

## The Relationship between Major Depression and Perceptions of Organizational Justice

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### Abstract

The aim of the study is to examine the idea that depressed and non-depressed employees hold different perceptions regarding the justice of their organizations, and that depressed employees are more sensitive to unfairness than fairness. The study used comparative design. All participants were employees participated voluntarily in this study. They were divided evenly into two groups, diagnosed depression outpatients (n = 60) referred by their physician in one of Kuwaiti mental health center, and nondepressed participants (n = 60) visited during their work period. Both sexes were distributed evenly within these two groups. The participants completed three measures: organizational justice, organizational injustice, and the Beck Depression Inventory. Using justice and injustice measures with depressed and non-depressed employees is a new approach that could clarify the role of depression in the perception of the organizational justice. The results shows that the differences between the two groups in all justice and injustice subscales are significant at .001. The depressed group had higher injustice means; and the non-depressed group had higher justice means. The two groups separately do differentiate between justice and injustice events, especially for non-depressed group where injustice means tend to be significantly higher than the justice mean. The study concluded that the emotional state of the depressed patient might affect how he/she perceive justice and injustice events, but the opposite remains possible. Individuals estimate injustice events more than counterpart justice events, regardless of depression.

**Keywords:** Depression; organization injustice; fairness; major depression and perceptions of organization justice.

### علاقة الاكتئاب الرئيسي بإدراك العدالة التنظيمية

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### ملخص

سعت الدراسة الحالية إلى التحقق من أن الموظفين المشخصين بالاكتئاب الرئيسي لديهم إدراكات مختلفة لعدالة منظماتهم مقارنة بالأصحاء، وأن الموظفين المكتئبين لديهم حساسية للظلم أكثر من حساسيتهم للعدالة. استخدمت الدراسة المنهج الوصفي المقارن. وتشكلت العينة من موظفين متطوعين، تم تقسيمهم إلى مجموعتين، مجموعة المرضى المشخصين باضطراب الاكتئاب (ن = 60)، وهم من مراجعي العيادات الخارجية في مركز الكويت للصحة النفسية، حيث تم تحويلهم من قبل الأطباء المعالجين لهم، ومجموعة من الأصحاء غير المشخصين بالاكتئاب (ن = 60)، حيث تمت مقابلتهم أثناء عملهم. احتوت المجموعتان على أعداد مماثلة من كلا الجنسين، حيث قاموا بتطبيق ثلاثة مقاييس، هي: مقياس العدالة التنظيمية، ومقياس الظلم التنظيمي، وقائمة بيك للاكتئاب. إن استخدام مقاييس العدالة التنظيمية ومقاييس الظلم التنظيمي على الموظفين المشخصين بالاكتئاب وغير المشخصين هو مدخل جديد يمكن أن يوضح أكثر الدور الذي يسهم فيه الاكتئاب في إدراك العدالة التنظيمية. خلصت نتائج الدراسة إلى أنه توجد فروق دالة إحصائية بين مجموعة المشخصين بالاكتئاب ومجموعة الأصحاء في جميع أبعاد العدالة والظلم. حيث وجد أن متوسط درجات العدالة أعلى لدى مجموعة الأصحاء. كما أن كلا المجموعتين تفرق بين مواقف العدالة ومواقف الظلم بصورة دالة، خاصة مجموعة المكتئبين التي كان متوسط درجة الظلم لديها أعلى من متوسط درجة العدالة. وخلصت الدراسة إلى أن الحالة الانفعالية للمرضى المشخصين بالاكتئاب قد تؤثر على كيفية إدراكهم لعدالة المواقف التنظيمية التي يواجهونها في بيئة عملهم. كما خلصت إلى أن الأفراد يقيمون الأحداث الظالمة بوزن أعلى من نظيرتها العادلة، بغض النظر فيما إذا كانوا مكتئبين أم لا.

الكلمات الدالة: الاكتئاب، العدالة التنظيمية، الإنصاف.

## Introduction

Individuals have an inherent need for justice (Knoche & Waples, 2016) and to be treated fairly (Greenberg, 2011). Fairness provides employees with a sense of control and feeling of being valued and respected by their organizations, whereas unfairness indicates the opposite (Tylor & Blader, 2000). Organizational justice concerns employees' perception of the fairness of their superintendents and organizations (Colquitt, Greenberg, & Zapata-Phelan, 2005). The field distinguishes four types of organizational justice (Colquitt, 2001): distributive justice (fairness regarding resource distribution and decision outcomes), procedural justice (adherence to fair process criteria), interpersonal justice (treatment of employees with dignity and respect by supervisors), and informational justice (provision of clear and timely information).

Numerous studies reported the association between organizational justice and depression. Depression is a painful psychological state combines sadness, gloom, hopelessness, despair, irritability, self-depreciation, and a general lack of enthusiasm (Massé, 2000; Ridner, 2004). In a univariate analysis, Inoue, et al. (2013) concluded that low interactional justice may be associated with major depressive disorders regardless of other job stressors or neurotic personality traits. Lee, et al. (2019) found that higher level of organizational injustice was linked to higher prevalence of depressive symptoms among workers in Korean financial industry companies. Also, feeling job insecure leads to lower justice perceptions and thus impaired well-being. Bernhard-Oettel, et al. (2019) concluding that disentangling within- and between-person variability of job insecurity and justice perceptions, contributes to the understanding of depressive symptoms effects. On the other hand, Hjarsbech, et al. (2013) found that organizational justice may have a protective effect on the risk of long-term sickness absence among men with depressive symptoms.

The literature contains many examples that consider organizational justice perception an independent variable that affects an employee's well-being (Elovainio, et al., 2015; Elovainio, Kivimäki, & Helkama, 2001; Greenberg, 2006; Judge & Colquitt, 2004; Tepper, 2001; Ybema & van den Bos, 2010; Vermunt & Steensma, 2003). By using linear regression models and cross-lagged SEM, Elovainio, et al. (2015) assessed the direction of the correlation between established job stress models, including organizational justice, and three well-being indicators including depression, and concluded that the direction of the correlation was from low justice to decreasing well-being. Ybema and van den Bos (2010) have also assessed the reversed associations among depression, sickness absenteeism, and organizational justice dimensions and found evidence that supported the role of justice dimensions as a predictor of depressive symptoms and absenteeism.

The interpretation of the relationship between organizational justice and psychological health is that injustice is a work stressor (Fox, Spector, & Miles, 2001; Judge & Colquitt, 2004; Vermunt & Steensma, 2005) that reflects the attributions employees have regarding the source of distress at work that affects their well-being (Hurrell, Nelson, & Simmons 1998). The employee appraises the organization (Lazarus, 1991) looking for possible job stressors, like injustice, that could threaten their well-being, a matter that generates negative emotional reactions like anger (Spector, 1998) and leads to psychological health problems like depression (Robbins, Ford, & Tetrick, 2012; Vermunt & Steensma, 2001). When employees assess their ability to manage environmental challenges, such as injustice treatment by the supervisor, to be insufficient, they experience psychological stress, which decreases well-being and increases possible health problems (Lazarus & Folkman, 1984).

In their review, Elovainio, et al. (2010) concluded that low perceived justice linked with stress reactions and related physiological and behavioral such as inflammation, sleeping problems, cardiovascular regulation and cognitive impairments, and with a high rate of work absenteeism. Elovainio et al. (2009) explained this association that organisational injustice is linked with increased long-term levels of inflammatory markers, such as interleukin-6 and C-reactive protein. And that cardiac dysregulation is one stress mechanism through which a low perception of justice of decision-making procedures and interpersonal treatment increases the risk of health problems (Elovainio et al., 2009). Spell and Arnold (2007) found that the interactive effects of distributive and procedural justice climates significantly influence individual feelings of both anxiety and depression. This effect goes beyond the main effects of justice at the individual level. Cloutier, et al. (2018) findings suggest that perceived procedural justice provides workers better evidence of the extent to which they are valued and appreciated members of their organizations. They proposed that procedural unfairness prompts workers to believe that

the economic rewards they are receiving are unfair, and that distributive injustice engenders feelings of devaluation, which could increase psychological distress.

However, a recent view proposed that an employee's psychological health, such as depression, may also affect their organizational justice perception, suggesting that the relationship could be bidirectional. Lang, Bliese, Lang, & Adler (2011) tested the longitudinal lagged effects between organizational justice perceptions and employee depressive symptoms by using SEM. Their results revealed evidence of depressive symptoms that led to subsequent organizational justice perceptions, whereas the effects of organizational justice perceptions on depressive symptoms were not significant. The contradicting results between Lang, Bliese, Lang, & Adler (2011) and Elovainio, et al. (2015) could be attributed to the considerable variations in follow-up time and differences in the measures and occupational groups used.

The suggested explanations for depression leading to low organizational justice perception is that an employee's interpretations and inferences can increase their risk for depression. Depression is associated with the elaboration of negative information and difficulties disengaging from negative material (Gotlib & Joormann, 2010). Depressed employees perceive events such as injustice negatively and more threatening, compared with non-depressed employees (Alloy & Abramson, 1979; Gotlib & Joormann, 2010; Lazarus & Folkman, 1984).

Additionally, the essential component of psychological health constructs like depression could be responsible for altering perceptions of organizational justice (Lonigan, Phillips, & Hooe, 2003). Depression is a form of mood disorder and that the negative affect is an essential ingredient of it which responsible for changing individual's mood (Schwartz & Garamoni, 1986). Van den Bos's (2003) demonstrated that in information-uncertain conditions, individuals' judgments of justice can be subjective, their affective states that they had been in prior and unrelated to the justice event can influence their justice judgments, and this result supports a causal association between affective states and perceptions of fairness. In line with this finding, Barsky and Kaplan (2007) challenged the notion that perceptions of organizational justice are an individual's cognitive response to environmental events like decision outcomes and human resource practices. They viewed injustice as an emotionally laden and subjective experience influenced by affective states. Their meta-analysis showed that judgments of distributive, procedural, and interactional justice were correlated with state and trait measures of positive and negative affect.

Other studies perceived depression as a mediator between perceived organizational justice and other physical and mental health. Herr, et al. (2015) for example found that organizational justice was inversely related to tinnitus, and mediation analyses demonstrated that this association was partly accounted for by individual differences in depressive symptoms. On the other hand, some studies treated justice as moderator. For example, Fischer, et al. (2013) shows that that interpersonal justice had the strongest direct and moderating effects on mental health problems. And recently, Zhou, et al. (2020) showed that organizational justice could weakened the adverse effect of work–family conflict on depressive symptoms and the buffering effects of procedural and distributive justice climate in the association between work–family conflict and depressive symptoms depended on family flexibility (see also Eib, et al. 2018).

If depressed employees exaggerate negative events, have difficulties disengaging from negative materials, and perceive negative events as more threatening, compared with non-depressed employees, we expect that depressed employees perceive justice and injustice events differently, and they perceive negative events such as injustice treatment higher than justice events.

Moreover, the distinction between justice and injustice has attracted some interest (Alkhadher & Gadelrab, 2017; Colquitt, Long, Rodell, & Halvorsen-Ganepola, 2015). The literature has tended to view justice as a phenomenon with a cognitive basis (e.g., Colquitt, 2001), and injustice as a phenomenon with an emotional basis (e.g., Bies & Tripp, 2002). These views may indicate that injustice has stronger effects on an employee's behavior and well-being than the effects of justice. Bies and Tripp (2002) suggested that justice and injustice could be distinct constructs. Justice is an expected norm only noticed when something goes wrong (Cropanzano, Stein, & Nadisic, 2011). Injustice violates employees' expectations (Jones & Skarlicki, 2013), suggesting that injustice has stronger effects on an employee's behavior and well-being than the effects of justice. Colquitt, et. al. (2015) noticed that most organizational justice measures address only justice rule

adherence, not violations of the rules and showed that justice and injustice are not merely interchangeable, that is, studies that used both measures could gain from measuring more than only justice. Unlike other studies conducted so far to assess the effects of depression in justice perception, this study uses both organizational justice and injustice measures to assess the idea that depressed and non-depressed employees hold different perceptions regarding the (in)justices of their organizations. Therefore, we expect depressed employees to be more sensitive to injustice than non-depressed employees. According to the above rationale, we propose the following hypotheses:

*H1: Depressed employees have significantly higher organizational injustice mean than non-depressed employees.*

*H2: Depressed employees are significantly more sensitive for injustice than non-depressed employees.*

In summary, we use descriptive (comparative) design to examine the idea that depressed and non-depressed employees hold different perceptions regarding the justices of their organizations, and that depressed employees are more sensitive to fairness than unfairness. Following recent findings that concluded that justice and injustice are not merely interchangeable (Colquitt, et. al., 2015), we used separate measures for organizational justice and injustice that have four subscales each (distributive, procedural, interpersonal, and informational). The approach of using justice and injustice measures with depressed and non-depressed employees is a new and could clarify more the role of depression in the perception of the organizational justice. Probably this is the first study uses Arab sample to investigate the association between depression and organizational justice perception, making the comparison with results from other culture possible. Few studies have used the four dimensions of justice when examining its association with depression as revealed by Ndjaboue, Brisson, and Vezina's systematic review. The use of the four dimensions in one study, as performed in this study, may help identify which of these dimensions is more effected by depression.

### Participants and Procedure

The sample comprised 120 Kuwaiti public sector employees divided into two groups. The first group contained 60 outpatients diagnosed with depression (age  $M = 33.6$ ;  $SD = 3.7$ ) which are selected from 197 patients diagnosed with major depressive symptoms frequently visiting one of mental health center in the country. These participants had been diagnosed by their psychiatrics according to the DSM-5 (2013). Those shown no depression symptoms during the selection assessment session conducted by their psychiatrics, have less than five years in their current job, and those diagnosed with other psychological disorders such as psychoticism, are excluded by their psychiatrics from the study. Eligible patients are referred to the first author who works in the same center. Those interested in participation in the study are asked to sign a informed consent which specified that participation is optional and helps the patient comprehend the severity of the depression as assessed by the BDI-II. The process continued until the number reach 60 patients, 30 males and 30 females. The BDI-II completed first then the organizational justice and injustice measures. Their Beck Depression Inventory (BDI-II) average score was 32.6 ( $SD = 8.31$ ); and had different depression severity levels (2 patients with average depression, 20 with above-average depression, and 38 with severe depression).

The second group matched the number of the patient group with 60 non-diagnosed employees (30 males and 30 females; age  $M = 32.0$ ;  $SD = 3.0$ ) with mild depression severity, as tested by BDI-II ( $M = 5.8$ ;  $SD = 2.7$ ). They were visited by the first author during their work hours. In both groups, prospective participants were briefed on the study's purpose, how the results would be used, and informed about anonymity and confidentiality. The authors obtained formal permission to conduct this study from the Ministry of Health and Kuwait center for Mental health (IRB). All ethical standards imposed by the center were known and adhered to.

### Measures

*Organizational justice.* We used an Arabic measure for organizational justice (Alkhadher & Gadelrab, 2016) that include items intended to assess the distributive (5 items), procedural (4 items), interpersonal (4 items), and informational (4 items) aspects of organizational justice (see appendix A for items). Responses were recorded on a 5-point Likert scale that ranged from 1 ("Strongly disagree") to 5 ("Strongly agree"). The alpha reliability of the four type of justices were as follows: .92,

.84, .94, and .89, respectively. The measure has shown concurrent validity with the Arabic version of Colquitt's (2001) measure of organizational justice (Fischer, et al., 2011) and other outcomes, including instrumentality, collective esteem, and organizational commitment (Gadelrab & Alkhadher, 2017). The score ranges obtained in this study for the depressed group is as following: distributional justice 5-20 (M = 9.9; SD = 2.7); procedural justice 4-13 (M = 8.3; SD = 2.1); interpersonal justice 4-16 (M = 9.3; SD = 2.9); and informational justice 4-15 (M = 8.7; SD = 2.3). The Manual of this measure (Alkhadher & Gadelrab, 2019) reported the following means and standard deviations for Arab employees (N = 4372): distributional justice M = 14.8; SD = 3.8; procedural justice M = 10.3; SD = 2.7; interpersonal justice M = 11.7; SD = 3.2; and informational justice M = 11.2; SD = 2.7. As in shown above, the means of the depressed group tend to be less than that of the normal Arab employees.

*Organizational injustice.* This measure is an extension of the measure in Alkhadher & Gadelrab (2016), which comprised 17 items intended to measure the distributive (5 items), procedural (4 items), interpersonal (4 items), and informational (4 items) dimensions of organizational injustices. The injustice items were created based on justice rule violations and by using the polar-opposite versions of the 17 justice items, not simply a negated form of them (see Colquitt, et al. 2015) (see appendix A for items). The 5-point Likert scale recorded the responses (1 "Strongly disagree" to 5 "Strongly agree"). In this study, the alpha reliability for the four injustice types were as follows: .95, .90, .91, and .91, respectively. The measure demonstrated concurrent validity with the Arabic version of Colquitt, et al.'s (2015) measure of organizational injustice (Fischer, et al., 2011) and other outcomes, including job stress, job satisfaction, organizational commitment, and OCB (Alkhadher & Gadelrab, 2017). The score ranges obtained in this study for the depressed group is as following: distributional injustice 10-25 (M = 19.6; SD = 3.1); procedural injustice 10-20 (M = 15.5; SD = 2.3); interpersonal injustice 6-19 (M = 13.3; SD = 2.8); and informational injustice 8-20 (M = 14.9; SD = 2.4). The manual of this measure (Alkhadher & Gadelrab, 2019) reported the following means and standard deviations for Arab employees (N = 1582): distributional justice M = 15.2; SD = 4.6; procedural justice M = 10.6; SD = 3.3; interpersonal justice M = 8.7; SD = 3.4; and informational justice M = 10.02; SD = 3.3. As in shown above, the means of the depressed group tend to be higher than that of the normal Arab employees.

*Beck Depression Inventory.* The Arabic version of the Beck Depression Inventory (BDI-II) (Beck, Steer, & Brown, 1996) as adapted to Arabic by Ghareeb (2000) is used in this study. The measure was administered to 18 Islamic groups by Alansari (2005) and found to be suitable in the Arabic context. The measure comprised 21-items designed to assess the presence and severity in depressive symptoms. Each item was rated on a 4-point Likert-type scale from 0–3. The total score ranged from 0–63, with scores greater than 28 indicating more severe depressive symptoms. The score ranges obtained in this study for the depressed group is 18-56 (M = 32.6; SD = 8.3). This could be compared with normal Arab Egyptian adults as reported by Gareeb (2001) (N = 561; M = 17.5; SD = 9.5). The alpha reliability assessed in this study was .93. Alansari's study reported high concurrent validity with other related variables.

### **Data Analysis**

Age usually associated with duration of employment, and since age and sex showed significant correlations with some of variables used in this study, we calculated the correlations between variables in this study after controlling for age and sex. T-tests were used for comparison between depressed and non-depressed employees with regard to the study variables (H1). Also, regression analyses were used for testing H2. For each regression analysis one of the injustice dimension was used as dependent and the justice counterpart was used as control beside age and sex while group membership (depressed = 1; non-depressed = 0) was used as independent variable.

### **Results**

Table 1 shows the correlations' coefficients among the justice, injustice, and depression scores for the depressed and non-depressed groups (non-depressed coefficients are in bold). For the depressed group, depression correlates significantly with the total score for justice (-.27), total score of injustice (.29), and procedural injustice (.39). For the non-depressed

group, depression correlates significantly with procedural justice (-.35), interpersonal justice (-.45), informational justice (-.27), and total score of justice (-.42), but not with the total injustice score or any of its subscales. All the significant correlations were at the direction expected and at least at the .05 level.

**Table 1. Correlations among Justice, Injustice, and Depression Scores for the Depressed (n = 60) and non-depressed groups (n = 60) After Controlling for Age and Sex**

	1	2	3	4	5	6	7	8	9
1. Distributive Justice									
2. Procedural Justice	.10 <b>.04</b>								
3. Interpersonal Justice	.30* <b>.25</b>	.33** <b>.36**</b>							
4. Informational Justice	.39** <b>.25</b>	.07 <b>.38**</b>	.25 <b>.61**</b>						
5. Distributional Injustice	-.66** <b>-.69**</b>	-.02 <b>-.01</b>	-.19 <b>-.26*</b>	-.20 <b>-.35**</b>					
6. Procedural Injustice	-.03 <b>-.33*</b>	-.76** <b>-.50**</b>	-.23 <b>-.46**</b>	.00 <b>-.50**</b>	.01 <b>.44**</b>				
7. Interpersonal Injustice	-.30* <b>-.22</b>	-.11 <b>-.29*</b>	-.74** <b>-.52**</b>	-.21 <b>-.54**</b>	.35** <b>.40**</b>	.17 <b>.65**</b>			
8. Informational Injustice	-.27* <b>-.29*</b>	-.13 <b>-.35**</b>	-.23 <b>-.52**</b>	-.66** <b>-.65**</b>	.17 <b>.50**</b>	.03 <b>.64**</b>	.30* <b>.77**</b>		
9. Depression	-.27* <b>-.14</b>	-.23 <b>-.27*</b>	-.09 <b>-.40**</b>	-.22 <b>-.25*</b>	.15 <b>.08</b>	.40** <b>.12</b>	.05 <b>.08</b>	.24 <b>.22</b>	

Note: Coefficients for non-depressed group are in bold. \*  $p < .05$  and \*\*  $p < .01$ .

The study hypothesized injustice scores are able to discriminate between depressed and non-depressed employees, where depressed employees get significantly higher organizational injustice mean than non-depressed employees. First, we tested the assumption for normal distribution for organizational justice and injustice scores and found that the assumption is not violated (Shapiro-Wilk is nonsignificant). As shown in Table 2, Although the depressed group has not been diagnosed using the BDI-II, we were able to confirm the clinicians' diagnoses because both groups are significantly different in depression scores ( $t(118) = 23.51, p < .001$ ), where the depressed group scored noticeably higher.

All the differences between the two groups in the injustice subscales are significant at .001. The same differences in justice subscales are also observed. Notably, a pattern is observed where the depressed group tends to have a higher injustice mean, whereas the non-depressed group tends to have a higher justice mean. Cohen's  $d$  is an effect size used to indicate the standardized difference between two means. The effect sizes are large for all comparisons (Cohen, 1988; Sawilowsky, 2009). This result confirms the first hypothesis.

**Table 2. Group Means Differences Between the Depressed (n = 60) and Non-depressed Groups (n = 60)**

Variables	Depressed		Non-depressed		t	df	p*	Cohen's d
	M	SD	M	SD				
1. Distributive Justice	9.98	2.70	18.62	2.81	17.19	118	<.001	3.13
2. Procedural Justice	8.25	2.11	14.63	1.82	17.72	118	<.001	3.24
3. Interpersonal Justice	9.30	2.95	16.73	2.88	13.94	118	<.001	2.54
4. Informational Justice	8.72	2.27	15.53	2.66	15.10	118	<.001	2.75
5. Distributional Injustice	19.62	3.09	10.88	3.22	15.14	118	<.001	2.77
6. Procedural Injustice	15.45	2.28	7.75	2.38	18.05	118	<.001	3.30
7. Interpersonal Injustice	13.28	2.81	6.43	2.32	14.57	118	<.001	2.66
8. Informational Injustice	14.95	2.36	7.22	2.39	17.84	118	<.001	3.25
9. Depression	32.57	8.31	5.80	2.74	23.51	118	<.001	5.25

Note. \* After using Bonferroni correction.

Regarding hypothesis 2 which stated that depressed employees are significantly more sensitive for injustice than non-depressed employees, table 3 shows the regression coefficients for group membership (depressed = 1; non-depressed = 0). For distributive injustice, the  $\beta$  value for the diagnosis group was .19 ( $p < .05$ ) whereas  $\Delta R^2 = .01$  ( $p < .05$ ) suggesting that depressed employees more sensitive for distributive injustice than non-depressed employees. Regarding procedural justice, the  $\beta$  value for the diagnosis group was .32 ( $p < .001$ ) whereas  $\Delta R^2 = .03$  ( $p < .001$ ) showing that depressed employees more sensitive for procedural injustice than non-depressed employees. The same goes for interpersonal justice where the  $\beta$  value for the diagnosis group was .30 ( $p < .001$ ) whereas  $\Delta R^2 = .03$  ( $p < .001$ ). The depressed employees more sensitive for interpersonal injustice than non-depressed employees. Finally, the same pattern can be noticed with the informational justice, where the  $\beta$  value for the diagnosis group was .38 ( $p < .001$ ) whereas  $\Delta R^2 = .05$  ( $p < .001$ ) suggesting that depressed employees more sensitive for informational injustice than non-depressed employees. The percentage of incremental variance was explained by group membership alone. The above results suggest that indeed depressed employees are more sensitive to injustice events than non-depressed employees regardless of the injustice type which support hypothesis 2.

**Table 3. Hierarchical Regression Results for Injustice Dimensions**

	Dimension	$\beta$	$R^2$	$\Delta R^2$
Distributive injustice	Sex	.13	.061	.061*
	Age	.21*		
	Sex	.04	.817	.756**
	Age	.04		
	Distributive justice	-.89**		
	Sex	.06	.827	.009*
	Age	.21		
	Distributive justice	-.74**		
Procedural injustice	Diagnosis Group	.19*		
	Sex	.08	.004	.004
	Age	.20*		
	Sex	-.01	.820	.776**
	Age	.01		
	Procedural justice	-.91**		
	Sex	.01	.847	.026**
	Age	-.01		

	Dimension	$\beta$	$R^2$	$\Delta R^2$
Interpersonal injustice	Procedural justice	-.64**		
	Diagnosis Group	.32**		
	Sex	.11	.032	.032
	Age	.14		
	Sex	.00	.770	.738**
	Age	.03		
	Interpersonal justice	-.87**		
	Sex	.03	.802	.032**
	Age	-.02		
	Interpersonal justice	-.63**		
Informational injustice	Diagnosis Group	.30**		
	Sex	.02	.049	.049
	Age	.22*		
	Sex	.03	.797	.748**
	Age	.07		
	Informational justice	-.88**		
	Sex	.03	.844	.047**
	Age	.03		
	Informational justice	-.58**		
	Diagnosis Group	.38**		

Note.  $N = 60$ ; \*  $p < .05$ , \*\*  $p < .001$ ; Diagnosis group membership (depressed = 1; non-depressed = 0).

### Discussion and Conclusion

The first hypothesis proposed that depressed employees have a significantly higher organizational injustice mean than non-depressed employees. This hypothesis is confirmed. All the differences between the two groups in all the justice and injustice subscales are significant at .001 (Table 2). The depressed group has higher injustice means, and the non-depressed group has higher justice means. The mean differences are noticeable because we used two differentiated groups: depressed diagnosed patients and non-depressed participants. We observe this result for all organizational justice and injustice perception dimensions indicating that these effects could stem from a more general principle and are not specific to certain justice or injustice mechanisms.

This study expected that depressed employees would estimate negative events such as injustice treatment higher than justice events; therefore, they perceive justice and injustice events differently. The second hypothesis proposed that depressed employees are significantly more sensitive for injustice than non-depressed employees. The results supported this hypothesis showing that indeed depressed employees are more sensitive to injustice events than non-depressed employees regardless of the injustice type. There is always increase in percentage of incremental variance that can be explained by group membership alone.

These findings are consistent with numerous studies in the field (Bernhard-Oettel, et al., 2019; Elovainio, et al., 2015; Elovainio, Kivimaki, & Helkama, 2001; Hjarsbech, et al., 2013; Inoue, et al., 2013; Lee, et al., 2019; Massé, 2000; Ridner, 2004). It also consistent with the systematic review conducted by Ndjaboué et al. (2012). which reported that low procedural justice and low interactional justice were associated with doctor-diagnosed psychiatric disorders and major depressive disorders. However, unlike the other study, This study used a depressed, diagnosed, non-Western employees and implemented a descriptive (comparative) design.

As observed in the literature (Alloy & Abramson, 1979; Gotlib & Joormann, 2010; Lazarus & Folkman, 1984), depressed employees perceive injustice events negatively and more threatening than non-depressed employees, and this phenomenon

suggests that depression is associated with negative information and difficulties disengaging from negative material (Gotlib & Joormann, 2010). Mood serves as relevant information in forming evaluative judgments and could affect the choice of processing strategies (Schwarz, 1997). Employees in a sad mood are more likely to rely on systematic processing strategies, compared with those in happy mood, who are more likely to rely on heuristic processing strategies (Schwarz & Clore, 1996). Feeling bad informs us that the surrounding environment has a potential problem.

Notably, the conclusions regarding causality are less definitive with cross-sectional design because the pre-existing factors that could contaminate the result are less controlled. The emotional state of the depressed patient might affect how they perceive justice and injustice events, but the opposite remains possible. Depressed patients may have more negative views of their work settings and evaluate organizational justice as low. Nevertheless, this study supported the evidence of an association of organizational justice with doctor-diagnosed depression, by using measures of organizational (in)justice. Future cross-sectional studies could examine differences in the structure of (in)justice among employees with and without clinical depression by focusing on the interrelationships among the eight (in)justice dimensions, and their relationships with working conditions and health variables, including symptoms of depression. Structural Equation Modeling could be conducted using multiple groups with reasonable sample size.

This study has limitations. First, the absence of random assignment could limit the generalizability of the results, that is, possible cause the formation of two non-equivalent groups. Second, the non-depressed group may have been presenting with related psychological symptoms that possibly affected the result, but that we could not identify. Third, this study used self-report measures, which are known for systematic response bias, method variance, and method bias. Because we implemented these self-reports measures in one session, a common response style problem is possible.

The findings have useful applications. Managers' awareness of the effect of psychological health on the perception of justice could help them balance the evaluations of their subordinates, regarding the level of justices in their organizations. Another application is that organizations interested in improving the justice perception of employees could achieve this objective by caring about their well-being. Notably, because we cannot exclude the possibility that organizational injustice may have negative impacts for employees' psychological health, interventions designed to improve employees' justice perception may also have credibility to enhance their well-being.

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