

How does procedural justice climate influence individual outcomes? An affective perspective

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Abstract This study explored how procedural justice climate influences an individual's attitudes and behavior from an affective perspective. I tested my hypotheses on a sample of 364 employees from 63 work units in China. The results showed that procedural justice climate was related to group affective tone and explained additional variance in individual affect beyond the variance explained by individual perceptions of justice. In support of the arguments related to the role of emotional contagion in this process, individual differences in susceptibility to emotional contagion moderated the relationship between procedural justice climate and individual affect. Specifically, the positive relationship of procedural justice climate with individual positive affect and its negative relationship with individual negative affect were stronger for individuals with high rather than low susceptibility to emotional contagion. Task interdependence also strengthened the relationship between procedural justice climate and positive affective tone at the group level. Finally, the results supported the hypotheses for indirect relationships between procedural justice climate and individual outcomes, including job satisfaction, turnover intention, and knowledge sharing, via individual affect and group affective tone.

Keywords Procedural justice climate · Emotional contagion · Individual affect · Affective tone · Susceptibility to emotional contagion · Task interdependence

Renewed interest in moods and emotions in organizational behavior research (Beal, Trougakos, Weiss, & Dalal, 2013; Brief, 2001; Brief & Weiss, 2002; Yu, 2009) has underscored the affect-inducing nature of organizational justice (e.g., Barclay & Kiefer, 2014; Barclay, Skarlicki, & Pugh, 2005; Cropanzano, Weiss, Suckow, & Grandey, 2000; Weiss, Suckow, & Cropanzano, 1999). According to Weiss et al. (1999: 791),

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“we cannot fully understand the role of justice in organizational life, unless we also understand the way justice influences emotion.” They suggested that affect was an important factor in justice, not only as a class of outcomes but also as a mechanism linking perceptions of justice with behavior. Scher and Heise (1993) proposed that people experienced justice-related emotions and reacted to these emotions, rather than calculating justice on the basis of objective criteria. However, the role of emotions has not received sufficient attention and systematic examination (Barclay & Kiefer, 2014; Hillebrandt & Barclay, 2013).

Justice climate refers to the shared perception of how a work group is treated as a whole (Naumann & Bennett, 2000). Accumulated evidence has shown that justice climate not only predicts group- and organization-level outcomes (e.g., Colquitt, Noe, & Jackson, 2002; Ehrhart, 2004; Naumann & Bennett, 2002; Simons & Roberson, 2003) but also explains the significant variance in individual-level outcomes beyond personal justice perceptions, such as job satisfaction, helping behavior, and organizational commitment (Liao & Rupp, 2005; Mossholder, Bennett, & Martin, 1998; Naumann & Bennett, 2000; Yang, Mossholder, & Peng, 2007). Although the effects of justice climate on an individual’s attitudes and behavior have been demonstrated empirically, few attempts have been made to explore the underlying mechanisms that account for its additional influence beyond an individual’s justice perceptions. In other words, it is well-known that individual reactions can be affected by individual treatment, however the explanations for why individual reactions can be also influenced by justice climate as well are lacking. Justice researchers have long tried to answer the central questions of how and why perceptions of justice influence individuals’ attitudes and behavior but have failed to answer such questions as they apply to the justice climate (Lin & Leung, 2014). Mayer and Kuenzi (2010: 333) stressed that “at the stage of development in justice climate research, it is important to examine the theoretical mechanisms linking justice climate and outcomes.” Lin and Leung (2014) addressed this question by focusing on the signals about justice actors and recipients conveyed by justice climate, which in turn influence employee reactions to different entities (organization and work unit). The current paper aims to provide additional insights into the psychological dynamics of justice climate from a different perspective—that is, an affective perspective. Specifically, affect and emotional contagion will be used to explain why and how justice climate influences individual outcomes beyond individual justice perception.

Similar to most studies on the justice climate (e.g., Mossholder et al., 1998; Naumann & Bennett, 2000; Roberson & Williamson, 2012), this study focuses on procedural justice climate. As Roberson and Colquitt (2005) argued, perceptions of procedural justice, rather than distributive and interactive justice, are more likely to converge within a group because they are based on the relatively formal procedures, policies, and practices that apply to all members, and thus the meaning of procedural justice climate at the collective level is also easy to interpret. In addition, procedural justice is often viewed as more affect inducing than distributive justice because it is closely linked to self-identity and self-esteem (e.g., Umphress, Labianca, Brass, Kass, & Scholten, 2003). Therefore, procedural justice climate is suitable for examining the role of affect in the justice process.

Justice studies have adopted a perspective of the social influence of emotions to explain why an individual’s reaction is influenced by the fair treatment of others

(Blader, Wiesenfeld, Fortin, & Wheeler-Smith, 2013; Skarlicki & Kulik, 2005; Umphress, Simmons, Folger, Ren, & Bobocel, 2013). That is, observers' emotions tend to be socially influenced by the target person's emotional state and condition. Researchers have also suggested that emotions and emotional contagion play important roles in the influence of the justice climate (Dietz, Robinson, Folger, Baron, & Schulz, 2003; Mayer & Kuenzi, 2010). However, explicit empirical evidence is scarce. Extending this line of research, this paper highlights the emotional contagion within a group as a vehicle for the cross-level influence of procedural justice climate on an individual's attitudes and behavior. Procedural justice climate is one outcome of the social influence of cognitive perception (Naumann & Bennett, 2000). Emotional contagion is another type of social influence (Barsade, 2002). Emotional contagion refers to the unconscious transfer of emotions between individuals (Barsade, 2002; Schoenewolf, 1990). Individuals tend to mimic and synchronize others' emotional expressions and thus experience and display emotions similar to those of others (Hatfield, Cacioppo, & Rapson, 1994). Many studies in different fields have offered strong support for the existence of emotional contagion (e.g., Barsade, 2002; Johnson, 2008; Nummenmaa, Hirvonen, Pakkola, & Hietanen, 2008; Totterdell, 2000).

This study aims to explore the answers to three questions about the effects of procedural justice climate. First, can procedural justice climate explain the additional variance in individual affect beyond that explained by individual perception of procedural justice? If emotional contagion within a group (Barsade & Gibson, 1998; Kelly & Barsade, 2001) plays a role in gauging group members' affective reaction to procedural justice climate, this will prove the additional predictive power of procedural justice climate beyond individual justice perception as well as the relationship between procedural justice climate and group affective tone. Second, what critical contingencies determine when the relationships of procedural justice climate with individual affect and group affective tone will be stronger or weaker? To validate the role of emotional contagion in this process, I examined the moderating effects of one individual trait (i.e., susceptibility to emotional contagion) and one contextual factor (i.e., task interdependence), both of which are related to the occurrence of emotional contagion (Bartel & Saavedra, 2000; Ilies, Wagner, & Morgeson, 2007; Wu & Hu, 2009). Finally, will individual affect and group affective tone mediate the relationship between procedural justice climate and individual attitudes and behavior?

I conducted this study in the context of China, a culture that is characterized by relatively high collectivism (Hofstede, 1980). Because collectivist tendencies can strengthen the affective linkage among team members (Ilies et al., 2007; Kimura, Daibo, & Yogo, 2008), emotional contagion may be more likely to occur and play a more important role in the influence of justice climate on individual attitudes and behaviors. Therefore, Chinese culture provides a suitable context for examining the proposed relationships in this paper, which highlight emotional contagion and affect-driven reactions.

This study makes a twofold contribution to the justice climate literature. First, it sheds light on the psychological dynamics of justice climate from a new perspective and provides additional insights into why and how justice climate can influence individual attitudes and behavior beyond individual justice perceptions. Second, although justice has been widely regarded as emotion inducing (e.g., Van den Bos, Mass, Waldring, & Semin, 2003; Weiss & Cropanzano, 1996), the role of affect in the

influence of collective-level situations (i.e., procedural justice climate) has seldom been examined. This study highlights the role of emotional contagion and investigates how affect and affective tone intermediate the impact of justice climate on individual outcomes and the boundary conditions.

In line with Barsade (2002) and Hatfield et al. (1994), this study does not limit the term “emotion” to indicate an intense, relatively short-term affective reaction to a specific event, but rather uses it as a broad label similar to “affect.” Indeed, I use “affect” and “emotion” interchangeably to broadly and inclusively label an individual’s subjective feeling state.

Literature review and hypothesis development

Procedural justice climate

As one type of organizational climate, justice climate is the shared perception of how a work group is treated as a whole (Naumann & Bennett, 2000). The construct initially was proposed by Naumann and Bennett (2000), following Mossosholder et al.’s (1998) study, which treated procedural justice as a contextual factor. Regarding the origin and emergence of justice, Roberson (2006: 177) argued that “[j]ustice climates are considered to be an emergent phenomenon, which originates in the cognition, affect and behaviors of individuals, but is amplified by their interactions and manifests itself as a collective construct.”

Justice climate is distinguished from personal justice perception in three ways. First, justice climate is the shared perception of justice among units, but not personal perception. Zohar (2000) argued that perception of climate, by itself, is an individual-level construct, whereas the attribute of consensus or homogeneity of perceptions emerges at a higher level of analysis, related only to the aspects of perception that are shared by group members. Second, in contrast with individual justice perception, justice climate perceptions are based not only on individual experience but also on the justice events jointly experienced by group members and the observed justice events of other group members (Rupp & Paddock, 2010). Third, related to the second point, the referent of justice climate is the whole unit, not the individual self. According to the definition of justice climate proposed by Naumann and Bennett (2000), as well as Chan’s (1998) argument about the conditions under which each composition approach fits, a more appropriate way is to shift the referent from the individual to the unit as a whole, when tapping into the concept of justice climate (Li & Cropanzano, 2009; Rupp, Bashshur, & Liao, 2007).

Research on justice climate has examined the consequences of justice climate at multiple levels (for a review, see Li & Cropanzano, 2009; for a meta-analysis, see Whitman, Caleo, Carpenter, Horner, & Bernerth, 2012). At the collective level, justice climate is predictive of collective-level organizational citizenship behavior (Chen, Lam, Naumann, & Schaubroeck, 2005; Cole, Carter, & Zhang, 2013; Ehrhart, 2004), absenteeism and turnover (Colquitt et al., 2002; Simons & Roberson, 2003), burnout (Moliner, Martínez-Tur, Peiró, Ramos, & Cropanzano, 2005), and group performance (Cole et al., 2013; Colquitt et al., 2002; Naumann & Bennett, 2002). An accumulating body of research has also explored the cross-level influence of justice climate,

particularly procedural justice climate on individual outcomes, such as prosocial citizenship behavior (Li, Liang, & Crant, 2010b; Liao & Rupp, 2005; Walumbwa, Hartnell, & Oke, 2010), job satisfaction (Mayer, Nishii, Schneider, & Goldstein, 2007; Mossholder et al., 1998), performance (De Dreu & Nauta, 2009; Haynie, Cullen, Lester, Winter, & Svyantek, 2014), voice and silence (Hsiung, 2012; Tangirala & Ramanujam, 2008), organizational commitment or identification (Epitropaki, 2013; Naumann & Bennett, 2000; Yang et al., 2007), and turnover intention (Ansari, Hung, & Aafaqi, 2007).

Many of the cross-level studies on justice climate (e.g., Li et al., 2010b; Liao & Rupp, 2005; Mossholder et al., 1998; Yang et al., 2007) have controlled for individual justice perceptions. That is, justice climate can explain the additional variance in individual attitudes and behavior beyond that explained by individual justice perceptions; however, few attempts have been made to explore why and how. An exception is Lin and Leung (2014), who argued that procedural justice climate conveys symbols about the status of a work unit within the organization and symbols about the moral attributes of the organization, which influence work-unit identification, organizational identification and job security, and, in turn, work behaviors toward different entities. Their model emphasized the role of cognitive perception in the process but ignored the potential role of emotions. Given the close association between justice and emotions (e.g., Skarlicki & Rupp, 2010; Van den Bos et al., 2003; Weiss & Cropanzano, 1996), it is plausible to take emotions into account when examining the cross-level influence of justice climate.

Procedural justice climate and individual affect

A typical justice situation can be understood as an affective event, as judgments are rendered over whether an event benefits or detracts from a person's well-being, goals, and values. These are important components of the emotion-elicitation process and work together to direct affective reactions (Lazarus, 1991; Weiss & Cropanzano, 1996; Weiss et al., 1999). Procedural justice is often considered as more affect-inducing than distributive justice, as it is closely linked to self-identity and self-esteem (e.g., Umphress et al., 2003). Tyler (1994) demonstrated that affective responses were more strongly associated with procedural justice than distributive justice among citizens who described their interactions with legal and managerial authorities.

A growing body of evidence reveals the significant effect of organizational justice on affect. Weiss et al.'s (1999) study showed that specific combinations of outcomes and procedures influenced several discrete negative emotions (e.g., anger, guilt). Krehbiel and Cropanzano (2000) replicated and extended that study by including more discrete emotions, such as joy, disappointment, frustration, and anxiety. Many other scholars (e.g., Brockner, De Cremer, Van den Bos, & Chen, 2005; De Cremer, 2004; Judge, Scott, & Ilies, 2006; Van den Bos et al., 2003) have subsequently reported a significant relationship between organizational justice and affective responses in lab experiments. Tabibnia, Satpute, and Lieberman (2008) provided convincing evidence of the affect-inducing nature of justice through brain activity observation. They found that fairness was associated with activity in the brain regions that regulate emotion.

Field studies have also found support for the influence of organizational justice on emotions. Barclay et al. (2005) differentiated between two types of negative emotion:

inward-focused (e.g., shame, guilt) and outward-focused (e.g., anger, hostility). They found that procedural justice and its interaction with outcome favorability influenced both types of negative emotion. Judge et al. (2006) reported that interactional justice negatively influenced employee hostility. Rather than examining discrete emotions, many scholars have focused on employees' positive and negative affect and found that organizational justice explains a sufficient amount of variance in such affect (Barclay & Kiefer, 2014; Chebat & Slusarczyk, 2005; Devonish, Kouvonen, & Coyne, 2012; Fox, Spector, & Miles, 2001; Kuo & Wu, 2012).

As discussed previously, justice climate perceptions are based on justice events jointly experienced by group members and the observation of the justice events of other members, in addition to individual experience (Rupp & Paddock, 2010). In the organizational justice literature, researchers have argued and found that affect is influenced not only by the individual's own fair treatment but also by the perceived procedural justice of the entire group or other group members (e.g., O'Reilly & Aquino, 2011; Reich & Hershcovis, 2015; van Zomeren, Spears, & Leach, 2004). For example, from their studies, De Cremer and Van Hiel (2006) concluded that the fair treatment of other group members constituted important social information for the shaping of one's own emotions. In their first study, which involved a case-scenario experiment, they found that whether a colleague was given a voice influenced participants' negative affect (i.e., feelings of anger or irritation). Their second study, which involved a cross-sectional survey, evaluated the relationship between an individual's perceptions of how others were treated and his or her own affective commitment (a proxy of affect) among employees from divergent backgrounds. De Cremer, Stinglhamber, and Eisenberger (2005) reported that people's emotional reactions to their own experience of procedural justice were modified by others' experiences with procedural fairness. Many recent studies (e.g., Reich & Hershcovis, 2015; Skarlicki & Rupp, 2010; Umphress et al., 2013) have highlighted emotional reactions of third parties to observed injustice. van Zomeren et al. (2004) also provided evidence that an individual's emotions were affected by his or her perception of the procedural justice for the group to which he or she belonged.

Scholars have begun to explain why an individual's affect is influenced by the fair treatment of others from a social emotion perspective (Blader et al., 2013; Umphress et al., 2013). This perspective contends that social emotions (e.g., empathy) align an individual's affect with a target's affect and emotionally engage individuals in affective events (Blader et al., 2013; Umphress et al., 2013). In other words, observers' emotional responses will be socially influenced by the victim's emotional state or condition and thus be congruent with the victim's reaction. With respect to justice climate, Dietz et al. (2003) found a relationship between procedural justice climate and workplace aggression and explained that a poor procedural justice climate caused negative emotions to spread within organization. They argued that emotional contagion led to negative affective tone, which in turn resulted in workplace aggression in the organization. In their theoretical discussion on the "black box" of justice climate, Mayer and Kuenzi (2010) also implied that emotional contagion and affective tone were possible explanations for the linkage between justice climate and group outcomes.

Extending this line of argument, I contend that emotional contagion accounts for the influence of procedural justice climate on individual affect, independent of the individual's perception of justice. Studies have increasingly emphasized the social nature of

affect (Barsade & Gibson, 1998; Kelly & Barsade, 2001). That is, individual affective experiences are generally shared and therefore spread among group members, a process referred to as “emotional contagion” (Hatfield et al., 1994; Schoenewolf, 1990).

A rich body of research has revealed the existence of emotional contagion in groups. For example, Totterdell, Kellet, Teuchmann, and Briner (1998) examined work groups of nurses and accountants and found that the moods of group members were related to one another, even after controlling for common work problems. Other studies have found significant mood convergence (Bartel & Saavedra, 2000; Totterdell, 2000). In their longitudinal study, Ilies et al. (2007) showed that an individual’s affective state was related to the average affective state of his or her other team members over time, after controlling for team performance. This finding provided supportive evidence for the emotional contagion process within teams. In a laboratory experiment of mood induced by a trained confederate, Barsade (2002) reported that emotional contagion influenced an individual’s emotions and behavior in addition to group dynamics. Leadership studies have also found that the positive and negative affect of leaders influence the affect of individual group members and the affective tone of entire groups through emotional contagion (e.g., Johnson, 2008; Sy, Côté, & Saavedra, 2005).

Individual affect is influenced by the treatment a person receives (Barclay & Kiefer, 2014; Barclay et al., 2005; Chebat & Slusarczyk, 2005). However, emotional contagion influences group members to automatically mimic and synchronize their emotional expressions and, thus, to have similar affective reactions to the treatment of the entire group (i.e., procedural justice climate). Individual affect is augmented or constrained by the affective reaction of the majority of group members (Barsade & Gibson, 1998; Kelly & Barsade, 2001). Therefore, procedural justice climate explains the additional variance in individual positive and negative affect beyond individual perception of justice.

Hypothesis 1a Procedural justice climate is positively related to individual positive affect, after individual procedural justice perceptions are controlled for.

Hypothesis 1b Procedural justice climate is negatively related to individual negative affect, after individual procedural justice perceptions are controlled for.

Procedural justice climate and group affective tone

Group affective tone refers to “consistent and homogeneous affective reactions within a group” (George, 1996: 77) and is usually described in terms of positive and negative affective tone. It represents a collective property of work groups (Bartel & Saavedra, 2000; George, 1990). Although not all groups possess an affective tone, a work group’s shared environment, similar work experiences, and social emotional influences lead to consistency or homogeneity in the group’s affective reactions (George, 1996). Procedural justice climate represents the treatment of the entire group and the socio-psychological environment shared by its members (Mossholder et al., 1998; Naumann & Bennett, 2000). Given the important role of emotional contagion in the formation of a group’s affective tone (Bartel & Saavedra, 2000; George, 1996), I argue that procedural justice climate is related to positive and negative affective tone through

emotional contagion, in the same way that it influences individual affect. Therefore, I hypothesize the following:

Hypothesis 2a Procedural justice climate is positively related to group positive affective tone.

Hypothesis 2b Procedural justice climate is negatively related to group negative affective tone.

Moderating role of susceptibility to emotional contagion

As discussed previously, emotional contagion accounts for the additive influence of procedural justice climate on individual affect beyond the individual perception of justice. If this argument is valid, an individual's susceptibility to emotional contagion should moderate the strength of the link between procedural justice climate and individual affect.

Because of differences in genetic factors, gender, early experiences, and personalities, individuals differ in the extent to which they are affected by the emotional reactions of others (Doherty, 1997). Highly susceptible individuals tend to perceive themselves as more interrelated with other team members and pay more attention to the emotional expressions of others (Hatfield et al., 1994). When facing the same emotional stimuli, highly susceptible people are more likely to mimic the facial, vocal, and postural expression of their team members; that is, their emotions become similar to the eliciting emotion (Doherty, 1997; Hatfield et al., 1994). In contrast, those with low susceptibility tend to perceive themselves as independent and unique and therefore are less affected by the emotions of others.

Prior research has found that susceptibility to emotional contagion influences many relationships. Ilies et al. (2007) reported that the relationship between an individual's affective state and the average affective state of his or her team members became stronger over time when the individual was more susceptible to emotional contagion than his or her counterparties. In a study of care providers, Wu and Hu (2009) also found that susceptibility to emotional contagion influenced the relationship between abusive supervision and emotional exhaustion in employees.

Therefore, I argue that the affective state of individuals who are highly susceptible to emotional contagion is more likely to be influenced by the treatment of the entire group, as these individuals perceive group members as interrelated and are more easily influenced by the affective state of other group members. Therefore, procedural justice climate may explain the additional variance in affect beyond that explained by an individual's perception of procedural justice. Because individuals with low susceptibility to emotional contagion are more emotionally independent, they are influenced primarily by their own treatment rather than the treatment of others. The additional influence of procedural justice climate on individual affect is therefore weaker for these individuals.

Hypothesis 3 Susceptibility to emotional contagion moderates the relationships of procedural justice climate with individual **(a)** positive and **(b)** negative affect, such

that the relationships are stronger for those with high susceptibility than for those with low susceptibility.

Moderating effect of task interdependence

Task interdependence refers to the degree to which group members must rely on and interact with one another to accomplish their work (Wageman, 1995). When the level of task interdependence is high, group members must perform their tasks with the information and materials provided by other group members (Kirkman & Shapiro, 2000). To accomplish their tasks, they must discuss the objectives, expectations, roles, and deliverables involved (Staples & Webster, 2008). High task interdependence makes intense interaction and collaboration necessary within a group (Jehn, 1995), and mutual adjustments among group members become natural (Wageman, 1995). Through the intensive interaction and communication required by high task interdependence, group members are more often exposed to and influenced by one another's emotions, and emotional contagion is more likely to occur (Bartel & Saavedra, 2000). In turn, emotional contagion accounts for the close association between the level of task interdependence and the degree of emotional convergence within a group (Bartel & Saavedra, 2000). If my argument about the important role of emotional contagion in the process is valid, task interdependence should moderate the relationship between procedural justice climate and group affective tone.

Hypothesis 4 Task interdependence moderates the relationships of procedural justice climate with group **(a)** positive and **(b)** negative affective tone, such that the relationships are stronger when the level of task interdependence is high rather than low.

Mediating roles of affect and affective tone

In their value, attitudes and moods model, George and Jones (1996) argued that moods constitute the third key dimension of the work experience, along with values and attitudes. Employees' thinking and behavior are intimately associated with how they feel in their organizations and therefore cannot be fully understood without considering affect (Zajonc, 2000). Studies have found that affect is related to a variety of employee attitudes and behavior. Three dependent variables (i.e., job satisfaction, turnover intention, and knowledge sharing as one type of prosocial helping behavior) were examined in the current study because they represent the core attitude or behavior toward job, organization, and colleagues, respectively. In addition, they are affect-driven outcomes that have been commonly examined in justice or justice climate research (e.g., Ansari et al., 2007; Liao & Rupp, 2005; Naumann & Bennett, 2000).

Satisfaction has also been examined in terms of its relationship to affect and is sometimes viewed as having an affective nature. For example, Locke (1976: 1300) defined job satisfaction as "a pleasurable or positive emotional state resulting from the appraisal of one's job or job experiences." However, satisfaction can also be a cognitive evaluation of one's organization. Thus, an employee's affect at work is an important antecedent of job

satisfaction (see Brief & Weiss, 2002; Fisher, 2000). No matter which view is held, job satisfaction is clearly an affect-relevant outcome variable.

Affect has long been linked to turnover intention. Individuals tend to maintain positive affect and avoid negative affect. Therefore, to the extent that they have a choice, people generally remain in situations in which they experience high positive affect and escape from situations in which they experience high negative affect (George, 1989). Several studies have reported that positive affect reduced turnover intention or actual turnover, and that negative affect increased it (e.g., George & Jones, 1996; Pelled & Xin, 1999).

Prosocial behavior is another frequently examined behavioral consequence of affect (George, 1991; Isen & Baron, 1991). In this study, I examine a specific prosocial behavior (i.e., knowledge sharing) in response to the call to examine a wider variety of affect and justice outcomes (Hillebrandt & Barclay, 2013). Knowledge sharing is one type of extra-role behavior adopted to help others in an organization (Yu & Chu, 2007). Employees may not always be willing to share their knowledge and information with others (Kankanhalli, Tan, & Wei, 2005; Lu, Leung, & Koch, 2006). Consistent with the well-accepted findings for the close relationship between emotions and helping behavior, many recent studies have argued and found that positive emotions facilitate knowledge sharing and that negative emotions prohibit it (e.g., Stefan & Linh, 2013; Van den Hooff, Schouten, & Simonovski, 2011).

Based on above discussion and previous research findings, I argue that when positive affect is high or negative affect is low, individual tends to have higher job satisfaction, more knowledge sharing behavior, and less turnover intention. Affective tone is a property of the group in which individuals work (Bartel & Saavedra, 2000) and has the potential to impact a wide variety of employee outcomes including prosocial behavior, withdrawal behaviors and well-being (George, 1990). Therefore, I propose that individual affect and group affective tone have similar influence on job satisfaction, knowledge sharing behavior and turnover intention. More formally stated:

Hypothesis 5 Individual positive affect is positively related to individual job satisfaction (H5a) and knowledge sharing behavior (H5b), and negatively related to turnover intention (H5c).

Hypothesis 6 Group positive affective tone is positively related to individual job satisfaction (H6a) and knowledge sharing behavior (H6b), and negatively related to turnover intention (H6c).

Hypothesis 7 Individual negative affect is negatively related to individual job satisfaction (H7a) and knowledge sharing behavior (H7b), and positively related to turnover intention (H7c).

Hypothesis 8 Group negative affective tone is negatively related to individual job satisfaction (H8a) and knowledge sharing behavior (H8b), and positively related to turnover intention (H8c).

Empirical studies have widely supported the close association of justice with job satisfaction, turnover intention (one common withdrawal behavior), and citizenship

behavior (Colquitt, Conlon, Wesson, Porter, & Ng, 2001; Lam, Loi, & Leong, 2013; Leung, Lin, & Lu, 2014). Research has also revealed that justice climate exerts cross-level influences on job satisfaction (Liao & Rupp, 2005; Mossholder et al., 1998), turnover intention (Ansari et al., 2007), and prosocial helping behavior or citizenship behavior (Lin & Leung, 2014; Yang et al., 2007). Procedural justice climate conveys signals about the benevolence and integrity of the organization and also about the status of the work unit (Lin & Leung, 2014). Therefore, employees in the context of high procedural justice climate are more likely to develop positive attitudes toward their jobs and organizations and be willing to stay and engage in prosocial behaviors that can help their organizations. The current study replicates the relationship between procedural justice climate and individual work attitudes and behaviors and attempts to account for the relationship from an affective perspective.

Scholars have emphasized that affect plays an important “explanatory” role in justice frameworks (Barclay & Kiefer, 2014). Several theories have implicated the mediating role of an individual’s affective state in the relationship between organizational justice and individual-level outcomes. Weiss and Cropanzano’s (1996) affective events theory emphasizes that work events elicit affective reactions, which play an important role in work attitudes and spontaneous affectively driven behavior, such as organizational citizenship behavior and work withdrawal. Situations in which individuals experience fairness or unfairness comprise one class of affective events. Affective experience is the core of affective events theory, which links justice-related affective events with employees’ attitudinal and behavioral outcomes.

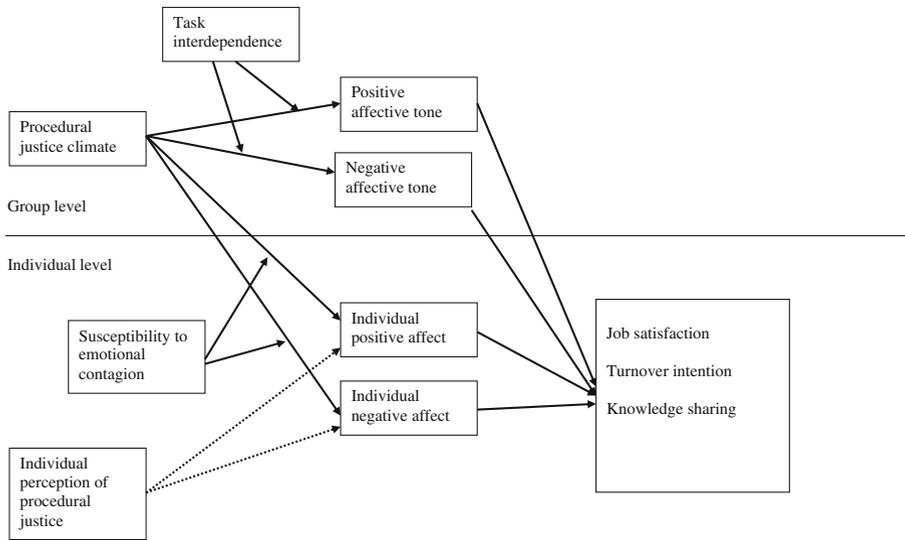
Affect control theory (Heise, 1979, 2002; MacKinnon, 1994) includes two important assumptions. First, individuals behave in such a way that their emotions are appropriate to their situations. Employees tend to express emotions such as sadness, anger, and/or disappointment when they are treated unfairly and happiness when they are treated fairly. Second, individuals create events to confirm the affect they have toward themselves and others in their current situation. For example, employees may react negatively by withdrawing in response to perceived unfair treatment, confirming their negative affect. Thus, the basic axiom of affect control theory (i.e., that people react to events in accordance with their affect in a certain situation) suggests the important mediating role of affective experience.

Building on theoretical arguments and supportive evidence (e.g., Barclay & Kiefer, 2014; Barclay et al., 2005; Chebat & Slusarczyk, 2005), I propose the following hypotheses for the mediating roles of individual affect and affective tone in the relationship between procedural justice climate and individual outcomes:

Hypothesis 9 Individual positive affect (H9a) and group positive affective tone (H9b) mediate the effects of procedural justice climate on job satisfaction, turnover intention, and knowledge sharing behavior.

Hypothesis 10 Individual negative affect (H10a) and group negative affective tone (H10b) mediate the effects of procedural justice climate on job satisfaction, turnover intention, and knowledge sharing behavior.

Figure 1 illustrates the overall proposed model.



Note: Dotted lines indicate that the relationships were controlled for but not proposed in the model.

Fig. 1 Proposed model. Note: Dotted lines indicate that the relationships were controlled for but not proposed in the model

Methodology

Participants and procedures

The data utilized in this study were obtained in a research program that examined the relationships between collective-level factors and individual outcomes. Volunteers who were supervisors of a work unit were recruited from a group of part-time MBA students and alumni of a university located in Shanghai, China. A work unit was defined as a group of individuals who worked together on the same shift and had a common supervisor (George, 1990; Liao & Rupp, 2005). According to this definition, one work unit could be a department, a division, or a functional group. I did not limit my sample to one specific type of group, because I believe that the variables and group dynamics examined in this study will not be contingent on the type of group. One key issue in studies of climate is that group members have sufficient social interactions and form shared perceptions of environment (James & Jones, 1974), so I emphasized that the group members should work together on the same shift and have a common supervisor. This definition and the criteria for selecting sample groups have been commonly used without considering the type of group (department, division, or functional group) in justice climate research (e.g., Cole et al., 2013; Liao & Rupp, 2005; Walumbwa et al., 2010).

The supervisors were asked to distribute employee questionnaires to all the members in their work unit without volitional selectivity and to complete the supervisor questionnaire themselves to evaluate the behavior of each member. A work unit was required to have no fewer than four and no more than 12 members. The group size should not be too small, to avoid possible instability in the data (Bryk & Raudenbush,

1992). In this case, the work unit was not large, because members in an especially large work unit are less likely to interact sufficiently to form similar perceptions and because too many members would make it impossible for supervisors to evaluate each member exactly and attentively. The supervisors were also asked to indicate the group size, and research assistants double-checked the questionnaires to ensure that all group members responded. The supervisor and employee questionnaires were matched to each participant according to ID numbers assigned in advance. Although the questionnaires were numbered, the employees were informed that their responses were anonymous and that their supervisors would not be allowed to see their answers. They were asked to put their completed questionnaire into an envelope that was prepared in advance and to seal it before returning it to their supervisors or mailing it directly to the research coordinator. The supervisors received a small compensation in return for their sets of completed questionnaires (one questionnaire from an employee and one from the supervisor).

The participants in the study comprised 364 employees from 63 work units. The work units ranged from 4 to 12 people. According to Raudenbush and Liu's (2000) suggestions about the optimal number of participants per group and number of group for multi-level studies, the sample size in my study is large enough to ensure satisfactory statistical power and is sufficient for balancing statistical power and cost.

The participants worked in a wide variety of industries. Most came from the manufacturing (19.1 %), education and training services (15.9 %), services (15.9 %), information technology (9.5 %), and trade (7.9 %) industries. The participating organizations were state owned (52.4 %), private companies (30.2 %), international joint ventures (12.7 %), or foreign invested (4.8 %). The companies comprised the following sizes based on number of employees: more than 1000 (12.7 %), 501–1000 (15.9 %), 201–500 (27.0 %), 101–200 (4.8 %), 51–100 (9.5 %), 21–50 (15.9 %), and fewer than 20 (14.3 %). The functions of the work units included production (4.8 %), human resources (3.2 %), finance (15.9 %), research and development (22.2 %), administration (12.7 %), support and service (23.8 %), and sales and marketing (17.5 %).

Of the participants, 42.1 % were men and 57.9 % women. The majority were categorized primarily as general staff (84.7 %), followed by supervisors (11.9 %), department managers (2.3 %), and senior managers (1.1 %). Most of the participants were 20–39 years of age, with 55.7 % aged 20–29 years, 30.9 % aged 30–39 years, 2.8 % aged less than 19 years, 7.5 % aged 40–49 years, and 3.1 % aged more than 50 years. The participants included those who finished only primary school (.6 %) or middle school (13.2 %); the remaining participants had received a college education or above. The organizational tenures were less than 1 year (23.9 %), 1–3 years (40.8 %), 4–6 years (18.3 %), 7–8 years (3.9 %), 9–10 years (3.6 %), and more than 10 years (9.4 %).

Measures

The supervisors evaluated the behavioral outcome (i.e., knowledge sharing), and the employee participants rated the other variables. The response matrix was seven-point Likert type (1 = strongly disagree; 7 = strongly agree) for all the variables, except for individual affect and knowledge sharing. Because the questionnaires were administered in the Chinese language, the “translation and back-translation” technology (Brislin,

1986; Maxwell, 1996) was used to ensure that the measurement items in Chinese conveyed the exact meanings of the original items in English, thus improving the validity and reliability of the research measures. Two people proficient in both English and Chinese served as translators. One person translated the English into Chinese first, and then the other person translated the Chinese back into English. They completed the work independently. Finally, one senior professor and the researcher worked together to compare the original English version with the back-translation version. If there was sufficient discrepancy between the two English versions in certain items, discussion took place to decide how to revise the corresponding items in the Chinese version.

Procedural justice climate Procedural justice climate was evaluated on the basis of a four-item scale developed by Mossholder et al. (1998). The scale was used to measure the employees' overall evaluation of procedural fairness and focused on four facets central to organization management: performance appraisal, raises, benefits, and working conditions. The sample item was "Overall, the procedures and policies used by your organization to handle performance appraisal in your work unit are fair." Cronbach's α was satisfactory (.86), and the four scores were averaged for each employee. To justify data aggregation to the group level, I assessed the within-group interrater agreement, indicated by r_{wg} (James, Demaree, & Wolf, 1984, 1993) and intraclass correlation coefficients (ICC(1) and ICC(2)). The median r_{wg} value for this construct was .84, well above the acceptable cutoff value of .70 (Chen, Mathieu, & Bliese, 2002). ICC(1) value can be interpreted as the percentage of the total variance in the construct can be explained by membership in different work units (Bliese, 2000). A median value of .12 for ICC(1) was found in organizational literature (Bliese, 2000) and ICC(1) values of .15 to .25 are "probably more realistic in applied settings and represent moderate and moderately high ICC values" (Bliese & Hanges, 2004: 410). The results showed that the between-group variance in procedural justice climate was sufficient for further cross-level analysis, as ICC(1) was .30, which is moderately high in organizational studies (Bliese & Hanges, 2004). ICC(2) predicts the reliability of the group mean. In other words, it shows whether the work units could be reliably differentiated on the constructs of interest. The reliability of the group mean was satisfactory, as ICC(2) was .71. Therefore, I averaged the scores for the members within each unit to create justice climate scores for the units.

Individual procedural justice perception I used the scale developed by Colquitt et al. (2001), which contained seven procedural elements. The following sample items were included: "I am able to express my views and feelings during the procedures that the organization uses to make decisions related to me" and "The procedures that the organization used to make decisions related to me were applied consistently." Cronbach's α of the scale was .86.

Individual affect I measured individual affect using the positive and negative affect scale developed by Mackinnon, Jorm, Christensen, Korten, Jacomb, and Rodgers (1999), which consists of five positive emotions ("inspired," "alert," "excited," "enthusiastic," and "determined") and five negative emotions ("afraid," "upset," "nervous," "scared," and "distressed"). The participants were asked to rate the extent to which they had experienced each emotion in the workplace recently on a seven-point

Likert scale (1 = very weak; 7 = very strong). Cronbach's α values for the positive and negative affect scales were .89 and .84, respectively.

Group affective tone I aggregated the positive and negative affect of the group members to form the scores for positive and negative group affective tone. I assessed the within-group agreement and between-group variance to justify the aggregation. I obtained median r_{wg} values of .81 and .83 for the positive and negative affective tones, respectively. ICC(1) and ICC(2) were .30 and .71 for the positive affective tone, respectively, and .13 and .47 for the negative affective tone, respectively. The ICC(2) of negative affective tone is relatively low but acceptable. Although the cutoff of ICC(2) generally recommended is .60 (Glick, 1985), the requirement on ICC(2) is relatively loose. Many published papers reported low ICC(2) values for group-level constructs which are below .50 (e.g., de Jong, Curşeu, & Leenders, 2014; Liao & Rupp, 2005; Yang et al., 2007).

Susceptibility to emotional contagion I measured the individual differences in susceptibility to emotional contagion using five items adopted from Doherty (1997). The original scale covered five basic emotions: "happiness," "love," "fear," "anger," and "sadness." and used three items to determine each participant's susceptibility to contagion for each emotion. To keep the questionnaire short, I chose one item with the highest factor load for each of the five emotions according to Doherty's (1997) results, producing a five-item scale. Following Bartel and Saavedra's (2000) suggestion, I replaced the item for "love" with one item for "excitement" to fit emotional contagion to the group context. The items included the following: "If someone I'm talking with begins to cry, I get teary-eyed"; "I tense up when overhearing an angry quarrel"; "Being around happy people fills my mind with happy thoughts"; "I notice myself getting tense when I'm around people who are stressed out"; and "I find it hard to remain calm when other group members are excited." The scale demonstrated acceptable reliability ($\alpha = .70$).

Task interdependence I assessed task interdependence using the three-item scale adopted by Kirkman and Shapiro (2000). The following sample item was included: "I believe that our group members' jobs are all related." Cronbach's α for this scale was .69. Because task interdependence was a group-level construct, I averaged the individual scores within a unit to form the score for the unit. The median r_{wg} value for the construct was .86, and ICC (1) and ICC (2) were .17 and .55, respectively.

Job satisfaction I used the three-item scale developed by Cammann, Fichman, Jenkins, and Klesh (1983) to measure the employees' overall job satisfaction. The scale items included the following assessments: "All in all, I am satisfied with my job"; "In general, I don't like my job" (reverse scored); and "In general, I like working here." Cronbach's α for this scale was .84.

Turnover intention I measured turnover intention using the three-item scale developed by Landau and Hammer (1986). The following sample items were included: "As soon as I can find a better job, I'll leave the organization"; "I am seriously thinking

about quitting my job”; and “I am actively looking for a job outside the organization.” The scale demonstrated satisfactory reliability ($\alpha = .81$).

Knowledge sharing I adopted the knowledge sharing items from van den Hooff and de Leeuw van Weenen (2004). Two of the items related to within-unit knowledge sharing, and the other two related to inter-unit knowledge sharing. The following items were included: “Shares the information he or she has with colleagues within/outside of the work unit” and “Shares his or her skills with colleagues within/outside of the work unit.” The supervisors evaluated the frequency with which the employees were involved in knowledge sharing on a 9-point Likert scale (1 = not at all; 9 = to an exceptional degree). Cronbach’s α for this scale was .95.

Results

Descriptive analysis

Table 1 shows the means, standardized deviations, and intercorrelations of the focal variables at the individual and group levels. At the individual level, positive affect was related to all three dependent variables (job satisfaction, turnover intention, and knowledge sharing). However, negative affect was related only to job satisfaction and turnover intention. At the group level, procedural justice climate was related to both positive and negative affective tones.

Table 1 Descriptive statistics and correlation matrix

Individual-level variables	Mean	SD	1	2	3	4	5	6	7
1. Procedural justice	4.63	.94	1						
2. Positive affect	4.52	1.10	.51**	1					
3. Negative affect	2.83	.99	-.25**	-.17**	1				
4. Susceptibility to emotional contagion	4.14	.97	.01	-.03	.17**	1			
5. Knowledge sharing	6.00	1.84	.06	.15**	-.05	-.11*	1		
6. Job satisfaction	5.06	1.07	.49**	.51**	-.33**	-.07	.03	1	
7. Turnover intention	3.17	1.25	-.45**	-.49**	.32**	.14**	-.08	-.59**	1
Group-level variables	Mean	SD	1	2	3	4			
1. Procedural justice climate	4.94	.74	1						
2. Positive affective tone	4.57	.72	.71**	1					
3. Negative affective tone	2.78	.54	-.37**	-.12	1				
4. Task interdependence	5.15	.57	.41**	.35**	-.05	1			

Correlation shown below the diagonal; * $p < .05$, ** $p < .01$. For individual-level variables, $n = 364$ individuals; for group-level variables, $n = 63$ groups

Measurement model

I conducted confirmatory factor analysis to test the construct validity of all measures at the individual level. Forty-one items for nine constructs (i.e., procedural justice climate, individual procedural justice perception, positive affect, negative affect, susceptibility to emotional contagion, job satisfaction, turnover intention, knowledge sharing, and task interdependence) were included in the measurement model and allowed to load on their intended latent variables. The nine factors were allowed to freely correlate. The nine-factor model showed an acceptable fit ($\chi^2 = 1298.04$, $df = 662$; CFI = .92; IFI = .92; RMSEA = .05). All the items had significant and adequate loadings on their intended factors. In contrast, the alternative one-factor model fit the data poorly ($\chi^2 = 3921.52$, $df = 698$; CFI = .59; IFI = .59; RMSEA = .11). The distinctiveness of the nine constructs was supported.

Hypothesis testing

I used HLM 6.06 to examine the cross-level relationships as proposed in Hypotheses 1a, 1b, 3a, 3b, and 5–10. Following Hofmann and Gavin's (1998) suggestions, I grand-mean-centered the predictors at level 1 in the models when I tested the main effects to adequately control for the influence of the variables. When testing the cross-level interaction effects, I used group-mean-centering for the individual-level variable to decrease the likelihood of confusing the cross-level and between-group interactions. I tested Hypotheses 2a, 2b, 4a, and 4b (i.e., the group-level relationship hypotheses) using hierarchical regression analysis. I mean-centered the predictors (procedural justice climate and task interdependence) before forming their interaction term.

As Table 2 shows, after the group-level factors (organization type and position of supervisor), the demographic variables (position, gender, age, organizational tenure, and educational level), and individual perception of procedural justice were controlled for, procedural justice climate was significantly associated with individual positive affect ($\gamma = .43$, $SE = .11$, $p < .001$), in support of Hypothesis 1a. However, procedural justice climate was not related to individual negative affect ($\gamma = .02$, n.s.). Therefore, Hypothesis 1b was not supported.

Table 3 shows the regression results for the group-level relationships after controlling for organization type and position of supervisor. The results indicate that procedural justice climate was positively related to group positive affective tone ($b = .69$, $SE = .09$, $p < .001$) and negatively related to negative affective tone ($b = -.26$, $SE = .09$, $p < .01$). Therefore, Hypotheses 2a and 2b were both supported.

To test the moderating role of susceptibility to emotional contagion in the effect of procedural justice climate on individual affect, I included susceptibility to emotional contagion as a level-1 predictor and examined whether the level-2 variable (i.e., procedural justice climate) had a function on its slope. As Table 2 shows, the interaction effect of procedural justice climate and susceptibility to emotional contagion on individual positive affect was marginally significant ($\gamma = .09$, $SE = .05$, $p = .065$). According to the results of a simple effect test, the effect of procedural justice climate on individual positive affect was relatively stronger when individual susceptibility to emotional contagion was high rather than low ($b = .51$, $SE = .10$, $p < .001$ vs. $b = .33$, $SE = .11$, $p < .01$), based on one standard deviation above and below the mean (Aiken

Table 2 Results for cross-level relationships between procedural justice climate and individual affect

	Dependent variable					
	Individual positive affect			Individual negative affect		
Intercept	4.53	4.53	4.53	2.79	2.79	2.79
Organization type: state-owned	-.14	-.01	-.01	.19	.20	.19
Organization type: joint venture	-.01	.05	.05	.60*	.60*	.60*
Organization type: wholly owned foreign enterprises	.43	.21	.21	-.08	-.09	-.08
Position of supervisor	-.05	-.09	-.09	.11	.11	.11
Position of employee	.12	.11	.11	-.00	-.00	.01
Gender	-.18	-.17	-.17	.03	.03	-.02
Age	.00	-.03	-.03	-.18*	-.18*	-.15
Organizational tenure	-.05	-.01	-.01	.14**	.14*	.14*
Education level	-.02	-.05	-.05	-.23*	-.23*	-.25**
Individual perception of procedural justice	.49***	.43***	.43***	-.27***	-.27***	-.29***
Procedural justice climate		.43***	.42***		.02	-.03
Susceptibility to emotional contagion			.01			.14*
Procedural justice climate × susceptibility to emotional contagion			.09 ^a			-.19**
Within-group variance	.73	.73	.73	.78	.78	.75
Between-group variance	.18	.12	.12	.08	.08	.09

$n = 364$ individuals nested within 63 groups. Coefficients (with robust standard errors) are presented. Organization type includes state-owned, joint venture, wholly owned foreign enterprise, and private organization. This variable was transformed into three dummy variables. ^a $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$, two-tailed

Table 3 Regression results for group-level relationships

	Dependent variable			
	Positive affective tone		Negative affective tone	
Intercept	4.55	4.31	2.43	2.47
Organization type: state-owned	.08	.12	.16	.18
Organization type: joint venture	.12	.16	.46*	.47*
Organization type: wholly owned foreign enterprises	.30	-.03	-.05	-.13
Position of supervisor	-.02	.04	.08	.07
Procedural justice climate	.69***	.80***	-.26**	-.31**
Task interdependence		.13		.16
Procedural justice climate × Task interdependence		.46***		-.03
R^2	.52	.60	.22	.25
ΔR^2		.08**		.03

$n = 63$ groups. Unstandardized coefficients are presented. The variable of Organization type was transformed into three dummy variables. ^a $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$, two-tailed

& West, 1991). Therefore, Hypothesis 3a was partially supported. Figure 2 provides a graphic representation of the moderating effect of susceptibility to emotional contagion. Table 2 also shows that the interaction effect of procedural justice climate and susceptibility to emotional contagion on individual negative affect was significant ($\gamma = -.19$, $SE = .06$, $p < .01$). As Fig. 3 illustrates, the relationship between procedural justice climate and individual negative affect was negative and significant when individual susceptibility to emotional contagion was high ($b = -.21$, $SE = .10$, $p < .05$) but was not significant when it was low ($b = .15$, $SE = .11$, n.s.), in support of Hypothesis 3b.

Hypotheses 4a and 4b pertain to the interaction effects of two group-level variables (procedural justice climate and task interdependence). Table 3 shows that their interaction effect on group positive affective tone was significant ($b = .46$, $SE = .14$, $p < .01$). According to the results of a simple effect test, the relationship between procedural justice and group positive affective tone was stronger when the level of task interdependence was high rather than low ($b = 1.06$, $SE = .15$, $p < .001$ vs. $b = .54$, $SE = .10$, $p < .001$). Figure 4 illustrates the pattern of results providing support for Hypothesis 4a. However, Hypothesis 4b was not supported. As Table 3 shows, the interaction effect of procedural justice climate and task interdependence on group negative affective tone was not significant ($b = -.03$, $SE = .14$, n.s.).

Table 4 shows the results of testing Hypotheses 5–10. Hypotheses 5a–6c, which refers to the relationships between individual positive affect/group positive affective tone and the outcome variables, were all supported. Individual positive affect was significantly associated with the three dependent variables when all of the controls were included (satisfaction: $\gamma = .34$, $SE = .06$, $p < .001$; turnover intention: $\gamma = -.37$, $SE = .07$, $p < .001$; knowledge sharing: $\gamma = .22$, $SE = .08$, $p < .01$). Similar results were found for group positive affective tone (satisfaction: $\gamma = .36$, $SE = .10$, $p < .001$; turnover intention: $\gamma = -.44$, $SE = .13$, $p < .001$; knowledge sharing: $\gamma = .57$, $SE = .27$, $p < .05$).

Individual negative affect was found to be related to job satisfaction ($\gamma = -.21$, $SE = .05$, $p < .001$) and turnover intention ($\gamma = .21$, $SE = .07$, $p < .01$), but not knowledge sharing ($\gamma = -.01$, $SE = .10$, n.s.). Group negative affective tone had similar

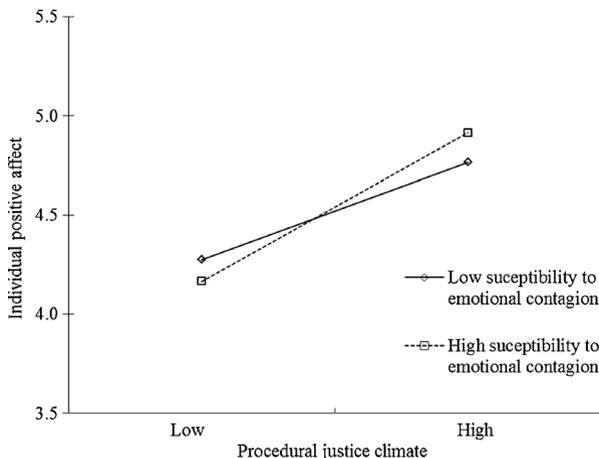


Fig. 2 The moderating effect of susceptibility to emotional contagion on the relationship between procedural justice climate and individual positive affect

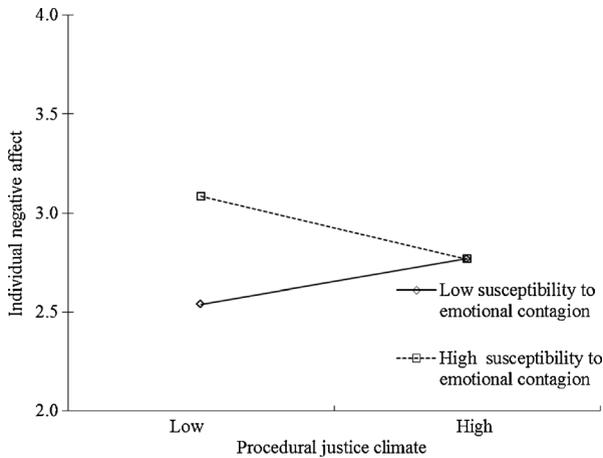


Fig. 3 The moderating effect of susceptibility to emotional contagion on the relationship between procedural justice climate and individual negative affect

relationships to the outcome variables (satisfaction: $\gamma = -.33$, $SE = .13$, $p < .05$; turnover intention: $\gamma = .41$, $SE = .15$, $p < .01$; knowledge sharing: $\gamma = -.29$, $SE = .28$, n.s.). Therefore, Hypotheses 7a, 7c, 8a and 8c were supported, but Hypotheses 7b and 8b were not.

Table 4 indicates that procedural justice climate accounted for the variance in turnover intention ($\gamma = -.32$, $SE = .14$, $p < .05$) beyond the variance explained by individual perception of procedural justice. Although the relationships between procedural justice climate and job satisfaction and knowledge sharing were not significant, I tested their indirect relationships through individual affect and affective tone as well because, in doing so, no assumption is made about significant total effects (Mathieu & Taylor, 2007; Preacher & Hayes, 2004). Using the coefficient from the previous analyses, I adopted the bootstrapping method with 1000 samples to estimate the bias-

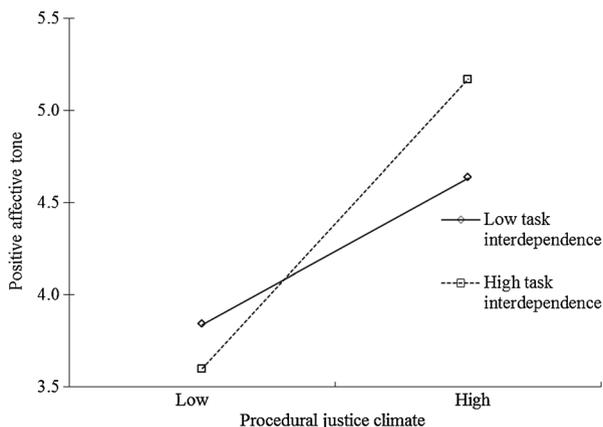


Fig. 4 The moderating effect of task interdependence on the relationship between procedural justice climate and positive affective tone

Table 4 Results for the effects on the outcome variables

	Dependent variable								
	Job satisfaction			Turnover intention			Knowledge sharing		
Intercept	5.06	5.05	5.08	3.16	3.17	3.14	6.10	6.09	6.10
Organization type: state-owned	.08	.12	.11	.02	-.03	-.01	-.38	-.38	-.38
Organization type: joint venture	-.19	-.08	-.06	.32	.22	.18	-.58	-.58	-.51
Organization type: wholly owned foreign enterprises	.21	.14	.16	-.36	-.26	-.26	1.21	1.15	1.03
Position of supervisor	.02	.08	.07	-.04	-.10	-.10	.15	.17	.19
Position of employee	.05	.01	.06	.18	.23*	.18	.51**	.49**	.51**
Gender	.01	.08	.05	-.03	-.10	-.09	.15	.18	.16
Age	.04	.01	.06	-.22*	-.20**	-.25**	.18	.18	.19
Organizational tenure	-.10*	-.07	-.10*	.08	.05	.08	.08	.09	.09
Education level	-.13	-.16	-.17	.06	.08	.10	.30	.31*	.29
Individual perception of procedural justice	.49***	.29***	.46***	-.47***	-.25**	-.43***	.09	-.01	.08
Procedural justice climate	.11	-.04	-.21	-.32*	-.17	.06	.00	-.10	-.46
Positive affective tone			.36**			-.44***			.57*
Negative affective tone			-.33*			.41**			-.29
Individual positive affect		.34***			-.37***			.22**	
Individual negative affect		-.21***			.21**			-.01	
Within-group variance	.80	.68	.79	1.08	.95	1.08	1.71	1.70	1.71
Between-group variance	.09	.07	.06	.12	.10	.06	1.46	1.42	1.43

n = 364 individuals nested within 63 groups. Coefficients (with robust standard errors) are presented. The variable of Organization type was transformed into three dummy variables. ^a *p* < .10, * *p* < .05, ** *p* < .01, *** *p* < .001, two-tailed

corrected confidence intervals at the 95 % confidence level (Stine, 1989). The indirect effect is significant when the confidence interval does not contain zero (Edwards & Lambert, 2007). The results provide support for the indirect effects of procedural justice climate on job satisfaction, turnover intention, and knowledge sharing through positive affect, though the strength of the effects varied across high and low levels of susceptibility to emotional contagion, respectively: procedural justice climate → positive affect → job satisfaction: [.09, .26] and [.03, .21]; procedural justice climate → positive affect → turnover intention: [-.29, -.09] and [-.22, -.04]; and procedural justice climate → positive affect → knowledge sharing: [.03, .21] and [.01, .16]. I found similar results for the indirect relationships through group positive affective tone for high and low task interdependence, respectively: procedural justice climate → positive affective tone → job satisfaction: [.17, .63] and [.08, .33]; procedural justice climate → positive affective tone → turnover intention: [-.81, -.20] and [-.41, -.09]; and procedural justice climate → positive affective tone → knowledge sharing: [.05, 1.23] and [.04, .63]. Therefore, Hypotheses 9a and 9b were generally supported.

The indirect relationships between procedural justice climate and job satisfaction and turnover through individual negative affect were only significant when individual susceptibility to emotional contagion was high, but not when it was low: procedural justice climate \rightarrow negative affect \rightarrow job satisfaction: [.004, .10] and [-.08, .01]; and procedural justice climate \rightarrow negative affect \rightarrow turnover intention, [-.10, -.0002] and [-.01, .09]. The indirect effects of procedural justice climate on job satisfaction and turnover intention through group negative affective tone were also supported: procedural justice climate \rightarrow negative affective tone \rightarrow job satisfaction: [.02, .18]; and procedural justice climate \rightarrow negative affective tone \rightarrow turnover intention: [-.23, -.02]. Therefore, Hypotheses 10a and 10b were generally supported, except for the indirect effect of procedural justice climate on knowledge sharing.

Discussion

In this paper, I argued for the important role of emotional contagion in the influence of procedural justice climate on individual outcomes, which is well supported by the findings. I found that procedural justice climate was related to group positive and negative affective tone and that it accounted for the variance in individual positive affect after controlling for the perception of individual procedural justice. I also found that individual susceptibility to emotional contagion and task interdependence strengthened the relationships between procedural justice climate and individual affect and group affective tone, respectively. The indirect effects of procedural justice climate on the individual outcomes, including job satisfaction, turnover intention, and knowledge sharing, through group affective tone and individual affect were also generally supported, and the strength of the indirect effects varied across different levels of moderators (susceptibility to emotional contagion and task interdependence).

Procedural justice climate was not associated with individual negative affect after individual perception of procedural justice was controlled for, suggesting that an employee's negative affect is more likely to be influenced by personal treatment rather than the treatment of the whole work unit. One explanation may be that individuals desire to obtain and maintain positive emotions and avoid experiencing negative emotions (Hillebrandt & Barclay, 2013; Van Kleef, De Dreu, & Manstead, 2010). Unfair personal treatment may unavoidably stimulate individual negative affect (e.g., Barclay et al., 2005; Chebat & Slusarczyk, 2005). Employees with negative affect resulting from unfair personal treatment may subconsciously or consciously try to relieve the negative affect and prevent it from worsening, due to the unfair treatment of other group members. Procedural justice climate influences only the negative affect of individuals who are highly susceptible to emotional contagion.

Task interdependence was found to moderate the relationship of procedural justice climate with group positive affective tone, but not with group negative affective tone. One possible explanation for the latter result is that negative affect caused by group-wide negative events maybe more easily spread within group, even when task interdependence is low. This possibility should be examined in the future research.

Theoretical implications and future research

The research findings provide important theoretical implications to justice literature and research on affect. Although accumulating evidence indicates support for the effects of justice climate on individuals' attitudes and behavior beyond the effects of individual justice perceptions, studies on the psychological processes underlying these effects remain scarce. An exception is Lin and Leung (2014), who focused on the mediating role of cognitive perceptions; conversely, the current paper addresses this research question from the affective perspective. The study results also suggest the boundary conditions for the affective mechanism. That is, the mediating role of affect is more operative when emotional contagion occurs. Additional research is called for to explore the psychological dynamics of the justice climate from different perspectives and to integrate different mechanisms.

The results provide supportive evidence for the affect-inducing nature of organizational justice (e.g., Barclay et al., 2005; Cropanzano et al., 2000; Weiss et al., 1999). During the past several decades of justice research, the affective system has not been adequately addressed (Hillebrandt & Barclay, 2013). Further research considering the affective system should provide a more complete picture of the effects of organizational justice and justice climate. The current paper focuses on procedural justice climate. Given the social and affect-relevant nature of interactional justice (e.g., Umphress et al., 2003), it would be worthwhile to examine whether the pattern of results also applies to the interactional justice climate. Echoing Barclay and Kiefer (2014), I also argue that positive and negative affect should be examined simultaneously in justice research, because individuals may react to justice event with both positive and negative affect and behavior outcomes are deferentially related to positive and negative affect.

The findings also offer support to affective events theory (Weiss & Cropanzano, 1996) and affect control theory (Heise, 1979, 2002; MacKinnon, 1994) by showing that individual affect and group affective tone transmit the influence of procedural justice climate on individual outcomes. These theories focus on how specific events elicit individual moods and emotions, leading to individual attitudinal and behavioral reactions. The results reveal that in addition to direct individual events, collective treatment influences individual affect and outcomes through the emotional contagion process. This suggests an important extension of these theories that must consider the process of within-group dynamics. Li, Ahlstrom, and Ashkanasy (2010a) conducted multi-level studies and emphasized the importance of examining how systematic differences elicit various affective responses. A fruitful direction for research would be to explore how group- or organization-level events interact with situational factors (e.g., culture, norms, job design) or individual factors (e.g., attributes, values) to influence individual affect.

To confirm the role of emotional contagion in the influence of procedural justice climate, I argue and find that susceptibility to emotional contagion and task interdependence can moderate the influence of procedural justice climate on individual affect and group affective tone, respectively. I consider only the factors associated with implicit affect sharing through a relatively subconscious process (Kelly & Barsade, 2001). In addition to implicit processes, affect can be shared through explicit processes. "Emotion inducers" intentionally influence the emotions of others to achieve a specific goal, especially among group leaders. "Emotion recipients" compare their moods with those of others in their environment and form and regulate their emotions according to

what seems appropriate for their situation. They do this to avoid being evaluated negatively by others or to please others (De Cremer & Van Hiel, 2006; Fisher, Manstead, Evers, Timmers, & Valk, 2004). Future research might explore the roles of the contextual factors associated with the explicit emotional sharing process in the justice climate effect, such as group norms of emotional expression and the ability of team leaders or high-status members to infect others emotionally.

It is likely that the attitudes and behavior I examine in this paper (job satisfaction, turnover intention, and knowledge sharing) are affect driven. They are certainly all related to individual affect and group affective tone. The results show that knowledge sharing is only associated with positive affect/affective tone, but not with negative affect/affective tone. These results replicate those of previous studies (e.g., Barclay & Kiefer, 2014; Johnson, 2008) and suggest that positive affect is more predictive of positive and approach-related behavior. Future studies should examine negative and counterproductive behavior to explore whether negative affect/affective tone can play a more important role in mediating the effects on negative outcomes. Not all behavior is affect driven (Weiss & Cropanzano, 1996). Careful and precise analyses of specific behavioral outcomes are required in research on the mediating influence of affect (Weiss et al., 1999).

Practical implications

The findings suggest that individual affect can be influenced not only by individual treatment but also by how the work unit is treated (i.e., justice climate) because of emotional contagion. Group affective tone is also related to justice climate. Organizations need to ensure fair treatment to groups or departments to avoid the spread of negative emotions within the group and negative reactions from employees.

In realizing that affect and group affective tone influence individual attitudes and behavior, managers should find ways to arouse positive affect of employees and diffuse it to others. For example, positive reinforcers (material or psychosocial) should be provided to employees when they gain some achievement and transmit good news through different formal and informal channels. It would also be useful to organize some social events for employees to share happiness. Although some negative emotions in the workplace are unavoidable, managers should be sensitive to employees' negative emotions and stop their diffusion. Rumors should be clarified before they spread.

Limitations

Although the findings offer general support to the hypotheses, this paper presents some limitations. First, I used a sample taken from one culture, which made it impossible to examine the cultural influence in the process. Culture clearly influences emotional experience and emotional contagion (Kimura et al., 2008; Mondillon, Niedenthal, Brauer, Rohmann, Dalle, & Uchida, 2005). For example, collectivist tendencies can strengthen the affective linkage among team members (Ilies et al., 2007; Kimura et al., 2008), suggesting a stronger role for emotional contagion in the justice climate among

the Chinese participants. In highly individualist cultures, people are socialized to emphasize the self, and thus the influence of procedural justice climate on individual reactions through emotional contagion will be weak. Therefore, it would be worthwhile for research to replicate this study in other cultural contexts or to examine whether cultural factors can affect the relationships by examining cultural factors. Second, most of the variables in the model I used (except for knowledge sharing) were collected from the same source (i.e., employees), raising concerns about common method variance. The operationalization of the group-level variables (procedural justice climate, task interaction, and affective tone) involved aggregating individual perceptions to the unit level, which fortunately mitigated the amount of perception–perception inflation to some extent (Liao & Rupp, 2005). In terms of the interaction effect, concerns about common method variance should be reduced. Indeed, common method variance undermines the ability to detect interaction effects (Evans, 1985; McClelland & Judd, 1993). Nevertheless, it would be valuable to evaluate the findings according to data taken from multiple sources. Third, although the cross-sectional design is quite common in studies that examine perception–affect–outcome relationships (e.g., Barclay et al., 2005; Chebat & Slusarczyk, 2005; Devonish et al., 2012; Fox et al., 2001), such design cannot determine any causal relationships because the temporal nature of association cannot be established. Longitudinal research should be conducted in the future to examine the causality of the relationships between constructs and to determine how these relationships develop and unfold over time.

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