

# **Extending the Chain of Relationships Among Organizational Justice, Social Exchange, and Employee Reactions: Replication and Expansion of Tekleab et al. (2005)**

**Yohannes Haile  
The Pennsylvania State University**

*The research by Tekleab et al. (2005) illustrates the importance of key construct selection in the chain of relationships among justice (procedural and interactional), social exchange, and employee reactions. In our analysis, we closely replicated the authors' results, highlighting the pivotal role psychological contract violations (PCV) play in initiating turnover intentions that are followed by actual terminations. A longitudinal study offered the ability to make stronger inferences regarding causality in the relationships connecting justice, social exchange, and employee reactions, which is significantly more important in the gig economy. In replicating and developing alternative models, interactional justice was found to be very important in conditioning the leader-member exchange, which frames employees' perceptions about the efficacy of their managers in helping them succeed in their work, as well as perceived organizational support, which impact job satisfaction. These interconnected interactions are becoming more important as economies shift towards smart industrial product service system configurations accompanied by fast transitioning sociotechnical paradigm shifts such as Industry 4.0 and Industry 5.0.*

*Keywords: organizational justice, social exchange, psychological contract violation, disattenuation, sociotechnical paradigm shifts, gig economy*

## **INTRODUCTION**

The purpose of this study is to review the article by Tekleab et al. (2005) entitled "Extending the Chain of Relationships among Organizational Justice, Social Exchange, and Employee Reactions: The Role of Contract Violations," with a focus on comparing the authors' results with a replication and extension, identifying the differences, specifying what could not be replicated, and developing reasons from hypotheses derived from the test results. We further augmented these activities by identifying the implications of the longitudinal design employed by Tekleab et al., summarizing key insights and differences in the way we approached the research problem and relevant analysis.

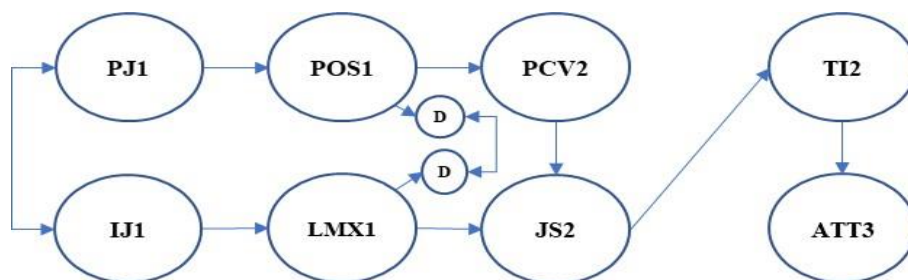
In order to achieve these objectives, we included background information, a description of the research methodology, and identification of the hypotheses of interest, our findings, and its implications. Employee and organizational relationships are key components in the effective performance of a firm (Tekleab et al., 2005). The preeminence of the employee-organization connection and chief agents of such relationships have been discussed in prior research by Erlich (1994), Cappelli (1999), Rousseau (1995), and others. Organizational justice encompasses distributive, procedural, and interactional dimensions of justice that concern the fairness of resource distribution, decision-making procedures, and dynamics of interpersonal

relationships, respectively (Greenberg et al., 2013). Tekleab and colleagues (2005) focused on procedural and interactional justice. Distributive justice, as the third leg of organizational justice, has been shown to significantly impact the allocation of benefits to employees (Ozel & Bayrakrat, 2018; Rosen et al., 2009).

According to Cropanzano, “distributive justice is concerned with the reality that not all workers are treated alike; the allocation of outcomes is differentiated in the workplace. Individuals are concerned with whether or not they received their ‘just share’” (2007). Cropanzano further described procedural justice as “the means by which outcomes are allocated, but not specifically to the outcomes themselves.” He considered interactional justice to be a term that “refers to how one person treats another. A person is interactional just if he or she appropriately shares information and avoids rude or cruel remarks” (p. 38). Tekleab et al. suggested that procedural justice could serve as a predictor of perceived organization support (Tekleab et al., 2005). The authors identified the interconnected relationships among organizational justice, interpersonal relationships in an organizational context, and employee reactions, making significant contributions to the identification and analysis of the impact of psychological contract violations (PCV) and their role as a mediator between perceived organizational support (POS) and job satisfaction (i.e., employee reactions). Their longitudinal study linked procedural justice, POS, and employee reactions, enabling them to ascertain stronger causal links among these relationships.

In conducting their research, Tekleab and colleagues (2005) answered important questions pertaining to the implications of PCV for the relationship between POS and employee reactions (Rousseau, 2011). Further, they developed a longitudinal study that elucidated strong causal inferences regarding the chain of relationships connecting procedural justice, POS, and employee reactions. The hypothesized model tested by Tekleab et al. (2005) is depicted in Figure 1.

**FIGURE 1  
HYPOTHESIZED MODEL**



PJ1 ≡ Procedural Justice at Time 1; POS1 ≡ Perceived Organizational Support at Time 1; PCV2 ≡ Psychological Contract Violations at Time 2; IJ1 ≡ Interactional Justice at Time 1; LMX1 ≡ Leader-Member Exchange at Time 1; JS2 ≡ Job Satisfaction at Time 2; TI2 ≡ Turnover Intention at Time 2; ATT3 ≡ Actual Turnover at Time 3

The significant increase in personal and organizational devices is connected to an associated increase in digital communication. This has implications for the nature of work, organizational justice, job satisfaction, and employee turnover. This was a significant point when Tekleab et al. (2005) was published, and remains significant today (Jang & Hwang, 2019). The main objective of the replication and extension of their work was not to address this important issue in depth. Rather, additional hypothesis were offered with time references to serve as building blocks for future relevant research.

## HYPOTHESES

Hypotheses 1 through 4b are the hypotheses proposed by Tekleab and colleagues. In Hypotheses 5 through 8, we investigate relationships not included in the Tekleab piece that may offer further insights into the nuanced relationships connecting organizational justice, social exchange, and employee reactions in an era of fast-paced digital transformation, the deployment of artificial intelligence-enabled tools, and

significant sociotechnical paradigm shifts (Ozel & Bayraktar, 2018; Colquitt et al., 2013). This work establishes a framework for future research into the implications of organization justice, social exchange, and employee reactions in a gig economy.

In Hypotheses 1, Tekleab et al. posited a negative relationship between employee POS at Time 1 and time-differed PCV at Time 2)

**Hypothesis 1.** *Employees' perceptions of POS at Time 1 will be negatively related to their experience with PCV at Time 2.*

**Hypothesis 2.** *Employees' perceptions of PCV by an organization at Time 2 will be negatively related to their level of job satisfaction at Time 2.*

**Hypothesis 3.** *Employees' perceptions of PCV at Time 2 will partially mediate the relationship between POS at Time 1 and job satisfaction at Time 2.*

**Hypothesis 4a.** *Employees' job satisfaction at Time 2 will be negatively related to their turnover intention at Time 2.*

**Hypothesis 4b.** *Employees' turnover intention at Time 2 will be positively related to the overall turnover at Time 3.*

Interactional justice, which is concerned with the quality of the relationship, is positively related to POS.

**Hypothesis 5.** *Interactional justice at Time 1 is positively related to POS at Time 1.*

**Hypothesis 6.** *Procedural justice at Time 1 is positively related to leader-member exchange at Time 1.*

**Hypothesis 7.** *Leader-member exchange at Time 1 is positively related to violations of the psychological contract at Time 2.*

**Hypothesis 8.** *Turnover intention at Time 2 positively mediates the relationship between job satisfaction and actual turnover at Time 3.*

## **DATA & RESEARCH METHOD**

### **Measurement Scales**

As the authors stated, they adapted existing scales for their research. Procedural justice, job satisfaction, and turnover intention used two items each, whereas interactional justice, perceived organization support, and PCV employed three items each. Both groups used five-point Likert scales. For leader-member exchange, the authors used the seven-item LMX-VII scale (Scandura & Graen, 1984).

### **Data Information**

This research is based on three-phase timing that covers a span of six years. At the beginning of the survey (Time 1), survey data were captured from 651 non-faculty employees of a university who were attending new performance management training. Three years after the initial survey (Time 2), 478 Time 1 respondents who were still employed by the university were contacted to participate in a follow-up survey, and 200 of the 651 respondents who participated at Time 1 participated in the second research survey.

After another three years, turnover data for 191 participants in the first and second surveys were collected (Tekleab et al., 2005). Hence, overall, there was a span of six years from the initial survey to when the turnover data were obtained. As the authors stated, 75% of the respondents were women with an average

of 5.7 years working for their current supervisor and an overall organizational tenure of 13.4 years. The demographics for the research respondents are presented in Table 1.

**TABLE 1**  
**SURVEY RESPONDENTS' DEMOGRAPHICS**

Sample size (n) at Time 1, 2, & 3	191
Gender	75% female
Average age of participant (yrs.)	47
Average job tenure (yrs.)	9.3
Average tenure with current supervisor (yrs.)	5.7
Average organizational tenure (yrs.)	13.4

### Measurement Model Evaluation

We used confirmatory factor analysis (CFA) to verify the fitness of the measurements. Structural equation modeling was used to explore the relationships among organizational justice, social exchange, and employee reactions, as well as the pivotal role of PCV.

Tekleab et al. (2005) reported two measurement models for the six items describing the POS and PCV factors. The two-factor model had the following fit statistics:  $\chi^2 = 8.13$ ,  $df = 8$ , a perfect CFI (= 1.00), RMSEA = .01, and AIC = -7.87. Conversely, the one-factor model resulted in:  $\chi^2 = 192.29$ ,  $df = 9$ , CFI = .64, RMSEA = .32, and AIC = 174.30, with all significant factor loadings for both models. While we could not replicate the CFA, we replicated the Chi-squared difference test, yielding  $\Delta \chi^2 = 184.16$ ,  $\Delta df = 1$ ,  $p = .000$ . This indicated that the two models were not invariant. Based on these findings, the two-factor model fit the data well, replicating the authors' findings.

The fit statistics for the overall measurement model resulted in:  $\chi^2 = 250.49$ ,  $df = 188$ , CFI = .97, RMSEA = .04, AIC = -125.55, with all significant factors loadings indicating that the model and factor structure selection of the constructs fit the data well. Table 2 includes a summary of the model's fit statistics for the one and two-factor models of POS and PCV and the overall measurement model.

**TABLE 2**  
**MEASUREMENT MODEL**

	6-Items POS & PCV		Overall Measurement Model
	2-Factor Model	1-Factor Model	
$\chi^2$	8.13	192.29	250.49
df	8	9	188
CFI	1.00	0.64	0.97
RMSEA	0.01	0.32	0.04
AIC	-7.82	174.30	-125.55

## RESULTS

### Structural Equation Modelling Results

For the hypothesized model (see Figure 1), the results from Tekleab et al. (2005) were very similar to the results of our analysis, as shown in Table 3. The article had model fit statistics of  $\chi^2 = 27.76$ ,  $df = 19$ , CFI = .96, and RMSEA = .05, whereas our model fits statistics were  $\chi^2 = 20.29$ ,  $df = 19$ , CFI = .995, and RMSEA = .019. The results demonstrate that the model fit the data very well.

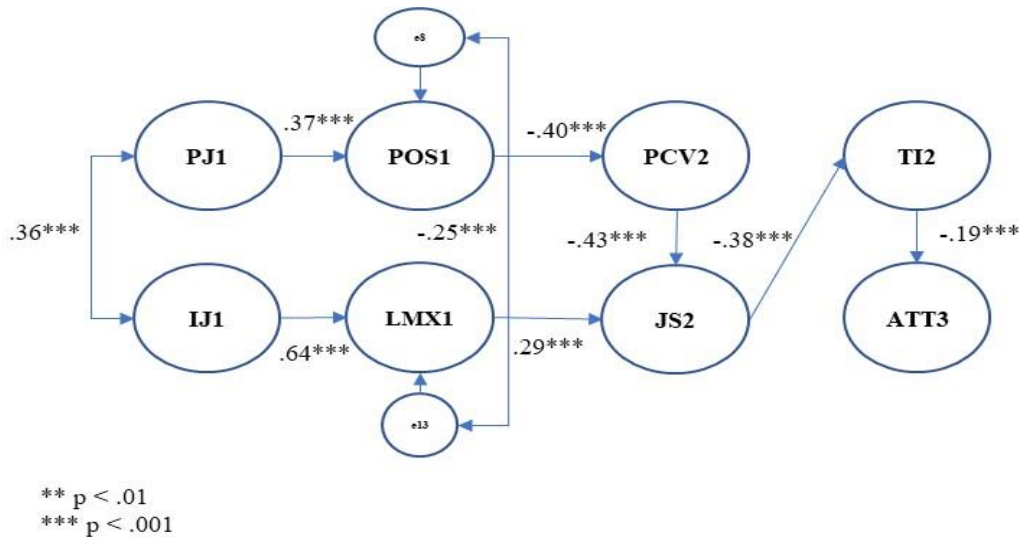
**TABLE 3**  
**SEM MODEL FIT STATISTICS**

	Tekleab et al., 2005	Haile
CMIN(df)	27.76(19)	20.29(19)
p		0.378
PCLOSE		0.813
CFI	0.96	0.995
NFI		0.925
TLI		0.992
RMSEA	0.05	0.019, 90% of RMSEA = [.000; .067]
SRMR		0.067

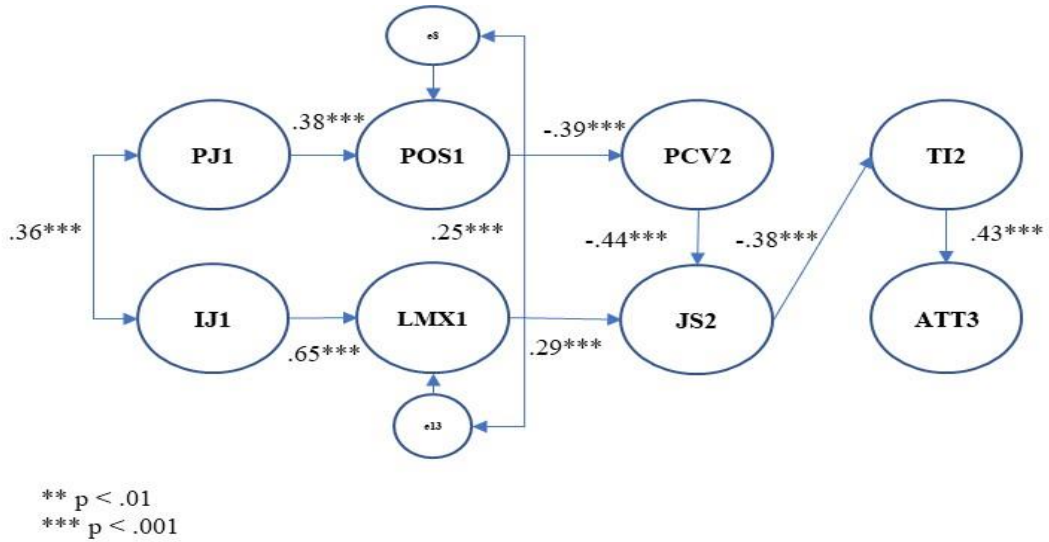
We replicated the hypothesized model, recalling the stated intentions of Tekleab and colleagues (2005) to test the non-hypothesized relationships among procedural and interactional justice, social exchange, and employee reactions (as shown in Figure 2 with unstandardized coefficients and Figure 3 with standardized coefficients). Additionally, the intermediary model demonstrated the connection between interactional justice and POS, procedural justice and LMX, and LMX and PCV (see Figure 4 with unstandardized coefficients and Figure 5 with standardized coefficients).

While we closely replicated the path coefficients and significance, we found the path from interactional justice at Time1 to POS at Time 1 to be significant ( $\beta = .18, p < .05$ ). We pursued this model as an alternative model. Note that PCV, with its significant and substantive mediation and the timing of data collection (longitudinal), is an important explanatory variable in the chain of relationships between POS and employee reactions.

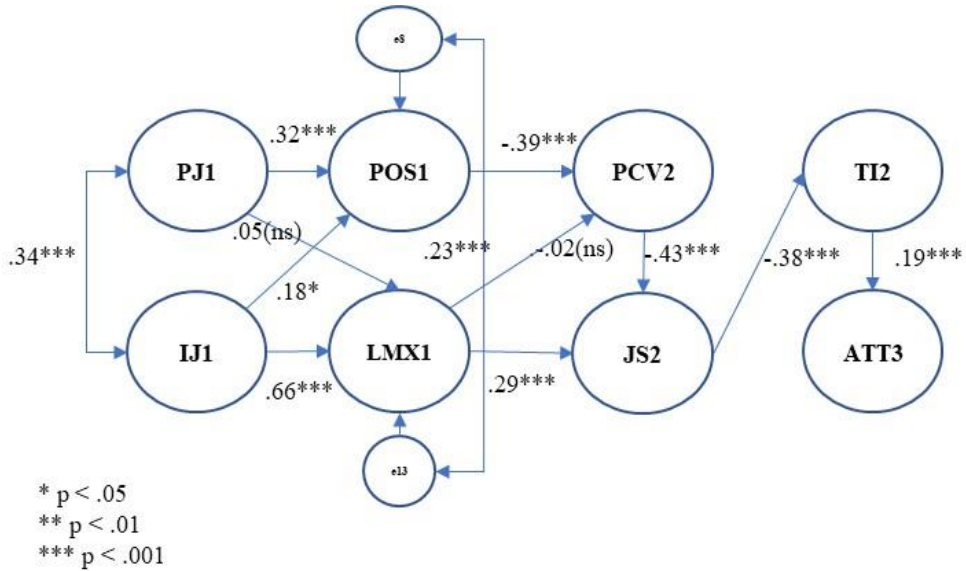
**FIGURE 2**  
**SEM RESULTS OF HYPOTHESIZED MODEL - UNSTANDARDIZED COEFFICIENTS**



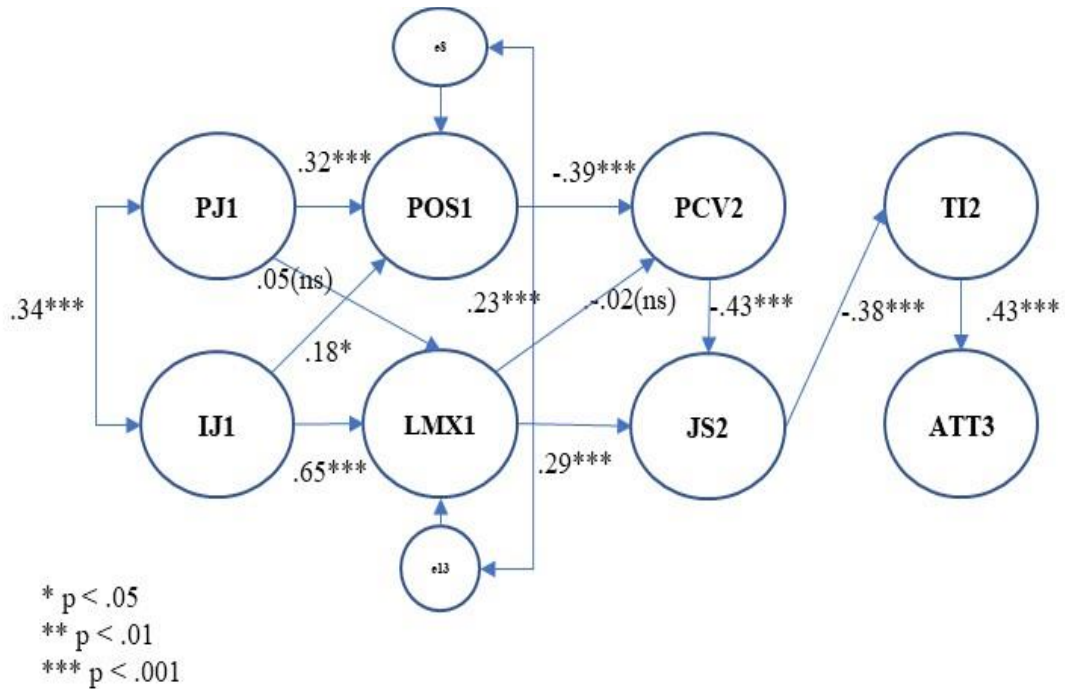
**FIGURE 3**  
**SEM RESULTS OF HYPOTHESIZED MODEL - STANDARDIZED COEFFICIENTS**



**FIGURE 4**  
**SEM RESULTS OF HYPOTHESIZED MODEL WITH ADDITIONAL CONNECTIONS – UNSTANDARDIZED COEFFICIENTS (IJ1→POS1, PJ1→LMX1, LMX1→PCV2)**



**FIGURE 5**  
**SEM RESULTS OF HYPOTHESIZED MODEL WITH ADDITIONAL CONNECTIONS -**  
**STANDARDIZED COEFFICIENTS (IJ1→POS1, PJ1→LMX1, LMX1→PCV2)**



**HYPOTHESES TESTING**

A summary of the hypotheses and test results is presented in Table 4. As Tekleab and colleagues stated, POS at Time 1 had a direct negative effect on PCV ( $\beta = -.39, p < .001$ ); the same was true for our analysis ( $\beta = -.34, p < .001$ ). Thus, Hypothesis 1 is supported in such a way that POS has a conditioning effect on PCV, as it fundamentally orients the belief structure of the employee-organization relationship (Aselage & Eisenberger, 2003).

**TABLE 4**  
**SUMMARY OF HYPOTHESES TEST RESULTS**

Hypothesis	Path	Direct $\beta$ w/o mediation	Direct $\beta$ w/ mediation	Indirect effects	Mediation type observed (Baron & Kenny)	Mediation type (Zhao et al.)	Sobel test $t \geq 1.96$ , $p < .05$	Mediation?	Hypothesis supported?
1	POS → PCV2	-.394***							Yes
2	PCV2 → JS2	-.436***							Yes
3	POS1 → PCV2 → JS2	.19 (.074)	.0059 (ns)	0.172***	Indirect	Indirect	3.43***	Yes	Yes
4a	JS2 → TI2	-.379***							Yes
4b	TI2 → ATT3	0.425***							Yes
5	IJ1 → POS1	.18*							Yes
6	PJ1 → LMX1	.05 (ns)							No
7	LMX1 → PCV2	-.02 (ns)							No
8	JS2 → TI2 → ATT3	-.0016 (ns)	0.198*	-.00032*	Partial	Competitive	-3.42***	Yes	Yes

\* $p < .05$

\*\* $p < .01$

\*\*\* $p < .001$

ns  $\equiv$  ns



For Hypothesis 2, PCV at Time 2 had a direct negative impact on job satisfaction at Time 2 ( $\beta = -.44$ ,  $p < .001$ ); this result was very close to the findings of Tekleab et al. (2005):  $\beta = -.41$ ,  $p < .001$ . In Table 5, a summary comparison of the Tekleab outcomes and our results is presented for all of the path coefficients of the hypothesized model.

**TABLE 5**  
**SUMMARY OF PATH COEFFICIENTS FOR THE HYPOTHESIZED MODEL**

Paths			Standardized		Unstandardized	
			Estimated $\beta$ (Tekleab et al., 2005)	Estimated $\beta$ (Haile)	Estimated $\beta$ (Haile)	S.E. (Haile)
POS1	<=	PJ1	0.40	0.38	0.37	0.08
PCV2	<=	POS1	-0.34	-0.39	-0.40	0.08
LMX1	<=	IJ1	0.62	0.65	0.64	0.07
JS2	<=	PCV2	-0.41	-0.44	0.43	0.09
JS2	<=	LMX1	0.23	0.29	0.29	0.09
TI2	<=	JS1	-0.35	-0.38	-0.38	0.09
ATT3	<=	TI2	0.52	0.43	0.19	0.03

As it pertains to Hypothesis 3, both our findings and those of the Tekleab study were nuanced, due to the use of two different analysis packages. While Tekleab's results supported full mediation, ours indicated indirect mediation. We tested the mediation following Baron and Kenny's (1986) recommendations with a cross-check following the method in Zhao et al. (2010) and a Sobel test (<http://quantpsy.org/sobel/sobel.htm>). Our findings showed a direct effect (without beta but with  $p = .074$ ) that was very close to significant; thus, we concluded that the path was fully mediated, following Baron and Kenny's (1986) recommendation.

Hypothesis 4a and 4b were supported ( $\beta = -.38$ ,  $p < .001$ ) and ( $\beta = 0.43$ ,  $p < .001$ ) respectively. The other three relationships (IJ1  $\rightarrow$  POS1, PJ1  $\rightarrow$  LMX1, and LMX1  $\rightarrow$  PCV2) were mentioned in the Tekleab research and we captured them in Hypotheses 5 through 7. While Tekleab and colleagues found all three relationships to be insignificant, our results indicated a significant relationship ( $\beta = .18$ ,  $p < .05$ ) between interactional justice at Time 1 and POS at Time 1 (Hypothesis 5). Hypotheses 6 and 7 were not significant.

Hypothesis 8, which posited the partial mediation impact of job satisfaction at Time 2 on actual turnover rate at Time 3 by turnover intention at Time 2 was supported with a significant mediated direct effect ( $\beta = .20$ ,  $p < .05$ ) and significant but not substantial indirect effect ( $\beta = -.00032$ ,  $p < .001$ ;  $t = -3.42$ ,  $p < .001$ ).

## DISCUSSIONS

As Tekleab et al. (2005) stated, their work replicated that of Cropanzano et al. (2002) and Masterson et al. (2000) and extended previous work at the intersection of three research areas. The selection of the PCV construct as the mediator seems to be key to the significance of the study, and the findings of the present research have provided empirical results supporting psychological contract theory (Morrison et al., 1997), as well as the substantial explanatory power of the variable. The other mediation hypotheses and relationships we tested in the chain relationships (i.e., Hypotheses 5 through 8) are presented in Table 4.

POS seems to be the first variable (lens) for framing the employee-organization relationship, and moderates the employees' perception of PCV. Ultimately, the research findings suggest that it is PCV that directly and indirectly affects turnover intention and actual turnovers (Tekleab et al., 2005). Further, the impacts of interactional justice on leader-member exchange are significant and substantive ( $\beta = .65$ ,  $p < .005$ ). Consequently, leader-member exchanges have a reasonable impact and significant bearing on job satisfaction. As Tekleab and colleagues stated, these social exchange relationships have bimodal

implications that “inoculate employees against violations in terms of their exchange relationships with the organization, but also to stimulate high job satisfaction and ... reduce the likelihood that strong turnover intentions will develop, followed by quitting” (Tekleab et al., 2005: 154). Actual turnover at Time 3 for the 701 non-faculty employees contacted at Time 1 was 27.25%. We surmise that if the actual turnover at Time 2 was subtracted from the actual turnover at Time 2, the implications of PCV at Time 2 would have been more precise.

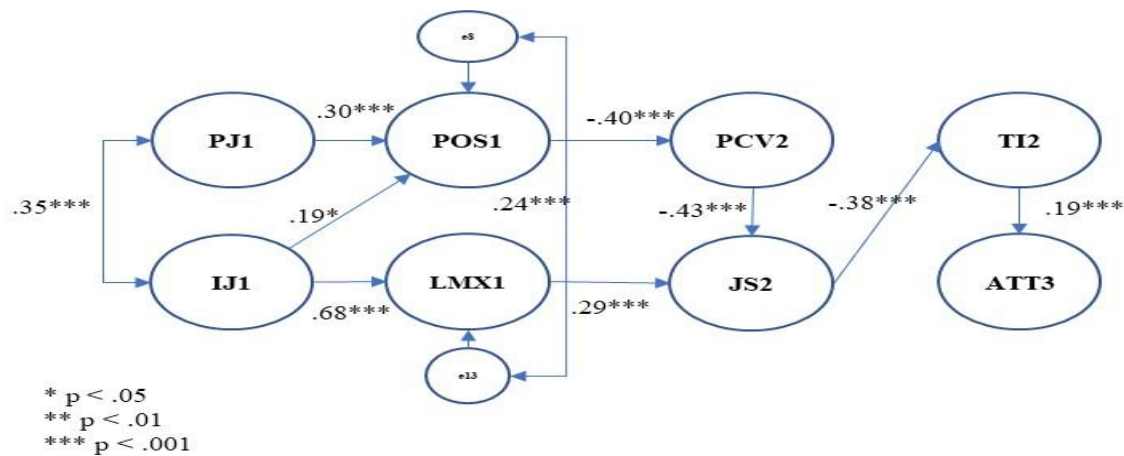
### Alternative Models

As an alternative model, we analyzed the hypothesized model with the added connection between interactional justice at Time 1 to POS at Time 1. The model fit statistics of  $\chi^2$  (df) = 15.44(18), CFI = 1.00, and RMSEA = .000, indicating that the model fit the data well. A model fit comparison for the three models (hypothesized by Tekleab et al. and analyzed by Haile as alternative) are presented in Table 6. The Chi-squared difference test for the hypothesized and alternative models resulted in  $\Delta\chi^2 = 4.84$ ,  $\Delta df = 1$ ,  $p < .05$ , indicating that the two models were different. SEM results for the alternative model are presented in Figure 6 & 7.

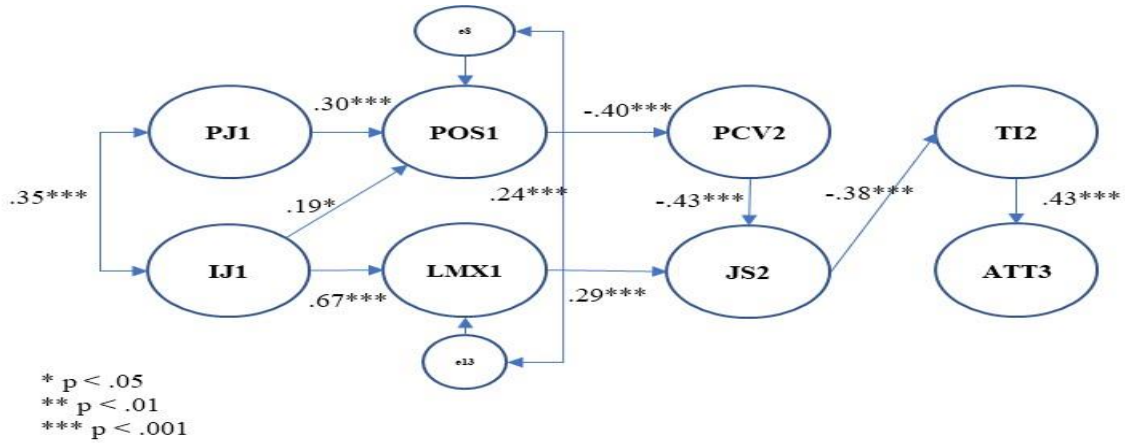
**TABLE 6**  
**MODEL FIT STATISTICS FOR HYPOTHESIZED & ALTERNATIVE MODEL**

	Tekleab et al., 2005	Haile	Haile Alternative Model
CMIN(df)	27.76(19)	20.29(19)	15.44(18)
p		0.378	0.631
PCLOSE		0.813	0.927
CFI	0.96	0.995	1.000
NFI		0.925	0.943
TLI		0.992	1.016
RMSEA	0.05	0.019, 90% of RMSEA = [.000; .067]	0.000, 90% of CI RMSEA = [.000; .0000]
SRMR		0.067	0.061

**FIGURE 6**  
**SEM RESULTS OF ALTERNATIVE MODEL (UNSTANDARDIZED COEFFICIENTS)**



**FIGURE 7**  
**SEM RESULTS OF ALTERNATIVE MODEL (STANDARDIZED COEFFICIENTS)**



In addition, the same analysis performed in the present research could be conducted without disattenuation to see if that might have a significant and substantive impact on the outcome. The disattenuation factors we employed for the model analyzed are presented in Table 7.

**TABLE 7**  
**DISATTENUATION TABLE**

Construct	Chronbach's $\alpha$	SD	Var=(SD <sup>2</sup> )	Error Var*(1- $\alpha$ )	Path Sqr(var* $\alpha$ )
PJ1	0.84	0.960	0.92160	0.147460	0.87985
IJ1	0.89	0.970	0.94090	0.10350	0.91510
POS1	0.84	0.860	0.73960	0.11834	0.78820
LMX1	0.87	0.800	0.64000	0.08320	0.74619
PCV2	0.83	0.940	0.88360	0.15021	0.85638
JS2	0.68	0.720	0.51840	0.16589	0.59373
TI2	0.85	0.990	0.98010	0.14702	0.91273
ATT3	0.45	0.450			

**SUGGESTIONS FOR PRACTITIONERS FOR EFFECTIVE MANAGEMENT**

From this replication and extension of Tekleab et al. (2005), the following key practitioner insights have been derived.

1. Among the variables considered in the hypothesized model, interactional justice plays a significant and appreciable role, with the highest path coefficient ( $\beta = 0.67$ ) for the original and extension models indicating that managers can effectively use interactional justice to optimize employee-manager relationships, positively enhancing employees' work outcomes.
2. Interactional justice, which includes effective employee-focused communication (Ozel & Bayraktar, 2018), enhances employees' POS ( $\beta = 0.19$ ), which in turn reduces their perception of PCV.
3. Procedural justice, which is concerned with policies and instruments related to decision-making, had a significant direct impact ( $\beta = 0.38$ , max), whereas its direct impact on a managers' efficacy in supporting employees work outcomes (leader-member exchange) was insignificant. As such, managers should judiciously use procedural justice, policies and

instruments of decision-making to effectuate enhanced POS and enhance their work relationships with their employees.

4. Perceived PCV, which is anchored by employee-employer transactional relationships, has significant negative and indirect mediated (through job satisfaction) impacts on turnover intention and actual turnovers. Hence, it is prudent for managers to reduce perceived PCV using instruments that affect the quality and tone of communications, promoting fair and caring employee-manager relationships.

## FUTURE RESEARCH

Job satisfaction is closely related to the nature of work. The nature of work in the past 17 years has significantly changed, due the deployment of ICT, data analytics, automation, and artificial intelligence-enabled tools. Furthermore, Industry 4.0-related methods and tools are changing the nature of work in the near future (Romero et al., 2016). As such, we surmise that it will be prudent to further investigate the chain of relationships among organizational justice, social exchange, and employee reaction in this context.

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