

RESEARCH REPORT

Exchanging One Uncertainty for Another:
Justice Variability Negates the Benefits of JusticeFadel K. Matta
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Although the importance of organizational justice is without question, our theoretical and empirical knowledge of the justice phenomenon is focused almost exclusively on mean levels of fair treatment, ignoring whether those mean levels are achieved in a consistent or inconsistent manner. This exclusive focus on average levels of justice is not surprising given the implicit assumption in the justice literature that day-to-day variations in justice are glossed over or reinterpreted by individuals. Building upon recent research demonstrating that variability in justice can be as important as average levels of fair treatment, we leverage tenets of uncertainty management theory to provide a conceptual bridge that integrates justice variability into the group engagement model. Our theoretical model proposes justice variability (arising from fluctuations in one's fair treatment over time) negates the very benefits that average levels of interpersonal justice provide. Results of 2, week-long experience sampling studies (one of 111 employees and one of 352 employees nested in 104 groups), used to construct assessments of day-to-day justice variability, largely supported our predictions regarding interactive effects between average levels of justice and justice variability on judgments of pride in the group and, ultimately, cooperative behavior, providing important takeaways for theory, research, and practice.

Keywords: organizational justice, justice variability, social identity judgments, group engagement model, experience-sampling methodology

Although an expansive body of work has established the importance of organizational justice, or fairness in the workplace, research has thus far focused almost exclusively on differences in average levels of justice occurring between employees (for a meta-analysis, see Colquitt et al., 2013). This exclusive focus on average levels of justice is based on an assumption in the literature that day-to-day variations in justice are either reinterpreted or ignored by individuals (except in rare cases in which fairness-relevant events fall far outside what would be expected from an individual's existing, general fairness judgment; i.e., phase-shifting events; Lind, 2001). Indeed, fairness heuristic theory posits fairness perceptions are formed quickly (using the fairness-related information available) and tend to be sticky, such that

“once a general fairness judgment is generated, it will be assumed to be accurate, and any incoming information relevant to the fairness of treatment will be reinterpreted and assimilated to be congruent with the existing general fairness judgement” (Lind, 2001, p. 78).

Despite general consensus surrounding this assumption, emerging research suggests the experience of justice may not be so simple. For example, daily studies have shown perceptions of justice vary as much within as they do between persons (e.g., Ferris, Spence, Brown, & Heller, 2012; Loi, Yang, & Diefendorff, 2009; Matta, Erol-Korkmaz, Johnson, & Bıçaksız, 2014). Longitudinal studies have shown justice trajectories over longer durations explain variance in outcomes after controlling for average justice (e.g., Hausknecht, Sturman, & Roberson, 2011). Finally, recent research has shown day-to-day variance in justice perceptions (i.e., justice variability—between-employee differences in the stability of justice over time) are as important as, or even more important than, average levels of justice (Matta, Scott, Colquitt, Koopman, & Passantino, 2017). Together, these works suggest the assumptions that a) average levels of justice are the sole driver of one's justice experience and b) day-to-day variations in justice are not a meaningful component of one's justice experience, are likely untenable.

We aim to show justice variability is critical to how employees make sense of the just treatment they experience, such that justice variability negates the very benefits average justice offers. We

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center our investigation on the role of justice variability in influencing the linkages proposed within the group engagement model (Tyler & Blader, 2000, 2003), because, of the predominant justice theories (for a review, see Colquitt, Greenberg, & Zapata-Phelan, 2005), it is most tailored toward the process by which justice influences group behavior. Indeed, the core tenet of the model—the social identity mediation hypothesis—is that justice facilitates cooperation in groups via status-related social identity judgments (e.g., pride in the group).

We contend justice variability attenuates the beneficial effects of average justice on judgments of pride in the group and, ultimately, group cooperative behavior. Our logic for this prediction is derived from the notions that a) justice is important because it reduces uncertainty about status (Colquitt & Zipay, 2015), b) variability in justice causes individuals to experience fairness-related uncertainty (Matta et al., 2017), and c) justice does little to manage external uncertainties (e.g., about status) when justice itself is uncertain (Lind & van den Bos, 2002). We focus on interpersonal justice rules because the group engagement model explicitly posits that “those elements carry the most social identity-relevant information” (Tyler & Blader, 2003, p. 349), as well as because interpersonal justice affords managers more discretion and is more likely to vary day to day than other dimensions of justice (Scott, Garza, Conlon, & Kim, 2014).

Our work advances theories of justice by showing day-to-day variations in justice are a meaningful component of one’s justice experience, challenging consensus that such variations are glossed over or reinterpreted by individuals (e.g., Lind, 2001). Consequently, we establish a critical boundary condition to the effects of average justice. This is an important step for justice research because it suggests a) our theories of justice—which focus exclusively on average justice and ignore justice variability—paint an incomplete picture of the justice experience, and b) it may be time to revisit assumptions justice scholars hold. In addition, although the literature on justice (like many others) has tended to pursue the phenomenon in a static manner (Ployhart & Vandenberg, 2010), our perspective regarding justice variability—which integrates between-employee differences in the stability of justice over time into the group engagement model—supports the contention that a consideration of time can change what we know about theoretical constructs, theoretical relationships, and even theories themselves (George & Jones, 2000). Furthermore, by integrating tenets from uncertainty management theory (relevant to justice variability) into the group engagement model, we highlight the utility of bringing together two of the most popular theoretical lenses in the justice literature. Although the group engagement model’s primary theoretical contribution focuses on how and why justice influences cooperative behavior, uncertainty management theory and justice variability augment that contribution by answering when such processes may or may not hold (Whetten, 1989).

Theory and Hypotheses

Conceptualization of Justice Variability

Although the justice literature has focused on examining what happens when employees are treated more or less fairly from each other (i.e., average justice), recent research suggests the concept of justice variability may challenge what we know about justice

levels. For instance, Matta et al. (2017) showed being treated in a consistently unfair manner resulted in less physiological stress for individuals than being treated fairly sometimes and unfairly other times (despite overall levels of fair treatment being higher for those treated inconsistently). A key driver for these effects is fairness-related uncertainty; when individuals experience inconsistent adherence to justice rules, they feel uncertain about how fairly they will be treated in the future.

We build on this initial work and conceptualize justice variability as short-term (e.g., day-to-day) fluctuations in justice that elicit fairness-related uncertainty in employees (Matta et al., 2017). This conceptualization differs from that of justice trajectories in several ways. First, justice variability is nondirectional because it captures the stability or instability of justice over time, whereas justice trajectories are directional because they capture a current level and a trend component of one’s justice experience profile (Hausknecht et al., 2011). Second, justice variability focuses on instability in justice experiences over short durations of time (e.g., day to day; Matta et al., 2017), whereas justice trajectories focus on long-term trends in justice experiences (e.g., over the course of a year; Hausknecht et al., 2011). Finally, in terms of their conceptual meaning, variations in justice experiences over relatively short durations serve as an indicator of predictability and uncertainty in treatment (in line with the literature on justice variability; Matta et al., 2017), whereas justice trajectories over longer durations serve as an indicator of whether things are “looking up” or “looking down” for oneself (i.e., Gestalt characteristics; in line with the literature on justice trajectories; Hausknecht et al., 2011).

Interpersonal Justice, Interpersonal Justice Variability, and Pride in the Group

Group-oriented theories of justice (Colquitt et al., 2005)—that is, group-value model (Lind & Tyler, 1988), relational model (Tyler & Lind, 1992), and group engagement model (Tyler & Blader, 2000, 2003)—are built upon the social identity theory premise that people use groups as sources of information about themselves (Ashforth & Mael, 1989; Hogg & Abrams, 1988; Tajfel & Turner, 1979). Specifically, these theories recognize using a group to determine one’s identity is an inherently uncertain and risky endeavor due to potential benefits and costs associated with identifying with a group (Colquitt & Zipay, 2015). On one hand, individuals often receive favorable identity-relevant information through their connection to the group. Thus, merging one’s sense of self with a group can provide an individual with feelings of self-worth and esteem (Smith, Tyler, Huo, Ortiz, & Lind, 1998; Tyler & Blader, 2000, 2003). On the other hand, there is also a potential dark side to this merger because it can be deleterious when an individual sees the group operate in negative ways (Lind, 1995; Tyler & Blader, 2000, 2003). As a result, the degree to which individuals identify with groups and experience heightened social identity judgments (e.g., pride in the group) “reflects their effort to balance the potential identity gains associated with merging their identities with a group against the potential risks of that same merger of the self and the group” (Tyler & Blader, 2003, p. 358).

According to the group engagement model (Tyler & Blader, 2000, 2003), elements of justice (especially those related to quality of interpersonal treatment; Tyler & Blader, 2003) provide a useful

tool in alleviating uncertainty and risk associated with social identification with groups. Specifically, Tyler and Blader (2003, p. 358) posit justice provides individuals with “identity security,” reassuring group members it is safe to draw a substantial portion of their sense of self from the group. This is because, when an authority of a group behaves in an interpersonally fair manner, a) the group is seen as operating in desirable and proper ways (Tyler, 1997; Tyler & Lind, 1992) and b) concerns that group membership will result in negative consequences for the self are alleviated (Lind, 1995; Tyler & Lind, 1992). The result of this “identity security” is stronger social identity judgments with the group, such as judgments of pride in the group (defined as positive feelings regarding the status of a group as a whole; Tyler, 1997; Tyler & Blader, 2000, 2003) and respect from the group (defined as positive feelings regarding the degree to which one is respected by others within a group; Tyler, 1997; Tyler & Blader, 2000, 2003). We focus our investigation explicitly on pride, given the considerable conceptual and measurement overlap between respect and interpersonal justice (Colquitt, 2001).

The group engagement model, however, focuses explicitly on justice levels and ignores justice variability. This is potentially problematic because, when individuals experience variable justice over time, they feel uncertain about how fairly they will be treated in the future (Matta et al., 2017). Considering justice is thought to help group members “understand the stable, underlying motivations of authorities, motivations that allow the authority’s future behavior to be predicted” (Tyler & Lind, 1992, p. 155), this raises the following question: What if the interpersonal justice people rely on to mitigate status-related uncertainty is itself variable and, hence, uncertain?

A close examination of uncertainty management theory reveals a fairly straightforward, yet overlooked, answer. Specifically, if individuals look to interpersonal justice to navigate risk and status-related uncertainty associated with social identification with groups only to find interpersonal justice itself to be uncertain (i.e., high justice variability), any benefits of average interpersonal justice are likely to be attenuated. In the words of Lind and van den Bos (2002),

[people] need certainty in their fairness judgments to manage external uncertainty [for example, about status]. It would do little good, after all, to try to manage one’s concerns about uncertainty in the environment if one had no certainty about one’s fairness judgment. To do so would be simply to exchange one uncertainty for another. (p. 199)

Thus, we argue interpersonal justice variability can sabotage the very benefits average interpersonal justice provides, resulting in no relationship between average justice and pride in the group when justice variability is high. Indeed, although the group engagement model posits that a primary use of justice is to make inferences about the nature of future interactions with the group (Tyler & Blader, 2003), inconsistent justice rule adherence over time is likely to mitigate these benefits because it leaves employees unable to predict future interactions (Lind & van den Bos, 2002; Matta et al., 2017). Conversely, stability in levels of interpersonal justice should have the opposite effect—fair treatment that is highly stable and certain over time provides the sort of “solid” and “firm” assessments of fairness required to mitigate uncertainty (e.g., about status) when accompanied with high levels of average justice (van den Bos & Lind, 2002, p. 3).

Hypothesis 1a: Average levels of interpersonal justice are positively associated with judgments of pride in the group.

Hypothesis 1b: Interpersonal justice variability moderates the positive relationship between average levels of interpersonal justice and judgments of pride in the group, such that the relationship is stronger when interpersonal justice variability is low and weaker when interpersonal justice variability is high.

Judgments of Pride in the Group and Citizenship Behavior

The group engagement model (Tyler & Blader, 2000, 2003) further posits that status-related social identity judgments (e.g., pride in the group) ultimately determine an individual’s willingness to engage in cooperative behavior. Importantly, Tyler and Blader (2003) note this tenet is especially powerful for behaviors that are discretionary in nature, which is typically operationalized in tests of the theory with citizenship behavior (e.g., Blader & Tyler, 2009; De Cremer, van Dijke, & Mayer, 2010; van Dijke, De Cremer, Mayer, & Van Quaquebeke, 2012).

When feelings of pride increase and individuals merge their sense of self with the group, these individuals become intrinsically motivated to behave in the group’s best interest (Blader & Tyler, 2009; Tyler & Blader, 2000). Indeed, because the group and the self become overlapping psychological entities, the group’s interests and successes are synonymous with one’s own (Ashforth & Mael, 1989). For this reason, social identification and pride may lead individuals to be less likely to social loaf (Karau & Williams, 1993), and more likely to persevere toward goals (Williams & DeSteno, 2008), exert effort on behalf of the group (Bartel, 2001; Worchel, Rothgerber, Day, Hart, & Butemeyer, 1998), and, ultimately, behave cooperatively (Boezeman & Ellemers, 2007; Dukerich, Golden, & Shortell, 2002; Olkkonen & Lipponen, 2006).

Hypothesis 2: Individual judgments of pride in the group are positively associated with discretionary cooperative behavior toward one’s group.

Social Identity Moderated Mediation Hypotheses

In its totality, the core tenet of the group engagement model is the “social identity mediation hypothesis” (Tyler & Blader, 2003, p. 353), which posits interpersonal justice rule adherence facilitates cooperation in groups (e.g., citizenship behavior) via status-related social identity judgments (such as pride in the group). Although this key tenet has received some empirical support for average justice (e.g., Blader & Tyler, 2009; De Cremer et al., 2010; Tyler & Blader, 2002; van Dijke et al., 2012), we argue justice variability serves as an important boundary condition that answers “when” (Whetten, 1989) the social identity mediation hypothesis may be enhanced or negated. As such, we update the “social identity mediation hypothesis” to the “social identity moderated mediation hypothesis.”

Hypothesis 3: Interpersonal justice variability moderates the positive indirect relationship between average levels of interpersonal justice and discretionary cooperative behavior to

Table 1
Study 1 Descriptive Statistics and Correlations

Variables	Mean	SD	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1. Average interpersonal justice	4.15	.92	(.88)						
2. Interpersonal justice variability	.47	.37	-.11	—					
3. Judgments of pride in group	3.66	1.03	.51*	-.14	(.95)				
4. Discretionary cooperative behavior	3.57	.90	.52*	-.23*	.61*	(.91)			
5. Social entity interpersonal justice (supplemental analysis)	4.17	.92	.89*	-.28*	.48*	.42*	(.93)		
6. Social exchange quality (supplemental analysis)	3.91	.90	.75*	-.23*	.60*	.54*	.71*	(.92)	
7. Negative affect (supplemental analysis)	1.41	.66	-.31*	.15	-.15	-.29*	-.31*	-.26*	(.89)

Note. $N = 111$ employees. Coefficient alphas presented along the diagonal. Italicized descriptive statistics and correlations signify variables included in supplemental analyses.

* $p < .05$.

ward one's group via judgments of pride in the group, such that the indirect relationship is stronger when interpersonal justice variability is low and weaker when interpersonal justice variability is high.

Study 1 Method

Sample and Procedure

We conducted an interval-contingent experience sampling method (ESM) study of employees to provide a representative "snapshot" of the actual variability each individual experiences in justice on a day-to-day basis (cf. [Matta et al., 2017](#)). Participants included 111 full-time employees, recruited from an online panel of working adults (TurkPrime; [Litman, Robinson, & Abberbock, 2017](#)). Participants completed one survey per day for one workweek that captured interpersonal justice, allowing us to construct average justice and justice variability. Furthermore, at the end of Friday's survey, participants reported weekly judgments of pride in the group and engagement in discretionary cooperative behavior. Participants earned \$1.00 per survey completed and a \$2.00 bonus for completion of all five surveys. This data collection was deemed exempt per Michigan State University's IRB# X16-094e: Justice Variability on the Within- and Between-Person Levels of Analysis.

We had 139 employees participate in the ESM, completing 621 daily surveys out of a possible 695 (89%). In line with best practice for examining daily variability (e.g., [da Motta Veiga & Gabriel, 2016](#); [Trogakos, Hideg, Cheng, & Beal, 2014](#)), we removed participants who completed fewer than 3 daily surveys. After also omitting those that did not complete the end-of-week survey, our final sample consisted of 111 employees who completed 552 daily surveys. Participants were 51.3% female and averaged an age of 36.1 years, and most held a bachelor's degree or higher (63.1%). Eighty-two percent of the sample identified as Caucasian, 9.0% as African American, 6.3% as Asian or Pacific Islander, and the rest fell into other categories.

Measures

All instructions and items used in both studies are provided in the [Appendix](#).

Average levels of interpersonal justice and interpersonal justice variability. We measured daily interpersonal justice using the [Colquitt \(2001\)](#) 4-item scale, adapting items to fit the daily

context ($\alpha = .88$). We aggregated daily responses to the mean level to capture individuals' average level of interpersonal justice. We operationalized individuals' interpersonal justice variability by computing each respondent's standard deviation over the 5-day period (see [Matta et al., 2017](#)). We note that, because our conceptualization of justice variability focuses on stability versus instability in fair treatment ([Matta et al., 2017](#)), standard deviation provides a proper operationalization for our theorized construct ([Harrison & Klein, 2007](#)). Our use of standard deviation is also in accordance with [Roberson, Sturman, and Simons' \(2007, p. 585\)](#) suggestion that, when interested in modeling mean and variance interactions in multilevel studies, "researchers may be better served by using standard deviation as a dispersion measure."¹

Judgments of pride in the group. We captured social identity judgments of pride in the group using the 4-item measure of pride provided by [Blader and Tyler \(2009\)](#), based on items from [Tyler, Degoey, and Smith \(1996\)](#), adapting items to fit the weekly context ($\alpha = .95$).

Discretionary cooperative behavior. We captured discretionary cooperative behavior directed at the group using the 6-item measure provided by [Dalal and colleagues \(Dalal, Lam, Weiss, Welch, & Hulin, 2009\)](#), adapting items to fit the weekly context ($\alpha = .91$).

Study 1 Results

We tested our hypotheses using path analysis in Mplus ([Muthén & Muthén, 2010](#)). Significance of indirect effects were tested using a bootstrapping procedure with 20,000 resamples, and moderated mediation was tested using the index of moderated mediation (for computational details, see [Hayes, 2015](#)). We followed recommendations to minimize the use of control variables in primary analyses ([Becker et al., 2016](#); [Carlson & Wu, 2012](#);

¹ We posit justice variability can be conceptualized as fairness-related uncertainty. To test this idea, we collected a measure of fairness-related uncertainty using the [Matta et al. \(2017\)](#) 4-item measure ($\alpha = .97$) in the middle of the study (Wednesday), separating its assessment from outcomes. Supporting this idea, this measure was correlated with justice variability ($r = .31, p < .01$). Moreover, in a path model, justice variability was associated with fairness-related uncertainty ($b = .31, p < .01$), the interaction of fairness-related uncertainty with average interpersonal justice was significant ($b = -.12, p < .05$; directional one-tailed test) in predicting judgments of pride in the group, and judgments of pride in the group were associated with discretionary cooperative behavior ($b = .45, p < .01$).

Table 2
Study 1 Path Analyses Results

Variables	Judgments of pride	Cooperative behavior
	γ	γ
Intercept	3.58** (.10)	2.09** (.32)
Predictors		
Average interpersonal justice	.45** (.09)	.21* (.10)
Interpersonal justice variability	-.15 (.11)	-.08 (.08)
Interaction of average interpersonal justice and interpersonal justice variability	-.21* (.10)	.00 (.11)
Mediator		
Judgments of pride in group		.40** (.09)
Indirect effects of average interpersonal justice via judgments of pride in group		
High interpersonal justice variability		.10 [-.02, .26]
Low interpersonal justice variability		.27 [.15, .43]
Index of moderated mediation		-.09 [-.19, -.01]
Variance explained		
R^2	29.3%	43.4%

Note. $N = 111$ employees. Unstandardized parameters reported. Standard errors in parentheses.

* $p < .05$. ** $p < .01$.

Spector & Brannick, 2011), but we include control variables in supplemental analyses.

We first conducted a multilevel confirmatory factor analysis (MCFA). At level 1 (within-person), we modeled daily interpersonal justice. At level 2 (between-person), we modeled all our focal constructs. Our proposed model fit the data well: $\chi^2(76) = 228.10$ ($p < .01$), CFI = .923, RMSEA = .060, SRMR (within) = .018, and SRMR (between) = .077. All indicators loaded significantly onto their latent factors. Results of a null model revealed 25.8% of the variance in interpersonal justice was within-individuals, lending credence to the justice variability construct. Table 1 presents descriptive statistics and correlations. Considering the lack of interdependence between interpersonal justice and interpersonal justice variability ($r = -.11$, *ns*), range restriction is unlikely to be a concern (Cole, Bedeian, Hirschfeld, & Vogel, 2011).

Table 2 presents the results of our path analysis. Hypothesis 1 was supported as average levels of interpersonal justice were positively related to judgments of pride ($b = .45$, $p < .01$), with this relationship moderated by interpersonal justice variability ($b = -.21$, $p < .05$). The positive relationship was stronger for employees with low (simple slope = .66, $p < .01$) and weaker for employees with high (simple slope = .24, *ns*) interpersonal justice variability (see Figure 1). Hypothesis 2, which predicted that judgments of pride in the group are positively associated with discretionary cooperative behavior, was supported ($b = .40$, $p < .01$). Hypothesis 3 predicted that the positive indirect relationship between average levels of interpersonal justice and discretionary cooperative behavior via judgments of pride is moderated by interpersonal justice variability, such that the indirect relationship is stronger when justice variability is low and weaker when high. The indirect effect was stronger when interpersonal justice variability was low (.27, 95% CI [.15, .43]) and weaker when high (.10, 95% CI [-.02, .26]). Moreover, moderated mediation was supported (-.09, 95% CI [-.19, -.01]).

Study 1 Supplemental Analyses

We assumed average interpersonal justice level is synonymous with more traditional, global social entity assessments (which ask

participants to think about their supervisor's interpersonal justice broadly). Thus, we collected a global social entity assessment of interpersonal justice in the first survey using the Colquitt (2001) measure ($\alpha = .93$). The correlation between that global social entity assessment of interpersonal justice and our assessment of average interpersonal justice was .89 ($p < .01$). Additionally, as shown in Table 3, all the results of our hypothesis tests remained supported when prestudy global social entity assessments were modeled (replacing average levels of interpersonal justice).

Additionally, although the group engagement model is tailored toward the process by which justice influences group behavior, other theoretical lenses from outside the justice literature—such as social exchange (Blau, 1964) and affective events (Weiss & Cropanzano, 1996)—have been applied to study outcomes of justice. Moreover, meta-analytic research has suggested social exchange quality and negative (but not positive) affect as alternative pathways by which interpersonal justice influences discretionary cooperative behavior (Colquitt et al., 2013). As such, we collected assessments of social exchange quality (using the 4-item Colquitt, Baer, Long, & Halvorsen-Ganepola, 2014 measure; $\alpha = .92$) and negative affect (using the PANAS short form; Mackinnon et al., 1999; $\alpha = .89$) at the same time as our mediator (i.e., end of the week) and re-estimated our model accounting for these potential mechanisms. As displayed in Table 4, our predicted effects held when accounting for these alternative pathways and occurred only through judgments of pride in the group (not via alternative pathways).²

² Following best practice (Cole et al., 2011), we also tested higher-order exponential terms of mean and variability. Results revealed no higher-order effects were present. We also reanalyzed the data using daily aggregations of judgments of pride in the group and discretionary cooperative behavior rather than the more traditional end-of-study one-time assessment. All substantive conclusions remained supported. Finally, we reanalyzed our data a) replacing interpersonal justice variability with interpersonal justice trajectories and b) re-estimating our original model controlling for justice trajectories. Interpersonal justice trajectories were not associated with either judgments of pride in the group or discretionary cooperative behavior, and they did not moderate the relationship between interpersonal justice and judgments of pride in the group. We also retained support for our predictions when controlling for interpersonal justice trajectories.

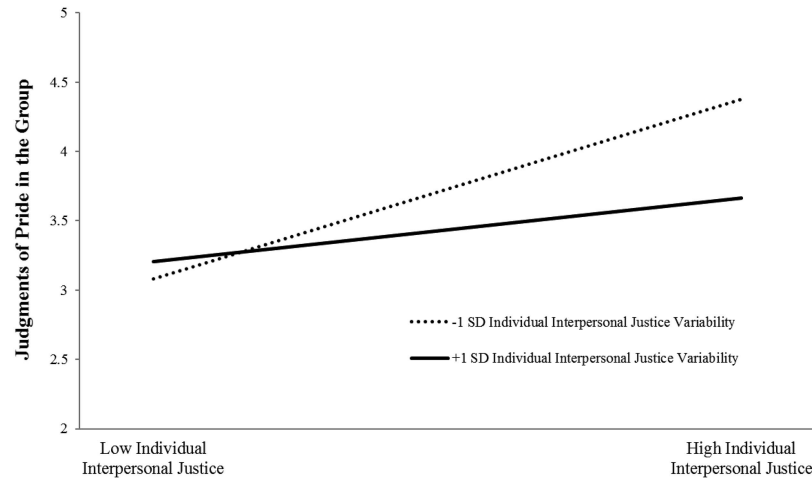


Figure 1. Study 1 plot of interaction between average interpersonal justice and interpersonal justice variability predicting pride judgments.

Transition to Study 2

In Study 2, we attempt to replicate our findings from Study 1 while accounting for the multilevel nature of supervisor–employee relations (Day, 2012; Wang, Zhou, & Liu, 2014; Yu, Matta, & Cornfield, 2018). A limitation of Study 1 was that we sampled individual employees from various workgroups, making it impossible to tease apart variance attributable to the way the leader treats the workgroup as a collective versus the way he or she treats individual employees. Thus, in Study 2, we conducted a multi-source ESM study of groups of employees nested under the same leader, allowing us to estimate pure person-level differences in average justice and justice variability that are not potentially confounded by between-groups differences (Enders & Tofighi, 2007). Given the difficulty in replicating interactions in field studies (McClelland & Judd, 1993), replicating our findings using this alternative design would provide strong additional evidence supporting our theorizing.

Study 2 Method

Sample and Procedure

Participants included full-time, working adults who were recruited by undergraduate management students at a large Midwestern university in exchange for extra credit. The 146 employees who agreed to participate solicited voluntary participation from three coworkers with whom they shared the same workgroup, shared the same supervisor, and interacted with on a daily basis (an additional 436 participants). Thus, the total initial sample size was 582.

The data collection was identical to Study 1, except participants were incentivized with a raffle (1 of 20 \$100 cash prizes). This data collection was also deemed exempt per Michigan State University's IRB# ×16-094e: Justice Variability on the Within- and Between-Person Levels of Analysis. As in Study 1, we removed participants who completed fewer than 3 daily surveys and groups in which fewer than 3 employees attained this level of daily survey

completion. Thus, our final sample consisted of 362 employees representing 104 groups, who completed 1,738 out of 1,810 possible surveys.³ Participants were 40.5% female and averaged an age of 38.5 years, and most held a bachelor's degree or higher (74.4%). Sixty-three percent of the sample identified as Caucasian, 20.6% as Asian or Pacific Islander, and the rest fell into other categories.

Measures

We used the same items and scale anchors from Study 1 for daily interpersonal justice ($\alpha = .96$) as well as overall levels of pride in ($\alpha = .86$) and citizenship behavior directed at ($\alpha = .90$) the group. We operationalized average interpersonal justice and interpersonal justice variability just as we did in Study 1. All instructions and items used in both studies are provided in the Appendix.

Study 2 Results

We tested our hypotheses using multilevel path analysis in Mplus, with level-1 exogenous variables group-mean centered (Enders & Tofighi, 2007). To test mediation, we used a parametric bootstrap with 20,000 resamples (Selig & Preacher, 2008). For moderated mediation, we applied the index of moderated mediation (Hayes, 2015) to multilevel data. Following best practice (Gabriel et al., 2018), we calculated Pseudo- R^2 to show effect sizes using the formula from Snijders and Bosker (1999). We again minimized the use of control variables in primary analyses, but include several control variables in supplemental analyses.

We first conducted an MCFA. At level 1 (within-person), we modeled daily interpersonal justice. At level 2 (between-person,

³ We also reanalyzed our data using a two (rather than a three) observation cutoff. This increased our sample size to 392 individuals and 116 groups, and the results of all hypothesis tests were unchanged.

Table 3
 Study 1 Supplemental Social Entity Interpersonal Justice Path Analyses Results

Variables	Judgments of pride	Cooperative behavior
	γ	γ
Intercept	3.59** (.09)	2.04** (.32)
Predictors		
Social entity interpersonal justice	.46** (.09)	.14 (.09)
Interpersonal justice variability	-.15 (.10)	-.15 (.08)
Interaction of social entity interpersonal justice and interpersonal justice variability	-.23** (.08)	-.15 (.09)
Mediator		
Judgments of pride in group		.41** (.09)
Indirect effects of average interpersonal justice via judgments of pride in group		
High interpersonal justice variability		.09 [-.01, .22]
Low interpersonal justice variability		.28 [.15, .46]
Index of moderated mediation		-.09 [-.19, -.03]
Variance explained		
R^2	29.7%	43.4%

Note. $N = 111$ employees. Unstandardized parameters reported. Standard errors in parentheses.

* $p < .05$. ** $p < .01$.

within-group), we modeled all our focal constructs. Our proposed model fit the data well: $\chi^2(82) = 292.308$ ($p < .01$), CFI = .977, RMSEA = .040, SRMR (within) = .002, SRMR (between level 2) = .064. All factor loadings were significant. Results of a null model revealed 52.4% of the variance in interpersonal justice was between and 47.6% was within individuals, again lending credence to the construct of justice variability. As shown in Table 5, our constructs exhibited sufficient variance between and within groups to support a multilevel modeling approach. Table 6 presents descriptive statistics and correlations. There was some degree of interdependence between average levels of interpersonal justice and interpersonal justice variability, $r = -.41$, $p < .05$. Although a negative correlation may suggest a ceiling constraint, we note that a) high mean levels are common when assessing interpersonal justice, b) this is likely to result in a conservative test, and c) we followed recommendations for addressing this issue by controlling for absolute-level effects (Cole et al., 2011).

Table 7 presents the results of our multilevel path analysis. Hypothesis 1 was supported as average levels of interpersonal justice were positively related to judgments of pride ($\gamma = .35$, $p < .01$), with this relationship moderated by interpersonal justice variability ($\gamma = -.37$, $p < .05$), such that this positive relationship was stronger for employees with low (simple slope = .51, $p < .01$) and weaker for employees with high (simple slope = .19, *ns*) interpersonal justice variability (see Figure 2). Hypothesis 2 was also supported, as judgments of pride in the group were positively associated with discretionary cooperative behavior ($\gamma = .30$, $p < .01$). In support of Hypothesis 3, the indirect effect of average levels of interpersonal justice on discretionary cooperative behavior via judgments of pride in the group was stronger when interpersonal justice variability was low (.16, 95% CI [.07, .27]) and weaker when high (.06, 95% CI [-.02, .15]). Moreover, moderated mediation was supported (-.11, 95% CI [-.22, -.02]).

Study 2 Supplemental Analyses

We again collected assessments of social exchange quality as well as negative affect and re-estimated our model accounting for

these potential mechanisms. We used a more traditional assessment of social exchange of trust in the supervisor (using the 3-item Lambert, Tepper, Carr, Holt, & Barelka, 2012 scale; $\alpha = .93$), which is one of the most popular operationalizations in the justice literature (Colquitt et al., 2013). We used the same measure of negative affect from Study 1 ($\alpha = .90$). Our predictions held when accounting for these alternative pathways and occurred only through judgments of pride in the group (not via alternative pathways). Detailed results are available upon request from Fadel K. Matta.⁴

General Discussion

The results of our two studies support the notion that justice variability negates the very benefits average levels of justice provide. Accordingly, we challenge assumptions in the literature that a) average levels of justice are the sole driver of one's justice experience and b) day-to-day variations in justice are simply glossed over or reinterpreted by individuals (e.g., Lind, 2001). Our work demonstrated that day-to-day justice variability exists (between 25% and 50% of variance in justice perceptions varied daily), is meaningful (it triggered fairness-related uncertainty), and alters the effects of average justice (it attenuated the beneficial effects of both aggregated daily and social entity assessments). This is critical because it suggests that our theories of justice—which focus exclusively on average justice—paint an incomplete picture of the justice experience. In fact, based on our results, what we believe we know regarding the effects associated with average levels of justice may be altered once justice variability is integrated. Moreover, considering a) “most of the [justice] theories involve uncertainty” (Colquitt & Zipay, 2015, p. 78) and b) justice variability

⁴ We again conducted the same analyses presented in footnote 2 from Study 1. No higher-order effects were present. Interpersonal justice trajectories were not associated with either judgments of pride in the group or discretionary cooperative behavior. They also did not moderate the relationship between interpersonal justice and judgments of pride in the group. We retained support for our predictions when controlling for interpersonal justice trajectories.

Table 4
Study 1 Supplemental Alternative Mediator Path Analyses Results

Variables	Judgments of pride	Social exchange quality	Negative affect	Cooperative behavior
	γ	γ	γ	γ
Intercept	3.58** (.09)	3.91** (.06)	1.35** (.07)	1.87** (.47)
Predictors				
Average interpersonal justice	.45** (.09)	.67** (.06)	-.22** (.06)	.08 (.10)
Interpersonal justice variability	-.15 (.11)	.05 (.07)	-.04 (.07)	-.11 (.08)
Interaction of average interpersonal justice and interpersonal justice variability	-.21* (.10)	-.04 (.07)	-.13 (.07)	-.03 (.08)
Mediators				
Judgments of pride in group				.36** (.08)
Social exchange quality				.16 (.12)
Negative affect				-.19 (.10)
Indirect effects via mediator on discretionary behavior				
High interpersonal justice variability	.09 [-.01, .24]	.10 [-.07, .29]	.06 [.00, .19]	
Low interpersonal justice variability	.24 [.11, .42]	.12 [-.10, .31]	.02 [-.02, .12]	
Index of moderated mediation	-.08 [-.18, -.01]	-.01 [-.08, .02]	.03 [-.01, .08]	
Variance explained				
R^2	29.3%	57.5%	11.9%	43.4%

Note. $N = 111$ employees. Unstandardized parameters reported. Standard errors in parentheses.

* $p < .05$. ** $p < .01$.

appears to create issues in dealing with uncertainty, justice variability may have broad implications for most extant theories of justice.

In our supplemental analysis to Study 1, we showed individual-level aggregations of daily assessments of justice converge with, and demonstrate similar effects to, global social entity justice perceptions. Although this challenges fairness heuristic theory's contention that day-to-day treatment will be glossed over or reinterpreted by individuals in favor of one's general fairness judgment (e.g., Lind, 2001), it is in line with the perspective derived from group-oriented theories of justice that an individual is an "information processor: a very attentive and sophisticated assessor" of justice-related information (Tyler & Lind, 1992, p. 166). Supplemental analyses in both studies also showed that the predicted effects on cooperative behavior via judgments of pride in the group prevailed over other justice-related mechanisms. This supports the largely untested contention from the group engagement model that cooperative behavior is driven primarily by intrinsic motivation associated with social identity judgments, rather than affect or social exchange of resources (i.e., the usual suspects).

Our work also highlights the importance of bridging multiple justice theories in a single model. For instance, while the group

engagement model informed how and why justice influences cooperative behavior, uncertainty management theory and justice variability supplement this model by answering when such processes hold (Whetten, 1989). In the process of answering when, we integrated a time-based construct—day-to-day justice variability—into the group engagement model, which served to negate the relationships proposed by the theory. Our results therefore support the contention that a consideration of time "can totally change the way theoretical constructs and the relationships between them are conceptualized and therefore change the propositions that derive from a theory" (George & Jones, 2000, p. 658).

Turning to implications for practice, perhaps the most important is that managers should not only treat their employees with a high level of interpersonal justice but also be consistent in their treatment toward a given employee over time. Indeed, our results reveal that variability in treatment can undermine the potential benefits of justice. Fortunately, of the four justice dimensions, managers are likely to have greatest discretion over interpersonal justice (Scott et al., 2014), and engaging in interpersonally just behavior is replenishing as opposed to depleting (Johnson, Lanaj, & Barnes, 2014). Furthermore, our work (and supplemental analyses) suggest employees engage in cooperative behaviors primarily based on intrinsic motivation associated with social identity

Table 5
Study 2 Variance Components of Null Models for Employee Interpersonal Justice, Pride Judgments, and Discretionary Cooperative Behavior

Variable	Within-group variance (ρ^2)	Between-group variance (τ_{00})	Percentage of variability within-group
Employee interpersonal justice	.53**	.22**	70.8%
Employee judgments of pride in group	.45**	.14**	76.0%
Employee discretionary cooperative behavior	.40**	.16**	71.5%

Note. ρ^2 = within-group variance in the variables; τ_{00} = between-group variance in the variables. Percentage of variability within-group was computed as $\rho^2/(\rho^2 + \tau_{00})$.

** $p < .01$.

Table 6
Study 2 Descriptive Statistics and Correlations

Variables	Mean	SD	(1)	(2)	(3)	(4)	(5)	(6)
1. Average interpersonal justice	3.98	.59	(.96)					
2. Interpersonal justice variability	.53	.44	-.41*	—				
3. Judgments of pride in group	3.74	.77	.23*	-.06	(.86)			
4. Discretionary cooperative behavior	4.01	.75	.18*	-.02	.41*	(.90)		
5. Trust in supervisor (supplemental analysis)	3.76	.94	.34*	-.05	.59*	.34*	(.93)	
6. Negative affect (supplemental analysis)	1.34	.56	-.06	.02	-.24*	-.27*	-.28*	(.90)

Note. Level-2 *N* = 104; level-1 *N* = 362. Correlations amongst level-1 variables represent individual-level (i.e., within-group) correlations. Coefficient alphas presented along the diagonal. Italicized descriptive statistics and correlations signify variables included in supplemental analyses.

* *p* < .05.

judgments, rather than based on the social exchange of resources or negative affect. This highlights that a priority of managers should be to ensure individuals are secure in investing their identities in the group, and one way in which to do so is to treat employees in a fair manner interpersonally—as long as such treatment is consistent over time.

Despite our contributions, we acknowledge that our work has limitations. For instance, we measured all our variables through self-reported surveys, raising potential concerns about common method variance (CMV). To reduce the likelihood of CMV, several steps were taken. First, we measured interpersonal justice in the ESM portion of the study and used aggregations from the ESM data to operationalize our justice variables, separating these measures from the assessments of pride in the group and cooperative behavior. Second, by group-mean centering our level-1 exogenous variables in Study 2, we effectively removed several sources of CMV, such as affect climate and measurement context effects (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Finally, and perhaps most importantly, CMV is unlikely to explain the relationships involving variability constructs such as interpersonal justice variability (Scott, Barnes, & Wagner, 2012) or the presence of interactions between average justice and justice variability (Evans, 1985; Siemsen, Roth, & Oliveira, 2010), which comprise our core findings.

Another limitation is that we were unable to fully elucidate the similarities/differences between average justice and global social entity justice. The two were nearly indistinguishable in our data and showed identical effects. However, when might they diverge? It would also be interesting to clarify at which temporal time frame individuals shift from seeing justice fluctuations in terms of short-term instability and uncertainty (i.e., justice variability) to seeing them in terms of a long-term level and trend (i.e., justice trajectory). Another promising direction would be to consider other forms of justice variability. Indeed, seminal justice works (e.g., Leventhal, 1980; Leventhal, Karuza, & Fry, 1980) suggest individuals are likely attuned to justice variability across time (day-to-day; as shown here) and across people (person-to-person).

Finally, we see justice variability as an essential construct to integrate into other justice theories. First, justice variability may negate the benefits provided by justice levels as described in other theories of justice. For instance, justice variability may mitigate the beneficial effects of justice levels on trustworthiness (described in fairness heuristic theory; Lind, 2001; van den Bos, 2001) or moral emotions (described in deonance theory; Folger, 2001; Folger, Cropanzano, & Goldman, 2005). Justice variability may also contribute to extant justice theories in other ways. Perhaps variability in justice contributes to one’s ability to generate coun-

Table 7
Study 2 Multi-Level Path Analyses Results

Variables	Judgments of pride	Cooperative behavior
	γ	γ
Intercept	3.71** (.05)	2.87** (.24)
Level 1 Predictors		
Average interpersonal justice	.35** (.11)	.16 (.10)
Interpersonal justice variability	-.03 (.12)	.12 (.14)
Interaction of average interpersonal justice and interpersonal justice variability	-.37* (.14)	-.15 (.12)
Level 1 Mediator		
Judgments of pride in group		.30** (.07)
Indirect effects of average interpersonal justice via judgments of pride in group		
High interpersonal justice variability		.06 [-.02, .15]
Low interpersonal justice variability		.16 [.07, .27]
Index of moderated mediation		-.11 [-.22, -.02]
Variance explained		
Level-1 Pseudo- <i>R</i> ²	24.7%	32.1%

Note. Level-2 *N* = 104; level-1 *N* = 362. Unstandardized parameters reported. Standard errors in parentheses.

* *p* < .05. ** *p* < .01.

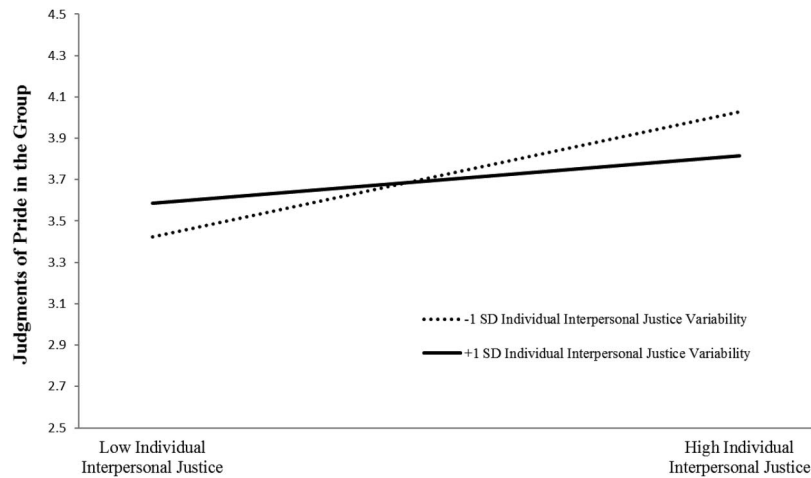


Figure 2. Study 2 plot of interaction between average interpersonal justice and interpersonal justice variability predicting pride judgments.

terfactuals because such variability equips individuals with various past reference points where their treatment differed, which could be particularly insightful in advancing fairness theory (Folger & Cropanzano, 2001).

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Appendix

Items Used in Studies 1 and 2

Interpersonal Justice

Studies 1 and 2 Daily Assessments

Instructions. This set of statements refers specifically to how your supervisor acted toward you today. Today, to what extent did your supervisor . . .

1. . . . treat you in a polite manner
2. . . . treat you with dignity
3. . . . treat you with respect
4. . . . refrain from improper remarks or comments toward you

(Anchors: 1 = *to a very small extent*, 2 = *to a small extent*, 3 = *somewhat*, 4 = *to a large extent*, 5 = *to a very large extent*)

Study 1 Social Entity Assessment (Supplemental)

Instructions. The following set of statements refers specifically to how your supervisor acted toward you over the past week. Over the past week, to what extent did your supervisor . . .

1. . . . treat you in a polite manner
2. . . . treat you with dignity
3. . . . treat you with respect
4. . . . refrain from improper remarks or comments toward you

(Anchors: 1 = *to a very small extent*, 2 = *to a small extent*, 3 = *somewhat*, 4 = *to a large extent*, 5 = *to a very large extent*)

Pride

Study 1 (weekly referent)

Instructions. Please rate the extent to which you agree with each statement. Over the past week . . .

1. . . . I felt proud to be a part of my work group
2. . . . my work group was highly respected within the company
3. . . . my work group was one of the most desirable within the company
4. . . . I worked in one of the best work groups in the company

(Anchors: 1 = *strongly disagree*, 2 = *disagree*, 3 = *neither agree nor disagree*, 4 = *agree*, 5 = *strongly agree*)

Study 2 (general levels)

Instructions. Please rate the extent to which you agree with each statement.

1. I feel proud to be a part of my work group
2. My work group is highly respected within the company
3. My work group is one of the most desirable within the company
4. I work in one of the best work groups in the company

(Anchors: 1 = *strongly disagree*, 2 = *disagree*, 3 = *neither agree nor disagree*, 4 = *agree*, 5 = *strongly agree*)

Discretionary Cooperative Behavior

Study 1 (weekly referent)

Instructions. Please indicate the extent to which you treated your coworkers well by engaging in the following behaviors. Over the past week . . .

1. . . . I went out of my way to be nice to my coworkers
2. . . . I tried to help my coworkers
3. . . . I defended my coworkers' opinions or suggestions
4. . . . I went out of my way to include my coworkers in conversations
5. . . . I tried to be available to my coworkers
6. . . . I spoke highly about my coworkers to others

(Anchors: 1 = *almost never*, 2 = *occasionally*, 3 = *sometimes*, 4 = *often*, 5 = *very often*)

Study 2 (general levels)

Instructions. Please indicate the extent to which you treat your coworkers well by engaging in the following behaviors.

1. I go out of my way to be nice to my coworkers
2. I try to help my coworkers
3. I defend my coworkers' opinions or suggestions
4. I go out of my way to include my coworkers in conversations
5. I try to be available to my coworkers
6. I speak highly about my coworkers to others

(Anchors: 1 = *almost never*, 2 = *occasionally*, 3 = *sometimes*, 4 = *often*, 5 = *very often*)

(Appendix continues)

Social Exchange Quality (Control)

Study 1 (social exchange quality using weekly referent)

Instructions. Below are several terms that can be used to describe a work relationship. For each, please indicate the degree to which the term accurately characterizes your relationship with your supervisor over the past week.

Over the past week, my relationship with my supervisor was characterized by . . .

1. . . . mutual obligation
2. . . . mutual trust
3. . . . mutual commitment
4. . . . mutual significance

(Anchors: 1 = *strongly disagree*, 2 = *disagree*, 3 = *neither agree nor disagree*, 4 = *agree*, 5 = *strongly agree*).

Study 2 (general levels of trust)

Instructions. Please indicate the extent to which you agree/disagree with the statements below as they relate to your supervisor.

1. I trust my supervisor to look out for my best interests.
2. My supervisor is trustworthy.
3. I can count on my supervisor to protect my interests.

(Anchors: 1 = *strongly disagree*, 2 = *disagree*, 3 = *neither agree nor disagree*, 4 = *agree*, 5 = *strongly agree*).

Negative Affect (Control)

Study 1 (weekly referent)

Instructions. The following are several emotions you may or may not have felt over the past week. Please indicate to what extent you felt this way over the past week. To what extent over the past week, have you felt . . .

1. . . . Afraid
2. . . . Scared
3. . . . Nervous
4. . . . Upset
5. . . . Distressed

(Anchors: 1 = *not at all*, 2 = *very slightly*, 3 = *a little*, 4 = *moderately*, 5 = *extremely*)

Study 2 (state levels)

Instructions. The following are several emotions you may or may not be feeling right now. Please indicate to what extent you feel this way right now.

1. Afraid
2. Scared
3. Nervous
4. Upset
5. Distressed

(Anchors: 1 = *not at all*, 2 = *very slightly*, 3 = *a little*, 4 = *moderately*, 5 = *extremely*)

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