (see Table 4), hindrance stressors were positively related to employee health, with β=0.36 and SE=0.09 (p<0.001). Therefore, Hypothesis 3 was accepted but Hypothesis 4 was rejected.

In investigating the mediation effect, in Hypothesis 5(a), we theorised that challenge stressors would mediate the relationship between distributive justice and employee health. Path "a" assessed the direct relationship, as shown in Model 1a (see Table 2), with γ=0.13 and SE=0.04 (p<0.01), while Path "b" assessed the association of challenge stressors and employee health with distributive justice, as shown in Model 4a (see Table 5), with β=-0.03 and SE=0.05 (p>0.05). Linking these two paths, the mediation association between distributive justice and employee health via challenge stressors, at 95% CI [-0.152, 0.157], was found to be not significant. Hypothesis 5(a) was therefore rejected. Hypothesis 5(b) predicted that hindrance stressors would mediate the relationship between distributive justice and employee health. Path "a" evaluated the direct relationship, as shown in Model 2a (see Table 3), with γ=-0.02 and SE=0.12 (p>0.05). Path "b", in the meantime, assessed the association between hindrance stressors and employee health with distributive justice, as shown in Model 4a (see Table 5), with β=-0.03 and SE=0.05 (p>0.05). Hypothesis 5(b) was not accepted due to the absence of a significant mediation association between distributive justice and employee health via the hindrance stressors, at 95% CI [-0.025, 0.025].

Hypothesis 6(a) predicted that challenge stressors would mediate the procedural justice and employee health relationship. Path "a" examined the direct association, as shown in Model 1b (see Table 2), with γ=0.15 and SE=0.04 (p<0.01), while Path "b" assessed the association between challenge stressors and employee health with procedural justice, as shown in Model 4b (see Table 5), with β=0.02 and SE=0.07 (p>0.05). The Monte Carlo test found no mediation connection between procedural justice and employee health through challenge stressors, at 95% CI [-0.024, 0.026]. Therefore, Hypothesis 6(a) was rejected. Subsequently, Hypothesis 6(b) predicted that hindrance stressors would mediate the procedural justice and employee health relationship. Path "a" examined the direct relationship, as shown in Model 2b (see Table 3), with γ=-0.06 and SE=0.10 (p>0.05). Path "b" examined the link between hindrance stressors and employee health with procedural justice, as shown in Model 4b (see Table 5), with β=0.02 and SE=0.07 (p>0.05). However, hindrance stressors were found to have no significant mediation effect on the procedural justice and employee health relationship, at 95% CI [-0.019, 0.021]. Thus, Hypothesis 6(b) was rejected.

Hypothesis 7(a) predicted that the relationship between interactional justice and employee health would be mediated by challenge stressors. Path "a" assessed the association between interactional justice and challenge stressors, as shown in Model 1c (see Table 2), with γ=0.11 and SE=0.04 (p<0.01), while Path "b" assessed the association between challenge stressors and employee health with interactional justice present, as shown in Model 4c (see Table 5), where β=-0.06, SE=0.06, and p>0.05. At a 95% CI [-0.014, 0.009], the study found that the association was not significantly mediated by challenge stressors. With this result, Hypothesis 7(a) was not accepted. Finally, Hypothesis 7(b) anticipated that hindrance stressors would mediate the association between interactional justice and employee health. Path "a" examined the direct association, as shown in Model 2c (see Table 3), with γ=0.04 and SE=0.10 (p>0.05), while Path "b" examined the association between hindrance stressors and employee health with interactional justice, as

shown in Model 4c (see Table 5), with β=-0.05 and SE=0.06 (p>0.05). However, mediation by the hindrance stressors in their association between interactional justice and employee health was not significant, at 95% CI [-0.014, 0.010]. Thus, Hypothesis 7(b) was accepted.

The results of correlation analysis and reliability tests of the variables are as shown in Table 1. The study then presents the results of the hierarchical linear modelling (HLM) analysis in Table 2, Table 3, Table 4 and Table 5. Figure 1 then summarises all the findings from this study.

Table 1

Means, Standard Deviations and Correlations between Variables

Variable	M	SD	α	Items	1	2	3	4	5	6
Distributive Justice	3.35	.94	.95	4						
Procedural Justice	3.25	.99	.95	5	.73**					
Interactional Justice	3.45	.91	.95	6	.68**	.70**				
Challenge Stressors	3.56	1.00	.94	6	.29**	.36**	.23*	.14		
Hindrance Stressors	2.92	.68	.73	5	-.18*	-.35**	-.20*	-.29**	-.09	
General Health	1.88	.65	.93	12	-.08	-.07	-.13	-.34**	.06	-.33**

Notes. N=129; α=Cronbach's alpha; M=median; SD=standard deviation; *p<0.05; **p<0.01

Table 2

Multilevel Models Predicting Challenge Stressors

	Challenge Stressors			
	Null	Model 1a	Model 1b	Model 1c
Lower-level effects				
Intercept	0.00(0.06)	0.00(0.05)	0.00(0.05)	0.00(0.05)
Cross-level effects				
Distributive Justice		0.14(0.04)**		
Procedural Justice			0.13(0.04)**	
Interactional justice				0.11(0.04)**

Notes. N=129 individuals with 25 teams; Numbers in parentheses are standard errors. *p<0.05; **p<0.01; ***p<0.001

Table 3

Multilevel Models Predicting Hindrance Stressors

	Hindrance Stressors			
	Null	Model 2a	Model 2b	Model 2c
Lower-level effects				
Intercept	-0.00(0.10)	-0.00(0.10)	-0.00(0.10)	-0.00(0.10)
Cross-level effects				
Distributive Justice		-0.02(0.12)		
Procedural Justice			-0.06(0.10)	
Interactional justice				0.04(0.10)

Notes. N=129 individuals with 25 teams; Numbers in parentheses are standard errors. *p<0.05; **p<0.01; ***p<0.001

Table 4

Models Predicting Health

	Health			
	Null	Model 3a	Model 3b	Model 3c
Lower-level effects				
Intercept	0.000(0.08)	0.00(0.08)	0.00(0.07	0.00(0.06)
Challenge Stressors		0.17(0.08)*		0.20(0.07)**
Hindrance Stressors			0.34(0.09)***	0.36(0.09)***

Notes. N=129 individuals with 25 teams; Numbers in parentheses are standard errors. *p<0.05; **p<0.01; ***p<0.001

Table 5

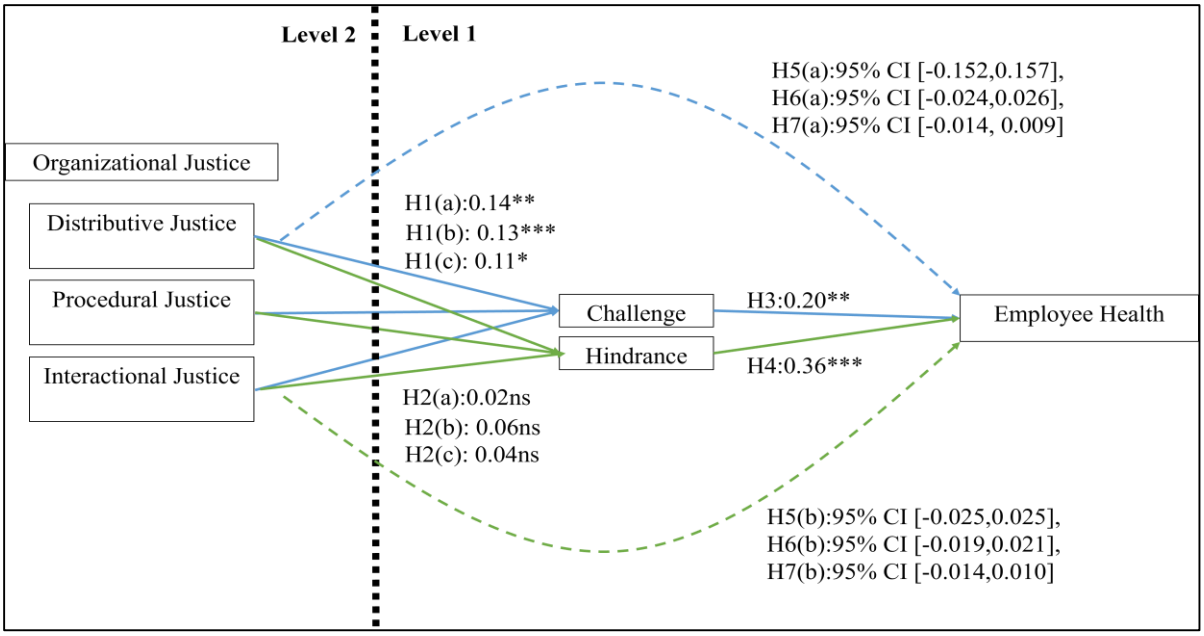
Multilevel Models Predicting Health

	Health		
	Model 4a	Model 4b	Model 4c
Lower-level effects			
Intercept	-0.00(0.08)	0.00(0.06)	-0.00(0.63)
Challenge Stressors	0.20(0.08)**	0.20(0.07)**	0.20(0.08)**
Hindrance Stressors	0.35(0.08)***	0.35(0.09)***	0.35(0.09)***
Cross-level effects			
Distributive Justice	-0.03(0.05)		
Procedural Justice		0.02(0.07)	
Interactional justice			-0.05(0.06)

Notes. N=129 individuals with 25 teams; Numbers in parentheses are standard errors. *p<0.05; **p<0.01; ***p<0.001

Figure 1

Final Model Indicating Direct and Mediation Effects



Notes. The mediated impact of organisational justice on health via stressors is displayed through the dotted lines; solid paths reflect the direct impacts of the studied variables; CI=confidence interval; ns=not significant

DISCUSSIONS AND IMPLICATIONS

This study investigated the effects of the three sub-dimensions of organisational justice, namely procedural, distributive and interactional, on employee health, mainly via the influences of challenge and hindrance stressors. The study provides a comprehensive understanding of how perceptions of justice influence individual reactions to stressors and, consequently, their health. Overall, the results showed that all three sub-dimensions of organisational justice were positively linked to challenge stressors. It was found that when employees perceived that outcomes, procedures and interpersonal treatment were equitable, they were more likely to view adverse work circumstances as opportunities for advancement rather than as threats. The job demands–resources (JD-R) model (Bakker & Demerouti, 2007) posited that elevated unnecessary job demands could improve employee well-being, the current study revealed that if an organisation maintained organisational justice, this stimulated employees to perceive job stressors as a challenge, rather than a hindrance. Moreover, as derived from a postulation in cognitive appraisal theory (Lazarus & Folkman, 1984), stressors can reflect the disproportion between challenging demands placed on employees and employees' resources to manage these demands. In other words, organisational justice stimulates employees' cognitive appraisal of whether job stressors are perceived as a threat or as a stimulus. This perception depends on how they interpret their environment and the possible consequences of their rational patterns (Lazarus, 1991), with fairness at work helping employees to see stressors as challenges not hindrances, which also improves their well-being.

It is important to highlight that this study found no significant relationships between the different sub-dimensions of organisational justice and hindrance stressors. These results are not significant due to the *a priori* classifications used in the challenge and hindrance stressor measurement. The *a priori*

classification of stressors can be problematic for both conceptual and empirical reasons, even though the measurements in our study have expanded upon previous research by evaluating stressors in the categories of challenge or hindrance stressors (Mazzola & Disselhorst, 2019). The challenge and hindrance stressor model relies on the transactional theory of stress which does not support the a priori classification of stressors (Cavanaugh et al., 2000). According to this idea, individuals consider any form of stressor as an impediment if they believe it will keep them from achieving their professional goals (Lazarus, 1991). The importance of evaluating an individual's perception cannot be overstated, even though past research has shown that various stressors are linked to both positive and negative repercussions (LePine et al., 2005).

As anticipated, challenge stressors were associated with better employee health, consistent with the challenge–hindrance concept (Cavanaugh et al., 2000; LePine et al., 2005). Challenge stressors, also known as job demands, positively predict psychological outcomes, thus suggesting a gain in resources. This is due to challenge stressors, such as time constraint and workload, enabling employees to identify their competence in carrying out difficult tasks and their self-worth. This study's findings confirmed the founding principles of the JD-R model (Bakker & Demerouti, 2014), according to which challenge stressors could be a vital resource contributing to an upsurge in employee health and well-being as they provide growth and development opportunities. Challenge stressors promote better employee health owing to the high self-autonomy effort needed to address the stressors (Kern et al.,2020).

Interestingly, the current study found that hindrance stressors were also positively related to employee health. While hindrance stressors lead to detrimental health effects, this is dependent on how individuals interpret these stressors. When employees tend to believe that being able to satisfy job demands leads to good outcomes, those demanding conditions prompt positive responses. In line with the conservation of resources (COR) theory (Hobfoll, 1989), employees' resilience and their capacity to obtain supplementary resources may cultivate coping skills, hence enhancing their psychological well-being (Ng & Lee, 2024). Hindrance stressors often facilitate human development when accompanied by sufficient support and autonomy (Tan & Chong, 2022). For instance, the negative effects of hindrance stressors can reduce exhaustion while employees maintain better health and foster stress resilience (Sawhney & Michel, 2021). Similarly, as shown in our study, hindrance stressors might not be perceived as a threat, with this perception common in the Asian context. Employees in Asian countries may view demanding job requirements as part of their work place that enables them to adapt to those demands, while placing greater emphasis on maintaining their health (Lu et al., 2013).

Our study's mediation analysis revealed that, although direct effects existed, the expected indirect effects of organisational justice on health through stressors were not found. It is possible that both types of stressors need longer exposure, with several studies having found that exposure of 2–6 months (Pindek et al., 2024) is needed for an individual to be affected. The small number of organisations may have created a low effect size, as a higher sample size at the upper level is crucial in testing a multilevel effect. This could be attributed to the limitations imposed by the *a priori* categories of stressors. Recent studies have suggested that the challenge–hindrance paradigm may facilitate the navigation of complexities associated with the subjective assessment of stressors. An employee with confidence or adequate support can perceive a stressor to be a challenge, even though it is typically regarded as a problem (Lim & Hassan, 2021).

This study has provided insightful implications in several ways. Theoretically, our study expands the conceptualisation of organisational justice by treating it as a multidimensional and multilevel construct. Rather than relying on a composite measure, we distinguished between procedural, distributive, and

interactional justice, demonstrating that each sub-dimension uniquely influences employees' perceptions of job stressors and health (Martínez et al., 2021). This suggests that future theoretical models should account for the differentiated roles of justice components and consider collective perceptions at the organisational level. Secondly, we integrated cognitive appraisal theory into the organisational justice framework, showing that fairness perceptions influence how employees appraise job stressors. This reinforces the idea that stress responses are not solely determined by the nature of the stressor but by how individuals interpret their environment, interpretations which have been shaped by organisational practices (Ben, 2019). The study also shows how important it is to distinguish challenging and hindering stressors, by categorising them into separate groups. Theoretical models of stress and well-being should therefore, incorporate appraisal mechanisms influenced by justice perceptions. Practically, this study has highlighted the dynamic interplay of stressors in Asian cultural settings. As shown in our study's results, ensuring that all sub-dimensions of organisational justice are fair may help employees to perceive difficult tasks in a more positive way.

LIMITATIONS AND FUTURE RESEARCH

Our study encountered some limitations. Firstly, due to the nature of the cross-sectional data and the risk of common method variance (Podsakoff et al., 2003), we were unable to show the causality effect. However, we ran Harman's test (Podsakoff & Organ, 1986), finding that all items did not appear as a single factor; therefore, this was not a major threat to our study's findings. In addition, the use of a multilevel design diminishes common method variance due to reaction bias (Kock, 2021). Secondly, organisational justice is a multi-dimensional construct best analysed using multilevel structural equation modelling (SEM) software, such as Mplus. Due to this study's relatively smaller sample at the upper level, the researchers were unable to use Mplus as it needed a sample size of at least 60 (Anderson & Gerbing, 1984; Jackson, 2001) Thirdly, organisational justice could be addressed through several other variables, such as salary, tenure, education level, job position and age, as these aspects have been found to influence how employees perceive fairness in organisational processes and outcomes (Preacher et al., 2010; Williams et al., 2022). Future research could replicate the proposed framework through a longitudinal study which would provide insights on changes in employees' perceptions of organisational justice over time. Finally, future research could also test a comparison between shortitudinal and longitudinal time frames as several scholars have argued that perceptions of stressors may fluctuate (Glei & Weinstein, 2024) or be prolonged (Salomon & Karlsdóttir, 2013) over time.

CONCLUSION

In conclusion, this study, from a Malaysian viewpoint is among the first to include both challenge and hindrance stressors in examining organisational justice and employee health and using a multilevel approach. This study highlights that long-term social contacts between employees and supervisors are more persistent than economic or calculative exchanges, particularly within the context of Malaysian culture. The results this study have helped us in identifying the ideal support structures for personnel in the manufacturing industry. These support structures may increase the obligation of employees to view stressors from an inspiring perspective, thereby improving their health. To establish and maintain organisational justice, managers need to ensure that choices are clear, resources are shared fairly, and employees have cordial relations with one another. Businesses also need to understand that not every difficulty they encounter is necessarily a bad thing. Employees can still do well even if regulations are hard to understand or follow, if they have the support they need.

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