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Seeing the "forest" or the "trees" of organizational justice: Effects of temporal perspective on employee concerns about unfair treatment at work

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ABSTRACT

What events do employees recall or anticipate when they think of past or future unfair treatment at work? We propose that an employee's temporal perspective can change the salience of different types of injustice through its effect on cognitions about employment. Study 1 used a survey in which employee temporal focus was measured as an individual difference. Whereas greater levels of future focus related positively to concerns about distributive injustice, greater levels of present focus related positively to concerns about interactional injustice. In Study 2, an experimental design focused employee attention on timeframes that differed in temporal orientation and temporal distance. Whereas distributive injustice was more salient when future (versus past) orientation was induced, interactional injustice was more salient when past orientation was induced and at less temporal distance. Study 3 showed that the mechanism underlying the effect of employee temporal perspective is abstract versus concrete cognitions about employment.

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Introduction

An important source of motivation at work is whether employees feel they are fairly treated. However, the nature and target of reactions to workplace unfairness can depend on whether the unfairness experienced primarily relates to outcomes (distributive justice), processes and procedures (procedural justice), or explanations and the quality of interpersonal treatment (interactional justice) (Cohen-Charash & Spector, 2001; Colquitt, 2001; Colquitt, Wesson, Porter, Conlon, & Ng, 2001; Conlon, Meyer, & Nowakowski, 2005; Masterson, Lewis, Goldman, & Taylor, 2000). Although a single event can involve multiple justice dimensions, due to limited attentional resources employees often focus on and react to specific types of injustice at the expense of others (Lind, 2001; Skitka, 2003). Thus, an important question becomes: what type of (in)justice gets the attention of employees and when?

We propose that the unjust events employees bring to mind can depend on the temporal perspective taken: whether an individual focuses on the past or the future (*temporal orientation*), and on events that are near or distant in time (*temporal distance*). Consider the situation of an employee who experiences an unfair outcome (such as unpaid overtime hours) as well as unfair interpersonal treatment (such as being yelled at in front of co-workers). Which event will he or she be more likely to remember, and which event will be of concern in the future?

We explore in three studies the effect of temporal perspective on the salience of different types of unjust events. In Study 1, we relate individual differences in temporal focus to concerns about workplace injustice using a survey methodology. In Study 2, we relate experimentally manipulated temporal perspective to the types of unfair events recalled and anticipated at work. Finally, in Study 3, we explore the mechanism behind the effects of temporal perspective by experimentally manipulating cognitions about employment.

Temporal perspectives

The temporal perspective taken by individuals can be influenced by context and by individual differences. Some situations can direct employee attention to specific timeframes, such as when employees are asked to evaluate the past year at work, while in other situations a temporal perspective is implicit. For example, if an employee evaluates his or her organization or supervisor, the entire history of the relationship may be examined (Hollensbe, Khazanchi, & Masterson, 2008). Conversely, fairness evaluations relating to a specific project, teamwork experience, or temporary appointment are likely to focus on a specific, bounded period of time. Temporal perspective can also result from an individual's predisposition to, for example, focus on the future more than on the present or the past (Hofstede, 2001; McGrath & Tschan,

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2004; Shipp, Edwards, & Schurer Lambert, 2009; Zimbardo & Boyd, 1999). In this research we consider the effects of temporal perspective both as a measurable trait difference and as a contextual factor that can be manipulated.

Little is known about the effects of temporal perspectives on work-related phenomena. However, research in other areas comparing how individuals recall the past versus anticipate the future has led to interesting findings. For example, aspects of experiences that are important in anticipation may no longer matter as much when experiences are considered in retrospect (Kahneman, 2000; Reyna & Brainerd, 1995). Events recalled are also different from events anticipated in terms of the sensorial, contextual and emotional detail (Anderson & Dewhurst, 2009; D'Argembeau and Van der Linden, 2004). Features of experiences that determine intertemporal choices over a short time span are not the same features that are important over larger time spans (Frederick, Loewenstein, & O'Donoghue, 2002). Finally gains and losses are valued differently in retrospect versus in anticipation, and moral judgment is harsher for future as opposed to past transgressions (Caruso, 2010; Caruso, Gilbert, & Wilson, 2008; Eyal, Liberman, & Trope, 2008). Thus, temporal perspectives can affect how experiences are perceived and evaluated.

Although the effects of temporal perspective on organizational justice perceptions have not been examined, several streams of research propose important justice phenomena that relate to the objective passage of time. For example, the temporal order in which justice facets, such as procedural or distributive justice, are experienced can influence their relative potency (Lind, 2001; Van den Bos, 2001). Similarly, procedural (versus distributive) justice becomes less important long after an event, when the outcome can be better understood and evaluated, than directly preceding or directly following an event, when the fairness of the outcome might still be uncertain (Ambrose & Cropanzano, 2003). Also, negative work-related attitudes and behaviors can result from employees anticipating future injustice (Shapiro & Kirkman, 2001). Though important, the above temporal effects differ in several respects from our focus on the effects of temporal perspective.

First, most studies that elicit perceptions of an unfair event do not examine whether the organizational actor would have thought of the event had he/she not been prompted to do so. It is thus important to also consider how time affects the salience of events, in terms of whether they are spontaneously brought to mind. Second, when justice events at time 1 are shown to lead to fairness perceptions and outcomes at time 2, little attention is generally paid to the duration of the intervening time, i.e., smaller versus greater temporal distance. Third, while the effect of temporal orientation is implicit in some areas of research such as anticipatory injustice (Kirkman, Shapiro, Novelli, & Brett, 1996), factors affecting retrospective versus anticipatory judgments of organizational justice remain largely unexplored.

Temporal perspective and employee concerns about injustice

Examining the experience of work at a temporal distance makes that experience *psychologically distant*. Psychological distance occurs when an experience is in some way not part of one's direct and immediate perception and feelings (Trope, Liberman, & Wakslak, 2007). For example, experiences become more psychologically distant when they occur farther away geographically, when they happen to somebody else versus oneself, and when they are less versus more likely to occur (Liberman & Trope, 2008). Construal level theory (CLT) (Trope & Liberman, 2003) suggests that *psychological distance* affects how an experience is mentally represented. In general, more psychologically distant experiences are represented at a higher (versus lower) level of construal, defined as:

> "High-level construals are relatively simple, decontextualized representations that extract the gist from the available information. These construals consist of general, superordinate, and essential features of actions. ... Low-level construals tend to be more concrete and include subordinate, contextual, incidental, "how" features of events. Changes in these features produce relatively minor changes in the meaning of the event. Low-level construals are thus richer and more detailed but less structured and parsimonious than high-level construals." (Trope & Liberman, 2003, p. 405)

Thus, when the experience of work is examined at a temporal distance it should be represented at a higher level of construal. The greater the temporal distance, the more schematic is that representation, involving definitional aspects of work primarily, and little, if any, idiosyncratic detail. Although construal level theory has tended to focus on the effects of temporal distance, temporal orientation can similarly affect the representation of an experience. Future experiences that are hypothetical and uncertain are more psychologically distant and therefore will be represented at a higher level of construal than experiences in the past or present (Liberman, Trope, & Stephan, 2007; Todorov, Goren, & Trope, 2007; Wakslak, Trope, Liberman, & Aloni, 2006). In this research, we propose that psychological distance resulting from both temporal distance and temporal orientation will have important effects on justice reasoning.

We use construal level theory (Liberman & Trope, 2008; Trope & Liberman, 2003) to argue that temporal perspective can affect whether employees focus on *the forest* (general, definitional features) or *the trees* (specific, contextualized events) of their employment relationship. This, in turn, can affect whether employees are more likely to "see" unfair events that violate general and definitional aspects of the employment relationship versus other types of unfair events.

Day-to-day experiences at work can fulfil a variety of material, social, and esteem goals. Therefore, when employees construe their employment relationship at a low or contextualized level, they pay attention not only to general features of employment but also to specific details, peripheral goals, contextual peculiarities, and social relationships. In contrast, when employees construe their employment relationship at a high level, their cognitions become more simplistic, and hold the minimum content necessary (that people typically agree on) to distinguish employment from other social situations.

A distinctive aspect of the employment relationship is that employees perform work as directed by the organization and in return receive recognition, material rewards, and career opportunities. This aspect of work is therefore likely to feature prominently in high level construals of employment. Such an "economic" focus is present in both transactional and relational psychological contracts, although relational contracts have an additional socioemotional aspect (Rousseau, 1990). Indeed the association between employment and monetary gain is learned in early childhood before individuals develop richer representations of work, and adults often define work as a means of earning a living (Chaves et al., 2004). Rousseau (2001) argues that at higher levels of abstraction, employment is often conceived of in terms of the clauses of labor contracts, which generally focus on material rather than socioemotional outcomes. In contrast, because respectful treatment is expected both at work and in other social situations, it is less definitional of work and less likely to feature in high level construals of employment. This is not to say that socioemotional aspects of work are not important, only that they do not figure as prominently when work is represented at a higher level of construal.

For the above reasons, we expect distributive and interactional dimensions of justice to be differentially salient when employment

is construed at high (abstract) versus low (contextualized) levels. For example, whereas unpaid overtime (an example of distributive injustice) would violate a definitional aspect of employment, receiving impolite feedback (interactional injustice) would violate a non-definitional aspect of employment. In contrast, procedural injustice can involve violations to aspects of employment that are both high and low level. On the one hand, because specific procedures can describe the "how" aspects of outcome allocations, they can be seen as belonging to lower level mental representations of employment. On the other hand, procedural criteria, such as consistency or the absence of bias (for example, in age, sex, or race), are sufficiently universal to be included in high level mental representations of the employment relationship. Therefore, we do not propose or test relationships between temporal perspective, abstractness of employee cognitions about employment, and procedural justice concerns. Rather, we focus on the relationship between temporal perspective and the salience of (a) distributive injustice (violating definitional aspects of the employment relationship), and (b) interactional injustice (violating non-definitional aspects).

In Study 1, we hypothesize that distributive injustice is more salient to more future-oriented individuals, and that interactional injustice is more salient to more present oriented individuals. In Study 2, we predict that distributive versus interactional injustice will be more salient when future (versus past) and more distant (versus more proximal) temporal horizons are considered. In Study 3, we hold temporal perspective constant and show that manipulating cognitions about employment (abstract versus concrete) affects the salience of distributive versus interactional injustice.c

Study 1

In Study 1, we examine the relationship between employee concerns about injustice and individual differences in temporal focus, "the attention individuals devote to thinking about the past, present, and future" (Shipp et al., 2009, p. 1). Shipp and colleagues (2009) showed that individual differences in temporal focus can help explain how attitudes, cognitions and behaviors become affected by past experiences, current circumstances, and future expectations. Zimbardo and Boyd (1999) argued similarly that the temporal focus of individuals affects their readiness to plan for the future as opposed to caring only about the "here and now". We propose that individual differences in temporal focus, in terms of level of future focus and present focus, can also help predict the type of injustice that employees are concerned about in work settings.

Individuals with higher levels of future focus report thinking about future situations and events more often. Therefore, we expect more future-oriented individuals to focus more on higher level, definitional features of experiences, including employment, and less on lower level, contextualized features (Liberman, Sagristano, & Trope, 2002; Reyna & Brainerd, 1995; Robinson & Clore, 2002a, 2002b; Trope & Liberman, 2003). Distributive injustice violates a higher level, definitional aspect of employment. Because a focus on higher level aspects allows people to transcend "the here and now" (Liberman & Trope, 2008), we expect employees who are more focused on future events to have greater concerns about distributive injustice than is the case for employees less focused on future events.

Hypothesis 1. Greater levels of future orientation in individual temporal focus will relate positively to the proportion of justice concerns that have to do with distributive injustice.

In contrast, greater (versus lower) levels of present focus are expected to increase the attention paid to the specific, contextual details of workplace events (Trope & Liberman, 2003). Specifically, we expect more present-oriented individuals to pay greater attention to *how* decisions affecting them were explained, and *how* they were treated interpersonally.

Hypothesis 2. Greater levels of present temporal orientation in individual temporal focus will relate positively to the proportion of justice concerns that have to do with interactional injustice.

No specific hypotheses are proposed regarding the effects of greater levels of past focus. Whereas effects similar to greater levels of present focus would be expected for individuals focusing on the recent past (relatively low on psychological distance), effects similar to greater levels of future focus would be expected for individuals focusing on the distant past (relatively high on psychological distance).

Method

Participants and procedure

Five hundred and fifty-two US-based full-time employees with at least two years of work experience were recruited online through CT Marketing Group, Inc.[1] Fifty-eight respondents (11% of the sample) were excluded from the analysis because they did not pass the attention check in the form of a trap question. The final sample was 47% male, with average age of 44. Eighty-one percent had a junior college degree at a minimum, including 16% who completed graduate studies. The majority of participants were Caucasian (82%). Asian Americans, African Americans, and Hispanics constituted 7.1%, 4.5% and 4.3% of the sample respectively. Average work experience was 21 years. A variety of occupations was represented, the most frequent being management (14%), office and administrative support (12%), computer and mathematical (11%), business and financial operations (9%), sales (7%), and healthcare (6%).

Predictor and criteria measures

Present and future temporal orientation. Present temporal orientation was measured using the 4-item present focus subscale from the 12-item temporal focus scale (TFS) (Shipp et al., 2009). Items include "I focus on what is currently happening in my life" ($\alpha = .86$). Future temporal orientation was measured using the 4-item future focus subscale from the TFS. Items include "I think about times to come" ($\alpha = .93$). Respondents indicated how often they engaged in thinking about the present and the future using 1 (Never) to 7 (Constantly).

Concerns about injustice. Respondents were asked the following: "Please, think about work-related unfair events. What type of unfair event at work is of concern to you? Take a moment or two to think of an event. Let us know what kind of event it is, what would happen, what makes it unfair? In the space below, describe the unfair event you have in mind."

Control variables

Perceptions of organizational justice. Because employees who experience high levels of organizational justice may be less likely to report an unfair event, perceptions of overall organizational justice were measured using three items from Ambrose and Schminke's (2009) scale, including "Overall, I am treated fairly by my organization" ($\alpha = .96$).

Past temporal orientation. Past temporal orientation was measured to ensure completeness of our treatment of individual differences in temporal focus. The 4-item past focus subscale from the TFS (Shipp et al., 2009) was used, including "I replay memories of the past in my mind" ($\alpha = .91$).

[1] CT Marketing Group works with various panel management companies that provide a mix of study-specific and other incentives (PayPal, cash, gift certificates and products) to survey respondents in exchange for panel membership.

Table 1
Descriptive statistics for all Study 1 variables with internal reliabilities in parentheses on the diagonal.

Variable	*M*	*SD*	1	2	3	4	5	6	7	8
1. Gender (1 = M, 0 = F)	.47	.50	–							
2. Age	44	11	.09*	–						
3. Work experience	21	11	.07	.79**						
4. Managerial position (1 = Yes, 0 = No)	.53	.50	.15**	.02	−.03					
5. Past temporal orientation	3.38	.69	.01	−.11*	−.12**	.07	(.91)			
6. Present temporal orientation	3.90	.63	−.02	.22**	.20**	.08	.16**	(.86)		
7. Future temporal orientation	3.74	.79	−.05	.00	−.03	.15**	.41**	.52**	(.93)	
8. Organizational justice	3.78	1.02	.00	.11*	.16**	.05	−.07	.22**	.06	(.96)
9. Distributive injustice event, *N* = 335 (1 = distributive injustice, 0 = not)	.47	.50	.07	−.01	−.07	.13*	.01	.00	.12*	.04
10. Procedural injustice event, *N* = 335 (1 = procedural injustice, 0 = not)	.34	.47	−.10	−.05	.02	−.14*	.01	−.11*	−.20**	−.11
11. Interactional injustice event, *N* = 335 (1 = interactional injustice, 0 = not)	.19	.39	.04	.07	.06	.02	−.02	.15**	.10	.08

Note: *N* = 494.
* $p < .05$.
** $p < .01$ (two-tailed).

Demographics. Age, years of work experience, organizational position (management versus not), and gender were measured via self report.

Results

Descriptive statistics, Cronbach alphas, and correlations are presented in Table 1. As in the original validation studies (Shipp et al., 2009), the future, present, and past dimensions of the TFS were found to be interdependent. To confirm the hypothesized three-dimensional structure of the measure, confirmatory factor analyses (CFAs) were conducted. In order to minimize the occurrence of Type I and Type II errors, Hu and Bentler (1999) suggest the use of either the SRMR index (reasonable fit <.08) or the RMSEA index (reasonable fit <.06). The three factor model best fit the data (CFI = .99, SRMR = .059, RMSEA = .049), with all indicator loadings significant and above .40. A one factor model in which past, present, and future orientations all loaded on a single factor, did not fit the data well (CFI = .86, SRMR = .20, RMSEA = .21).

Unfair events described by survey respondents were coded by the first author and an undergraduate research assistant, using established organizational justice scales and definitions of justice facets (Bies, 2001; Bies & Moag, 1986; Colquitt, 2001; Leventhal, 1976). The research assistant received 4 h of training in identifying types of unjust events as part of a research assistantship workshop taught to a team of four individuals. After being taught definitions from the literature for distributive, procedural, and interactional justice, supported with examples from organizational justice research, workshop participants were asked to code 20 sample events from a Portuguese pilot study in terms of dominant justice facet. One of the authors then presented feedback to participants, focusing on areas where justice dimensions had been incorrectly identified. We used the following guidelines for coding of events that were more ambiguous. First, the respondent's interpretation of an event was to be given priority in identifying the dominant justice concern. For example, "I wasn't given the overtime I was promised. What makes it unfair is that I didn't get paid," (As opposed to "What makes it unfair is that they violated their own promise.") was to be coded as distributive injustice. Second, an aspect of an event was given more weight if it was mentioned earlier rather than later in the event description. For example, "That manager has always been biased against women. He breaks every rule in the book to help out his friends while WE do the work," was to be coded as procedural injustice.

The author and the undergraduate research assistant agreed on the dominant facet of justice in 88% of cases (expected agreement 36%), Cohen's kappa = .81, $z = 20.94$, $p < .01$. Where coders disagreed, agreement was reached in a subsequent discussion of cases. For example, the following event was coded as distributive injustice: "Someone hired for only a short time, always on the internet for personal business, and makes more per hour than I do". The following was coded as interactional injustice: "Derogatory or sexist comments."[2] Thirty-two percent of respondents did not provide a description of an unfair event.

Probit analyses with sample selection was used to test our research hypotheses. This is the most suitable approach because our dependent variable, the type of unfair event reported, is categorical and self report. Indeed, some participants may not report any unfair event at all making our sample potentially non-random. Non-reporting due to perceived high levels of organizational justice does not represent a problem as our research hypotheses concern those who report experiencing injustice. Yet, our results would be suspect if respondents who provided a description of an unfair event differed systematically on some omitted variable from those who did not. For example, if the omitted variable was linked to the ability for concrete reasoning, it could affect both the reporting of the unfair event (e.g., positively), and the type of injustice respondents bring to mind (e.g., relate positively to the likelihood of reporting interactional injustice). Thus, our conclusions using the selected sample of those who reported an unfair event would only apply to those with high ability for concrete reasoning. Probit analysis with sample selection is well suited to handling biases in coefficient estimates that may arise in such cases, and provides the means of testing for the presence of an omitted variable problem (Greene, 2011; Heckman, 1979).

This approach allows the modelling of both the type of the unfair event that the respondent chooses to describe (in the *outcome* equation) and the choice of not providing such a description (in the *selection* equation). The omitted variable problem would manifest itself as a significant correlation, ρ, between error terms in the selection and the outcome equations. Probit analysis with sample selection allows for the estimation and testing of ρ. A statistically significant ρ means that omitted variables, such as the ability for concrete reasoning, may bias coefficient estimates for independent variables if regular probit models are estimated using the selected sample alone. A statistically insignificant ρ means that consistent coefficient estimates can be obtained by means of two independent probits: one for sample selection (using the full sample), and another one for the type of concern about injustice (using the selected sample). Probit analysis with sample selection is a robust way of testing our research hypotheses because coefficient estimates in the outcome equation are consistent irrespective of the presence or the absence of an omitted variable problem.

There are several other advantages to using this statistical method. First, it is a limited dependent variable model that fits the nature of our dependent variable, i.e. the type of concern about

[2] An example of an event coded as procedural injustice is "Gender discrimination".

injustice, which is either (1) a concern about distributive injustice (0/1 dummy variable), or (2) a concern about interactional injustice (0/1 dummy variable). Thus, it is more efficient than the linear regression analysis (Greene, 2011). Note that our dependent variables are mutually exclusive, but not mutually exhaustive (there are also concerns about procedural injustice). Second, by modelling the source of missing data (in the selection equation), we can shed light on specific reasons for missing data. For example, we can verify that the non-reporting of unfair events was more likely for those who had higher perceptions of organizational justice.

Separate analyses were run for concerns about distributive injustice and for concerns about interactional injustice. For identification purposes (i.e. being able to solve for unique values of parameters in this model) it is advisable that at least one predictor of sample selection be different from the set of predictors in the outcome equation (Greene, 2011). We use organizational justice as the variable that predicts sample selection (higher perceptions of organizational justice should relate negatively to the reporting of unjust events, but will not predict the specific type of concerns about injustice). The remaining predictors included temporal focus (future, present, and past) and demographic controls. To conduct the analyses we used the Stata built-in command *heckprob*.

Distributive injustice

To test Hypothesis 1 regarding the effects of temporal orientation on salience of concerns about distributive injustice, we used reporting a distributive injustice as the dependent variable in the outcome equation. Estimation results are presented in columns 1–3 of Table 2.

As in simple probit estimations, for both the selection and the outcome equation, coefficient estimates indicate whether higher levels of independent variables relate positively or negatively to the likelihood of observing the dependent variable equal to 1, i.e. that respondent reports an unjust event or that the injustice reported is distributive. For example, as expected, coefficients in the selection equation (column 1) tell us that higher perceptions of organizational justice lead to lower likelihood that the respondent reports an unjust event, $\beta = -.33$, $p < .01$. Although a number of coefficients were statistically significant in the selection equation[3], the correlation, ρ, between error terms in the selection and the outcome equations, was not statistically significant, showing no evidence of an omitted variable problem.

Relevant to the test of our research hypotheses are coefficient estimates in the outcome equation (column 2). Consistent with Hypothesis 1, higher levels of future focus are associated with a greater likelihood of reporting a distributively unjust event in the outcome equation, $\beta = .26$, $p < .05$.

Interactional injustice

To test Hypothesis 2 regarding the effects of higher levels of present focus on salience of concerns about interactional injustice, we used reporting an interactional injustice event as the dependent variable in the outcome equation. Estimation results are presented in columns 4–6 of Table 2. Consistent with Hypothesis 2, higher levels of present focus are associated with a greater likelihood of reporting an interactionally unjust event, $\beta = .31$, $p < .05$.

Discussion

Study 1 shows that individual differences in the levels of future versus present temporal focus can predict the type of unjust events employees report. Greater levels of future focus relate positively to reporting of distributively unjust events, whereas greater levels of present focus relate positively to reporting of interactionally unjust events.

Study 1, however, has several limitations. First, the data were cross-sectional, which prevents us from making claims regarding the direction of causality. It is possible, for instance, that individuals concerned with distributive injustice are more future-focused or that a third variable influenced both the levels of a specific temporal focus and the unfair events reported. Second, we do not know the effect of temporal distance (the other dimension of temporal perspective) on the salience of types of injustice. For example, what are the effects of an individual looking farther (versus nearer) into the future or the past? Third, it is possible that individuals responding to items in the temporal focus scale such as "I live my life in the present," and "I think about what my future has in store" attached different meaning to the terms "present," and "future." For example, people may differ in the extent to which they incorporate the recent past or the very near future into "the present" (Bluedorn & Martin, 2008; Shipp et al., 2009). Therefore, it becomes important to explore the effects of more objectively specified timeframes. Study 2 was conducted to address these issues.

Study 2

Numerous studies have shown that temporal perspectives can be invoked by asking people to focus on a specific timeframe (Bavelas, 1973; Trope & Liberman, 2003). In Study 2 we used an experimental design in which we manipulated temporal orientation and temporal distance (rather than simply measuring temporal focus as an individual difference). Thus, we tested the effects of temporal perspective on recalled past and anticipated future unjust events. The experimental design also allowed us to test the direction of causality between temporal perspectives and the type of unjust events reported by employees.

Temporal orientation and employee reporting of unjust events

The difference between future (imagined) unfair events and past (recalled) unfair events as brought to mind by employees is important for a number of reasons. First, employee motivation may be affected not only by the (in)justice they have experienced, but also by just or unjust events they *expect* to experience (Shipp et al., 2009). Second, the ability to imagine specific events is known to contribute to their perceived likelihood (Kahneman & Tversky, 1974). Third, the injustice a person anticipates can affect employee in-the-moment experience of fair or unfair treatment (Davidson & Friedman, 1998). In other words, "If employees expect to see injustice, they probably will" (Shapiro & Kirkman, 2001, p. 167). It therefore becomes important to investigate directly the extent to which anticipated injustice differs from or is similar to experienced (and recalled) injustice (Shapiro & Kirkman, 2001).

We expect that there will be differences between the types of injustice anticipated and the types recalled *ceteris paribus* (i.e., controlling for temporal distance, the effects of which we consider below). When employees look to the future (versus the past) they will construe the employment relationship at a higher level because future events are uncertain and thus are more psychologically distant than the events lived in the past. At this high level of construal, definitional aspects of work should be more prominent, including the outcomes employees receive or do not receive in return for their efforts. Therefore, future orientation (as opposed to past) should be associated with greater reporting of distributive injustice. In contrast, past orientation should result in greater

[3] Higher level of present temporal orientation is associated with a higher likelihood of reporting an unjust event, $\beta = .31$, $p < .05$, and men are less likely than women to report an unjust event, $\beta = -.38$, $p < .01$, whereas those occupying managerial positions are more likely to do so, $\beta = .25$, $p < .10$.

Table 2
Probit analysis of concerns about injustice as a function of individual's (trait) temporal focus.

Independent variables	Distributive injustice			Interactional injustice		
	Selection equation	Outcome equation	ρ	Selection equation	Outcome equation	ρ
	(1)	(2)	(3)	(4)	(5)	(6)
Organizational justice	−.33***			−.32***		
	(.000)			(.000)		
Past temporal orientation	.05	−.08		.07	−.08	
	(.649)	(.502)		(.509)	(.463)	
Present temporal orientation	.31**	−.10		.33***	.31**	
	(.011)	(.485)		(.008)	(.030)	
Future temporal orientation	.13	.26**		.11	.16	
	(.214)	(.018)		(.261)	(.167)	
Age	.01	.01		.00	.01	
	(.546)	(.297)		(.819)	(.483)	
Gender	−.38***	.12		−.39***	.04	
	(.002)	(.462)		(.002)	(.797)	
Work experience	.00	−.01		.01	.00	
	(.811)	(.132)		(.566)	(.997)	
Managerial position	.25*	.27*		.25**	.01	
	(.050)	(.071)		(.047)	(.932)	
Constant	−.35	−.86	.23	−.33	−3.09***	.97
	(.518)	(.310)	(.618)[a]	(.540)	(.000)	(.302)[a]
Observations	494	494	494	494	494	494
Log-likelihood (full model)	−510.28, $W(7) = 14.71$, $p < .05$			−440.42, $W(7) = 14.86$, $p < .05$		
Log-likelihood (no temporal orientation variables)	−522.16, $W(4) = 9.36$, $p < .10$			−453.63, $W(4) = 3.05$, *ns*		
% Increase in fit, U^2, due to temporal orientation	2.28			2.91		

Note: *p*-Values in parentheses.
W is Wald test statistic testing the fit of the model compared to a baseline model with no explanatory variables other than the constant term (χ^2 distributed).
U^2 is computed as (1 − {[Log-likelihood (full model)]/[Log-likelihood (no temporal orientation variables)]}).
* $p < .10$ (two-tailed).
** $p < .05$ (two-tailed).
*** $p < .01$ (two-tailed).
[a] *p*-Value for ρ, the correlation of error terms in the selection and the outcome equation, is obtained using the likelihood ratio χ^2 test.

salience of interactional injustice because the employment relationship will be construed at a lower, less abstract, and more contextualized level.

Hypothesis 3. Inducing future (versus past) temporal orientation will relate positively to the proportion of distributively unjust events reported.

Hypothesis 4. Inducing past (versus future) temporal orientation will relate positively to the proportion of interactionally unjust events reported.

Temporal distance and employee reporting of unjust events

Consistent with construal level theory (Trope & Liberman, 2003), the farther away the point in time which individuals consider the more likely it is that they will focus on general and definitional aspects of the employment relationship. The closer in time an event, the more likely it is that contextual details and specific aspects of the work experience will also be included. Significant research evidence suggests that the effects of temporal distance are symmetric for past and future orientations, and are largely the result of moving away from the present (Spreng & Levine, 2006). Events that are distant in time, whether in the future or the past, are also more distant psychologically and will be construed more abstractly or generally (Liberman & Trope, 2008; Trope et al., 2007).

Our argument that distributive aspects are prominent in high level construals of the employment relationship received support in Study 1. This effect of high versus low levels of construal should also play out for temporal distance, such that distributive aspects (which generally dominate high level construals of the employment relationship) are salient in more distant versus proximate temporal horizons while interactional aspects (which are generally part of low level construals (the "how") of the employment relationship) are salient in more proximate versus more distant temporal horizons.

Hypothesis 5. Inducing greater (versus less) temporal distance will relate positively to the proportion of distributively unjust events reported.

Hypothesis 6. Inducing greater (versus less) temporal distance will relate negatively to the proportion of interactionally unjust events reported.

Method

Participants and procedures

Four hundred and sixteen US-based employees were recruited online through MarketTools, Inc. Forty one respondents (10% of the sample) did not pass the attention check in the form of a trap question in the survey and were excluded from the analysis. Forty-seven percent of the final sample was male, with an average age of 40. Seventy-seven percent had a junior college degree at a minimum, including 15% who had completed graduate studies. On average, work experience was 20 years and average tenure with the current employer was 7 years. A variety of occupations was represented, including office and administrative support (15%),

sales (11%), business and financial operations (9%), and management (8%).

Participants completed an online survey. They were randomly assigned to one of four between-subjects conditions and asked to describe either a recalled or imagined unfair event at work: (a) over the past year and at least 2 months ago (distant past condition), (b) over the past 2 weeks (recent past), (c) over the next year and not earlier than 2 months from now (distant future), or (d) over the next 2 weeks (near future). Sample instructions read "In the following pages, you will be asked to reflect on your workplace events OVER THE NEXT TWO WEEKS. Before you begin, please, think of the NEXT TWO WEEKS at work (if you expect to change jobs in the meantime, feel free to think of the workplace where you intend to spend most of the time in these 2 weeks). What will they be like? What events will be happening at work over the NEXT TWO WEEKS? Try to imagine those events as vividly as you can. Imagine an UNFAIR event that can happen to you in your workplace over the NEXT TWO WEEKS. Take a minute or two to imagine the event. What will make it so unfair? In the space below, describe the unfair event."

Experimental conditions were coded using two dummy variables: future orientation (1 = Future, 0 = Past), and temporal distance (1 = Distant, 0 = Near). Thus, condition "distant past" was coded as (0; 1), "0" for "future orientation" and "1" for "temporal distance", "recent past" as (0; 0), "near future" as (1; 0), and "distant future" as (1; 1).

Injustice recalled and anticipated

Unfair events described by participants were independently coded by the first author and an undergraduate research assistant using organizational justice scales and definitions of justice facets and using the same procedures as in Study 1 (Bies, 2001; Bies & Moag, 1986; Colquitt, 2001; Leventhal, 1976). Both coders were blind to the experimental conditions. Events coded as distributive injustice include: "A higher-up could take credit for work that I've done" (future) and "A new position was created that does less work than my position and carries less responsibility, but is paid more" (past). Events coded as interactional injustice include: "A customer comes in and misinterprets something I say, construing it to be a personal insult and continues to get angrier no matter what I try to do to smooth the situation" (future) and "I was moved down on structure chart. The way I found out was looking at our website. I was never told" (past). The two coders agreed on the facet of dominant justice concern in 88% of cases (expected agreement 38%), Cohen's kappa = .80, $z = 17.42$, $p < .01$. Where coders disagreed, agreement was reached in a subsequent discussion of cases. Thirty-nine percent of respondents did not provide a description of an unfair event. The distribution of non-response across experimental conditions is shown in Table 3.

Control variables

Perceptions of organizational justice. Perceptions of overall organizational justice were measured using three items from Ambrose and Schminke's (2009) scale, including "Overall, I am treated fairly by my organization" ($\alpha = .98$).

Demographics. Age, years of work experience, organizational position (management versus not), and gender were measured via self-report.

Results

Manipulation checks

Whether participants appropriately used future or past tense in their event descriptions, as well as the question "How many days ago/In how many days from now did/will the event happen, approximately?" served as manipulation checks. These showed that respondents followed instructions with regard to the temporal condition.

When respondents were asked to describe a future event they were more likely to use the future verb tense (21% in future conditions versus 0% in past conditions, $z = 5.03$, $p < .01$). When respondents were asked to describe a past event they were more likely to use the past verb tense (65% in past conditions versus 5% in future conditions, $z = 9.77$, $p < .01$). In addition, whereas only 18% of respondents in the two past conditions did not use any verbs in describing (past) unfair events, 43% of respondents in the two future conditions did not use verbs in describing (future) unfair events, $z = 4.80$, $p < .01$. Given that the use of verbs reflects concrete rather than abstract reasoning (Coenen, Hedebouw, & Semin, 2006), this pattern is consistent with our hypothesized relationship between past temporal orientation and more concrete reasoning.

There were significant differences in the reported number of days (since/before the event) between distant past versus recent past conditions, $M = 108$ versus $M = 7$, $t(104) = 3.65$, $p < .01$, and between distant future versus near future conditions, $M = 77$ versus $M = 8$, $t(119) = 6.20$, $p < .01$. The differences for recent past versus near future and distant past versus distant future were not significant ($t(100) = .37$, *ns*, and $t(123) = 1.21$, *ns*, respectively).

Reporting of unjust events

Descriptive statistics, Cronbach alphas, and correlations are presented in Table 4.

We again used probit analyses with sample selection to test our research hypotheses. This allowed us to evaluate the effects of temporal distance and temporal orientation in a single model, by including both as key independent variables in the outcome equation. Perceptions of organizational justice were included as a predictor variable in the selection but not the outcome equation for identification purposes. Estimation results are presented in Table 5.

As in Study 1, higher perceptions of organizational justice and being male were associated with a lower likelihood of reporting an unjust event. Future temporal orientation and temporal distance related positively to the likelihood of reporting an unjust event.

Temporal orientation

To test Hypothesis 3, we examined the outcome equation when the dependent variable was a dummy indicating that participants described a distributively unjust event (Table 5, column 2). Distributive injustice events were more likely to be reported when future-orientation was induced, $\beta = .58$, $p < .05$, providing support for Hypothesis 3. To test Hypothesis 4, we examined the same coefficient when the dependent variable was a dummy indicating that participants described an interactionally unjust event (Table 5, column 5). Interactional injustice events were less likely to be reported when future-orientation was induced, $\beta = -.81$, $p < .01$, providing support for Hypothesis 4.

Temporal distance

To test Hypothesis 5, we examined coefficient estimates for temporal distance in the outcome equation when the dependent variable was a dummy indicating that participants described a distributively unjust event (Table 5, column 2). The positive coefficient estimate for temporal distance was not statistically significant, $\beta = .24$, *ns*. To test Hypothesis 6, we examined the same coefficient when the dependent variable was a dummy indicating that participants described an interactionally unjust event (Table 5, column 5). Interactional injustice events were less likely to be reported when greater temporal distance was induced, $\beta = -.41$, $p < .10$, two-sided. Thus, Hypothesis 6 was supported: temporal distance reduced the salience of interactionally unjust events.

Table 3
Descriptive statistics of variables and rates of non-response across experimental conditions in Study 2.

Continuous variables	Distant past, $N = 95$		Recent past, $N = 94$		Near future, $N = 94$		Distant future, $N = 92$	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Organizational justice	5.30[a]	1.68	5.33[a]	1.80	5.65[a]	1.40	4.88	1.58
Age	40	12	40	11	40	12	42	12
Work experience	19	12	19	11	20	13	21	12
Categorical variables	Proportions							
Gender (1 = M, 0 = F)	.43		.45		.46		.52	
Managerial position (1 = Yes, 0 = No)	.41		.39		.39		.37	
Non-response (1 = Non-response, 0 = Responded)	.35		.52[a]		.38		.28	
In total events reported	$N = 62$		$N = 45$		$N = 58$		$N = 66$	
Distributive injustice events	.47		.27		.60		.71	
Interactional injustice events	.24		.27		.16		0	

Note: Values marked with letters are significantly higher in that condition than in the other condition(s).
Values marked by the same letter are not different from each other at 5% significance level.

Table 4
Descriptive statistics for all Study 2 variables with internal reliabilities in parentheses on the diagonal.

Variable	*M*	*SD*	1	2	3	4	5
1. Gender (1 = M, 0 = F)	.46	.50	–				
2. Age	40	12	.30**	–			
3. Work experience	20	12	.24**	.87**			
4. Managerial position	.39	.49	.14**	.06	.05		
5. Organizational justice	5.29	1.64	−.02	−.09	−.08	–	(.98)
6. Distributive injustice event, $N = 231$ (0 = does not involve distributive injustice, 1 = involves distributive injustice)	.53	.50	.21**	.15*	.07	.11	−.05
7. Procedural injustice event, $N = 231$ (0 = does not involve procedural injustice, 1 = involves procedural injustice)	.31	.46	−.05	−.03	.06	−.04	.05
8. Interactional injustice event, $N = 231$ (0 = does not involve interactional injustice, 1 = involves interactional injustice)	.16	.36	−.21**	−.17*	−.18**	−.09	.01

Note: $N = 375$.
* $p < .05$.
** $p < .01$ (two-tailed).

Discussion

Study 2 provides support that induced temporal perspective (both orientation and distance) can influence the type of unjust events that employees recall and anticipate. Events relating primarily to outcomes were more salient to participants asked to bring to mind future versus past unfairness. In contrast, events relating primarily to interpersonal treatment were more salient when participants were asked to focus on past versus future timeframes, and less salient at greater temporal distance.

Study 3

In our first two studies, trait temporal focus and manipulated temporal perspective both related to the reporting of unfair outcomes versus unfair interpersonal treatment at work. However, we have not directly tested our proposed mediator: that temporal perspective influences the salience of different types of unjust events because it affects how the employment relationship is construed. In Study 3 we examine the mechanism behind our findings. Specifically, we test whether high versus low level construal of the employment relationship is the reason why focusing on future and distant timeframes makes distributive injustice more salient and interactional injustice less salient.

Two considerations guided our design of Study 3. First, fact that temporal perspective can affect the abstractness versus concreteness with which experiences are represented is well established (Liberman & Trope, 2008). Second, Study 1 and Study 2 provide evidence that temporal perspective affects the salience of distributive versus interactional unfair events at work. In Study 3, we want to show that the effect of temporal perspective on the salience of distributive versus interactional injustice is mediated by the abstractness of cognitions about employment.

As Spencer, Zanna, and Fong (2005) and Stone-Romero and Rosopa (2008) point out, one of the better ways to support a mediational argument (which involves at least two causal inferences) is to use an "experimental-causal-chain" design and manipulate both the independent variable and the mediator. Given that the effects of our independent variable (temporal perspective) on the mediating psychological process (cognitions) are well established, what remains to be demonstrated is that our mediator influences our dependent variable (type of injustice). This requires us to find a way of changing the abstractness of cognitions about employment while holding temporal perspective constant (Bolger & Amarel, 2007; Bullock, Green, & Ha, 2010).

Hypothesis 7. Holding a specific temporal perspective constant, abstract versus concrete cognitions about employment will relate positively to the proportion of distributively unfair events reported.

Hypotheses 8. Holding a specific temporal perspective constant, abstract versus concrete cognitions about employment will relate negatively to the proportion of interactionally unfair events reported.

Method

Participants, design, and procedure

Six hundred and forty US-based employees were recruited online through CT Marketing Group, Inc. Forty-five percent of the

Table 5
Probit analysis of unjust events as a function of experimentally induced temporal perspective.

Independent variables	Distributive injustice			Interactional injustice		
	Selection equation	Outcome equation	ρ	Selection equation	Outcome equation	ρ
	(1)	(2)	(3)	(4)	(5)	(6)
Organizational justice	−.20***			−.20***		
	(.000)			(.000)		
Future orientation (1 = Future, 0 = Past)	.32**	.58**		.31**	−.81***	
	(.020)	(.011)		(.024)	(.001)	
Temporal distance (1 = Distant, 0 = Near)	.34**	.24		.32**	−.41*	
	(.014)	(.228)		(.019)	(.086)	
Age	−.01	.04**		−.01	−.00	
	(.242)	(.020)		(.283)	(.886)	
Gender	−.36**	.37**		−.34**	−.55*	
	(.013)	(.037)		(.020)	(.054)	
Work experience	.00	−.03*		.00	−.02	
	(.888)	(.073)		(.974)	(.352)	
Managerial position	.18	.14		.17	−.11	
	(.199)	(.411)		(.230)	(.661)	
Constant	.28	−1.08*	−.67	.26	.11	.11
	(.387)	(.061)	(.170)[a]	(.424)	(.852)	(.838)[a]
Observations	375	375	375	375	375	375
Log-likelihood (full model)	−367.23, $W(6) = 19.69$, $p < .01$			−310.85, $W(6) = 25.53$, $p < .01$		
Log-likelihood (no temporal variables)	−384.32, $W(4) = 16.88$, $p < .01$			−323.98, $W(4) = 13.13$, $p < .05$		
% Increase in fit, U^2, due to temporal orientation	4.45			4.05		

Note: *p*-Values in parentheses.
W is Wald test statistic. U^2 is computed as (1 − {[Log-likelihood (full model)]/[Log-likelihood (no temporal variables)]}).
* $p < .10$ (two-tailed).
** $p < .05$ (two-tailed).
*** $p < .01$ (two-tailed).
[a] *p*-Value for the significance of ρ, the correlation of error terms in the selection and the outcome equation, is obtained using the likelihood ratio χ^2 test.

sample were male. Average age was 42, and average work experience was 18 years. Seventy-three percent had a junior college degree at a minimum, including 20% who had completed graduate studies. A variety of occupations was represented, including management (16%), office and administrative support (9%), healthcare (8%), computer and mathematical (7%), and education, training, and library (7%).

Participants completed an online survey. They were randomly assigned to one of four between-subjects conditions of a 2 (abstract versus concrete) × 2 (next 2 weeks versus past 2 weeks) experimental design (160 participants per condition). Thus, the effects of abstractness versus concreteness of cognitions about employment could be studied while holding the temporal perspective (either future or past-oriented) constant.

Demographics and perceptions of overall organizational justice were measured prior to experimental manipulations. The manipulation of cognitions about employment preceded the manipulation of temporal perspective. Because we used a novel task to manipulate cognitions about employment, we collected measures of positive and negative affect to control for potential mood effects.

Manipulation of cognitions about employment. We developed a definition/description task to manipulate the abstractness of cognitions about employment. The task was presented as an opinion poll concerning online dictionaries versus online blogs.

As discussed earlier, abstract cognitions are typically short and simplistic, containing core features of experiences and little if any idiosyncratic detail, akin to dictionary definitions. Thus, participants in the abstract condition were asked to read three concise definitions (for "autumn", "war", and "concert") taken from an online dictionary (www.dictionary.com). In order to engage participants in the task, they were asked to rate each definition in terms of appropriate length (is it too long?) and generality (would most people agree with the definition?). Participants were then asked to *define* "work" in the following way:

> "We now ask you to provide a definition of 'work' (or, employment):
> In general, what is 'work'? Please provide a definition of work that is short and simple. Your definition should include only the essential characteristics of the employment relationship that most people would find true. Your definition should identify essential feature(s) of work that are common to all types of occupations and jobs, and that distinguish 'work' from other domains of life
> It might help your thinking to imagine that you are explaining what work is to someone who has no experience with work, for example, a child.
> State your definition in the textbox below. 'Work is ____.'"

In contrast, concrete cognitions about employment would have to depart from a mere definition and include contextual details and specificities of one's employment relationship. For this purpose, participants in the concrete condition were asked to read and rate three lengthier descriptions of experiences (for "autumn", "war", and "concert") taken from online blogs. Participants were then asked to provide a *description* for "work" with the following instructions.

> "We now ask you to provide a personal description of 'work' (or, employment).
> In your case, what is "work'? Please describe work from your experience, using specific and concrete details about your employment relationship.

> Your description should identify aspects of work that you have experienced in specific situations and at specific moments in time. Your description should identify specific features of work that distinguish your workplace from other workplaces.
>
> It might help your thinking to imagine that you are explaining what work is to someone who has lots of work experience, for example, a recent retiree.
>
> State your description in the textbox below. 'Work to me is ____.'"

Manipulation of temporal perspective. In the recent past (future) conditions, participants were asked to reflect on their workplace experiences "over the past (next) 2 weeks" and to report an unfair event from that time period (see Study 2 for exact instructions).

Measures

Unfair events at work. As in Study 1 and Study 2, unfair events described by participants were independently coded by one of the authors and a research assistant using organizational justice scales and definitions of justice facets (Bies, 2001; Bies & Moag, 1986; Colquitt, 2001; Leventhal, 1976). The two coders agreed on the dominant facet of justice in 94% of reported events (expected agreement 27%), Cohen's kappa = .91, $z = 31.46$, $p < .01$. Where coders disagreed, agreement was reached in a subsequent discussion of cases.

Control variables

Positive and negative affect. We used the short 10-item Positive Affect Negative Affect Schedule (Thompson, 2007) to measure the level of positive and negative affect following the definition/description task ($\alpha = .82$ for positive affect, and $\alpha = .91$ for negative affect).

Perceptions of organizational justice. Perceptions of overall organizational justice were measured using three items from Ambrose and Schminke's (2009) scale, as in previous studies ($\alpha = .96$).

Demographics. Age, years of work experience, organizational position (management versus not), and gender were measured via self-report.

Results

Descriptive statistics, Cronbach alphas, and correlations are presented in Table 6.

Manipulation checks were necessary to ensure that (a) the definition/description task used to induce concrete versus abstract thinking affected respondent cognitions about employment (our mediator variable) but not other potential mediators such as respondent affect (Bullock et al., 2010), and (b) participants considered future versus past timeframes as a result of our manipulation of the temporal perspective. Thirty-four percent of respondents were excluded from the analyses because they did not provide the requested definition/description of "work".

Manipulation of cognitions about employment

The definitions/descriptions of work provided by participants were coded in terms of whether they (a) mentioned only work outcomes, such as salaries, bonuses, and other material rewards (Only_outcome: 1 = only outcomes mentioned, 0 = otherwise), (b) mentioned no work outcomes (No_outcome: 1 = no outcomes mentioned, 0 = otherwise), and (c) mentioned social interactions at work, including with co-workers, supervisors, clients or students (Interaction: 1 = social interactions mentioned, 0 = otherwise). For example, the definition "Work is the action of performing one's skill-set for monetary compensation" would be coded as 1 on Only_outcome, 0 on No_outcome, and 0 on Interaction. The following description was coded 0 on Only_outcome, 1 on No_outcome, and 1 on Interaction.

> "Work to me is listening, learning and teaching skills for people to use later on in life. I have been in management for many years and come across many different types of people. Some people were born to lead and others to follow. In my position as manager I feel that I am able to lead because I am patient but firm and being a supplier to vendors who count on us to lead I feel having the right person to lead is very important to both parties."

All definitions and descriptions of work were coded by one of the authors and a research assistant who were both blind to the experimental condition. Rates of agreement between the two coders were above 95% (expected agreement for the three dummy variables varied from 50% to 67%), Cohen's kappa > .90, $z > 18.68$, $p < .01$.

To test whether inducing abstract versus concrete cognitions about employment related positively to the salience of work outcomes and negatively to the salience of social interactions at work, we tested differences between conditions on variables Only_outcome, No_outcome, and Interaction. Referring only to work outcomes was significantly more likely for definitions (abstract cognitions) versus descriptions (concrete cognitions), 77% versus 27%, $z = 10.34$, $p < .01$. Not referring to work outcomes was significantly more likely for descriptions (concrete cognitions), versus definitions (abstract cognitions), 55% versus 21%, $z = 7.19$, $p < .01$. Referring to social interactions at work was more likely for descriptions (concrete cognitions) versus definitions (abstract cognitions), 43% versus 1%, $z = 10.70$, $p < .01$. Thus, inducing abstract versus concrete cognitions about employment worked as anticipated.[4]

Moreover, there was no difference in levels of respondent affect in terms of either positive affect ($t(422) = .41$, ns) or negative affect ($t(422) = .70$, ns) across conditions. See Table 7 for descriptive statistics of control and dependent variables, as well as rates of non-response, across definition/description tasks.

Manipulation of temporal perspective

When respondents had to describe a future event they were more likely to use the future verb tense (34% in future conditions versus 0% in past conditions, $z = 7.32$, $p < .01$). When respondents had to describe a past event they were more likely to use the past verb tense (70% in past conditions versus 9% in future conditions, $z = 11.04$, $p < .01$).

Hypothesis testing

Descriptive statistics for proportions of event types, control variables, as well as rates of non-response, are presented in Table 8.

To test Hypothesis 7, we first compared proportions of distributively unfair events reported when abstract versus concrete cognitions about employment were induced, holding the temporal perspective constant.

Conditional on being asked about the next 2 weeks at work, respondents were significantly more likely to report distributive injustice when abstract versus concrete cognitions about employment were induced, 61% versus 48%, $z = 1.75$, $p < .05$. Conditional on being asked about the past 2 weeks at work, respondents were significantly more likely to report distributive injustice

[4] Rates of non-response varied significantly between the definition versus description task, $z = 2.34$, $p < .05$. So we conducted selection probit analyses to model sample selection explicitly and allow for potential correlation in the error terms of the selection and the outcome equation. Results showed that our conclusions were robust to this alternative way of estimating the magnitude of the effects of inducing abstract versus concrete cognitions about employment (data available from the first author upon request).

Table 6
Descriptive statistics for all Study 3 variables with internal reliabilities in parentheses on the diagonal.

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9
1. Gender (1 = M, 0 = F)	.34	.47									
2. Age	44	11	−.02								
3. Managerial position	.45	.50	.17***	−.00							
4. Organizational justice	5.38	1.40	.04	.06	.06	(.96)					
5. Positive affect	4.46	1.24	.20***	.07	.23***	.12**	(.82)				
6. Negative affect	1.81	1.14	.20***	−.23***	.13***	−.22***	.08*	(.91)			
7. Only outcome	.54	.50	−.00	−.06	.01	.03	−.01	−.01			
8. No outcome	.37	.48	.03	.05	.03	.04	.02	.00	−.82***		
9. Other people mentioned	.21	.40	−.12**	.18***	−.00	−.06	−.04	−.07	−.54***	.42***	
10. Distributive injustice event, *N* = 303 (1 = Distributive injustice, 0 = Not)	.47	.50	.03	−.11*	.02	−.01	.02	.04	.14**	−.09	−.19***
11. Procedural injustice event, *N* = 303 (1 = Procedural injustice, 0 = Not)	.21	.40	−.01	.12**	−.03	.04	.01	−.13**	.03	−.02	.03
12. Interactional injustice event, *N* = 303 (1 = Interactional injustice, 0 = Not)	.32	.47	−.02	.01	.00	−.04	−.03	.07	−.18***	.11*	.17***

Note: *N* = 424.
* $p < .10$.
** $p < .05$ (two-tailed).
*** $p < .01$ (two-tailed).

Table 7
Descriptive statistics of control and dependent variables, as well as rates of non-response, across definition/description tasks in Study 3.

Continuous variables	Definition (abstract), *N* = 226		Description (concrete), *N* = 198	
	M	*SD*	*M*	*SD*
Age	43	10	45[a]	11
Organizational justice	5.50[a]	1.39	5.23	1.40
Positive affect	4.48	1.24	4.44	1.24
Negative affect	1.85	1.25	1.77	1.01
Categorical variables	**Proportions**			
Gender (1 = M, 0 = F)	.36		.33	
Less than 5 years of work experience (1 = Yes, 0 = No)	.04		.09[a]	
More than 20 years of work experience (1 = Yes, 0 = No)	.43		.47	
Managerial position (1 = Yes, 0 = No)	.46		.44	
Only outcome (1 = Yes, 0 = No)	.77[a]		.27	
No outcome (1 = Yes, 0 = No)	.21		.55[a]	
Interaction (1 = Yes, 0 = No)	.01		.43[a]	
Non-response (proportion of N = 320 per condition)	.29		.38[a]	

Note: *N* = 424. Values marked with letters are significantly higher in that condition than in the other condition(s). Values marked by the same letter are not different from each other at 5% significance level.

when abstract versus concrete cognitions about employment were induced, 48% versus 27%, $z = 2.42$, $p < .01$. Thus, Hypothesis 7 was supported: reporting of distributive injustice related positively to inducing abstract versus concrete cognitions about employment.

Evidence of mediation was equally strong for the salience of interactionally unfair events. Conditional on being asked about the future 2 weeks at work, respondents were significantly more likely to report interactional injustice when concrete versus abstract cognitions about employment were induced, 31% versus 16%, $z = 2.28$, $p < .05$. Conditional on being asked about the past 2 weeks at work, respondents were significantly more likely to report interactional injustice when concrete versus abstract cognitions about employment were induced, 54% versus 35%, $z = 2.12$, $p < .05$. Thus, Hypothesis 8 was supported: reporting of interactional injustice related positively to inducing concrete versus abstract cognitions about employment.[5]

[5] Rates of failure to describe an unfair event were different across the experimental conditions, and so were several control variables. Thus, we conducted additional analyses using selection probits. Results showed that our conclusions were robust (data available from the first author upon request).

Discussion

In Study 3 we tested the mechanism underlying the effect of temporal perspective on the salience of specific types of injustice at work. Holding temporal perspective constant, inducing abstract versus concrete cognitions about employment increased the salience of distributive injustice and decreased the salience of interactional injustice.

By developing and testing a novel way of manipulating cognitions about employment (abstract versus concrete), we also demonstrated that when employees represented work at a high versus low level of construal (i.e., by defining work) they focused on work outcomes. In contrast, when they were asked to represent work at a lower level of construal (i.e., by providing a specific description of work), outcomes were less salient and social interactions and process more salient.

General discussion

This research demonstrates that employee temporal perspective, whether measured as an individual difference or manipulated as a situational factor, affects the salience of types of workplace injustice. Individuals with higher levels of future focus were more

likely to bring to mind concerns about unfair outcomes, whereas individuals with higher levels of present focus were more likely to bring to mind concerns about unfair interpersonal treatment (Study 1). Employees asked to focus on future (versus past) and distant (versus near) timeframes were more likely to bring to mind events involving unfair outcomes and less likely to bring to mind events involving unfair interpersonal treatment (Study 2). This pattern of findings was consistent with our hypotheses regarding changes in the salience of types of injustice due to the effect of temporal perspective on cognitions about employment. Our third study provided additional support for this argument in that abstract versus concrete cognitions about employment exerted effects on the salience of distributively versus interactionally unfair events controlling for temporal perspective. In particular, distributively unjust events were more salient when cognitions about employment were abstract, whereas interactionally unfair events were more salient when cognitions about employment were concrete.

This research has several strengths that give us confidence in our main findings. First, as participants in all three studies were full-time employees from a variety of different occupations, our findings appear to be generalizable across occupations and age groups. Second, we examined the effects of temporal perspective as both an individual difference (Study 1) and as a manipulation (Study 2 and Study 3). Third, given that our studies relied on spontaneously generated concerns about injustice (with a high likelihood that some participants would not report unjust events – as indeed was the case) our use of probit models with sample selection for hypothesis testing provided a more rigorous test of our hypotheses than using only the data of those who reported unfair events.

It is important to note that several alternative explanations fail to adequately account for the pattern of our findings. For example, it could be argued that distributive injustice was more salient in anticipation and over greater temporal distance because it evoked greater affective reactions than interactional injustice. However, both theoretical and empirical work in the field of organizational justice argues that it is in fact interactional injustice that is more affect-laden (Bies, 1987; Bies & Moag, 1986). Furthermore, the memory and cognition literature presents mixed evidence on the accessibility of affect-laden memories (Conway & Pleydell-Pearce, 2000). Our Study 3 results show that the observed differential salience of distributively unjust and interactionally unjust events in our sample is not due to differences in the level of respondent positive or negative affect, but due to abstract versus concrete cognitions about employment.

Second, if interpersonal interactions are more frequent at work than outcome allocations, it could be argued that our findings result from respondents matching the frequency of distributive and interactional injustice to, respectively, longer and shorter timeframes. However, the frequency of distributive versus interactional injustice does not explain our results. First, when respondents were asked to report an unjust event in Study 1, the task was timeframe-neutral. Second, in Study 2 even when people considered a time period of equal length (2 weeks), distributive injustice was more salient in the future timeframe whereas interactional injustice was more salient in the past timeframe.

An additional strength of this paper is that it contributes to a person-centric understanding of organizational justice (Guo, Rupp, Weiss, & Trougakos, in press; Weiss & Rupp, 2011). Whereas researchers can accurately observe the full history of an employee's experiences at work and maintain a record of all unfair aspects of those experiences, this research highlights one way in which the attention of the individual actor is more selective. As Roberson and Stevens (2006) note, "it is difficult to gauge the salience of justice concerns when survey questions cue respondents to consider such issues and on preselected dimensions" (p. 389). In this research we asked participants to bring to mind their own examples of unjust events and to describe these in their own words (Roberson & Stevens, 2006). Such "event data" has been used to identify the types of injustice in everyday life (Mikula, Petri, & Tanzer, 1990), to compare self- versus other-ascribed unfair behaviors (Messick, Bloom, Boldizar, & Samuelson, 1985), to uncover justice concerns of employees moving to self-managing work-teams (Kirkman et al., 1996), and to explore interactional concerns (Bies, 1987; Bies & Moag, 1986). As our set of studies has shown, this approach is well suited to investigate issues of salience and employee sensitivity to different aspects of injustice.

Theoretical implications

This research makes several contributions to theory. First, we introduce an additional factor that can influence the importance of different aspects of the employment relationship to the experience of injustice: temporal perspective. Similar to "accessible identity" (Skitka, 2003), temporal perspective can focus employee attention on particular types of justice concerns and events. Whether employees focus on, for example, distributive injustice can depend on both individual differences and contextual factors influencing temporal perspective.

Previous research has shown the effect of the objective passage of time on justice reasoning, for example, by documenting order effects in justice judgments (Van den Bos, 2001), or postulating the frustration effect (Folger, 1977), and the persistent injustice effect (Davidson & Friedman, 1998). Our research shows that subjective temporal perspective impacts justice reasoning by affecting the salience of specific unfair events depending on the vantage point from which they are brought to mind and evaluated.

By showing that the salience of different types of injustice can depend on how the employment relationship is construed, this research can provide insights relevant to important theoretical frameworks in the field of organizational justice, such as equity theory (Adams, 1965) or the group engagement model (Blader & Tyler, 2003). At first sight, these models emphasize competing concerns: for example, the fairness of outcome allocations versus the fairness of procedures and interpersonal treatment. Whereas the former is motivated by instrumental concerns, the latter is motivated by concerns regarding one's status and inclusion in a group. Our research suggests that rather than necessarily competing, the relative importance of these concerns may simply reflect whether the same employment relationship is viewed at a higher level of construal (in terms of more abstract, universal characteristics) or at a lower level (in terms of more specific, concrete details relating to the context). At any one time and depending on the perspective of the employee, different justice events will be subject to different levels of scrutiny and evaluation.

Our findings also suggest a plausible alternative explanation for some previous findings in the fairness literature. We briefly mention two here. First, Ambrose and Cropanzano (2003) showed that procedural (versus distributive) justice becomes less important long after a fairness-related event occurs than directly preceding or directly following the event. It was argued that more time is required to form a judgment about distributive versus procedural fairness. An alternative explanation based on temporal perspectives suggests that distributive (un)fairness (in this case, the outcome of a tenure decision) may be more salient long after versus directly following an event because the passage of time is likely to increase employee focus on higher level, definitional features of the employment relationship. In that study, the lower level, contextualized aspects of employment, such as having voice and receiving adequate explanations, played a greater role when the tenure decision event was temporally less distant.

Table 8
Descriptive statistics of dependent and control variables, as well as rates of non-response, across experimental conditions in Study 3.

Continuous variables	Concrete past, $N = 96$		Abstract past, $N = 110$		Concrete future, $N = 102$		Abstract future, $N = 116$	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Organizational justice	5.30[a]	1.23	5.48[a]	1.51	5.17	1.54	5.52[a]	1.28
Age	45[a]	11	42	10	46[a]	11	43	11
Categorical variables	Proportions							
Gender (1 = M, 0 = F)	.36		.34		.29		.38	
Managerial position (1 = Yes, 0 = No)	.38		.48[a]		.50[a]		.44[a]	
Distributively unjust events[A]	.18		.28[b]		.41[a]		.46[a]	
Interactionally unjust events	.35[a]		.21[b]		.26[b]		.12	
No event described	.34[a]		.41[a]		.14		.25[b]	

Note: Values marked with letters are significantly higher in that condition than in the other condition(s). Values marked by the same letter are not different from each other at 5% significance level.

[A] Note that unjust events are given here as proportions of total responses, including those who did not describe an unjust event.

Second, in a study of anticipatory injustice, Kirkman and colleagues (1996) asked employees about their fairness concerns regarding a proposed move to self-managing work teams. Because employee concerns about distributive injustice predominated, it was suggested that distributive injustice was the main fairness concern in self-managing work teams. An alternative explanation, consistent with our research, is that the future orientation taken by employees could have caused higher level representations of the work relationship, which in turn resulted in greater salience of distributive justice.

Managerial implications

Our results show that when employees look to the future, rather than to the past, they will be more concerned about distributive injustice and less concerned about interactional justice. This can lead to organizations overestimating the importance to employees of workplace outcomes and underestimating the importance of fair interpersonal treatment. Given a tendency for individuals to overestimate the importance of material outcomes to other people (Heath, 1999), we thus caution managers against focusing too narrowly on one type of injustice at the expense of other types. Rather, it is important for organizations to also appreciate the importance, especially for events in the recent past or close future, of non-distributive aspects of work.

We have argued that the high salience of distributive injustice when employees consider future and temporally distant events results from high level construals of the employment relationship that focus on workplace outcomes. However, the extent to which high level representations of work focus on outcomes versus other work-related interactions is likely to vary among contexts. The effects we discuss may be less strong in employment situations that focus employee attention less on outcomes, such as material rewards, and more on workplace interactions, such as respectful treatment of individuals.

Limitations and future research

A limitation of this research is that we did not examine whether temporal perspective can also affect the recall and anticipation of *just* events. One reason for our focus on unjust events is that justice reasoning is more likely to be activated in response to negative circumstances (Greenberg, 2001). Further, unjust events are more likely than just events to exert powerful effects on workplace attitudes and behaviors, as people are more sensitive to negative versus positive information about their environments (Skowronski & Carlston, 1987). Nonetheless, future research should examine effects of temporal perspective on the recall and anticipation of fair treatment.

Second, in this research we compare recall of *actual* past events with anticipation of future *hypothetical* events. Early research in cognitive psychology on temporal orientation (e.g., Cottle, 1968) emphasized a fundamental difference in how people think about a past experienced event versus about "an unknown and incalculable future" (p. 141). However, more recent research in memory processes and cognitive psychology suggests that future and past oriented thinking can be compared in important respects. Both share the same cognitive resources (Suddendorf & Busby, 2005; Suddendorf & Corballis, 2007), as shown by the fact that memory impairing states, such as amnesia or depression, can also impair the ability to imagine what might happen in the future (Klein, Loftus, & Kihlstrom, 2002; Williams et al., 1996). Because recall and anticipation rely in important respects on the same memory and belief systems, it seems reasonable to suggest a common theoretical framework for how both affect the salience of different types of injustice.

Third, this research relied on participants bringing to mind a variety of past or future events that they considered unjust, without directing their attention to particular aspects of injustice. However, employees can often have their attention externally focused on different aspects of justice. For example, an employee might be asked by a colleague how well they are treated by their manager, or concern about a current procedure might prompt an employee to focus on past procedural fairness. Future research should therefore also investigate the predictive power of cued justice concerns versus spontaneously elicited justice concerns.

Fourth, it is important to note that the effects of temporal orientation and temporal distance result from a *psychological distance* between the organizational actor and phenomena recalled or anticipated. Other types of psychological distance can also lead to higher versus lower level construal of phenomena, including social distance, spatial distance, and uncertainty and hypotheticality (Liberman, Trope, Macrae, & Sherman, 2007). The effects of other types of psychological distance on the salience of different types of injustice can be an interesting avenue for future research.

Conclusion

Important reactions to unfair treatment at work lie not only in immediate evaluations, attitudes, and behaviors, but also in how employees recall and anticipate experiences. And yet, as in many other fields of management studies (George & Jones, 2000), scholars have tended to examine organizational justice phenomena without the use of a "time research lens" (Ancona, Goodman, Lawrence, & Tushman, 2001). We show that the types of unfairness

that loom largest for future events are often not the most important in experience or retrospect. In doing so, this research takes an important step toward highlighting the role of time perception, memory, and anticipation in the experience of organizational justice.

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