

Justice as a Dynamic Construct: Effects of Individual Trajectories on Distal Work Outcomes

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Despite an amassing organizational justice literature, few studies have directly addressed the temporal patterning of justice judgments and the effects that changes in these perceptions have on important work outcomes. Drawing from Gestalt characteristics theory (Ariely & Carmon, 2000, 2003), we examine the concept of justice trajectories (i.e., levels and trends of individual fairness perceptions over time) and offer empirical evidence to highlight the value of considering fairness within a dynamic context. Participants included 523 working adults who completed surveys about their work experiences on 4 occasions over the course of 1 year. Results indicate that justice trends explained additional variance in distal work outcomes (job satisfaction, organizational commitment, and turnover intentions) after controlling for end-state levels of justice, demonstrating the cumulative effects of justice over time. Findings also reveal that change in procedural justice perceptions affected distal work outcomes more strongly than any other justice dimension. Implications for theory and future investigations of justice as a dynamic construct are discussed.

In the continuing search to understand how employees process and react to fairness-related information, researchers have begun to study justice from a longitudinal perspective. On the basis of the premise that employees adjust their justice perceptions over time as they obtain additional information about the organization and its allocation procedures and decisions, such studies have shown that justice perceptions are variable and exert time-dependent influence on work outcomes (Ambrose & Cropanzano, 2003; Holtz & Harold, 2009; Truxillo, Bauer, Campion, & Paronto, 2002). By demonstrating the explanatory power of within-person variance in fairness perceptions, such research suggests that static and cross-sectional investigations are bounded in what they can reveal about justice and its effects.

Despite this progress, there is still much that is not known about justice over time. For example, imagine a situation in which two employees rate their justice perceptions as “1” and “5,” respectively, on a 5-point scale at the beginning of a given year, and both as “3” at the end of the year. Although their end-state justice perceptions are identical, they have different meanings for the employees given their prior justice perceptions. One employee perceived a decline in the fairness of his or her organizational perceptions, whereas the other perceived improved treatment. Thus, despite similarities in the magnitude of perceptual change across these individuals, they will likely exhibit divergent attitudes and behavior because of both the level and trend (i.e., “trajectory”) of their fairness perceptions. Current examinations of justice, however, do not allow insight into such effects. Although research has acknowledged that time is an important source of variance in employees’ justice perceptions, it remains unclear how the direction and rate of change in these perceptions influences distal work outcomes.

The goal of this study is to present a dynamic perspective on organizational justice by examining the effects of justice trajectories on employee attitudes and intentions. Researchers have examined trajectories in other domains, such as job satisfaction (Boswell, Boudreau, & Tichy, 2005; Boswell, Shipp, Payne, & Culbertson, 2009; Chen, Ployhart, Cooper-Thomas, Anderson, & Bliese, in press), organizational commitment (Bentein, Vandenberg, Vandenberghe, & Stinglhamber, 2005), employee turnover (Harrison, Virick, & William, 1996; Kammeyer-Mueller, Wanberg, Glomb, & Ahlburg, 2005; Sturman & Trevor, 2001), and individual and team performance (Chen, 2005; Mathieu & Rapp, 2009).¹ A common thread underlying these studies is that employees use past experiences as a backdrop for evaluating and reacting to ongoing job experiences (Boswell et al., 2005). As a result, theories, results, and conclusions change when focusing on trajectories versus (or in addition to) static assessments.

Although some justice research has considered prior justice experiences as temporal frames of reference (e.g., van den Bos et al., 2005), few studies have investigated how people draw upon their earlier experiences of fair and unfair treatment, and the subsequent effects on attitudes and behavior. Justice trajectories, however, may capture unique information that is not accounted for in single-wave research designs. Because individuals’ past justice experiences provide information by which to evaluate future justice experiences, we believe that directly exploring the rise and fall of justice perceptions over time can improve the precision of theory testing while adding to the predictive validity of justice in

¹ Note that what sets studies of trajectories apart from “time-lagged” longitudinal designs (i.e., separating predictor and outcome measurement in time) is that repeated assessments of the focal construct must be collected. Time-lagged designs, although valuable, do not allow one to detect that the construct itself has changed over time. Multiple assessments, ideally three or more, are required to construct and test individual trajectories (Singer & Willett, 2003).

explaining work outcomes. Thus, using longitudinal data from 523 working adults, we examine justice trajectories for perceptions of distributive, procedural, interpersonal, and informational justice, and the predictive validity of such trajectories in explaining future job satisfaction, organizational commitment, and turnover intentions.

Theoretical Background and Hypotheses Gestalt Characteristics

Recent work in behavioral decision making has reasoned the processes through which subjective evaluations develop over time. In particular, Ariely and Carmon (2000, 2003) have conceptualized people's experiences as they unfold over time in terms of *experience profiles*, or a series of episodes varying in intensity (e.g., pleasurable experiences such as a vacation, painful experiences such as extreme heat). Critical to their conceptualization is the idea that "when people form summary assessments of experiences, they *do not* combine the individual components of the experience profiles" (Ariely & Carmon, 2003, p. 324). That is, rather than simply average the transient experiences that constitute the experience profile, individuals draw upon both static (e.g., end-state evaluations) and dynamic (e.g., trend over time) properties of the experience profile— or "Gestalt characteristics"—when forming overall evaluations.

Given certain limitations of human cognition, which allow individuals to only remember key features of their experiences (Fredrickson & Kahneman, 1993), Ariely and Carmon (2000, 2003) have contended that Gestalt characteristics are useful for making judgments about future experiences. Specifically, individuals evaluate the favorability of past experiences to make predictions about the desirability of future episodes. However, rather than base their evaluations on the intensity of specific episodes, Ariely and Carmon have argued that people form judgments based on the relationship between episodes within an experience profile. In other words, summary assessments of one's experiences are driven by trends in the favorability of episodes over time. Such dynamic Gestalt information provides cues about likely future states, allowing people to extrapolate from the past to determine whether to repeat or pursue similar experiences, an argument that is consistent with Kahneman's (1999) contention that decisions to remain or depart from a given situation depend on the pattern of states experienced over time.

Within an organizational setting, Reb and Cropanzano (2007) applied a Gestalt characteristics perspective to performance evaluation. Manipulating sales performance profiles, the authors found that raters attended to both static (i.e., mean performance) and dynamic characteristics (i.e., performance trend over time) when rating performance. Performance trends explained additional variance in ratings

beyond mean performance such that an improving trend led to higher ratings even though the mean performance was identical. Chen et al. (in press) applied a logic similar to that of Gestalt characteristics to the domain of work attitudes, arguing that relative improvements or decrements in job satisfaction are influential in determining individuals' evaluations of whether to remain or leave their current position. Drawing from prospect theory (Kahneman & Tversky, 1979), within-person spirals (Hsee & Abelson, 1991; Lindsley, Brass, & Thomas, 1995), and sense-making rationales (Louis, 1980), they developed an integrative theoretical framework for understanding job satisfaction change, proposing that (a) satisfaction from earlier time points provide a reference point for interpreting satisfaction at later time points, and (b) the degree of change in job satisfaction over time shapes interpretations and expectations of current and future work conditions. Using four different samples, they found empirical support for their framework—specifically, the added value of job satisfaction change in predicting turnover intentions beyond average (static) job satisfaction levels. Taken together, these studies suggest an important role for studying both static and dynamic characteristics of individuals' reactions to ongoing experiences.

Although the study of Gestalt characteristics has not been extended to the organizational justice domain, related theory and empirical findings provide a foundation for drawing such a linkage. For example, fairness heuristic theory (Lind, 2001; van den Bos, 2001) gives prominence to the conceptual role of time in explaining how justice judgments develop. According to the theory, individuals draw upon repeated exchanges with supervisors, procedures, and outcomes to form justice judgments, and they use them to determine whether organizations are fair. More specifically, fairness heuristics are formed during a "judgmental phase" using whatever justice information is available. Individuals then use such heuristics as a guide for their subsequent attitudes and behaviors (Lind, 2001), relying upon the established fairness heuristics until a "phase-shifting event," such as a critical or unexpected work event or the acquisition of new information that is contradictory with the heuristic, causes them to reenter the judgmental phase and to recalibrate their perceptions (Lind, 2001; van den Bos, 2001).

Consistent with this expectation, researchers have shown that justice perceptions indeed change over time and that the magnitude and direction of change varies within and between individuals (Ambrose & Cropanzano, 2003; Holtz & Harold, 2009; Loi, Yang, & Diefendorff, 2009). Loi et al. (2009) tracked justice perceptions and job satisfaction among full-time employees in Hong Kong across 25 days, and they found evidence of daily variations in the justice–satisfaction relationship. Holtz and Harold (2009) also conducted a longitudinal examination of justice by assessing people's perceptions of overall organizational and supervisory justice at three points in time over a 3-month period. The results showed

significant within-person variability in overall justice perceptions across time and between-person variability in how these perceptions developed over time.

Although these studies highlight the importance of considering justice over time, they show the presence of dynamic perceptions of justice and not the effects of this dynamism on subsequent work outcomes. In this article, we therefore extend the domain of theoretical work on organizational justice by adopting an “experience profile” perspective on justice. Because individuals use trends of their experiences to form summary judgments (Ariely & Carmon, 2000, 2003) and, relative to fairness, use past justice evaluations to form heuristics that guide future evaluations and subsequent reactions (Lind, 2001), we examine the relationships between justice trajectories and distal work outcomes. Specifically, we focus on the influence of justice levels and trends on job satisfaction, organizational commitment, and turnover intentions— thereby seeking to capture the effects of justice more fully. Given the subjectivity and volatility of justice relative to other attitudes over time (Greenberg & Colquitt, 2005; Loi et al., 2009), this study of within-person variability in justice also allows insight into justice as a dynamic construct. More importantly, as people use perceptions of justice to determine their reactions to future experiences, temporal changes in such perceptions may be considered a Gestalt characteristic.

We expect that examining the impact of justice trajectories on work outcomes may reveal fairness as a defining feature of the affective profile of employees’ organizational experiences. Given this logic, fairness trends should explain additional variance in employees’ future attitudes and intentions. Returning to our opening example, of the two employees with identical end-state justice evaluations (ratings of “3”), trend information would help explain employees’ reactions. If individuals indeed rely upon trends to predict the likelihood that conditions will continue to improve (in the case of a positive trend) or worsen (negative trend), the extrapolation-based argument (Ariely & Carmon, 2003) suggests that although they share identical end-state ratings, trend information will explain additional variance in work outcomes because individuals are forecasting how the future is likely to unfold. Negative justice trends may be indicative of heightened uncertainty or the reduced trustworthiness of a supervisor or organization, thus engendering dissatisfaction with the job and detachment from the organization. Positive trends may signal increased confidence in future states, thereby increasing satisfaction and lowering intentions to leave. Accordingly, we expect that employees will be more satisfied, committed, and less likely to leave an organization if justice trends indicate that conditions are improving. Specifically, we hypothesize the following:

- **Hypothesis 1:** Justice trends will be positively related to job satisfaction (above and beyond the effects of end-state justice perceptions).

- **Hypothesis 2:** Justice trends will be positively related to organizational commitment (above and beyond the effects of end-state justice perceptions).
- **Hypothesis 3:** Justice trends will be negatively related to turnover intentions (above and beyond the effects of end-state justice perceptions).

Method

Sample and Procedure

The sample consists of 523 working adults from a variety of occupations who completed surveys about their work experiences in January, April, July, and October of 2007. We recruited our sample from a panel of participants registered with the Study Response Project, which is an online service that connects social science researchers with individuals who are interested in study participation (<http://studyresponse.syr.edu>). Other samples have been drawn from the panel, as reported in previous research (e.g., Inness, LeBlanc, & Barling, 2008; Piccolo & Colquitt, 2006). A total of 3,286 participants were contacted to participate in the study, and 2,464 completed the January (Time 1) survey (response rate = 75.0%). Subsequent surveys were sent to individuals who participated in the survey from the previous wave. Response rates for the April (Time 2), July (Time 3), and October (Time 4) surveys were 67.6%, 65.2%, and 72.0%, respectively. A sampling frame of 1 year was selected to allow for natural variation in the company practices that are known to influence justice perceptions (e.g., pay decisions, performance reviews, and so on). To match our interest in time-specific perceptions, participants were asked to consider their work experiences over the past 3 months when completing each survey, and slight wording changes were made to existing scales as necessary to maintain consistency with this focus. Individuals who changed jobs over the course of the year were excluded from further analysis because they would be reacting to different procedures, outcomes, and interactions at various points of the study. In all, by including only those with all four observations who did not change jobs and who had sufficient data for the analyses, our final sample was 523 (overall response rate = 15.9%). When comparing the final sample with the excluded sample, no statistically significant differences were found for gender, job tenure, organizational tenure, procedural justice, distributive justice, or interpersonal justice. However, participants in the final sample were older ($M = 39.7$ vs. 37.6) and reported higher perceptions of informational justice ($M = 3.6$ vs. 3.5). After a Bonferroni correction was applied to adjust for multiple comparisons, only the age difference remained statistically significant.

Measures

Organizational justice. We measured four dimensions of organizational justice at all four time points using the measure validated by Colquitt (2001). Four items assessed distributive justice (e.g., “The outcomes that I receive reflect what I contribute to the organization”), seven items assessed procedural justice (“In my organization, procedures are based on accurate information”), four items assessed interpersonal justice (“My supervisor treats me in a polite manner”), and five items assessed informational justice (“My supervisor communicates details in a timely manner”). The item anchors ranged from 1 (strongly disagree) to 5 (strongly agree).

Job satisfaction. Job satisfaction was measured using six items from Hackman and Oldham (1975). A sample item is “Considering everything, I am satisfied with my job.” The anchors for each item ranged from 1 (strongly disagree) to 5 (strongly agree). Job satisfaction measured at Time 4 is the dependent variable in Hypothesis 1.

Organizational commitment. We measured affective organizational commitment using eight items from Allen and Meyer (1990). A sample item is “My organization has a great deal of personal meaning for me.” Anchors ranged from 1 (strongly disagree) to 5 (strongly agree). Organizational commitment measured at Time 4 is the dependent variable in Hypothesis 2.

Turnover intentions. Three items from Kelloway, Gottlieb, and Barham (1999) were used to assess quit intentions. A sample item is “I am thinking about leaving my organization.” The anchors for each item ranged from 1 (strongly disagree) to 5 (strongly agree). Turnover intentions measured at Time 4 are the dependent variable in Hypothesis 3.

Control variables. To test whether justice trends explain variance beyond end-state perceptions, we control for Time 4 justice in all of our models. Further, when considering any variable across time, it is important to ensure that we are examining the effects specifically associated with our independent variables, and not spurious effects that, in a longitudinal context, may be associated with both our dependent and independent variables. Thus, for each hypothesis test, we included a lagged variable as a control (e.g., when predicting Time 4 job satisfaction, Time 1 job satisfaction is included as a control). Including the lagged dependent variable partials out stable effects associated with the dependent variable that may also be associated with the independent variables of interest (Sturman, 2007). Furthermore, because our longitudinal data are all same source, controlling for other variables likely to be similarly affected by any potential common method variance (CMV; i.e., the same measure at a different time, and an attitudinal measure at the same time) will help diminish any potential effect of CMV in subsequent regression analyses with multiple independent variables (Siemsen, Roth, & Oliveria,

2010). This a priori methodological approach to dealing with CMV is also preferable to post hoc tests because of the general unreliability and inaccuracy of post hoc correction techniques (Richardson, Simmering, & Sturman, 2009).

Results

Descriptive Statistics

Means, standard deviations, correlations, and coefficient alpha estimates are reported in Table 1. Across the four justice dimensions at Time 4, alphas ranged from .93 to .97, indicating good internal consistency. To quantify the relative proportion of inter-individual variance, we calculated an intraclass correlation coefficient (ICC) using the standard formula for longitudinal designs ($\rho = \sigma_0^2 / (\sigma_0^2 + \sigma_\epsilon^2)$). ICC values were .62 (distributive justice), .75 (procedural justice), .70 (informational justice), and .66 (interpersonal justice). Thus, between 62% and 75% of the variance in justice perceptions was found to lie between people, and between 25% and 38% constituted within-person variance over time.

Table 1
Descriptive Statistics

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Job satisfaction (Time 1)	3.52	0.85	(.88)													
2. Job satisfaction (Time 4)	3.46	0.87	.71	(.89)												
3. Organizational commitment (Time 1)	3.28	0.83	.71	.58	(.88)											
4. Organizational commitment (Time 4)	3.26	0.88	.59	.73	.75	(.90)										
5. Turnover intentions (Time 1)	2.54	1.19	-.62	-.49	-.64	-.55	(.96)									
6. Turnover intentions (Time 4)	2.67	1.24	-.46	-.61	-.51	-.67	.66	(.95)								
7. Procedural justice (Time 4)	3.44	0.86	.60	.77	.57	.70	-.39	-.51	(.93)							
8. Procedural justice trend	0.00	0.05	-.01	.41	-.02	.31	.05	-.25	.58	—						
9. Distributive justice (Time 4)	3.39	1.04	.54	.70	.43	.57	-.36	-.47	.68	.38	(.97)					
10. Distributive justice trend	0.01	0.05	-.01	.33	-.04	.19	.01	-.20	.32	.49	.61	—				
11. Informational justice (Time 4)	3.53	0.93	.49	.67	.35	.46	-.28	-.38	.62	.36	.49	.30	(.94)			
12. Informational justice trend	-0.01	0.06	-.21	.18	-.15	.06	.18	-.09	.18	.47	.14	.38	.39	—		
13. Interpersonal justice (Time 4)	3.82	0.93	.41	.58	.32	.39	-.27	-.34	.52	.30	.41	.27	.76	.26	(.93)	
14. Interpersonal justice trend	-0.01	0.09	-.18	.19	-.10	.08	.17	-.11	.19	.45	.18	.34	.29	.68	.45	—

Note. N = 523. Correlations greater than .08 are significant at $p < .05$.

Measurement Issues

To examine the validity of our measurement model at each time point, we conducted a series of confirmatory factor analyses using item-level data from the seven attitude measures. We compared the fit of our theorized seven-factor model (procedural justice, distributive justice, informational justice, interpersonal justice, job satisfaction, organizational commitment, turnover intentions) with five plausible alternative models. As shown in Table 2, across all four time points the seven-factor model (i.e., four justice dimensions and three outcomes) provided better fit than any alternative model. We also conducted tests of longitudinal measurement invariance following recommendations outlined by Vandenberg and Lance (2000) to determine whether justice perceptions were measured similarly across time. For each of the four justice dimensions, we conducted four measurement invariance tests:

configural invariance (test of equivalent factor structures), metric invariance (test of invariant factor loadings), invariant uniqueness (test of equal error variances), and invariant factor variances (test of

Table 2
Confirmatory Factor Analyses

Model	χ^2	df	NNFI	CFI	RMSEA
Time 1					
7-factor model	2,108.24	608	.91	.92	.065
6-factor model	3,040.71	614	.85	.87	.082
5-factor model	4,676.96	619	.75	.78	.106
4-factor model	7,020.42	623	.62	.66	.133
2-factor model	8,402.03	628	.54	.59	.146
1-factor model	9,165.29	629	.49	.55	.153
Time 2					
7-factor model	2,351.05	608	.89	.91	.070
6-factor model	3,209.74	614	.84	.86	.085
5-factor model	4,797.00	619	.74	.77	.108
4-factor model	6,917.68	623	.62	.66	.132
2-factor model	7,954.69	628	.56	.60	.141
1-factor model	8,902.54	629	.50	.55	.150
Time 3					
7-factor model	2,375.29	608	.89	.91	.071
6-factor model	3,373.00	614	.84	.86	.088
5-factor model	5,167.23	619	.73	.76	.112
4-factor model	7,252.87	623	.61	.65	.135
2-factor model	8,561.35	628	.54	.59	.147
1-factor model	9,361.85	629	.49	.55	.154
Time 4					
7-factor model	2,628.97	608	.89	.91	.076
6-factor model	3,768.73	614	.83	.85	.094
5-factor model	5,702.85	619	.73	.77	.119
4-factor model	7,991.96	623	.62	.66	.142
2-factor model	9,402.84	628	.55	.60	.155
1-factor model	10,479.36	629	.49	.55	.164

Note. The seven-factor model specifies four justice dimensions (distributive, procedural, interpersonal, and informational) and three outcomes (organizational commitment, job satisfaction, and turnover intentions). The six-factor model combines interpersonal and informational justice items into a single factor. The five-factor model combines interpersonal, informational, and procedural justice items into a single factor. The four-factor model combines all justice items into a single factor. The two-factor model combines all justice items into a single factor and all outcome items into a single factor. The one-factor model allows all items to load onto a single factor. NNFI = non-normed fit index; CFI = comparative fit index; RMSEA = root-mean-square error of approximation.

terms. Results, shown in Table 4, indicate that for all four justice dimensions, there was statistically significant between-person variance in trends, providing evidence that individuals indeed develop different justice trends over time and confirming that it is appropriate to test whether justice trends predicted work outcomes.

equal variance in latent constructs). As shown in Table 3, in all cases, model fit remained stable as additional constraints were imposed, thereby supporting the measurement equivalence of the justice dimensions over time.

Hypothesis Tests

To test Hypotheses 1–3, we first confirmed that individuals exhibited variability around the linear trend component of each justice dimension (if they did not, hypothesis tests would not be meaningful). We used hierarchical linear modeling (HLM; and specifically, the HLM software) to model each individual's intercept and trend for each justice dimension, specifying each dimension of justice as the dependent variable and an intercept and linear time vector as independent variables ($Y_{it} = b_{0i} + b_{1i} \times \text{time}$). All models allowed for estimation of random variation around both the intercept (b_{0i}) and the linear coefficient (b_{1i}) for time. That is, Level 2 random effects were modeled for both Level 1

Table 3
Longitudinal Measurement Invariance Tests

Variable	Model	χ^2	df	NNFI	CFI	RMSEA
Distributive justice	1	342.72	98	.97	.98	.065
	2	351.21	107	.98	.98	.063
	3	377.58	119	.98	.98	.061
	4	380.54	122	.98	.98	.060
Procedural justice	1	2,964.34	344	.78	.81	.114
	2	2,974.30	362	.79	.81	.111
	3	3,019.89	383	.80	.81	.109
	4	3,023.20	386	.80	.81	.108
Informational justice	1	1,174.21	164	.89	.91	.103
	2	1,182.67	176	.90	.91	.099
	3	1,208.95	191	.90	.91	.096
	4	1,209.91	194	.90	.91	.095
Interpersonal justice	1	763.33	98	.92	.94	.108
	2	777.14	107	.93	.94	.104
	3	851.20	119	.93	.94	.103
	4	851.90	122	.93	.94	.101

Note. Model 1 = test of configural invariance; Model 2 = test of metric invariance; Model 3 = test of invariant uniqueness; Model 4 = test of invariant factor variances; NNFI = non-normed fit index; CFI = comparative fit index; RMSEA = root-mean-square error of approximation.

We then used the Bayes-estimated HLM coefficients for the trend (b_1), for each justice dimension and for each person, as independent variables when testing Hypotheses 1–3. These hypotheses were tested using ordinary least squares regression. We predicted that the justice trend would be positively associated with job satisfaction (Hypothesis 1), positively associated with organizational commitment (Hypothesis 2), and negatively associated with turnover intentions (Hypothesis 3). As noted earlier, these effects are estimated after controlling for the lagged dependent variable from Time 1 to partial out any stable effects that otherwise may be associated with both the dependent and independent variables. Similarly, all of these tests control for the current level of justice (i.e., each justice dimension at Time 4), so that results attributed to justice trends are beyond the variance explained by the end-state or “static” levels of justice for that dimension.

Table 4
Variance Components From Hierarchical Linear Models

Justice dimension	Variable	Fixed effect coefficient	SE of coefficient	Random effect variance components	χ^2 of random effect
Procedural justice	Intercept	3.43***	0.039	0.55	1,689.01***
	Trend	0.0004	0.0091	0.010	687.03***
Distributive justice	Intercept	3.39***	0.051	0.74	1,174.09***
	Trend	0.0039	0.013	0.016	627.92***
Informational justice	Intercept	3.57***	0.045	0.69	1,535.48***
	Trend	-0.010	0.011	0.014	677.10***
Interpersonal justice	Intercept	3.89***	0.045	0.70	1,537.63***
	Trend	-0.013	0.012	0.023	777.99***

Note. $N = 523$.
*** $p < .001$.

Table 5 presents the job satisfaction results. In all models, Time 4 justice dimensions and Time 1 job satisfaction were positive and statistically significant predictors of Time 4 job satisfaction. Supporting Hypothesis 1, Models 1–4 show that justice trends were statistically significant and positively related to Time 4 job satisfaction for all justice dimensions. These results indicate that, holding constant their most recent justice perceptions, individuals who reported increasingly favorable justice perceptions over time were more satisfied with their jobs at the end of the period, and those who indicated a decline were less satisfied.

Table 5
Prediction of Job Satisfaction by Justice Dimensions and Trends

Variable	Model 1	Model 2	Model 3	Model 4	Model 5
Intercept	0.43*** (0.10)	0.58*** (0.10)	0.34*** (0.11)	0.36** (0.12)	0.084 (0.11)
Job satisfaction (Time 1)	0.51*** (0.036)	0.53*** (0.037)	0.61*** (0.035)	0.67*** (0.034)	0.43*** (0.038)
Procedural justice (Time 4)	0.36*** (0.044)				0.19*** (0.044)
Procedural justice trend	3.41*** (0.55)				2.09*** (0.55)
Distributive justice (Time 4)		0.30*** (0.038)			0.17*** (0.035)
Distributive justice trend		1.99** (0.68)			-0.093 (0.61)
Informational justice (Time 4)			0.29*** (0.034)		0.11*** (0.039)
Informational justice trend			2.83*** (0.50)		1.01* (0.55)
Interpersonal justice (Time 4)				0.20*** (0.034)	0.072* (0.22)
Interpersonal justice trend				2.03*** (0.33)	0.22 (0.36)
R^2	.71	.65	.66	.62	.77

Note. $N = 523$. Dependent variable is job satisfaction at Time 4. Trends were computed in separate analyses (variance components reported in Table 4), using hierarchical linear modeling, and represent the within-person relationship between time and the respective justice dimension. A regression predicting job satisfaction using only the lagged dependent variable had an R^2 of .50. Standard errors for the regression coefficients are in parentheses.
* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 6 shows results for organizational commitment. In all models, Time 4 justice dimensions and Time 1 organizational commitment were positive and statistically significant predictors of Time 4 organizational commitment. Models 1–4 indicate that justice trends were statistically significant and positively related to Time 4 organizational commitment for all justice dimensions. These results support Hypothesis 2 and indicate that, regardless of their most recent justice perceptions, individuals who reported increasingly favorable justice perceptions over time were more committed to the organization at the end of the period, and those who indicated a decline were less committed.

Table 6
Prediction of Organizational Commitment by Justice Dimensions and Trends

Variable	Model 1	Model 2	Model 3	Model 4	Model 5
Intercept	0.29** (0.11)	0.30** (0.11)	0.23* (0.12)	0.33* (0.77)	0.21 (0.12)
Organizational commitment (Time 1)	0.66*** (0.037)	0.68*** (0.034)	0.75*** (0.033)	0.67*** (0.033)	0.66*** (0.038)
Procedural justice (Time 4)	0.23*** (0.044)				0.12* (0.055)
Procedural justice trend	3.03*** (0.57)				3.02*** (0.65)
Distributive justice (Time 4)		0.21*** (0.034)			0.11** (0.038)
Distributive justice trend		1.29* (0.66)			0.011 (0.68)
Informational justice (Time 4)			0.17*** (0.031)		0.044 (0.044)
Informational justice trend			1.38** (0.49)		0.049 (0.63)
Interpersonal justice (Time 4)				0.11** (0.033)	-0.016 (0.053)
Interpersonal justice trend				0.96** (0.33)	0.018 (0.41)
R^2	.68	.64	.61	.59	.70

Note. $N = 523$. Dependent variable is organizational commitment at Time 4. Trends were computed in separate analyses (see Table 4), using hierarchical linear modeling, and represent the within-person relationship between time and the respective justice dimension. A regression predicting organizational commitment using only the lagged dependent variable had an R^2 of .56. Standard errors for the regression coefficients are in parentheses.
* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 7 displays results for turnover intentions. In all models, Time 4 justice dimensions (with the exception of interpersonal justice) and Time 1 turnover intentions were statistically significant predictors of Time 4 turnover intentions. Models 1–4 reveal that justice trends were statistically significant and negatively related to Time 4 turnover intentions for all justice dimensions. These results support Hypothesis 3 and indicate that, holding constant their most recent justice perceptions, individuals who reported increasingly favorable justice perceptions over time had lower intentions to leave the organization at the end of the period, and those who indicated a declining trend had higher quit intentions.²

Table 7
Prediction of Turnover Intentions by Justice Dimensions and Trends

Variable	Model 1	Model 2	Model 3	Model 4	Model 5
Intercept	1.96*** (0.62)	1.96*** (0.24)	1.59*** (0.23)	1.24*** (0.25)	1.92*** (0.31)
Turnover intentions (Time 1)	0.62*** (0.037)	0.61*** (0.036)	0.67*** (0.036)	0.70*** (0.036)	0.64*** (0.038)
Procedural justice (Time 4)	-0.25*** (0.062)				-0.19* (0.085)
Procedural justice trend	-4.04*** (0.91)				-2.23* (1.07)
Distributive justice (Time 4)		-0.24*** (0.053)			-0.09 (0.066)
Distributive justice trend		-2.12* (1.06)			-0.50 (1.17)
Informational justice (Time 4)			-0.19*** (0.049)		-0.049 (0.077)
Informational justice trend			-3.33*** (0.79)		-0.54 (1.09)
Interpersonal justice (Time 4)				-0.10 (0.052)	0.067 (0.074)
Interpersonal justice trend				-2.68*** (0.53)	-1.79* (0.71)
<i>R</i> ²	.53	.50	.49	.49	.55

Note. *N* = 523. Dependent variable is turnover intentions at Time 4. Trends were computed in separate analyses (variance components reported in Table 4), using hierarchical linear modeling, and represent the within-person relationship between time and the respective justice dimension. A regression predicting turnover intentions using only the lagged dependent variable had an *R*² of .43. Standard errors for the regression coefficients are in parentheses. * *p* < .05. *** *p* < .001.

As a supplemental analysis, we tested the relative effects of each justice dimension in a single equation for each of the three work attitudes. Model 5 in Tables 5–7 shows the results of simultaneous prediction of each outcome using Time 4 level and the trend for each of the four justice dimensions. For all three work attitudes, the procedural justice trend was statistically significant and in the expected direction, whereas the distributive justice trend was not statistically significant in any case. The informational justice trend was statistically significant when predicting job satisfaction, and the interpersonal justice trend was statistically significant when predicting turnover intentions. Thus, controlling for the trend of the other three justice dimensions, only the procedural justice trend remained a statistically significant predictor of all three work outcomes.

In summary, our findings indicate support for the end-state and dynamic attributes of justice, as justice trends explained variance in job satisfaction, organizational commitment, and turnover

² In addition to controlling for the most recent level of justice perceptions (i.e., Time 4, as reported here), we ran additional models controlling for the individual's average justice level over the entire period (i.e., mean of Times 1–4). The pattern of findings (i.e., coefficient sign and significance) and conclusions are consistent with those reported here (details available upon request).

intentions beyond the most recent level of justice perceptions. Controlling for end-state perceptions, employees with negative trends over time (i.e., moving to lower perceptions of justice) were ultimately less satisfied, less committed, and more likely to consider leaving the organization, whereas those with positive trends were more satisfied, more committed, and more willing to stay. When testing justice trends for all four dimensions simultaneously, we found that only procedural justice retained explanatory power for all three work outcomes.

Discussion

Although studies of organizational justice have multiplied in recent years, few have directly addressed how perceptions of justice change over time and how such change influences important work outcomes. To fill this gap, we drew from Gestalt characteristics theory (Ariely & Carmon, 2000, 2003) and conceptualized justice in terms of individual trajectories to highlight the value of considering justice as a dynamic construct. Consistent with our theorizing, we focused on the levels and trends of people's justice evaluations over time and examined how they shape distal employee attitudes and intentions. We tracked employees' perceptions across an entire year and found that justice trends explained variance in their satisfaction, commitment, and turnover intentions beyond that captured by contemporaneous, end-state justice levels. Accordingly, we are able to highlight the Gestalt characteristics on which people rely to arrive at evaluations of, and reactions to, their justice experiences. The results suggest that improving (declining) fairness conditions over time motivate more (less) favorable employee attitudes. These results are striking given that we controlled for end-state perceptions, which previous research has shown to be particularly influential in driving evaluations (e.g., Fredrickson & Kahneman, 1993).

We also found that Gestalt characteristics of justice varied across different justice types, as our investigation revealed that the effects of justice trends on outcomes differed depending on the specific dimension of justice. For example, although all four justice dimensions were generally related to our three dependent variables (both in terms of level and trend), only procedural justice trends retained explanatory power when all dimensions were considered simultaneously. Such a pattern is consistent with arguments outlined in the two-factor and agent-system models of justice (see Colquitt, Conlon, Wesson, Porter, & Ng, 2001), as both predict that procedural justice has stronger effects on system referenced outcomes such as organizational commitment. More importantly, this pattern suggests that procedural justice may serve as a salient Gestalt characteristic as people arrive at summary evaluations of their justice experiences and generate reactions to such experiences.

Above all, by framing justice perceptions in terms of trajectories, this study offers a theoretical rationale for a dynamic approach to organizational justice and empirically supports the value of moving beyond purely cross-sectional perspectives. In addition, consistent with the findings of recent longitudinal studies of justice, our empirical results show that fairness evaluations are not static, and the relationships documented in cross-sectional research do not account for the total effects of justice on work attitudes and intentions. These findings suggest that it is important to consider both trends and levels when examining the longer term outcomes of justice perceptions.

Limitations

Despite these results, one limitation of our survey-based longitudinal design is that we were only able to gather self-report data, which may raise concerns about CMV. We attempted to minimize the impact of these issues via temporal separation of measurement and lagged dependent variable controls, both of which help alleviate such biases (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003; Siemsen et al., 2010). A second limitation concerns the generalizability of findings to other contexts. Although the sample was drawn from a cross-section of working adults in a variety of organizations, its representativeness of the broader employee population cannot be ensured. A third limitation relates to participant attrition. Despite reasonable period-to-period response rates and few differences between responders and nonresponders, the final sample size represented a relatively small percentage of those initially contacted.

Managerial Implications

Given our findings that justice trajectories influence employees' distal attitudes and intentions, managers may find it useful to consider employees' unique histories of perceived treatment. Our findings show that even if all employees hold similar fairness perceptions at a given point, resultant attitudes and intentions will differ depending on how employees feel relative to how they have been treated in the past. Thus, to retain a satisfied and committed workforce, managers may want to be cognizant of how employees are reacting to ongoing workplace experiences over time. For example, when organizations engage in employee attitude surveys, our study suggests that it is important for them to consider trends in these attitudes and not solely the most current survey results. As our results also highlight procedural justice trajectories as particularly influential to employee attitudes and turnover intentions, organizational leaders should put resources into ensuring that policies and procedures are fairly enacted.

Future Research

Above all, our findings suggest that future justice theory and research can benefit from adopting a dynamic process perspective. Dynamic process theories are predicated on the notion that phenomena can only be understood as “the multiple, mutual, and continuous interaction of all levels of the developing system” (Thelen & Smith, 1998, p. 563). Their advantage over cross-sectional perspectives is that new forms can emerge when considering the total experience of the entity under study. Although this temporal lens provides a new perspective from which to study organizational justice, no single study will be sufficient to address the challenges and opportunities associated with this approach. For example, although our 1-year timeframe and four-wave, repeated measures design provides an initial test of justice trajectories, future research that examines alternative timeframes and behavioral outcomes is needed.

We also encourage justice researchers to consider other time-related concepts. For example, “threshold effects” may occur with time such that changes in perceptions of fairness must reach or exceed a certain level before they have an appreciable effect on employee attitudes or behaviors (Taylor, 2001). Individuals’ perceptions of an organization or supervisor may be relatively stable until, consistent with fairness heuristic theory (Lind, 2001), a phase-shifting event that signals a substantive change in the relationship with the organization may occur. Such an event may create the expectation that treatment by the organization or decision maker is unlikely to exceed (or drop below) that level. It is only by measuring perceptions repeatedly that researchers will become able to discern these types of effects.

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