THE FORMATION AND CHANGE OF OVERALL JUSTICE PERCEPTIONS:
CONSIDERATION OF TIME, EVENTS, AND AFFECT

BY

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DISSERTATION

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ABSTRACT

This dissertation investigated change in overall justice perceptions over time and several dynamic predictors that influence such change. Using event sampling methodology, employees were sampled one week prior to beginning a new job with a new organization, and then weekly for four months. Multi-group confirmatory factor analysis revealed no change in individuals' conceptualization of overall organizational justice (i.e., no beta and gamma change was detected). A quadratic curve was detected via multilevel modeling, representing the average participant's overall justice trajectory over time. Overall justice showed significant lagged effects. Incidental affect (i.e., contextual affect unrelated to justice), and the average event-based justice evaluations were found to co-vary with overall organizational justice over time. Person-mean level contextual affect and event-based justice evaluations also predicted between-person variations in overall organizational justice. Contrary to the peak-end rule, the person means of justice evaluations and affective reactions were better predictors of overall justice than the peaks (the most unfair ratings, and most extreme affective reactions). Limitations and implications for future research are discussed.

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CHAPTER 1: INTRODUCTION

In matters of truth and justice, there is no difference between large and small problems, for issues concerning the treatment of people are all the same.
-Albert Einstein

One important goal of organizational justice research is to discover the causes and consequences of people's justice perceptions at work. Several decades of organizational justice research have uncovered different types / dimensions of justice perceptions, including distributive justice, procedural justice, and interactional justice, as well as their deep influences on various attitudinal and behavior outcomes (Colquitt, Conlon, Wesson, Porter, & Ng, 2001; Cohen-Charash & Spector, 2001). Yet, these insights have been predominantly based on cross-sectional findings, where the causes and consequences of justice perceptions are investigated at the between-person level. Further progress may come from studying organizational justice as a dynamic process (i.e., as a perception formation process), where the relationships between justice and its dynamic correlates in the work environment are investigated (Guo, Rupp, Weiss, & Trougakos, 2011).

The present study investigates the form of change of justice perceptions over time and its dynamic relationships with several predictors - past justice perceptions, contextual affect, and justice-related events. More specifically, I focus on overall organizational justice perceptions, a justice construct recently proposed that refers to people's overall evaluations of fairness experiences at work (Ambrose and Schminke, 2009; Greenberg, 2001). One reason for focusing on overall justice perceptions is that there are many unexplored research questions related to overall justice perceptions, as researchers have only recently started to investigate this construct. Another reason is that some researchers

propose that overall justice perceptions , as surveyed by researchers, more closely resemble naturally formed perceptions as compared to scores on procedural, distributive, and interactional justice surveys (Ambrose and Schminke, 2009; Lind, 2001a, 2001b; Greenberg, 2001).

This dissertation has two major goals. The first is to examine how justice perceptions change over time. There are only a few longitudinal studies of justice perceptions and most of them are about justice perceptions toward one particular event over several time points (e.g., Ambrose & Cropanzano, 2003; Lilly, Virick, & Hadani, 2010). The study conducted by Holtz and Harold (2009) is an exception, which collected participants' overall justice perceptions three times over a 12-week period. The authors found that there was significant variability in overall justice over time and trust was a strong predictor for this variability. My study builds on this research by sampling more time points (I sampled participants weekly for four months), and by surveying participants before they start their jobs to establish a baseline. I expect to find significant within-person and between-person variations in overall justice perceptions. I also investigate both the form of change (i.e., linear vs. quadratic change) over time via a multilevel modeling framework, as well as the nature of the change via the alpha, beta, gamma framework (Golembiewski, Billingsley, and Yeager, 1976).

My second major goal is to examine the dynamic predictors of overall justice perceptions. Though past research has examined the effects of time-invariant predictors on the change of justice perceptions over time (e.g., specific justice types and trust, Holtz & Harold, 2009), the effect of time-varying predictors have not been examined. Drawing insights from the attitude-as-construction view (Koriat & Adiv, 2011; Schwarz & Bohner,

2001; Schwarz 2007), feelings-as-information perspective (Schwarz 2007; Schwarz & Bohner, 2001; Schwarz & Clore, 2007), fairness heuristic theory (Lind, 2001a), as well as the person-centric model of organizational justice (Guo et al., 2011), I examined the effects of three dynamic predictors: Justice perceptions at a previous time point; incidental affect (i.e., contextual affect not related to justice); and justice evaluations and affective reactions associated with recently occurring justice-related events. I propose that all three dynamic predictors contribute to within-person variability in overall justice perceptions. Moreover, the average level of contextual affect is also hypothesized to contribute to between-person differences in overall justice perceptions.

I further investigate how justice-related events influence overall justice perceptions via the peak-and-end framework (Fredrickson, 2000; Kahneman, Wakker, & Sarin, 1997). I asked participants to list up to five events that happened during the previous week, every week for four months. Following each event, participants were asked to evaluate the fairness of the event as well as their emotional reactions to it. This allowed me to test for peak-and-end effects in terms of both cognitive (most unfair) and affective (most emotionally arousing) peaks.

The dissertation is organized as follows. Theoretical background and hypotheses are provided in Chapter 2. Methods and results are presented in Chapter 3 and Chapter 4, respectively. The dissertation ends with a discussion of the strengths and limitations of the study, as well future research directions.

CHAPTER 2: THEORETICAL BACKGROUND AND HYPOTHESES

Overall Organizational Justice

The term "organizational justice" is a blanket terms that refers to employees' fairness perceptions (Greenberg, 1987, 2009). Early research in this area focused on workers' fairness perceptions toward outcome distributions as well as the procedures used to determine outcomes allocations. These two types of justice perceptions have been referred to as distributive justice (DJ; Adams, 1965; Leventhal, 1976) and procedural justice (PJ; Leventhal, 1980; Thibaut & Walker, 1975), respectively. Interactional justice (IJ) was later proposed to account for the perceived fairness of interpersonal treatment when procedures are implemented (see Bies, 2001 for a review of the history of interactional justice). Nowadays, it has been established that interactional justice can be further divided into two dimensions, with interpersonal justice referring to the fairness of interpersonal treatment and informational justice referring to the fairness of explanations or information provided about the procedures or outcomes (Colquitt, 2001). The study of the above-mentioned types of justice has dominated the literature over the decades, and the influence of these justice facets on different attitudinal and behavioral variables at work has been established meta-analytically (Colquitt et al., 2001; Cohen-Charash & Spector, 2001).

Looking at justice from the perspective of the DJ-PJ-IJ taxonomy renders a natural focus on the justice perceptions toward specific events, such as job interviews (Chapman, Uggerslev, & Webster, 2003), performance appraisals (Taylor, Tracy, Renard, Harrison, & et al., 1995), and smoking bans (Greenberg, 1994). For example, we can naturally talk about fairness perception towards the outcome of the performance appraisal,

the procedure by which it is carried out, and the interpersonal treatment during the implementation process. This approach to the study of justice has been termed *event* paradigm, where events can be seen as fair or unfair (Cropanzano et al., 2001; Rupp & Cropanzano, 2002).

More recently, new justice-related constructs and frameworks have been proposed. For example, the multi-foci justice perspective argues that we not only form justice perceptions of specific events, but we also form justice perceptions toward the parties responsible for the (un)fair events (e.g., supervisors, co-workers, and customers; Cropanzano et al., 2001; Rupp & Cropanzano, 2002). This approach to the study of justice has been termed *social entity* paradigm, where different social entities can be seen as fair or unfair (Cropanzano et al., 2001; Rupp & Cropanzano, 2002).

Another form of justice is overall justice, which refers to a holistic judgment about the fairness of one's overall work experience, aggregated across events and parties (Ambrose & Schminke, 2009; Greenberg, 2001). Because this dissertation explores the natural formation of justice perceptions, I focus on overall justice as the dependent variable, and work backwards to explore how the experience of events and encounters influences overall justice perceptions, over time.

The Form of Change in OOJ Perceptions Over Time

The importance of time in studying work-related variables and their relationships with each other has long been recognized (George & Jones, 2000; Hulin, Henry, & Noon, 1990; Roe, 2008). Despite this awareness, the role of time in human behavior is still largely neglected (Roe, 2008). Within organizational justice research, with some notable exceptions (e.g., Ambrose & Cropanzano, 2003; Holtz & Harold , 2009; Lilly, Virick, &

Hadani, 2010), the majority of research is cross-sectional in nature. As there is evidence

that people's justice perceptions toward a specific event (Ambrose & Cropanzano, 2003;

Lilly, Virick, & Hadani, 2010) as well as a particular social entity (Holtz & Harold , 2009)

do change over time, it is necessary to study justice perceptions over time to better

understand people's justice experiences at work.

One reason to expect change in justice perceptions over time involves *information*

acquisition. For example, Ambrose and Cropanzano (2003) proposed that new or novel

information acquired over time changed participants' procedural and distributive justice

perceptions toward tenure and promotion decisions, which they then supported

empirically. Because overall justice perceptions are thought to be influenced by event-

level perceptions (Rupp & Paddock, 2010), and because event-level judgments are

thought to change over time (Ambrose & Cropanzano, 2003), it becomes of increased

importance to track discrete, naturally occurring events, longitudinally, to more

completely understand the justice perception formation process.

A second reason that change in justice perceptions over time would be expected

involves heuristic processing. Fairness heuristic theory (Lind, 2001a) argues that fairness

judgments are formed quickly using whatever justice-related information is available at

the time (the primary effect). These perceptions are said to stay relatively stable unless a

phase-shifting event pushes the fairness judgment back to the formation phase (Lind &

van den Bos, 2002; van den Bos & Lind, 2002). According to Lind (2001a), two classes

of events may be considered phase-shifting. The first are events that signal that a

relationship is changing (e.g., a layoff, a change of supervisor, etc.). The second are

events that fall far outside of what is expected based on current justice perceptions (e.g., with no prior warning, a university president closes down an entire institute).

The information acquisition perspective would suggest gradual change in justice perception, even with the introduction of new, relatively mundane information (Ambrose & Cropanzano, 2003). Fairness heuristic theory on the other hand suggests change only when events are salient enough to be phase-shifting (Lind, 2001a). However, empirical research to date has yet to test these opposing predictions or demarcate where mundane events stop and phase shifting event begin.

The most insightful study to date on this issue was conducted by Holtz and Harold (2009), who tested for and detected significant within-person variability in employee justice perceptions over time. Employees' overall justice perceptions were measured three times over a 12-week period, with a four-week interval between consecutive surveys. This study found that 24% of the total variance in overall organizational justice was within persons, and that there was a small negative linear tread in justice perceptions over time. In my dissertation, I sought to first provide further evidence for within-person change in employees' overall justice perceptions, over a longer period of time and with an increased number of observations.

> *Hypothesis 1:* There will be significant within-person variation in participants' overall organizational justice perceptions over time.

In addition to replicating the findings of Holtz and Harold (2009), I also seek to extend this work by exploring the specific format of within-person change in OOJ perceptions. Because of my relatively large number of data collection points, it is possible to explore more complex form of change rather than linear change alone (e.g., quadratic change). For a linear change model, the focal variable is assumed to have a

constant rate of increase or decrease over the surveyed period. For a quadratic change model, however, the rate of change over time is not the same. As participants were surveyed weekly since one week before starting their jobs until the end of their four-month employment, it is possible that overall justice had a varying rate of change over time. For example, it is possible that overall justice decreases at a higher rate at the beginning of the survey period, and over time, the decrease will slow down. It is also possible that overall justice begin to reverse the trend of decrease at a particular time point due to more understanding of the organization. A quadratic change model may summarize this type of change succinctly.

Alpha, Beta, and Gamma Change

Another way I explore the nature of perceptual change in justice perceptions over time requires a between-person investigation. Golembiewski and colleagues (1976) classified perceptual change into three categories: alpha, beta, and gamma. *Alpha change* refers to a shift in the level of the construct without change in either the definition of the construct or its measurement scale. For example, an individual might move from "neutral" to "unfair" in his/her ratings over a two-week period, reflecting nothing more than a shift in perception (i.e., both his/her conceptualization of fairness, and the meaning associated with the rating scale have stayed the same).

Beta change involves a shift in the respondent's use of the measurement scale. In other words, an event that an employee might initially rate as unfair, at a later time might be rated as neutral (i.e., the same scale anchor is interpreted differently). In this case, if we examine the observed mean difference in justice perceptions, we would say that perceptions had changed. However, if we consider the recalibration of the measurement

scale, we would conclude the opposite--that actually no real change in justice perception had occurred.

Gamma change involves a reconceptualization of the construct itself. In such cases, respondents would completely revise their initial understanding of justice and therefore, all else equal, respond to the same items differently due to a fundamental change in their meaning. When gamma change is expected, it is not meaningful to compare ratings on the same construct measured at different time points (Golembiewski et al., 1976; Schmitt, 1982).

Given the above definitions, it is clear that beta and gamma change indicate violations to measurement equivalence (or measurement invariance; Drasgow, 1984, 1987), where a variable is related to the underlying construct differently at different measurement occasion. As such, beta and gamma change can be tested under the framework of confirmatory factor analysis (CFA), or the more general mean and covariance structure (MACS; Sörbom, 1974; Vandenberg & Lance, 2000; e.g., Nye, Brummel, & Drasgow, 2010; Schaubroeck & Green, 1989; Schmitt, 1982; Vandenberg & Self, 1993). According to past research (Schaubroeck & Green, 1989; Schmitt, 1982; Vandenberg & Self, 1993), change of factor structure over time would be an indication of gamma change; the inequality of factor loadings or factor variance over time would indicate beta change. When neither gamma or beta change occurs, alpha change can be detected by testing latent mean differences over time.

Although gamma change has been found in past organizational research (e.g., newcomer commitments in Vandenberg & Self, 1993), I expect alpha but not beta or gamma change in overall justice perceptions in the current study for a number of reasons.

First, according to the deontic perspective (Cropanzano, Goldman, & Folger, 2003; Folger, 1998, 2001), justice is a universally held and evolutionarily based norm of conduct and people may react to injustice automatically, compelled by an innate moral principle. Therefore, justice should be a common concept in people's everyday life. Even participants entering the workplace for the first time should have a clear understanding of fairness through previous experiences. Several months of work experience is unlikely to fundamentally shift how they conceptualize justice. Moreover, although major justice-related events may lead to beta or gamma for a particular participant, I expect mostly everyday events to happen in the data collection period. As the alpha, beta, gamma change are tested based on sample correlations, even if beta or gamma change occurred for a small number of participants, it will probably not influence the result at the group level.

> *Hypothesis 2:* There will be significant (between-persons) alpha, but not beta or gamma change in participants' overall organizational justice perceptions over time.

Dynamic Predictors of OOJ Perceptions

If OOJ changes over time, what are the possible predictors that contribute to this change? The only longitudinal study on overall justice perceptions explored specific justice dimensions and trust as predictors of perceptual change (Holtz & Harold, 2009). More specifically, trust was found to explain both within-person and between-person variance in OOJ, such that between-persons, those with higher initial trust showed higher initial OOJ, but within-persons, those with higher initial trust showed larger decreases in overall justice over time. Controlling for the effect of trust, specific justice dimensions explained between-person differences in initial OOJ. In the current study, I propose to

study a set of dynamic factors that contribute to the changes in OOJ perceptions over time. More specifically, I propose that OOJ measured at a particular time point is related to (1) OOJ reported at a previous time point (lagged effect of OOJ), (2) participants' contextual affect at the time of survey response, as well as (3) justice evaluations and reactions toward recent justice-related events.

I argue that these predictors are more proximal in nature than the predictors modeled in past research (justice dimension perceptions and trust). For example, although fairness heuristic theory (Lind, 2001a) proposes that specific justice dimensions contribute to the formation of overall justice, it is likely that the same justice-related events contribute to the formation of both specific justice dimensions as well as overall justice judgments (Rupp & Paddock, 2010). Besides, as noted by Lind (2001b), although people can respond to questions regarding specific justice dimensions, overall justice may better capture people's justice true, organic experiences. Studying recent justice-related events as predictors of OOJ are therefore more proximal to people's experiences than their retrospective ratings of ambiguously referenced outcomes, procedures, and interactions. Similarly, naturally occurring justice-related events might also contribute to changes in trust, making it difficult to ascertain the direction of causality in past research, which parallels the opposing models that have shown up in the literature (e.g., trust fuels justice perceptions: Aryee, Budhwar, & Chen, 2002; justice perceptions fuel trust: Jones & Martens, 2009; Saunders & Thornhill, 2003).

Finally, none of the past research has considered *dynamic* predictors of change in justice perceptions (i.e., treated antecedents as time-varying). Previous longitudinal research in this area tends to include a Time variable to describe the trend of change over

time. However, as a time-varying predictor, Time only describes the format of change over time, but cannot explain what leads to the change. The three types of predictors in this study are all dynamic in nature and I expect the form OOJ perceptual change to be partially accounted for by change in these predictors.

The role of previous OOJ perceptions. If participants are asked to report their justice perceptions multiple times, it is likely that these responses are related to each other, especially the response at time *t* and a previous time point, *t-1*. For example, using data from an experience sampling study, organizational citizenship behaviors (OCB) at *t-1* were found to be significant predictor of OCB at time *t* (Dalal, Lam, Weiss, Welch, & Hulin, 2009). In the same study, counterproductive work behavior also showed a lagged effect.

Further insights can be drawn from the attitude literature. There are two major approaches to conceptualize the formation of attitudinal judgments. Traditionally, attitudes have been treated as enduring evaluative dispositions and a popular definition of attitude is "a psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor" (Eagly & Chaiken, 1993, p. 1). More recently, however, researchers have subscribed to the attitude-as-construction view (Koriat & Adiv, 2011; Schwarz & Bohner, 2001; Schwarz 2007), which conceptualizes attitudes as being formed on the spot when making a judgment. It is assumed that attitudinal evaluations are rooted in mental representations stored in memory (Koriat & Adiv, 2011), where mental representations are defined broadly to refer to any particular piece of information that may influence the attitudinal judgments. Some of this information is chronically accessible whereas other information is only temporally available (Higgins, 1996). The

differences in accessibility of different information contribute to the coexistence of the stable and variable aspects of attitudinal judgments.

Justice evaluations share some qualities with attitudes. For example, both involve cognitive judgment, affective reactions, as well as behavior tendencies. Following the logic of attitude-as-construction view, people's justice judgments are based on mental representations of different justice entities or events. According to the recent person-centric organizational justice model (Guo et al., 2011), the mental representations of a particular justice entity contains previous formed justice judgments, justice-related events as well as the associated evaluations. That is to say, according to the *justice-as-construction* view, when people are asked to respond to overall justice items, the accessible information from mental representation is aggregated to form a current response (see also Rupp & Paddock, 2010).

In a longitudinal investigation of overall justice, even if new justice-related information is accumulated from time t-1 to time t, mental representations at the two time points are likely to share similar components. A boundary condition of this prediction may be when the two time points are spaced far apart from one another and people have dramatically updated their justice mental representations during this time. In the current study, the time interval between two consecutive sampling points is only one week, and thus, I hypothesize that a participant's justice evaluation at time t-1 will significantly predict his or her justice evaluation at time t. This idea is also consistent with early perspectives on attitude change, which argue that new attitudes are a weighted aggregation of initial attitudes and new information (e.g., Anderson, 1971).

Hypothesis 3: There will be significant within-person lagged effects on overall organizational justice, such that justice evaluations at time *t-1* contribute significantly to those at time *t*.

The role of contextual affect. The important role of affect and affective tendencies in work-related judgments and behavior responses has been increasingly recognized (e.g., Brief & Weiss, 2002; Weiss & Cropanzano, 1996). Justice researchers have also started to look at emotional reactions to justice events (e.g., Maas & van den Bos, 2009; Weiss, Suckow, & Cropanzano, 1999) as well as the integrative role of affect in the formation of justice perceptions (Barsky et al., 2011). Indeed, the link between affect and justice perceptions has been evidenced meta-analytically (Barsky & Kaplan, 2007).

Affect, or more specifically, state affect, has been referred to as the phenomenological condition of feeling (Watson, 2000), whereas trait affect represents individuals' predispositions to experience like emotional states across time and situations (Watson & Clark, 1984). Affect encompasses moods and emotions (Forgas, 1995; Weiss & Cropanzano, 1996), where the two are often differentiated in terms of their target, intensity, and length. An emotion is a reaction to an event, which is usually more intense than a mood. A mood on the other hand is usually less intense, last longer and lacks a clear event or object specificity. Researchers generally agree that affect can be conceptualized in a two-dimensional structure, although the nature of the two dimensions continues to be debated (e.g., Tellegen, Watson, & Clark, 1999). Some construe affect in terms of positive affect (PA) and negative affect (NA), while others conceptualize affect in terms of hedonic tone and intensity. While PA and NA are two dimensions with distinct behavioral correlates (Ilies & Judge, 2002; Watson, Weise, Vaidya, & Tellegen, 1999), with regards to hedonic tone, pleasantness and unpleasantness are two poles of a single bi-polar continuum (Tellegen et al, 1999).

Following previous work on justice and affect (e.g., Barsky & Kaplan, 2007) and consistent with other research in the organizational sciences (e.g., Ilies & Judge, 2002), I follow the PA and NA structure (Watson & Tellegen, 1985; Watson, Wiese, Vaidya, & Tellegen, 1999). In this framework, state PA and state NA represent the momentary state of experiencing positive and negative feelings, respectively (Watson, Clark, & Tellegen, 1988). On the other hand, trait PA and trait NA refers to the dispositions to experience positive and negative affective state across time and situations (Watson & Clark, 1984).

It is well-known that people exhibit mood-state dependent memory of daily experiences, such that people recall higher percentages of positive events when in a positive mood, while recalling higher percentages of negative events when in a negative mood (Bower, 1981). Thus, it is likely that mood states caused by unrelated factors influence the types of justice-related events recalled by employees and, subsequently, overall justice evaluations. Associative network theory was proposed to account for these effects (Blaney, 1986; Bower, 1981), in which emotion acts as a memory unit that enters into the memory association with coincident events. Thus, activation of positive emotion aids retrieval of positive information and cognitions. Conversely, negative emotions aid retrieval of negatively valenced information and cognitions.

These arguments are not unlike those conveyed by the "feelings-as-information" perspective in the attitude construction literature (Schwarz 2007; Schwarz & Bohner, 2001; Schwarz & Clore, 2007). According to Schwartz and colleagues, people may evaluate features related to the target, may draw from their own behaviors toward the target, or may use their feelings and phenomenal experiences as a basis of their judgments. As people may misread the source of their pre-existing affect, contextual

affect may be seen as a response to the target entity, resulting in more positive judgments when they are experiencing positive affect and more negative judgments when they are experiencing negative affect.

In the context of justice judgments, I refer to contextual (or incidental) affect, as the affective states caused by factors other than the experience of injustice. This contextual affect is to be differentiated from affective reactions associated with justice-related events. The predictions based on mood congruency theory and the feelings-as-information perspective is that, for the same participants, overall justice evaluations will fluctuate with their contextual affect even if no new justice related information is available. Such arguments are consistent with Barsky et al.'s (2011) arguments that incidental affect will significantly influence the encoding of justice related events as well as the retrieval of justice related information. Consequently, I expect contextual affect to influence the formation of overall organizational justice perceptions in the workplace. Accordingly

> *Hypothesis 4a:* Contextual affect will predict within-person variation in overall organizational justice perceptions, such that contextual PA with be positively related, and contextual NA will be negatively related to overall organizational justice ratings.

Research investigating how trait affect and justice perceptions relate to each other across individuals has found a positive relationship between trait PA and justice perceptions and a negative relationship between trait NA and justice perceptions (Barsky & Kaplan, 2007). Previously, it has been found that the average level of state affect across time and situations can be good indicators of trait affect levels. For example, Watson and Clark (1994) found that the correlations of average state PA and trait PA was .64 and the correlations between average state NA and trait NA was .53. More

recently, Ilies and Judge (2002) found that average levels of state affect predict between-person variations in job satisfaction. Therefore, I expect the average level of contextual affect also predict between-person variations in justice perceptions. I expect this effect to be significant after controlling for trait PA and trait NA, as trait affect is a more distal influence on justice perceptions, while the average of contextual affect reflects a more proximal factor.

> *Hypothesis 4b:* Between-persons contextual affect will predict variations in overall organizational justice, controlling for trait affect, such that average organizational justice ratings will be positively related to average contextual PA, and negatively related to average contextual NA.

The role of justice-related events. Human lives are very rich, with moments following moments, and events following events. Our work lives are no different: every work day, events happen to us and to others around us. Moreover, we spend a fair amount of time discussing with others what has been experienced at work (Hulin, 2002). We talk about our work and what happened at work all the time (Turkel, 1974). According to the person-centric organizational justice perspective (Guo et al., 2011), recent justice-related events are likely to be included in justice mental representations, which in turn influence the construction of overall justice judgments. Justice-related events may be people's own personal experiences, or those they witness or hear about occurring to others in the workplace (Rupp, 2011). How are people's overall justice evaluations influenced by the influx of these events? Is an overall justice evaluation the average of event-level perceptions? Alternatively, is it possible that only certain types of justice related experiences, e.g., the most extreme experiences, dominate the judgment process? Answers to such questions might be found in the attitude literature.

Questions regarding the formation of global evaluations are hardly new (Anderson, 1971; Fredrickson, 2000; Kahneman, Wakker, & Sarin, 1997). For example, attitudes are often conceptualized as integrative evaluations of multiple types and sources of information (e.g., Fazio, 1989; Zanna & Rempel, 1988). There has been a great deal of research effort devoted uncovering the principles of information integration in attitude formation, including both the summing and averaging principles (Eagly & Chaiken, 1993). In both principles, each piece of information is characterized by two parameters-- the scale value (i.e., the evaluative value each piece of information) and the weight (i.e., the importance of each piece of information; Anderson, 1971).

In applying adding principle, relative weights are not applied to various pieces of information, which are otherwise independent from each other. In these kinds of models, low intensity information can be compensated for by increased frequency in influencing the final attitude. In averaging models, however, the weights are summed to a constant, usually one, and equal weights are usually applied. Thus, the weight of one piece of information is not independent of those of the other pieces of information. Averaging models assume that attitude formation involves normalization procedures that can result in dilution effects (Anderson, 1971). Dilution effects are likely to occur if a mildly polarized piece of information is added to a sample of highly polarized information. For example, according to the averaging principle, adding a mildly favorable term to a list of highly positive adjectives describing a person should dilute observers' overall impression of that person. This effect is not well-explained by the simple adding model, as it will predict an increase in overall impression with the inclusion of a piece of mildly favorable information.

According to Anderson's information integration theory (1971), averaging is the dominant principle in attitude formation. Evidence for the average model has been found in different research areas including person perception (Anderson, 1971), explicit attitudes formation toward stocks with different returns (Betsch, Kaufmann, Lindow, Plessner, & Hoffmann, 2006), and morality judgments (Forsyth, 1985). Viewing overall justice as an quasi-attitudinal construct, I argue that the averaging effects of recent justice-related events contribute to the formation of overall justice evaluations. First, I consider the justice evaluations with the associated events and have the following hypothesis.

> *Hypothesis 5a:* The average of within-person justice perceptions toward recently occurring justice-related events will contribute to overall organizational justice perceptions.

Secondly, I consider the affective reactions associated with the justice-related events. Research has suggested that justice perception formation is as much affect as it is cognition. For example, the deontic theory of justice (Cropanzano et al., 2003; Folger, 1998, 2001) speaks to the quick, automatic, and likely evolutionarily-based affective reactions that accompany unfair treatment toward both the self and others (Folger, Cropanzano & Goldman, 2005; Skarlicki & Kulik, 2005). According to Folger and colleagues, experiencing or witnessing an injustice catalyzes a deontic state, which consists of emotions like anger, resentment, and disgust. These emotions are central to a strong motivation to punish transgressors. Similarly, affective events theory (Weiss & Cropanzano, 1996) proposed workplace events as the catalysts of workplace emotion. Events spawn affect, which then induces cognitive judgments that lead to the formation of work attitudes and eventually discretionary behaviors at work.

Based on this research, it seems plausible that there are both controlled cognitive processes, as well as quick emotional processes influencing justice evaluations, which could potentially operate differently or separately from each other. For this reason, I also collected felt emotions following the experience of events, and expected similar averaging of these affective reactions in influencing overall justice perceptions.

> *Hypothesis 5b:* The average of within-person affective reactions toward recent justice-related events will contribute to overall organizational justice perceptions.

Peak Effects

A special variant of the averaging principle has been proposed by Kahneman and colleagues (Fredrickson & Kahneman, 1993; Redelmeier & Kahneman, 1996) with the name 'peak-and-end rule'. According to this rule, people form evaluative judgments based on a limited number of outstanding segments or points of their experiences, including the peak (most intense) and the end (most recently occurring) experience. Instead of assigning equal weights to every segment of the experiential continuum as is predicted by the typical averaging model, the peak and the end experiences are expected to receive positive weights while all the others receive zero weights. The peak-and-end rule leads to *heuristically-based evaluations,* creating cognitive efficiencies in judgment formation.

There have been many research studies supporting the peak-end rule. For instance, Fredrickson and Kahneman (1993) asked participants to provide moment-by-moment affect ratings as they viewed emotional film clips. After watching the clip, overall evaluations of the film were also provided. For pleasant films, the summation of peak and end affect was the best predictor of the global evaluations, and the duration of the film did not matter at all. For unpleasant films, peak affect (the most unpleasant affect rated

online) emerged as the best predictor. Perhaps the most dramatic evidence of the peak-end effect comes from a field study done by Redelmeier and Kahneman (1996). Patients consciously undergoing colonoscopies indicated their current pain every 60 seconds and these momentary evaluations of pain were compared to the overall evaluation of the procedure. It was found that the peak and end pain correlated highly with the global assessment of total pain, while the correlation between the duration of the procedure, ranging from 4 to 67 minutes, and the overall pain evaluation was not significant.

However, a recent study testing the peak-and-end rule for evaluations of a whole day based on multiple affective episodes did not find support to the rule (Miron-Shatz, 2009). Contrary to the predictions, the ending episode was not predictive of the overall affective evaluations of the day. This unexpected result was explained in terms of the boundary conditions for the peak-and-end rule: it seems that for ends to matter, they need to carry some defining meaning. In the present study, I examine the peak-and-end rule in terms of overall justice evaluations, formed at the end of a four-month employment. In this context, the ends, the last justice-related events reported by the participants, are unlikely to have defining meanings either. The participants were interns expecting to leave the organizations at a pre-specified date, with their compensation pre-determined as well. Thus, at the end of the internship, it is unlikely that the participants engage in major conflicts with the organizations, which might relate to issues about payment, performance appraisals and so on. Thus, it is unlikely that significantly fair or unfair events happened to the participants at the end of their internships. For the above reasons, only the peak effect is examined in the current study.

I define *peak* evaluations of justice-related events as the most unfair evaluation

associated with a person's reported events. I define peak affective reaction in terms of

both PA and NA: peak PA is the most positive affective reaction associated with the

reported events, while peak NA is the most negative affective reaction. As the peak is

defined for each participant, the peak effect is tested in a between-person fashion.

> *Hypothesis 6a:* Peak evaluations of justice-related events are significantly
> related to overall justice perceptions assessed at the end of a four-month
> employment period.

> *Hypothesis 6b:* Peak PA and peak NA associated with the reported justice-
> related events are significantly related to overall justice perceptions
> assessed at the end of a four-month employment period.

CHAPTER 3: METHODS

Participants and Procedures

Participants were recruited from a management co-op program at a North American University. These individuals were undergraduate business majors about to embark on a four-month internship experience that was coordinated through the management department. The internships were predominately within the financial sector and required the interns to take on legitimate professional responsibilities. Participation was solicited through the department's co-op office. It was made clear to potential subjects that their participation was voluntary, that all of their responses would be kept confidential, that their data would not be shared with either their employer or the management department, and that they may withdraw from the study at any time without penalty. Lottery-based incentives (e.g., prizes such as iPods, gift cards, etc.) were offered to participants for taking part in the study based on levels of participation.

Data were collected from participants 18 times over a four month period. This consisted of a pre- and post-questionnaire, and 16 weekly experience sampling surveys. All data were collected over the Internet. E-mail reminders were sent to participants weekly, which also contained the link to the surveys. Research assistant also called to remind the participants to complete each survey. The pre-questionnaire was completed by participants in the week prior to the beginning of their internship. This questionnaire contained measures of personality, trait affect, justice orientation, rumination and anticipatory justice, all of which were used as controls in the analyses. This questionnaire also included a demographic survey, along with a practice exercise with which to

familiarize the participants with the event sampling procedures to come (described

below). The pre-survey is included in Appendix A.

In the first weekly survey, completed by participants following just three days on

the job, participants were measured on their state affect and their justice perceptions thus

far. This provided a baseline measure. During this first weekly survey, participants

provided their first reporting of work events. Here, they were asked to report events that

have occurred to them since they started their position. They were instructed to list events

in the form of "tweets" (textual transmissions; 150 characters or less). Following each

tweet, they were asked when the event occurred, what parties were involved in the event,

the emotion elicited by the event, and the fairness of the event. Participants were given

the opportunity to provide five events. The week 1 survey is provided in Appendix B.

Starting in their second week and every week following, participants responded to

a survey that first measured their state affect and their overall justice perceptions.

Following this, they were asked to "tweet" five events that occurred to them in the last

week, along with the follow-up questions described above. The weekly survey is

provided in Appendix C.

Upon the completion of their internship experience, participants were given a

final questionnaire, which included the same justice measures provided in week one.

Following this, participants were asked to tweet the events that came to mind as they

completed the previous justice survey. Next, participants were provided a list of the

tweets they provided throughout the semester and asked to check and provide importance

ratings for the events that were most pertinent to evaluating the fairness of their

internship experience. Participants also reported their state affect at the beginning of the survey. The post-questionnaire is provided in Appendix D.

A total of 121 participants responded to the study. Twenty-eight participants only responded to 1 or 2 out of 18 possible surveys, and were excluded from further analysis. Thus, the study had an effective sample of 93 participants, which answered from 3 to 18 surveys. 54.8 % of the participants were female and 25.8% were male, and they ranged in age from 18 to 30 years (M = 20). Eighteen (19.4%) did not report gender and age information. Nineteen of them did not report ethnicity and citizenship information. Of the remaining 74, 74% were Canadian citizens, and 62% were ethnic Chinese. The pre-questionnaire was completed by 83 individuals, while the post-questionnaire were completed by 54 individuals. For the 16 surveys in between, the number of respondents was 83, 74, 67, 65, 66, 58, 59, 53, 52, 49, 47, 42, 41, 39, 37, and 32, respectively.

Measures

All items were rated on a 1 to 5 Likert-type scale (e.g., ranging from 1- disagree strongly to 5- agree strongly or from 1 - very slightly or not at all to 5- extremely) unless otherwise specified.

Personality. Personality was measured using HEXACO-6 (Ashton & Lee, 2009). This scale was constructed following the lexical approach, where self-reported or other-reported ratings of personality adjectives in language were subject to factor analysis to uncover the underlying personality structure. This personality structure has one more dimension than the five factor model of personality (McCrae & Costa, 2008) --the honesty-humility dimension. The honesty-humility dimension specifically asks about people's behaviors in terms of sincerity, fairness, greed-avoidance, and modesty.

Trait PA and trait NA. . Trait PA and trait NA were measured using the 20-item PANAS scale (Watson, Clark, & Tellegen, 1988). This measured the extent of positive and negative emotions participants feel on average. Trait PA was measured by 10 adjectives, including active, enthusiastic, determined etc., and trait NA was also measured by 10 adjectives including afraid, nervous, scared and so on.

Justice orientation. Justice orientation has two facets, *internalization* and *attentiveness* (Liao & Rupp, 2005). Internalization refers to the extent to which individuals internalize justice as a moral virtue, and attentiveness refers to the extent to which individuals pay attention to justice around them. Internalization was measured by 10 items (e.g., "people should care less about getting ahead and more about being fair"), and attentiveness was measured by 6 items (e.g., "I see people treating each other unfairly all of the time").

Rumination. Rumination was measured using a 10-item scale by Butler and Nolen-Hoeksema (1994). Participants were asked to indicate what they generally do when they feel down, sad, or depressed on a 4-point Likert scale (1-almost never, 2-sometimes, 3-often, 4-almost always). Example items include "think about how passive and unmotivated you feel" and "wish a recent situation had gone better".

Justice. Justice was measured in a number of ways. Anticipatory justice was measured in the pre survey. Overall organizational justice was measured in the weekly surveys, as well as at the end of the internship experience. Fairness perceptions toward reported workplace events were also measured in the weekly surveys. To measure justice in this way, I relied on two established measures of justice and a one-item measure of justice created for this study to measure felt fairness toward a particular event.

The first was Colquitt's (2001) justice scale, which included measures of four justice facets. Distributive justice items refer to the fairness of decisions or outcomes at participants' organizations. For example, participants indicated, to what extent, "are your outcomes appropriate for the work you complete?" There were a total of four distributive justice items. For procedural justice, participants were asked to consider the procedures that were carried out in their organization, and indicated the extent to which they agreed with statements like "are procedures based on accurate information?" There were a total of seven statements for procedural justice. For both interpersonal and informational justice, the participants were asked to consider the authority figures with whom they interacted. There were four items for interpersonal justice (e.g., "are you treated with respect?") and five items for informational justice (e.g., "are communications candid?").

The second justice measure was Ambrose and Schminke's (2009) six-item overall organizational justice (OOJ) measure. This measure was developed in order to measure people's holistic justice judgments about a particular entity (in this case, the organization). Three items assessed individuals' personal justice experiences (e.g., "overall, I'm treated fairly by my organization"). The remaining three items measured the fairness of the organization generally (e.g., "for the most part, this organization treats its employees fairly"). Overall organizational justice has been found to mediate the relationship between specific justice facets and different organizational outcomes, including job satisfaction, commitment and turnover intentions.

Modifications were made to these two scales depending on the purpose and time of measurement (see Appendices). To measure anticipatory fairness in the pre-survey, I modified the directions and items so that they referred to expectations (e.g., "I expect to

be treated fairly by my organization"). To measure post-internship justice, the original items were maintained, only modifying them to refer to the participants' internship experience (e.g., "I was treated fairly by my organization").

A third justice measure proposed was a single-item measure following each reported event in the experience sampling part of the study. Participants indicated "how fair were the actors in this event?" using a scale ranging from 1 (very unfair) to 5 (very fair). Researchers usually advocate for the use of multiple-item scales for psychometric reasons. For example, multiple-item scales tend to be more reliable and have better coverage of the content areas of the construct. However, single-item measures have been shown to be advantageous in longitudinal studies and studies where time constraints the number of items that can be administered. For example, single-item measures have been used successfully in research on job satisfaction (Wanous, Reichers, & Hudy, 1997), self-esteem (Robins, Hendin, & Trzesniewski, 2001), affectivity (Larsen, Norris, McGraw, Hawkley, & Cacioppo, 2009) and so on. In this study, participants used the item to rate the fairness of multiple events per week, and for multiple weeks throughout the semester, leading to multiple observations via the same item. Further, the item was in reference to each reported event and therefore in reference to a narrow and clearly-defined content area. Adding more items would be asking the same question in different ways, which might increase respondents' fatigue.

Contextual affect. At the beginning of each survey, participants reported their current state affect by responding to the short-form PANAS (Thompson, 2007). This short-form PANAS included 10 adjectives, including active, ashamed, determined and so on. State PA was measured by five positive adjectives, and the remaining five negative

adjectives measured state NA. These were collected to test the effect of contextual affect on justice evaluations (Hypothesis 4(a) and 4(b)).

Affective reactions to justice-related events. Participants were also asked to rate the emotions elicited by each of the events provided in the weekly surveys. In particular, participants were asked to indicate the extent to which the event made them feel *happy, joy, pride, content, fear, anger, sad, guilt, shame, hostile, frustrated, annoyed and love*. These emotions were chosen by surveying previous research on emotional reactions to justice-related events as well as people's emotional experiences in general. For example, six basic emotion categories were studied by Diener, Smith, and Fujita (1995), which include love, joy, fear, anger, sadness, and shame. Based on this six emotions, I added other emotional terms that are related to justice reactions. Miner, Glomb, and Hulin (2005) used eight emotional terms in an experience sampling study - blue, contented, happy, lonely, pleased, sad, satisfied, and unhappy. Out of the eight terms, I added "content" to my list. Barclay and colleagues (Barclay, Skarlicki, & Pugh, 2005) studied inward (shame and sadness) versus outward (anger and hostility) focused emotions to unfair treatment, and as such, I added "hostile" to my list. Similarly, happiness, pride, anger, and guilt were studied by Weiss et al. (1999), and so "happy," "pride," and "guilt" were added as well. The event generation activity described above was pilot tested on a group of 10 undergraduate students at another North American university. Based on their feedback, "annoyed" and "frustrated" were also added as emotions.

Analytic Strategy

Different hypotheses were tested using different analyses. If beta and gamma changes occur in a longitudinal study, a construct at one time point is not the same with

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that at a different time point. To make sure the constructs are comparable over time in a longitudinal study, Chan (1998) proposed that gamma and beta changes should be tested first before conducting further analysis. For this reason, hypothesis 2 was tested first before the other hypotheses.

Alpha, beta, and gamma change. In MACS analysis, gamma change is demonstrated by changes in the pattern of zero and nonzero factor loadings over time (i.e., changes in the factor structure). This is usually the first step in conducting measurement invariance tests, and configural invariance is said to exist if the factor structure holds across time. If configural invariance does not exist, which is an indication that the meaning of the focal construct is not the same across time, future tests of invariance are not meaningful (Vandenberg, 2002; Vandenberg & Lance, 2000). Previous studies testing for gamma change also constrained the equality of factor covariances across time (i.e., the covariances among the factors within one time period were constrained to equal their corresponding elements in another time period; Schaubroeck & Green, 1989; Vandenberg & Self, 1993). Since the focal construct in the current study, OOJ, has only one factor, this test is not needed in the current study.

If configural invariance is found (i.e., gamma change does not exist), beta change can then be examined with tests of equal factor loadings (metric invariance) and tests of equal factor variance over time (Schaubroeck & Green, 1989; Vandenberg & Self, 1993). As factor loadings are the regression coefficients relating the observed item to the corresponding latent factors, they represent the expected changes in the observed scores on the item for one unit change on the latent variables. Rejection of equal factor loadings thus indicates unequal scaling units across time. Rejection of equal factor variances over

time would indicate that different ranges of the construct continuum are used at different time periods. Thus, the two tests were interpreted as providing evidence for differential scale calibration at the item-level and factor level, respectively.

In case that no beta and gamma change was found, alpha change can then be examined. Past research has tested alpha change at both the observed mean level (using t-test or analysis of variance) as well as at the latent mean level (using CFA approach). In the current study, alpha change was tested by comparing the latent means of overall organizational justice over time.

Hypotheses 1, 3, 4 and 5. Hypothesis 1 states that there will be significant within-person variation in OOJ over time, while Hypotheses 3, 4, and 5 are about the effects of time-varying predictors of OOJ: previous OOJ, contextual affect, and justice-related events. These hypotheses were tested using multilevel modeling, or hierarchical linear modeling. More specifically, the analyses were carried out as recommended by Bliese and Ployhart (2002), Hedeker and Gibbons (2006), and Singer and Willet (2003). SAS PROC MIXED was used to fit the models and maximum likelihood estimation was used in order to use all of the available data.

When fitting a time-varying predictor in a multilevel model, the resulted effect contains both within-person and between-person effects, which are assumed to be equal (Hedeker & Gibbons, 2006, p72). However, there are many cases when the two effects would be expected to differ from each other. As Hypothesis 4 (a) and Hypothesis 4 (b) are about the within-person and between-person effects of contextual affect, respectively, two versions of the variables (the person-level mean, and the mean-centered) were created and tested to differentiate the between-person and within-person effects. For

Hypothesis 5, the mean-centered version of the justice evaluations and affective reactions

associated with the events were used to focus on the within-person effects.

   Peak effect. Hypothesis 6 (a) and (b) state that the peak justice evaluations and

affective reactions toward justice-related events are significantly related to overall justice

evaluations at the end of the 4-month experience. These two hypotheses were tested

simply by calculating correlations between the peak and the OOJ, as well as their partial

correlations controlling for the effects of the mean.

CHAPTER 4: RESULTS

Descriptive Statistics

Descriptive statistics, reliabilities (coefficient alpha), and correlations for the dispositional variables are reported in Table 1. Table 2 presents the means and standard deviations of scales measured longitudinally at each measurement point, including contextual PA, contextual NA and OOJ. Table 3 contains the correlations between OOJ measured at different time points and the scale reliabilities. Correlations between dispositional variables and OOJ at each week are shown in Table 4. Correlations between OOJ and contextual PA and contextual NA at the corresponding week (e.g., correlations between OOJ and contextual PA at week 1, week 2…week 17) are presented in Table 5. Table 6 presents the correlations between OOJ and justice evaluations and affective reactions toward the reported events at the corresponding week. Table 7 shows the means, standard deviations, and the total number of reported events at every week.

Alpha, Beta, and Gamma Change

CFA was run to test for gamma and beta change in overall organizational justice perceptions. As started in Chapter 3, I followed the procedures laid out by previous researchers (e.g., Schaubroeck & Green, 1989; Vandenberg & Lance, 2000; Vandenberg & Self, 1993, Vandenberg & Lance, 2000). Briefly, gamma change was explored by testing for configural invariance, and beta change was explored by testing equality of factor variances in addition to metric invariance.

I conducted the tests at several different levels and first presented here are the results of the one-factor CFA analysis at each time point separately. The fit indices of these models are shown in Table 8. In the measurement model for overall organizational

justice, all six items are supposed to load on to the one latent factor, OOJ. Then if the one-factor model fits well at each week, it means that the factor structure of OOJ is the same across measurement occasions, and thus no gamma change is present. Considering the fit indices for data at week 0, week 1, and week 17, the Tucker-Lewis coefficients (TLI) and comparative fit indices (CFI) were all larger than .90, indicating adequate fit; although chi-square tests were significant, indicating discrepancy between model and sample covariance matrices, the normed chi-squares, χ^2 / df , were in the acceptable range (Schumacker & Lomax, 2004). However, the root mean square error of approximation (RMSEA) was not acceptable given the conventional cutoff value of .08 (Hu & Bentler, 1998). Yet, Post hoc modification indices did not suggest many changes that would improve the model fit greatly.

Considering the controversies associated with the use of fit indices in structure equation modeling in general (e.g., Barrett, 2007), the above fit indices may not mean the models did not fit. Kenny, Kaniskan, and McCoach's (2011) argued that fit indices should not be computed / reported for models with few degrees of freedom. Besides, the simulation findings that fixed cutoff value of RMSEA resulted in a high proportion of rejection of the correct model with small sample sizes (Chen, Curran, Bollen, Kirby, & Paxton, 2008) renders the possibility that high RMSEA values maybe a result of a small sample size. Previous tests of gamma change have argued that unless all fit indices suggest model misfit, gamma change is not accepted (see examples in Vandenberg & Self, 1993, and Holtz & Harold, 2009). So my tentative conclusion is that one factor CFA model of OOJ fit the data at week 0, week 1, and week 17, which are the measurement of

OOJ before the participants start their internship, the first measurement at work, and the last measurement.

According to the fit indices, some of the measurement model from week 2 to week 16 had acceptable fit (e.g., week 2 and week 13), while others did not (e.g., week 8 and week 9). If we accept that the model at week 1 and week 17 fits well, it is difficult to explain the model misfit in between. Thus I tend to believe that the misfit were a result of small sample size and different measurement errors. However, before making this conclusion, I tested the fit of the model across all time points simultaneously.

These results are shown in Table 9. Although the TLI and CFI were only marginally acceptable, Model 1 suggested that a one-factor CFA solution fit the data reasonably well according to RMSEA. Thus, this result did not support the existence of gamma change. Beta changes were tested in Model 2 and Model 3. In Model 2, the factor loadings of like items were constrained to be equal across time points. Comparing to Model 1, the chi-square difference test was significant, yet the fit indices were not affected much, and RMSEA even improved. In Model 3, on the basis of Model 2, the factor variances were constrained to be equal across time points. When comparing to Model 2, the chi-square difference test was not significant, indicating that constraining the factor variances to be equal did not affect model fit on the basis of metric invariance. Overall, Model 2 and Model 3 had reasonable fit, indicating no beta change. I also tested Model 1 to Model 3 on three time points, week 0, week 1 and week 17. As can be seen from Table 10, similar results were obtained as when all the data points were included. According to the fit indices in Table 10, all three models had adequate fit.

Taken together, the above results did not support the presence of either gamma change or beta change. Substantively, the results suggested that participants did not change their fundamental conceptualization of the overall organizational justice construct (gamma change), nor did they change the measurement scales (beta change).

Give no evidence of gamma change and beta change, further tests were conducted to show the existence of alpha change. First, an overall test was conducted in Model 4, where the latent means across time were constrained to be equal. The results are shown in Table 9 and Table 10, respectively, for all the data and that of week 0, week 1, and week 17. As can be seen from the two tables, the chi-square difference test was significant when comparing Model 4 to Model 3. Furthermore, Cheung and Rensvold (2002) suggested a change in CFI less than or equal to .01 as a criterion for measurement invariance. A decrease in CFI of .02 from Model 3 to Model 4 in Table 9 thus indicates potential violations to equal latent means. So, the above results suggest the existence of alpha change. To see the latent mean differences more clearly, Model 3 (equal factor loadings and variances) was fit to data across all time points, assuming the latent mean of OOJ at week 1 to be zero. The obtained latent mean estimates at each time points are presented in Table 11. Week 1 was chosen as the reference for other weeks, as it was the first week participants started their job. As can been seen in Table 11, except for the means at week 0 and week 2 to week 5, all the means at other weeks were significantly different from the baseline. Thus, there was alpha change in participants' overall justice perceptions across the measurement occasions, supporting Hypothesis 2.

As only alpha change, but no beta or gamma change, was present, the between- and with-person variation in overall justice perceptions can be tested under multilevel

modeling, paying special attention to the role of time, OOJ perception at a previous time, contextual affect, and justice-related events (Hypothesis 1, 3, 4, and 5).

The Form of Change in OOJ Perceptions over Time

The within-person and between-person variability in OOJ as well as the form of change in OOJ were tested under multilevel modeling using SAS PROC MIXED. The first three steps of Bliese and Ployhart's (2002) five-step procedures were followed to test the format of change of OOJ over time. The results of step 1 to step 3 are shown in Table 12. In step 1, a baseline model (Model A1) was fit to the data, with random intercepts and no predictors. Significant between-person ($\tau^2 = .361$) and within-person variance ($\sigma^2 = .212$) in OOJ were found. The intraclass correlation (ICC) indicated that 37.05% of the variance in OOJ was within-person. Thus, Hypothesis 1 was supported.

In step 2, the fixed effect of time on OOJ was tested. A linear change model (A2) and a quadratic change model (A3) were fit to the data. As shown in Table 12, the curvature term in the quadratic model (Time*Time) (A3) was significant. Comparing model A2 with A3, the chi-square test (Δ-2 Log-likelihood(2) = Δ-2LL(2) = 27.7, p<.001) as well as the non-parametric model fit indices (AIC, AICC, BIC) indicate that the quadratic change model fit the data better. In step 3, the variability in the growth parameters were tested, where Model A4 tested the variability of linear parameter (Time) and Model A5 tested the variability of the quadratic parameter (Time*Time). Comparing model A4 to A2, allowing interindividual variability in the linear rates of OOJ change resulted in significantly better fit, with Δ-2LL(2) = 30, p<.001. Comparing model A5 to A3, allowing interindividual variability in the quadratic form of OOJ change also resulted in significantly better fit, with Δ-2LL(5) = 68.5, p<.001.

So taken together, the random quadratic change model (A5) fits the data best, which suggested a negative instantaneous rate of change when Time = 0 (γ = -.085) and a positive curvature parameter (γ = .004), describing the changes in the rate of change over time. Figure 1 presents the fitted average quadratic curve and the average linear curve based on Model A5 and Model A4, respectively. In both curves, OOJ decreases initially, but for the quadratic curve, OOJ starts to increase after week 10. As can be seen in the figure, although the two curves have different parameters, for the most part, the two curves are close to each other. Although the random quadratic change model fit the data better, there was still significant variability left in both within- and between-person part, indicating the possibility that some individual trajectories may be more or less a linear line.

Dynamic Predictors of OOJ Perceptions

The effects of the proposed dynamic predictors were also tested via multilevel modeling. On the basis of Model A5, the random quadratic change model, the time-varying predictors were added to the model. The results indicated that the curvature parameter (i.e., the parameter associated with Time*Time) was no longer significant. The corresponding variance component was not significant either. So conditional on the newly added time-varying predictors, the quadratic effects were no longer significant. Thus, a random linear trend model was fit along with the time-varying predictors. Variance components of the model indicated that the variance for the conditional trend parameter (i.e., the parameter associated with Time) was not significantly different from zero, as was the covariance between the intercepts and the conditional trend term. For the purpose of parsimony, the random component with Time was removed.

The results of Model B1 are shown in Table 13. As can be seen, all the predicted within-person effects were significant except for the affective reactions associated with the reported events. Hypothesis 3 states that there is a significant within-person effect of OOJ_{t-1}, the OOJ at a previous time point. According to Model B1, Hypothesis 3 was supported. Hypothesis 4(a) is about the within-person effects of the contextual affect, and as can be seen from the results, this hypothesis was supported as well. Hypothesis 5(a) concerns the within-person effects of the average justice evaluations toward the reported events, which was also supported. Hypothesis 5(b) is about the within-person effects of the average affective reactions toward the reported events, which was not supported.

Next, the between-person effects were tested. But before that, as the within-person effects of the average PA and average NA toward the reported events were not significant, the two predictors were removed from Model B1 for the purpose of parsimony. The resulting Model B2 and the estimated results are also given in Table 13. The non-significant chi-square test (Δ-2LL(2) = .3, p =.86) and the decrease in non-parametric fit indexes (AIC, BIC, AICC) all indicated better model fit. So eliminating the two predictors did not harm the model fit. The between-person predictors, the mean level of contextual PA, contextual NA, as well as the mean justice levels of the reported events, were added into Model B3. The fitted results in Table 13 indicated that higher mean level contextual NA was negatively related to OOJ, while the effects of average contextual PA was not significant. Thus, hypothesis 4(b) was partially supported. Although no predictions were made about the effects of average justice level of the reported events, the fairer the average reported justice related events, the fairer was the overall justice judgments.

Control variables, including personality, trait PA, trait NA, justice orientation, and rumination, were also added to the model, but none of them had significant effects. The parameter estimates of the hypothesized effects only changed slightly and as a result of adding these variables to the model, significance levels remained unchanged. These control variables were therefore removed from further analysis.

Finally, although I did not propose a hypothesis about the moderators for the conditional slope (Time), this issue was explored in the next model, Model B4. It might be the case that the conditional rate of change in OOJ was related to different time-invariant variables. Explanatory analysis showed that the mean level of contextual NA had a significant interaction effect with Time. The final model (Model B4) indicated that those with higher mean level contextual NA were associated with slower decreases in OOJ over time (considering the negative trend parameter, and the positive interaction term). Replacing the mean level of contextual NA with trait NA in the interaction, trait NA showed similar results. As I conceptualize the mean level contextual NA as a proximal indicator of trait NA, only the result of the contextual NA is reported here.

In the final model (B4), the mean contextual NA across all time points (γ = -.422, p < .0001) and the person average of fairness ratings across all reported events (γ = .282, p <.0001) explained between-person variance in OOJ. The justice perceptions at a previous time point (γ = .265, p = <.0001), the person-centered contextual PA (γ = .125, p = <.001), the person-centered contextual NA (γ = -.122, p = .001), and the mean of fairness ratings of the reported events in each week (γ = .075, p = .001) explained within-person variance in OOJ.

Peak Effects

Hypothesis 6(a) states that the peak justice evaluations associated with the reported events will predict the final OOJ perceptions at the end of the four-month employment, while Hypothesis 6(b) is about the peak effects of the associated affective reactions. To test this hypothesis, for each participant, I identified the events associated with the lowest justice ratings, the events associated with the highest rated PA, and events associated with the highest rated NA. As the peak-and-end rule is a special variant of the average rule, the corresponding averages were also calculated for each participant.

The correlations between the final OOJ, the peaks, and the means are shown in Table 14, as well as the partial correlations controlling for either the mean or the peak. As can be seen, for the peaks, only the peak of NA correlated significantly with OOJ, and even this correlation became non-significant once the mean was controlled. Thus, neither Hypothesis 6 (a) nor 6(b) was supported. On the other hand, the mean of justice evaluations and the mean of NA correlated significantly with OOJ. Moreover, even controlling for the peak, the mean of justice evaluations still correlated significantly with OOJ. These results further point to the applicability of the average rule in overall judgment formations.

CHAPTER 5: DISCUSSION

Organizational scholars have long called for more longitudinal research (McGrath & Rotchford, 1983; Mitchell & James, 2001), as "organizational employees are dynamic, open systems nested within dynamic and open organizational systems" (Hulin & Ilgen, 2000, p.6). Employee's perceptions of overall organizational justice are also likely to change over time due to the changes in their current affect as well as the addition of newly experienced events into their mental representations. Thus, to better understand employees' justice perceptions, a longitudinal design is necessary. Researchers have started to track overall justice perceptions over time (e.g., Holtz & Harold, 2009), yet the contributions of dynamic predictors that are related to perceptual change have not been investigated. In this dissertation, I not only tracked overall justice, but also tracked dynamic predictors over time, to better understand the building blocks of overall justice judgments. I offered hypotheses regarding the change of justice over time, as well as the factors related to change (previous justice perceptions, contextual affect, and justice-related events). This study connects time, affect, events, and overall justice evaluations.

Alpha, Beta and Gamma change

On the basis of past research studies (e.g., Holtz & Harold, 2009), I evaluated the change of justice perceptions over time. Neither beta nor gamma change was detected, which indicated that no fundamental change in the meaning and structure of overall organizational justice occurred during participants' four-month internship. These results may indicate that participants' conceptualization of justice had already crystalized based on their accumulated life experiences. This would be consistent with the deontic model's position on the universality of justice (Cropanzano, Goldman, & Folger, 2003; Folger,

1998, 2001). Moreover, for many participants, this internship was not their first work experience: About half of the sample already had formal work or intern experiences (38.7% of participants reported having working experience, 41.9% indicated no previous work experience, and 19.4% did not respond). As such, newly encounter events impacted justice perceptions over time, but not so fundamentally that the construct's meaning or its scaling was impacted for participants.

Although beta and gamma change did not occur in this sample, it is still possible that in some cases this might occur. In my sample, the participants' justice-related events were fairly mundane (e.g., supervisor feedback, customer exchanges). Future research should verify these finding in samples of employees experiencing more dramatic events such as layoffs, strikes, mergers, restructuring, workplace violence, and the like. It is possible that traumatic events could shift individuals' philosophical ideologies as they relate to justice.

The Form of Change in OOJ Perceptions over Time

Fitting the data using multilevel models revealed that there exists significant within-person variation in justice perceptions over time, with 37.05% of the total variance found to be within-persons. This number is much larger than the 24% of within-person variance found by Holtz and Harold (2009). The discrepancies are likely due to the timing as well as the frequencies of the surveys. Holtz and Harold (2009) sampled employees already working in different organizations for unknown amount of time, but in the current study, the participants are new to their positions. It is possible that justice perceptions change more when employees are new to the environment than when they have been in the organizations for a while. I also sampled the participants more

frequently (once a week over a 17-week period versus once every four weeks over a 12-week period). It is possible that the more frequent sampling captured more within-person variation in overall organizational justice.

As 37.05% of the total variance was found to be within-persons, and 62.95% was between-persons, for the average participant, overall organizational justice perceptions vary across time almost three-fifths as much as the average justice perception level varies between participants. This result highlights the important role of time in understanding people's justice perceptions as well as the use of proper research methodologies to explore justice phenomena. A relationship at the within-person level might not have the same functional form at the between-person level and it is important to use proper designs and analyses for questions at different levels. This is also consistent with the view in more general multilevel research (e.g., concerning employee nested in groups, nested in organizations) that variables at different levels may function differently (Kozlowski & Klein, 2000).

Introducing a temporal factor, Time, into the multilevel models indicated that a quadratic change model fit the data better than a linear change model. Thus, the average trajectory of a participant's overall justice perception can be represented by a quadratic curve. As can be seen from Figure 1, the curvature was small, representing a smooth change. After introducing the time-varying predictors (OOJ_{t-1}, contextual PA and NA, and the event justice evaluations), the curvature term of the quadratic model was not significant any more. So, conditional on the time-varying predictors, the overall justice trajectory of an average individual became linear. It is likely that the trajectory curve in OOJ was brought on by the changes in the set of predictors. To see the form of change of

the predictors over time, multilevel models (A1 to A5) were fit to contextual PA, contextual NA, and the event justice evaluations. It was found that the average trajectory of contextual PA and the event justice evaluations also followed a quadratic form, while that of contextual NA followed a linear form. Thus, within-person changes of OOJ fluctuated with the within-person changes of the time-varying predictors.

The above results highlight the importance of viewing justice from a dynamic perspective. It is not that justice perceptions do not change once formed, nor do they only change with phase-shifting events. The changes in participants' contextual affect can bring changes in justice perceptions. This is consistent with the attitude-as-construction view that attitudes are formed on the spot by sampling information from mental representations - the availability of a particular piece of information may be influenced by its recency as well as the perceiver's current affect. Viewing justice in a similar vein, the justice-as-construction perspective may better represent people's justice experiences.

Dynamic Predictors of OOJ Perceptions

The significant lagged effect of OOJ is a testimony to the conviction that the past affects the present in some coherent fashion. People with higher OOJ at time *t-1* were more likely to report a higher OOJ at time *t* ($\gamma = .265$, p<.0001). Fitting a multilevel model with OOJ_{t-1} as the only predictor and comparing it to the null model (A1) indicated that the OOJ_{t-1} explained 12.57% within-person and 55.32% between-person variation in overall justice.

The present study highlights the influence of momentary mood state on the justice evaluations. According to the mood congruency theory (Bower, 1981) and the feelings-as-information perspective (Schwarz 2007; Schwarz & Bohner, 2001; Schwarz & Clore,

2007), I hypothesized that contextual PA and NA would predict within-person variance of justice perceptions. Within person analyses showed that contextual PA was positively related to OOJ and contextual NA was negatively related to OOJ. That is, individuals' OOJ varied in synchrony with their moods. Although I cannot rule out the possibility that the contextual affect is related to justice-related events (it might, as in the case that an unfair event happened right before the survey), the design that contextual affect was measured at the beginning of each survey before asking any questions about justice and justice events reduces this possibility. Therefore, this result tentatively suggests that affect induced by stimuli or events not related to justice can also influence OOJ through state affect. It also highlights the importance of explicitly controlling for the effect of state affect when studying the change of justice perceptions over time. Fitting a multilevel model with contextual PA and NA as the only predictors and comparing it to the null model (A1) indicated that the two variables explained 7.57% within-person variation in overall justice.

Based on the average rule in attitude formation, I hypothesized that the mean justice evaluations associated with the reported events at each week would predict significant within-person variations in OOJ. Results of multilevel model were consistent with this prediction. This result points to the possibility that the formation of overall organizational justice follows a normative rule such that the effects of different justice-related events are averaged to influence the overall justice evaluation. Again, fitting a multilevel model with the event justice evaluations as the only predictors and comparing it to the null model (A1) indicated that event justice explained 15.49% within-person variation in overall justice. That is to say, a substantial proportion of within-person

changes in overall justice perceptions can be explained by justice-related events that occurred during a previous week.

Including the set of time-varying predictors together in the same multilevel model showed them to explain a total of 30.74% of the within-person variance in OOJ. Thus, about one-third variations in OOJ over time can be explained by the proposed time-varying predictors. Still, there is two-thirds of the within-person variation left that needs further explanation. A fruitful research area might be to explain additional factors that influence within-person variations in OOJ. Besides measurement errors, a larger proportion of within-person variation in OOJ might be explained when the effects of the time-varying predictors are not constrained to be equal across participants. It is possible that the effects of the predictors differ across people, for example, it might be that contextual affect relates to OOJ differently for different participants. Another possible contributor to the within-person variation of OOJ might be employees' social exchange status with their organization. It is possible that over time, some employees become more committed to the organization while others become more withdrawn from it, thus leading to different levels of social exchange (e.g., Van Knippenberg & Sleebos, 2006). Different level of social exchange may influence OOJ through the type of events to which employees pay attention (or whether they pay attention at all), as well as their mindset (e.g., serious or causal) when responding to surveys.

I also hypothesized that average levels of contextual PA and contextual NA predict between-person variation in OOJ, as they are good indicators of trait level PA and NA. Even after controlling the effect of trait PA and trait NA, average state NA was still a significant predictor of OOJ. One possible reason is that, comparing to average state

affect, trait affect's influence on OOJ may be more distal. Besides, the measured trait

level PA ad NA might be influenced by the state affect at the time of responding as well.

Contrary to the hypothesis, mean level state PA did not contribute to between-person

differences in OOJ. This may be an indication that trait PA and trait NA influence justice

perceptions through different mechanisms, which is consistent with the argument that PA

and NA have different correlates. As a whole, the average levels of contextual PA and

contextual NA explained 34.9% between-person variation in OOJ. This points to the

importance of dispositional affect in the development of overall justice perceptions.

The person-level mean of the event justice evaluations also predicted significant

between-person variations in OOJ, with the fairer the event-based evaluations, the fairer

the overall justice evaluations. The mean event justice explained 36.12% of the variations

in between-person differences in OOJ. Putting both the mean contextual affect and mean

event justice evaluations in the multilevel model indicated that a total of 49.58% of

between-person variation in OOJ were explained by these variables. As participants

worked in different organizations, the justice cultures at the organizational might have

contributed to the unexplained between-person variations in OOJ.

Peak Effects

As shown in Chapter 4, the peak effect for overall justice formation was not

supported and mean event fairness and affective reactions were better predictors of OOJ.

The result is consistent with the recent test of peak-end rule on arriving at retrospective

evaluations of a previous day that contained multiepisode experiences (Miron-Shatz,

2009). Miron-Shatz showed that contrary to the peak-end rule, the duration-weighted

average feelings of reported episodes was the best predictor of retrospective evaluations of the day.

A common feature of the current study and the one by Miron-Shatz (2009) is that the events and associated evaluations were reported retrospectively: events over the past week were reported in the current study, while episodes in the previous day were reported by Miron-Shatz (2009). Although there exists research showing that people can report the frequencies of activities and emotions within the past 14 days accurately (Brown, Williams, Barker, & Galambos, 2007), the retrospective nature of the reported events and evaluations in the current study are different from many past studies of peak-end rule, where momentary evaluations / affect were obtained from participants (e.g., Fredrickson & Kahneman, 1993; Redelmeier & Kahneman, 1996). This deviation might have contributed to the current results.

Furthermore, past studies have been criticized for using uniform affect-inducing stimuli. As Fredrickson (2000, p. 594) stated, "affect-inducing stimuli. . . [that are] fairly uniform, [are] likely to produce variations in valence and intensity, but not in specific emotions." Miron-Shatz (2009) overcame this limitation by examining a whole day, which contains multiple episodes. The current study went a step further by extending the time frame to four months. Testing peak-end rule over an extended time period might be another contributor to the inconsistent results. Future research should bear this out.

It should also be noted here that peaks, by definition are unusual, atypical events (Parkinson, Briner, Reynolds, & Totterdell, 1995; Miron-Shatz, 2009). In our sample, only 7.4% of all the reported events in this study were rated as "very unfair," and even these event may not have achieved the intensity common in other peak-end research (e.g.,

the most painful moment of a conscious colonoscopy, Redelmeier & Kahneman, 1996). The current study's "very unfair" events included: "One trainee was practicing taking a call and the others did not have the patience as they watched him struggle to find the correct information", "A coworker took a 2-hr lunch, even though I was all alone in the office trying to handle great amounts of clients", and "My supervisor who is my 'Partner for Success' never talked to me about workplace expectation or gave me an orientation". It is possible that these events were not extreme enough to have direct significant influence on the justice judgment; instead, their influence might be accumulated together with other events under a normative model.

Although the peak effect was not supported in the current study, in cases of phase-shifting events (e.g., unfair promotion decisions due to supervisor's personal favoritism of another employee), these events alone might lead to significant changes in justice evaluations. In these contexts, the peak-end rule might be valid. To test this notion, research should sample events and event-based evaluations in more tumultuous work settings.

Limitations

The results of the current study should be interpreted with some important limitations in mind. For example, all the participants were relatively young, and were interns rather than formal members of the organizations. The majority of the sample was ethnic Chinese, which could have imposed culture effects. In addition, the four month internship had a clear ending date, which is different from the majority of full-time jobs. All the above characteristics of the sample might limit the generalizability of the current results.

Further, the time sampling strategies may have influenced the obtained results. In the current study, the participants were sampled weekly, which is different from the majority of ESM studies, where participants were usually sampled several times daily for two to three weeks [e.g., Ilies and Judge (2002) sampled employees four times a day for 19 working days]. This is also different from typical longitudinal studies, where the time interval may range from one month to even several years, yet contain only two to three time points. Ilies and Judge (2002) found that 33% of the variance in job satisfaction was within-person; Holtz and Harold (2009) found 24% of the variance in OOJ, and 26% of the variance in job satisfaction was within-person. The current study found 37% of the variance in OOJ was within-person. This number may change depending on the time sampling strategy.

Finally, an ideal way to track justice perceptions over time would be to track participants' *in situ* reactions to justice-related events and sample their justice evaluations immediately upon the experiencing of the event (Guo et al., 2011). However, sampling participants too often may be burdensome to the participants and could lead to increased attrition over time. The weekly sampling strategy was chosen as a compromise to track justice perceptions across many time points and at the same time to obtain a relatively accurate report of the experienced events. Although the memory of events occurring over the past week may still be quite accurate, it is possible that the associated justice judgment and emotional reactions were not as accurate as they would have been had participants been surveyed in real time. The findings that participants reported on average 1.4 events per week may have also been influenced by the brief one-week interval.

Future Research Directions

The current study analyzed the change of OOJ over time and the effects of several time-varying predictors. Further predictors of OOJ should be examined in future research. For example, trust has been found to be a significant predictor of both within-person and between-person variations in justice perceptions (Holtz and Harold, 2009). The casual direction, the psychological mechanisms through which trust and justice link to each other, and the two variables' trends and antecedents of change over time could be a fruitful area of research. It would be interesting to investigate whether some common antecedents influence both trust and justice (e.g., workplace events) and whether the two co-vary over time. Alternatively, some specific antecedents might affect one variable, which in turn influences the other.

Future research might also investigate the influence of different dispositional variables on OOJ. The current study controlled for personality traits, justice orientation, rumination, as well as trait affect. When the focal variables were entered, none were found to predict between-person variation in OOJ (thought trait NA was found to moderate the conditional slope). The influence of other dispositional variables on justice perceptions should be investigated, especially their influence on change in justice perceptions over time. For example, employees' explanatory style, their habitual way of explaining good or bad events that happen to them (Gillham, Shatte, Reivich, & Seligman, 2001), might influence how justice perceptions unfold over time. Justice researchers have long recognized the importance of attributions in justice perceptions (e.g. Brockner et al., 2007; Folger & Cropanzano, 2001; Mikula, 2003). Whether people explain (un)fair

treatment pessimistically or optimistically could influence their justice perceptions, which may in turn influence how future events are appraised.

A particularly promising next step is to investigate the type and characteristics of the events that influences people's justice perceptions. Content analysis of the reported events will provide an empirical picture of what types of events are rated as fair and what types of events are rated as unfair. Previous justice theories contend that people make justice assessments in terms of outcomes, procedures, and interpersonal treatment. However, do people really make justice evaluations in terms of these dimensions? Are there additional aspects that people evaluate as fair or unfair? Content analysis of the reported events will shed light on the "ingredients" of justice perceptions purely from employees' perspectives.

Conclusion

Despite the dynamic nature of organizational behavior, few studies have investigated change in justice perceptions longitudinally. Although the current study tracked participants before they even started their job, no fundamental change in the conceptualization of the justice concept (e.g., gamma and beta change) was found, and only mean level changes were found. The current study demonstrated a quadratic trend of change in OOJ over time. OOJ was found to fluctuate with a set of time-varying predictors, including OOJ at a previous time point, contextual PA, contextual NA, and the average justice evaluations of the reported events. The person mean level of contextual PA, contextual NA, and the event justice evaluations also explained between-person variations in OOJ. Future studies should continue to investigate the antecedents

and consequences of dynamic justice perception formation processes as they occur in the workplace.

TABLES

Table 1. Scale means, standard deviations, correlations, and reliabilities of the dispositional variables measured in pre-questionnaire

Scale	M	SD	1	2	3	4	5	6	7	8	9	10	11
1. Honesty-Humility	3.24	.64	.69										
2. Emotionality	3.38	.56	-.14	.67									
3. Extraversion	3.44	.58	.06	-.13	.74								
4. Agreeableness	3.26	.60	.11	-.11	-.10	.70							
5. Conscientiousness	3.69	.62	.02	**.25**	.03	.16	.79						
6. Openness	3.42	.57	.14	-.03	.21	.01	.13	.61					
7. Trait PA	3.32	.70	.13	-.07	**.41**	.06	**.31**	.20	.89				
8. Trait NA	2.01	.77	**-.25**	**.24**	**-.22**	-.20	-.05	-.20	.10	.88			
9. Internalization	3.58	.62	.16	.11	.07	.11	.03	.05	.11	.02	.83		
10. Attentiveness	3.44	.71	.00	.06	.18	.06	.13	.21	**.25**	-.08	**.61**	.75	
11. Rumination	2.64	.64	**-.23**	**.27**	**-.34**	-.16	-.10	**-.22**	-.18	**.43**	-.02	-.04	.85

Note. N = 82. Values on the diagonal are internal consistency reliability estimates. For correlations in bold font, $p < .05$.

Table 2. Means and standard deviations of scales measured more than once

	N	Contextual PA		Contextual NA		OOJ	
		M	SD	M	SD	M	SD
Week 0	82 / 83	2.99	.96	1.75	.79	4.10	.71
Week 1	82 / 83	2.94	.77	1.73	.72	4.00	.64
Week 2	72	2.85	.87	1.74	.70	4.03	.67
Week 3	67	2.88	.83	1.71	.76	4.00	.72
Week 4	64	2.64	.80	1.53	.66	4.07	.60
Week 5	66	2.58	.78	1.68	.82	3.94	.79
Week 6	58	2.71	.85	1.76	.85	3.83	.82
Week 7	59	2.65	.86	1.93	.95	3.77	.75
Week 8	52	2.53	.80	1.91	.90	3.66	.78
Week 9	52	2.29	.85	1.71	.77	3.79	.77
Week 10	49	2.30	.84	1.81	.86	3.67	.80
Week 11	46	2.56	.90	1.97	1.02	3.57	.81
Week 12	41	2.49	.82	1.82	.90	3.44	.74
Week 13	41	2.52	.82	1.80	.89	3.52	.68
Week 14	39	2.79	.78	1.87	.98	3.68	.68
Week 15	37	2.72	.92	1.99	1.01	3.53	.72
Week 16	32	2.69	.94	1.86	1.01	3.65	.73
Week 17	53	2.63	.91	1.97	.94	3.78	.76

Note. PA = positive affect; NA = negative affect; OOJ = overall organizational justice; Week 0 refers to the pre-questionnaire; Week 17 refers to the post-questionnaire; Week 1 to week 16 refers to the 16 weekly questionnaires.

Table 3. Correlations and reliabilities of OOJ across time

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Week 0	*.81*																	
Week 1	**.33**	*.78*																
Week 2	.11	**.35**	*.84*															
Week 3	**.31**	**.47**	**.67**	*.84*														
Week 4	.10	**.38**	**.54**	**.58**	*.83*													
Week 5	.20	**.30**	**.64**	**.63**	**.78**	*.90*												
Week 6	.12	**.37**	**.54**	**.53**	**.76**	**.82**	*.89*											
Week 7	.14	**.33**	**.47**	**.34**	**.68**	**.81**	**.83**	*.85*										
Week 8	.24	**.34**	**.64**	**.57**	**.77**	**.81**	**.84**	**.78**	*.88*									
Week 9	.21	**.54**	**.51**	**.52**	**.73**	**.82**	**.82**	**.85**	**.84**	*.87*								
Week 10	.19	**.43**	**.50**	**.48**	**.79**	**.84**	**.74**	**.74**	**.81**	**.88**	*.87*							
Week 11	.14	**.40**	**.59**	**.38**	**.76**	**.79**	**.75**	**.77**	**.75**	**.85**	**.88**	*.90*						
Week 12	-.10	.24	**.55**	**.43**	**.67**	**.71**	**.61**	**.65**	**.74**	**.76**	**.70**	**.86**	*.87*					
Week 13	-.11	.15	**.51**	.36	**.52**	**.65**	**.52**	**.54**	**.68**	**.72**	**.62**	**.77**	**.82**	*.84*				
Week 14	-.07	**.33**	**.56**	**.45**	**.61**	**.64**	**.70**	**.63**	**.74**	**.77**	**.71**	**.85**	**.71**	**.72**	*.79*			
Week 15	-.05	**.43**	**.65**	**.59**	**.65**	**.67**	**.70**	**.59**	**.74**	**.70**	**.69**	**.80**	**.74**	**.75**	**.85**	*.87*		
Week 16	.05	**.32**	**.61**	**.67**	**.80**	**.77**	**.85**	**.70**	**.83**	**.81**	**.81**	**.75**	**.67**	**.62**	**.91**	**.86**	*.84*	
Week 17	.04	**.35**	**.41**	**.38**	**.70**	**.66**	**.62**	**.59**	**.70**	**.72**	**.73**	**.71**	**.68**	**.61**	**.72**	**.60**	**.72**	*.90*

Note. Pairwise deletion; N from 25 to 82; Values on the diagonal are internal consistency reliability estimates. For correlations in bold font, p<.05.

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Table 4. Correlations between dispositional variables and OOJ at each week

									Week									
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Honesty-Humility	.07	-.08	-.06	.14	.22	.15	.03	.07	.23	-.04	.07	.11	.02	.14	.14	.10	.00	**.29**
Emotionality	.20	-.08	-.14	.10	.12	.04	.08	-.11	.06	.10	.07	-.05	-.01	.00	-.12	-.19	.03	.11
Extraversion	.06	-.01	.15	**.27**	.14	**.30**	.26	.15	.28	.13	.15	.03	.21	.08	.11	.25	**.40**	.03
Agreeableness	-.09	-.10	.13	-.13	-.07	.06	-.08	**.33**	.00	.13	.02	.15	.18	.21	.03	-.19	-.11	-.01
Conscientiousness	.18	.03	.17	.08	-.07	.19	.28	**.29**	.14	.09	.27	.14	-.26	-.17	-.04	.04	.06	-.14
Openness	.13	.18	.23	.14	.15	**.27**	.28	.27	**.33**	.22	.16	.27	.08	-.12	.24	.20	**.44**	.16
Trait PA	**.25**	-.07	**.34**	.23	.18	**.27**	.16	.24	.17	.08	.19	.17	.04	-.08	.09	.31	.23	.02
Trait NA	-.18	**-.26**	-.07	.08	-.08	-.18	-.13	-.14	-.10	-.21	-.11	-.28	-.23	-.22	-.14	-.10	.04	-.01
Internalization	.04	.11	.03	.19	-.02	.04	-.11	-.08	-.06	-.02	-.12	-.04	.23	.04	-.02	-.07	-.19	.11
Attentiveness	.16	-.05	-.09	-.08	**-.33**	-.02	-.19	-.14	-.14	-.16	-.21	-.18	.00	-.13	.00	-.01	-.15	-.05
Rumination	.11	.08	-.04	.01	-.13	-.23	-.08	-.20	-.05	-.02	-.12	-.15	-.03	.11	.04	-.15	-.02	.07
N	82	78	67	59	56	58	48	49	46	45	44	39	35	36	33	31	27	45

Note. For correlations in bold font, $p < .05$.

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Table 5. Correlation between OOJ and contextual PA and contextual NA at the corresponding week

										Week								
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Contextual PA	.00	-.14	.04	.15	.00	-.04	-.09	.07	-.06	.03	-.17	-.08	-.07	-.16	.02	.22	.13	-.02
Contextual NA	**-.25**	**-.34**	**-.40**	**-.28**	**-.34**	**-.47**	**-.49**	**-.44**	**-.47**	**-.32**	**-.39**	**-.44**	**-.31**	**-.42**	**-.36**	-.26	**-.40**	-.19
N	82	83	72	67	64	66	58	59	52	52	49	46	41	41	39	37	32	52

Note. For correlations in bold font, p<.05.

Table 6. Correlation between OOJ and justice-related events evaluations and affective reactions at the corresponding week

								Week									
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
EVTMeanPA	.07	.11	.14	**.40**	.20	.09	.00	.15	.31	-.02	-.20	.37	-.09	-.17	.14	.16	.12
EVTMeanNA	**-.28**	-.17	**-.30**	**-.48**	**-.31**	-.28	-.21	-.32	**-.44**	-.32	**-.50**	-.23	-.11	-.20	-.26	-.17	**-.45**
EVTMeanOJ	**.26**	**.34**	**.31**	**.55**	**.39**	**.38**	.09	**.52**	**.51**	**.57**	.14	**.46**	.16	.18	.27	.27	.33
N	66	56	49	46	46	41	39	28	35	30	22	23	19	20	19	11	31

Note. For correlations in bold font, p<.05. EVTMeanPA and EVTMeanNA are the corresponding mean of the affective reactions toward the reported events; EVTMeanPA is the average justice evaluations toward the reported events.

Table 7. Means, standard deviations, and the total number of reported event at every week

	M	SD	N	Total Event
Week 1	2.1	1.8	83	178
Week 2	1.8	1.7	74	135
Week 3	1.7	1.7	67	114
Week 4	1.5	1.6	65	100
Week 5	1.4	1.5	66	92
Week 6	1.8	1.8	58	104
Week 7	1.5	1.6	59	86
Week 8	1.1	1.6	53	58
Week 9	1.4	1.5	52	71
Week 10	1.2	1.5	49	60
Week 11	1.0	1.6	47	47
Week 12	1.2	1.6	42	49
Week 13	0.9	1.4	41	37
Week 14	1.1	1.6	39	44
Week 15	1.0	1.4	37	37
Week 16	0.8	1.4	32	24
Week 17	1.2	1.5	54	67
Total				1236

Table 8. Fit indices for separate one-factor CFA model of OOJ at each time point

Week	N	χ^2	df	χ^2 / df	TLI	CFI	RMSEA
0	82	14.95	9	1.66	.98	.99	.09
1	83	29.29	9	3.26	.91	.94	.17
2	72	20.75	9	2.31	.93	.96	.14
3	67	51.09	9	5.68	.77	.86	.27
4	64	28.26	9	3.14	.85	.91	.18
5	66	40.04	9	4.45	.83	.90	.23
6	58	36.76	9	4.08	.23	.16	.23
7	59	33.52	9	3.72	.82	.89	.22
8	52	67.28	9	7.48	.65	.79	.36
9	52	78.60	9	8.73	.60	.76	.39
10	49	53.15	9	5.91	.68	.81	.32
11	46	37.58	9	4.18	.80	.88	.27
12	41	25.03	9	2.78	.85	.91	.21
13	41	17.91	9	1.99	.89	.93	.16
14	39	28.61	9	3.18	.71	.83	.24
15	37	39.35	9	4.37	.71	.83	.31
16	32	25.64	9	2.85	.82	.89	.24
17	52	15.01	9	1.67	.97	.98	.11

Note. TLI = Tucker-Lewis coefficient, also known as Bentler-Bonett non-normed fit index (NNFI); CFI = comparative fit index; RMSEA = root mean square error of approximation.

Table 9. Fit indices for tests of beta and gamma change in OOJ across all time points

Model	χ^2	df	$\Delta\chi^2$	χ^2 / df	TLI	CFI	RMSEA
1	643.66	162		3.97	.82	.89	.06
2	759.32	247	**115.67**	3.07	.88	.89	.05
3	777.65	264	18.32	2.95	.88	.89	.05
4	866.92	281	**89.27**	3.09	.88	.87	.05

Note. Data at all 18 time points were included. TLI = Tucker-Lewis coefficient, also known as Bentler-Bonett non-normed fit index (NNFI); CFI = comparative fit index; RMSEA = root mean square error of approximation. Model 1 = equal factor structure (one factor) across time points; Model 2 = Model 1 + factor loadings of like items constrained to be equal across time points. Model 3 = Model 2 + factor variances constrained to be equal across time points. Model 4 = Model 3 + factor means constrained to be equal across time points. $\Delta\chi^2$ were the results of assuming the previous model to be correct and numbers in bold were significant at .05 level.

Table 10. Fit indices for tests of beta and gamma change in OOJ at week 0, week 1 and week 17

Model	χ^2	df	$\Delta\chi^2$	χ^2 / df	TLI	CFI	RMSEA
1	59.26	27		2.20	.95	.97	.08
2	83.38	37	**24.13**	2.25	.95	.96	.08
3	86.58	39	3.20	2.22	.95	.96	.08
4	96.26	41	**9.68**	2.35	.95	.95	.08

Note. Data at three time points were used: week 0, week 1 and week 17. TLI = Tucker-Lewis coefficient, also known as Bentler-Bonett non-normed fit index (NNFI); CFI = comparative fit index; RMSEA = root mean square error of approximation. Model 1 = equal factor structure (one factor) across time points; Model 2 = Model 1 + factor loadings of like items constrained to be equal across time points. Model 3 = Model 2 + factor variances constrained to be equal across time points. Model 4 = Model 3 + factor means constrained to be equal across time points. $\Delta\chi^2$ were the results of assuming the previous model to be correct and numbers in bold were significant at .05 level.

Table 11. Estimated latent means, associated standard errors and P-values at each time points

	M	SE	P
Week 0	.03	.14	.84
Week 1	.00		
Week 2	-.15	.14	.26
Week 3	-.19	.14	.17
Week 4	-.14	.14	.31
Week 5	-.28	.15	.054
Week 6	-.40	.14	.005
Week 7	-.44	.14	.002
Week 8	-.61	.15	***
Week 9	-.48	.15	***
Week 10	-.57	.16	***
Week 11	-.61	.16	***
Week 12	-.95	.17	***
Week 13	-.70	.16	***
Week 14	-.60	.17	***
Week 15	-.73	.16	***
Week 16	-.61	.18	***
Week 17	-.40	.15	.006

Note. The mean at week 1 was set to zero, and was the reference for means at other weeks. *** $p < .001$.

Table 12. Multilevel models predicting OOJ: Model A1 to A5

	Model A1			Model A2			Model A3			Model A4			Model A5		
	Est.	SE	p	Est.	SE	p	Est.	SE	p	Est.	SE	p	Est.	SE	p
Intercept	3.872	.065	<.0001	4.007	.073	<.0001	4.187	.080	<.0001	4.003	.073	<.0001	4.172	.077	<.0001
Time				-.023	.003	<.0001	-.091	.013	<.0001	-.022	.005	<.0001	-.085	.019	<.0001
Time*Time							.004	.001	<.0001				.004	.001	<.0001
τ_1^2	.361	.058	<.0001	.397	.065	<.0001	.398	.065	<.0001	.401	.072	<.0001	.376	.082	<.0001
τ_{21}										-.003	.004	.398	-.016	.015	.273
τ_2^2										.001	.000	.001	.015	.004	<.0001
τ_{31}													.000	.001	.539
τ_{32}													-.001	.000	.001
τ_3^2													.000	.000	.001
σ^2	.212	.011	<.0001	.180	.009	<.0001	.173	.009	<.0001	.160	.009	<.0001	.137	.008	<.0001
-2LL	1420.7			1183.1			1155.4			1153.1			1086.9		
AIC	1426.7			1191.1			1165.4			1165.1			1106.9		
AICC	1426.8			1191.2			1165.5			1165.2			1107.1		
BIC	1434.3			1201.3			1178.1			1180.3			1132.2		

Note. Est. = parameter estimate; SE = standard error; p = p-value. τ_1^2 = variance of Intercept; τ_2^2 = variance of slope (Time), and τ_3^2 = variance of the quadratic term (Time*Time); τ_{21}, τ_{31}, and τ_{32} are the corresponding covariances; σ^2 is the within-person residual.

Table 13. Multilevel models predicting OOI: Model B1 to B4

	Model B1			Model B2			Model B3			Model B4 (Final Model)		
	Est.	SE	p	Est.	SE	p	Est.	SE	p	Est.	SE	p
Time-invariant predictors												
Intercept	2.879	.191	<.0001	2.874	.191	<.0001	2.348	.369	<.0001	2.501	.371	<.0001
Contextual PA(M)							.065	.082	.430	.061	.081	.456
Contextual NA(M)							-.315	.078	.000	-.422	.088	<.0001
EventMeanOJ(M)							.283	.064	<.0001	.282	.063	<.0001
Time-varying predictors												
Time	-.014	.005	.006	-.013	.005	.007	-.013	.005	.008	-.047	.014	.001
Time*Contextual NA(M)										.020	.008	.011
OOI_{t-1}	.268	.044	<.0001	.269	.044	<.0001	.254	.044	<.0001	.265	.044	<.0001
Contextual PA(C)	.102	.034	.003	.104	.034	.002	.109	.034	.001	.125	.034	<.001
Contextual NA(C)	-.107	.038	.005	-.108	.038	.005	-.112	.038	.003	-.122	.038	.001
EventMeanOJ(C)	.070	.032	.027	.081	.024	.001	.078	.024	.001	.075	.023	.001
EventMeanPA(C)	.016	.031	.595									
EventMeanNA(C)	.001	.038	.988									
UN(1,1)	.211	.052	<.0001	.209	.052	<.0001	.106	.028	<.0001	.104	.028	<.001
Residual	.139	.011	<.0001	.140	.011	<.0001	.139	.011	<.0001	.137	.011	<.0001
-2LL	511.0			511.3			471.8			465.3		
AIC	531.0			527.3			493.8			489.3		
AICC	531.5			527.6			494.4			490.1		
BIC	553.5			545.3			518.5			516.3		

Note. Est. = parameter estimate; SE = standard error; p = p-value. τ_1^2 = variance of Intercept; σ^2 is the within-person residual. (M) indicates the variable is person-level mean, and (C) indicate the variable is person-level mean centered.

Table 14. Correlations and partial correlations for testing the peak effects

	Peak	Mean	Controlling for Mean	Controlling for Peak
Event Justice	.267	**.396**	0.089	**0.314**
Event PA	.107	.155	-0.005	0.112
Event NA	**-.307**	**-.391**	-0.011	-0.255

Note. The correlations are between the final OOJ, the OOJ measured in the post-questionnaire and the peak and the mean justice evaluations and the affective reactions toward the reported events. The means and the peaks were calculated over the entire four-month employment. Those correlations with bold font were significant at .05 level.
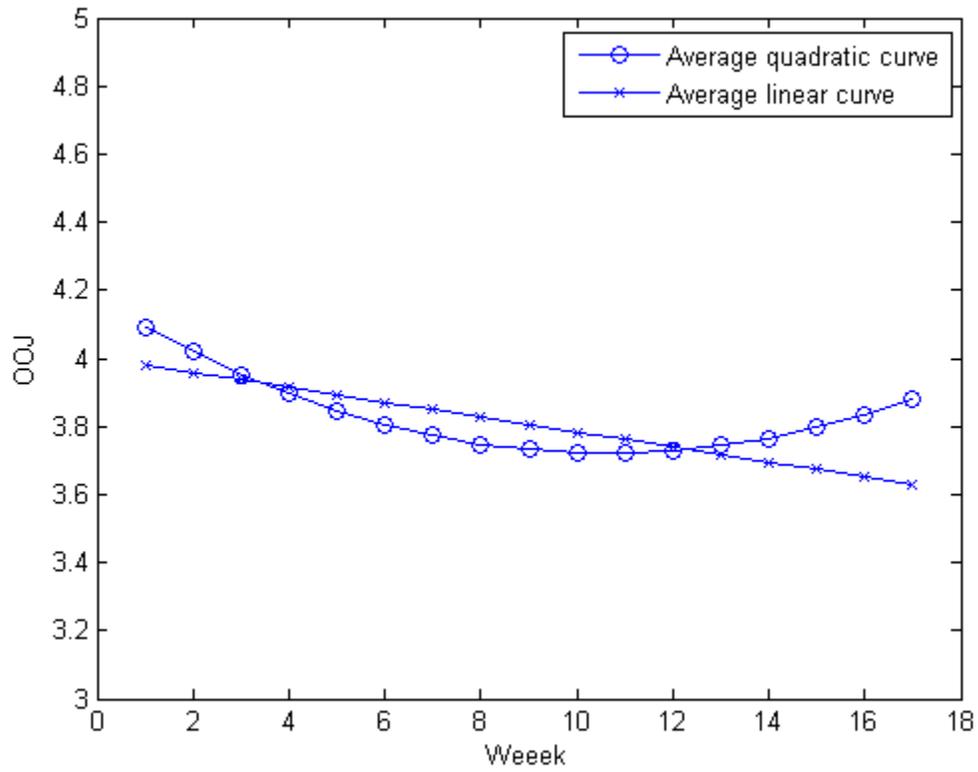
Figure 1. The fitted average quadratic curve and the average linear curve of OOJ over time

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Section 1: Mood

DIRECTIONS
How are you feeling right now:

1 = not at all   2 = a little   3 = moderately   4 = quite a bit   5 = extremely

_____Upset
_____Hostile
_____Alert
_____Ashamed
_____Inspired
_____Nervous
_____Determined
_____Attentive
_____Afraid
_____Active

Section 2: Your personality

DIRECTIONS
On the following pages you will find a series of statements about you. Please read each statement and decide how much you agree or disagree with that statement. Then write your response in the space next to the statement using the following scale:

        1 = strongly disagree
        2 = disagree
        3 = neutral (neither agree nor disagree)
        4 = agree
        5 = strongly agree

Please answer every statement, even if you are not completely sure of your response.

1 _____ I would be quite bored by a visit to an art gallery.

2 _____ I plan ahead and organize things, to avoid scrambling at the last minute.

3 _____ I rarely hold a grudge, even against people who have badly wronged me.

4 _____ I feel reasonably satisfied with myself overall.

5 _____ I would feel afraid if I had to travel in bad weather conditions.

6 _____ I wouldn't use flattery to get a raise or promotion at work, even if I thought it would succeed.

7	_____	I'm interested in learning about the history and politics of other countries.
8	_____	I often push myself very hard when trying to achieve a goal.
9	_____	People sometimes tell me that I am too critical of others.
10	_____	I rarely express my opinions in group meetings.
11	_____	I sometimes can't help worrying about little things.
12	_____	If I knew that I could never get caught, I would be willing to steal a million dollars.
13	_____	I would enjoy creating a work of art, such as a novel, a song, or a painting.
14	_____	When working on something, I don't pay much attention to small details.
15	_____	People sometimes tell me that I'm too stubborn.
16	_____	I prefer jobs that involve active social interaction to those that involve working alone.
17	_____	When I suffer from a painful experience, I need someone to make me feel comfortable.
18	_____	Having a lot of money is not especially important to me.
19	_____	I think that paying attention to radical ideas is a waste of time.
20	_____	I make decisions based on the feeling of the moment rather than on careful thought.
21	_____	People think of me as someone who has a quick temper.
22	_____	On most days, I feel cheerful and optimistic.
23	_____	I feel like crying when I see other people crying.
24	_____	I think that I am entitled to more respect than the average person is.
25	_____	If I had the opportunity, I would like to attend a classical music concert.
26	_____	When working, I sometimes have difficulties due to being disorganized.
27	_____	My attitude toward people who have treated me badly is "forgive and forget".
28	_____	I feel that I am an unpopular person.
29	_____	When it comes to physical danger, I am very fearful.
30	_____	If I want something from someone, I will laugh at that person's worst jokes.
31	_____	I've never really enjoyed looking through an encyclopedia.
32	_____	I do only the minimum amount of work needed to get by.
33	_____	I tend to be lenient in judging other people.
34	_____	In social situations, I'm usually the one who makes the first move.
35	_____	I worry a lot less than most people do.
36	_____	I would never accept a bribe, even if it were very large.
37	_____	People have often told me that I have a good imagination.
38	_____	I always try to be accurate in my work, even at the expense of time.

39	_____	I am usually quite flexible in my opinions when people disagree with me.
40	_____	The first thing that I always do in a new place is to make friends.
41	_____	I can handle difficult situations without needing emotional support from anyone else.
42	_____	I would get a lot of pleasure from owning expensive luxury goods.
43	_____	I like people who have unconventional views.
44	_____	I make a lot of mistakes because I don't think before I act.
45	_____	Most people tend to get angry more quickly than I do.
46	_____	Most people are more upbeat and dynamic than I generally am.
47	_____	I feel strong emotions when someone close to me is going away for a long time.
48	_____	I want people to know that I am an important person of high status.
49	_____	I don't think of myself as the artistic or creative type.
50	_____	People often call me a perfectionist.
51	_____	Even when people make a lot of mistakes, I rarely say anything negative.
52	_____	I sometimes feel that I am a worthless person.
53	_____	Even in an emergency I wouldn't feel like panicking.
54	_____	I wouldn't pretend to like someone just to get that person to do favors for me.
55	_____	I find it boring to discuss philosophy.
56	_____	I prefer to do whatever comes to mind, rather than stick to a plan.
57	_____	When people tell me that I'm wrong, my first reaction is to argue with them.
58	_____	When I'm in a group of people, I'm often the one who speaks on behalf of the group.
59	_____	I remain unemotional even in situations where most people get very sentimental.
60	_____	I'd be tempted to use counterfeit money, if I were sure I could get away with it.

Section 3: Your emotions

DIRECTIONS
This scale consists of a number of words that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word. Indicate to what extent you generally feel this way, that is, how you feel on the average. Use the following scale to record your answers.

        1 = very slightly or not at all
        2 = a little
        3 = moderately
        4 = quite a bit
        5 = extremely

_____ Interested
_____ Distressed

_____ Excited
_____ upset
_____ Strong
_____ Guilty
_____ scared
_____ Hostile
_____ Enthusiastic
_____ Proud
_____ Irritable
_____ Alert
_____ Ashamed
_____ inspired
_____ Nervous
_____ determined
_____ Attentive
_____ Jittery
_____ Active
_____ Afraid

Section 4: Anticipatory Fairness

DIRECTIONS
Please respond to the following statements about your anticipated work experiences using the following scale:
1 = strongly disagree
2 = disagree
3 = neutral (neither agree nor disagree)
4 = agree
5 = strongly agree

APOJ1:_____I expect to be treated fairly by my organization
APOJ2: _____ I expect to count on my organization to be fair
APOJ3: _____ I expect for the treatment I receive to be fair
APOJ4: _____ I expect things around here to work fairly
APOJ5: _____ I expect this organization to treat its employees fairly
APOJ6: _____ I expect that most of the people who work here will say they are often treated unfairly

Please consider the procedures you anticipate will be carried out in your organization. To what extent do you expect:
PJ1._____ to express your views and feelings as procedures are being carried out?
PJ2. _____ to have influence over the outcomes arrived at by those procedures?
PJ3. _____ for procedures to be applied consistently?
PJ4. _____ for procedures to be free of bias?
PJ5. _____ for procedures to be based on accurate information?
PJ6. _____ to be able to appeal the outcomes arrived at by procedures?

PJ7. _____ for procedures to uphold ethical and moral standards?

Please consider the outcomes you anticipate receiving during your co-op experience. To what extent do you expect:
DJ1. _____ your outcomes to reflect the effort you have put into your work?
DJ2. _____ your outcomes to be appropriate for the work you have completed?
DJ3. _____ your outcomes to reflect what you have contributed to the organization?
DJ4. _____ your outcomes to be justified, given your performance?

Please consider the authority figures you anticipate interacting with during your co-op experience. To what extent do you expect:
IntJ1. _____ to be treated in a polite manner?
IntJ2. _____ to be treated with dignity?
IntJ3. _____ to be treated with respect?
IntJ4. _____ for improper remarks or comments to be refrained from?

InfJ1. _____ for communications to be candid?
InfJ2. _____ for procedures to be explained thoroughly?
InfJ3. _____ reasonable explanations for the procedures carried out?
InfJ4. _____ timely communication?
InfJ5. _____ communications to be tailored to individuals' specific needs?

Section 5: Events

DIRECTIONS
We would like to learn some things that happened to you (or you witnessed happening to others) at school or work within the last week. Please describe each event in 150 characters or less (like a tweet). There is one page for each event and a total space for 5 events.

Event 1:
_____
_____

When did this event happen?
_____Today (Wednesday)   _____This Tuesday   _____This Monday

_____Last Sunday   _____Last Saturday   _____Last Friday
_____Last Thursday

Who was involved in the event? Choose all that apply.
___yourself   ___your friends   ___your supervisor
___co-worker(s)   ___customers/clients   ___others (please specify) _____

While this event was occurring, indicate to what extent you felt each emotion, using the following scale:
1 = not at all   2 = a little   3 = moderately   4 = quite a bit   5 = extremely
_____happy   _____pride
_____content   _____joy

_____guilt	_____shame
_____anger	_____hostile
_____fear	_____sad
_____frustrated	_____annoyed

How fair were the actors in this event? Please choose the option that applies.

___1 = very unfair   ___2 = unfair   ___3 = neutral   ___4 = fair   ___5 = very fair

Did this event change how much trust you have for the parties involved?

___1 = yes, I trust less   ___2 = did not change   ___3 = yes, I trust more

Event 2: ….

Section 6: Demographics

1. Your gender
___ Female
___Male
2. Your age: ___

3. Your ethnic origin (check one):
___ Aboriginal/First Nations (Inuit, Métis, North American Indian)
___ Arab/West Asian (e.g.,) Armenian, Egyptian, Iranian, Lebanese, Moroccan)
___ Black
___ Chinese
___ Filipino
___ Korean
___ Latin American
___ South Asian
___ South East Asian
___ White (Caucasian)
___ Other (please specify): _____

4. Your nationality
___Canadian
___Other (please specify)_____

5. Are you married or in a common-in-law relationship?
___Yes
___No

6. Do you have children?
___Yes

___No

If you have children, how many do you have?_____

7. Do you have past formal work experiences?
___Yes
___No

If you chose yes, then answer the following questions:
How many years were you in your previous occupation? _____
What was your job title? _____

8. The following questions are about your Co-Op starting January 2011.

What is the principal industry of your Co-Op organization?
___ Agriculture, Mining
___ Construction
___ Finance, Insurance, Real Estate
___ Government
___ Health Care
___ Internet
___ Manufacturing
___ Retail, Wholesale
___ Services
___ Transportation and public utilities
___ Nonprofit

What the name of your Co-Op organization?
_____

(3) What is your job title in your Co-Op organization? _____
(4) Please specify your main duties:_____

9. Do you have another job besides your Co-Op position? ___Yes   ___No

If you answered "yes", how many hours per week on average do you work at your other job?_____

Section 1: Mood

DIRECTIONS
How are you feeling right now:

1 = not at all   2 = a little   3 = moderately   4 = quite a bit   5 = extremely

_____Upset
_____Hostile
_____Alert
_____Ashamed
_____Inspired
_____Nervous
_____Determined
_____Attentive
_____Afraid
_____Active

Section 2: Fairness

DIRECTIONS
Please consider your experience so far and respond to the following statements using the following scale:
1 = strongly disagree
2 = disagree
3 = neutral (neither agree nor disagree)
4 = agree
5 = strongly agree

OJ1:_____I am treated fairly by my organization
OJ2: _____ I can count on my organization to be fair
OJ3: _____ The treatment I received is fair
OJ4: _____ Things around here work fairly
OJ5: _____ This organization treats its employees fairly
OJ6: _____ Most of the people who work here would say they are often treated unfairly

Please consider the procedures that are carried out in your organization. To what extent:
PJ1._____ are you able to express your views and feelings as procedures are being carried out?
PJ2. _____ do you have influence over the outcomes arrived at by those procedures?
PJ3. _____ are procedures applied consistently?
PJ4. _____ are procedures free of bias?
PJ5. _____ are procedures based on accurate information?
PJ6. _____ are you able to appeal the outcomes arrived at by procedures?

PJ7. _____ do procedures uphold ethical and moral standards?

Please consider the outcomes you receive. To what extent:
DJ1. _____ are your outcomes reflective of the effort you have put into your work?
DJ2. _____ are your outcomes appropriate for the work you complete?
DJ3. _____ are your outcomes reflective of what you contribute to the organization?
DJ4. _____ are your outcomes justified, given your performance?

Please consider the authority figures you interact with. To what extent:
IntJ1. _____ are you treated in a polite manner?
IntJ2. _____ are you treated with dignity?
IntJ3. _____ are you treated with respect?
IntJ4. _____ are improper remarks or comments refrained from?

InfJ1. _____ are communications candid?
InfJ2. _____ are procedures explained thoroughly?
InfJ3. _____ are reasonable explanations provided for the procedures carried out?
InfJ4. _____ are communications timely?
InfJ5. _____ are communications tailored to individuals' specific needs?

Section 3: Events

DIRECTIONS
We would like to learn some things that happened to you (or you witnessed happening to others) at work within the last week. Please describe each event in 150 characters or less (like a tweet). There is one page for each event and a total space for 5 events.

Event 1:
_____
_____

When did this event happen?
_____Today (Wednesday)　　　　_____This Tuesday　　　　　_____This Monday
_____Last Sunday　　　　　　　_____Last Saturday　　　　　_____Last Friday
_____Last Thursday

Who was involved in the event? Choose all that apply.
___yourself　　　　　　　___your supervisor　　　　___co-worker(s)
___customers/clients　　　___others (please specify) _____

While this event was occurring, indicate to what extent you felt each emotion, using the following scale:
1 = not at all　　　　2 = a little　　　3 = moderately　　　4 = quite a bit　　　　5 = extremely
_____happy　　　　_____pride
_____content　　　_____joy
_____guilt　　　　_____shame
_____anger　　　　_____hostile

_____fear   _____sad
_____frustrated   _____annoyed

How fair were the actors in this event? Please choose the option that applies.
___1 = very unfair   ___2 = unfair   ___3 = neutral   ___4 = fair   ___5 = very fair

Did this event change how much trust you have for the parties involved?
___1 = yes, I trust less   ___2 = did not change   ___3 = yes, I trust more

Event 2: ….
…
Event 5: ….

APPENDIX C: SURVEY FROM WEEK 2 AND EVERY WEDNESDAY FOLLOWING

Section 1: Mood

DIRECTIONS
How are you feeling right now:

1 = not at all   2 = a little   3 = moderately   4 = quite a bit   5 = extremely

_____Upset
_____Hostile
_____Alert
_____Ashamed
_____Inspired
_____Nervous
_____Determined
_____Attentive
_____Afraid
_____Active

Section 2: Fairness

DIRECTIONS
In the following, you will find a series of statements about your work experiences so far and this week only. Please rate each statement using the following scale:
1 = strongly disagree
2 = disagree
3 = neutral (neither agree nor disagree)
4= agree
5= strongly agree

OJ1:_____I am treated fairly by my organization
OJ2: _____ I can count on my organization to be fair
OJ3: _____ The treatment I received is fair
OJ4: _____ Things around here work fairly
OJ5: _____ This organization treats its employees fairly
OJ6: _____ Most of the people who work here would say they are often treated unfairly

Section 3: Events

DIRECTIONS
We would like to learn some things that happened to you (or you witnessed happening to others) at work, since your last survey (i.e., within the last week). Please describe each event in 150 characters or less (like a tweet). There is one page for each event and a total space for 5 events.

Event 1:

_____

_____

When did this event happen?
_____Today (Wednesday)   _____This Tuesday   _____This Monday
_____Last Sunday   _____Last Saturday   _____Last Friday
_____Last Thursday

Who was involved in the event? Choose all that apply.
___yourself   ___your supervisor   ___co-worker(s)
___customers/clients   ___others (please specify) _____

While this event was occurring, indicate to what extent you felt each emotion, using the following scale:
1 = not at all   2 = a little   3 = moderately   4 = quite a bit   5 = extremely
_____happy   _____pride
_____content   _____joy
_____guilt   _____shame
_____anger   _____hostile
_____fear   _____sad
_____frustrated   _____annoyed

How fair were the actors in this event? Please choose the option that applies.
___1 = very unfair   ___2 = unfair   ___3 = neutral   ___4 = fair   ___5 = very fair

Did this event change how much trust you have for the parties involved?
___1 = yes, I trust less   ___2 = did not change   ___3 = yes, I trust more

Event 2: ….
…
Event 5: ….

Section 1: Mood

DIRECTIONS
How are you feeling right now:

1 = not at all   2 = a little   3 = moderately   4 = quite a bit   5 = extremely

_____Upset
_____Hostile
_____Alert
_____Ashamed
_____Inspired
_____Nervous
_____Determined
_____Attentive
_____Afraid
_____Active

Section 2: Fairness

DIRECTIONS
Please consider your entire co-op experience and respond to the following statements using the following scale:
1 = strongly disagree
2 = disagree
3 = neutral (neither agree nor disagree)
4 = agree
5 = strongly agree

APOJ1:_____I was treated fairly by my organization
APOJ2: _____ I can count on my organization to be fair
APOJ3: _____ The treatment I received was fair
APOJ4: _____ Things around here have worked fairly
APOJ5: _____ This organization treats its employees fairly
APOJ6: _____ Most of the people who work here would say they are often treated unfairly

Please consider the procedures that are carried out in your organization. To what extent:
PJ1._____ were you able to express your views and feelings as procedures are being carried out?
PJ2. _____ did you have influence over the outcomes arrived at by those procedures?

PJ3. _____ were procedures applied consistently?
PJ4. _____ were procedures free of bias?
PJ5. _____ were procedures based on accurate information?
PJ6. _____ were you able to appeal the outcomes arrived at by procedures?
PJ7. _____ did procedures uphold ethical and moral standards?

Please consider the outcomes you received during your co-op experience. To what extent:
DJ1. _____ did your outcomes reflect the effort you have put into your work?
DJ2. _____ were your outcomes appropriate for the work you have completed?
DJ3. _____ were your outcomes reflective of what you have contributed to the organization?
DJ4. _____ were your outcomes justified, given your performance?

Please consider the authority figures you interacted with during your co-op experience. To what extent:
IntJ1. _____ were you treated in a polite manner?
IntJ2. _____ were you treated with dignity?
IntJ3. _____ were you treated with respect?
IntJ4. _____ were improper remarks or comments refrained from?

InfJ1. _____ were communications candid?
InfJ2. _____ were procedures explained thoroughly?
InfJ3. _____ were reasonable explanations provided for the procedures carried out?
InfJ4. _____ were communications timely?
InfJ5. _____ were communications tailored to individuals' specific needs?

DIRECTIONS
You just responded to several statements about the overall fairness of your entire co-op experience. Please list the events that came to mind as your formed your responses. As before, list the events in 150 characters or less (like a tweet).

Event 1:
_____
_____

When did this event happen?
_____Right at the beginning of the term
_____Half way through the term
_____Second half of the term
_____Very recently

Who was involved in the event? Choose all that apply.
___yourself   ___your supervisor   ___co-worker(s)
___customers/clients   ___others (please specify) _____

While this event was occurring, indicate to what extent you felt each emotion, using the following scale:
1 = not at all   2 = a little   3 = moderately   4 = quite a bit   5 = extremely

_____happy   _____pride
_____content   _____joy
_____guilt   _____shame
_____anger   _____hostile
_____fear   _____sad
_____frustrated   _____annoyed

How fair were the actors in this event? Please choose the option that applies.
___1 = very unfair   ___2 = unfair   ___3 = neutral   ___4 = fair   ___5 = very fair

Did this event change how much trust you have for the parties involved?
___1 = yes, I trust less   ___2 = did not change   ___3 = yes, I trust more

Event 2: ….
…
Event 5: ….

DIRECTIONS
[present all events logged over the course of the semester (not including those just provided) with a space in front of each to a) check for relevance, and b) rate by importance]

Below are the events you have provided over the last several months. Please check those that were pertinent for you as you evaluated the overall fairness of your organization. For those that you marked rate their importance for influencing your decision using the following scale:

1 = not at all important
2 = unimportant
3 = neutral
4 = important
5 = very important

[list goes here]