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Flud, Tyler N. ***Discovering the Mediating Effects of Perceived Safety Climate on Organizational Justice and Job Satisfaction***

Abstract

Job satisfaction is influenced by organizational justice (Mahboob & Khan, 2017; Afridi & Baloch, 2018) and perceived safety climate (Gyekye, 2005; Blaževska Stoilkovska, 2015). However, no research to date has investigated the possibly mediating effects of perceived safety climate on the relationship between organizational justice and job satisfaction. Using social exchange theory, this study hypothesizes that; organizational justice will positively relate to job satisfaction, perceived safety climate will positively relate to job satisfaction, and perceived safety climate will mediate the relationship between organizational justice and job satisfaction. Using archival data, responses from 2,348 responses from the 2018 General Social Survey were analyzed.

Mediated regression analyses revealed that perceived safety climate partially mediated the relationships between organizational justice and job satisfaction. Implications and future directions for research such as suggestions that organizations be mindful of their safety practices and how they impact the mental health of their employees.

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Chapter I: Literature Review

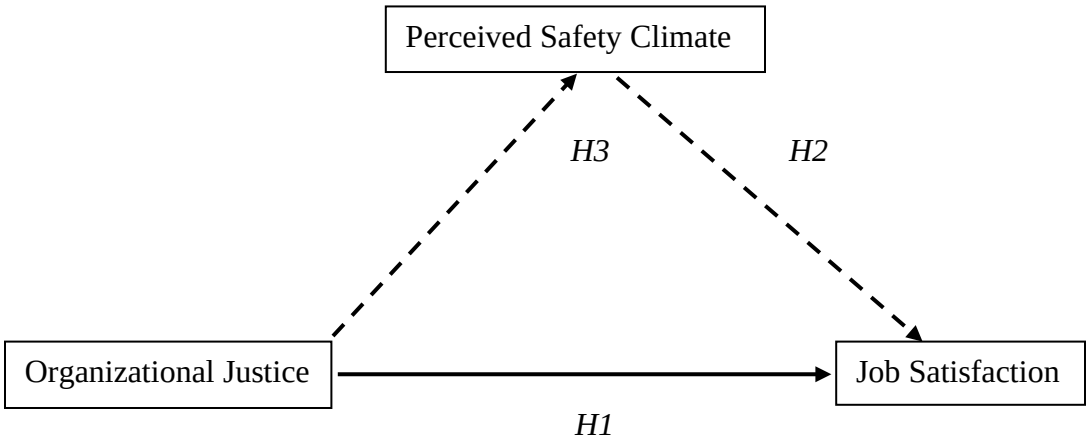
During the year 2020, waves of COVID-19 made their way through the U.S. This contagion surpassed 12.5 million cases and 250k deaths by December 2020 (Johns Hopkins, 2020), and caused the highest single-month unemployment increase (10.3% increase in March 2020) since the U.S Bureau of Labor Statistics began collecting data in 1948 (Bureau of Labor Statistics, 2020), and which has put a new strain on the American workforce. With 37 out of 51 U.S states (including Puerto Rico) issuing mandatory mask mandates for businesses by December 2020 (The New York Times, 2020), employee safety became a primary concern for organizations, regardless of the industry (Occupational Safety and Health Administration, 2020). Given this current health climate and the new safety procedures implemented in businesses (e.g., mask wearing, social distancing, sanitization), and the emphasis put on employee health, safety climate in the workplace deserves to be empirically researched in greater depth.

With the increased stress put onto workers from COVID-19, consistent job satisfaction expectations are being disrupted (Wolters Kluwer, 2020). Leaders are needing to prioritize effective ways to maintain employee well-being and engagement and increase productivity. By focusing on employee needs, Emmett et al. (2020) found that employees who perceived fair, respectful, and equal treatment at work (i.e., organizational justice) felt a higher sense of engagement and well-being by about 50% and felt that they worked more effectively by about 20% when compared to those who felt they were not treated with fairness, respect, and equality (Emmett et al., 2020). In the traditional work environment, job satisfaction and fair treatment have had a massive effect not only on each other, but the productiveness of an organization, which has only been exacerbated by the COVID-19 pandemic.

The purpose of this project is to determine if employees' perceptions of fairness at their workplace influence their satisfaction of their job and if their perceptions of the safety procedures and practices at their workplace impact this relationship. The review of literature aims to investigate and support the hypothesized relationships between organizational justice, perceived safety climate, and job satisfaction. Figure 1 below illustrates the story this proposal aims to describe. First, social exchange theory (Thibaut & Walker, 1975), more specifically the affect theory of social exchange (Lawler, 2001) will explain the groundwork that supports this work. Next, the author will review the three investigated constructs and their interrelations. Finally, a case will be made for the mediation effect of perceived safety climate on the relationship between organizational justice and job satisfaction. The contributions of this work include adding to the existing literature of the three constructs involved, and, primarily, being the first body of work to examine the described mediation effect.

Figure 1

The Investigated Mediating Effect of Perceived Safety Climate on the Relationship Between Organizational Justice (including its three dimensions) and Job Satisfaction



Social Exchange Theory

The relationship between social structures and social interactions is a symbiotic process, in that each can have various impacts on the other (Emerson, 1981; Giddens, 1984; Stryker, 2001). For example, the social structure of a working relationship between manager and employee will tend to determine the way each party interacts with each other, and those interactions can determine the depth and cohesiveness of the relationship. These two concepts, social structures and social interactions, create an exchange network wherein lie a set of possible or potential ties that determine interaction parties and what may be exchanged (Lawler et al., 2008). A social exchange occurs when two or more actors, here referred to as "employees", within an exchange network provide something of value to the other and receive something of value in return (Emerson, 1972; Willer & Anderson, 1981).

Exchanges over Time. Over time, repeated exchanges can develop a sense of commitment between employees. This is the tendency of employees to continue to exchange with those whom they have exchanged with in the past (Kollock, 1994; Lawler & Yoon, 1996; Molm et al., 2000). The literature describes two dimensions of commitment: trust and affect. Trust is the product of a high risk and uncertainty filled context (Cook, 2005; Kollock, 1994; Molm, 1994; Molm, 2003), and is used as a strategy to reduce uncertainty and create or strengthen bonds within relationships or groups (Fukuyama, 1995; Yamagishi & Yamagishi, 1994). While affect, not trust, is the aspect of social exchange theory, this research focuses on, it is important to be able to distinguish these two dimensions.

The affect theory of social exchange provides the theoretical basis for the current research. In this context, affect is an employee's response towards positive or successful longitudinal exchange relationships with their employer. As these exchange relationships occur

over time and remain relatively positive or successful, they promote increased stability and cohesiveness within the relationship, as well as promote sustained exchanges (Lawler et al., 2000; Yoon & Thye, 2000). An example of an affective social exchange would be that employee A is very productive and efficient at work. Their manager gives them a raise from noticing their on-going commitment to their work. This manager-subordinate relationship will become more stable and cohesive because employee A can attribute the positive feelings felt from the raise their manager gave them, to their strong individual effort at work. This is a type of exchange one would frequently see in the workplace, and the dimension of social exchange theory that will be prevalent in the current research.

The affect dimension of social exchange, as theorized by Lawler (2001), describes emotions and feelings as the primary outcomes of exchanges. The first step, or reaction to an exchange is the feeling of global emotions. These emotions are completely involuntary and instinctual. They can include feeling up or down, pleasure or displeasure. Global emotions are immediately felt as a result of an exchange. The second step is the feeling of specific emotions. Specific emotions are one's interpretations of global emotions. They emerge as employees' experience and interpret the source of their feelings. These emotions are directed at social objects such as self, other, or the unit. Specific emotions are feelings such as pride or shame in self, gratitude or anger towards another, and affective attachments or detachments (Weiner, 1985; Damasio, 1999). An example of this process would be an employee being demoted by their manager. At first, they may have global emotions of disappointment or sadness. Once they have a chance to process these emotions and their managers reasons for demoting them, they may feel shame or guilt in themselves, or anger at their manager. Global and specific emotions can be felt as the result of different types of exchanges.

In the context of the current research, the affect dimension of social exchange theory plays a crucial role in explaining the proposed relationships. As noted, the affect dimension of social exchange proposes that emotions and feelings are the primary outcomes of exchanges within a relationship. Within the workplace, the exchanges between manager and employee produce feelings and emotions that, in this context, produce the outcomes of organizational justice, perceived safety climate, and job satisfaction. If a manager treats an employee with fairness and respect (organizational justice), the employee will have positive affectivity towards their manager and job (job satisfaction). If a supervisor meaningfully promotes a safe working environment, the employee will feel like their well-being and safety are priorities (perceived safety climate), leading to positive affectivity with their job. And finally, if an employee is treated with fairness and respect, and they perceive a prioritization of their well-being and safety, this will lead to higher affectivity with their job.

Knowing how these social exchanges can occur in the workplace and the impacts they tend to have on the employees within them is particularly important to understanding the relationships between the following constructs: organizational justice, job satisfaction, and perceived safety climate. Individually, each of these constructs play the part of being the product of a culmination of exchanges within the workplace. The researcher aims to show that the exchanges that affect each construct individually, creates a pool where there is a collective effect on each other.

Organizational Justice

Organizational justice is defined as employee perceptions of fairness in the workplace (Neal et al., 2000). It consists of three dimensions of fairness including distributive justice (resource allocation), procedural justice (decision-making), and interactional justice

(interpersonal interactions; Cohen-Charash & Spector, 2001). Overall, organizational justice has significant cross-sectional organizational impacts including positive associations with perceived organizational support (Colquitt et al., 2001), leader-member exchange (Alarcon et al., 2010; Masterson et al., 2000), task performance and work engagement (Colquitt et al., 2001), organizational commitment (Cogin et al., 2016), organizational citizenship behavior (Liao & Rupp, 2005), and more relevant to the current study, job satisfaction (Mahboob & Khan, 2017). Low organizational justice can have negative impacts on job burnout and turnover intentions (Lum et al., 1998), performance (Colquitt et al., 2001) and increase the frequency of various counterproductive work behaviors (Colquitt et al., 2001; Cohen-Charash & Spector, 2001, Hopkins & Weathington, 2006). It is important to note that each dimension of organizational justice is exclusive to one another. The same situation can result in different, and sometimes opposite levels of perceived justice. For example, employees B and C (different employees from the previous example) both applied for the same management position in their organization. Employee B was awarded the promotion. Employee C thought that decision was fair based on B's consistently higher productivity at work and experience (high procedural justice), but unfair given the harsh and indelicate way they were told that they did not get the promotion (low interactional justice). Each dimension of organizational justice is unique in the types of exchanges it describes, and similar in their effects on employees.

Distributive Justice

Distributive justice refers to the fairness of the distribution of outcomes at work (Adams, 1965) such as pay, promotion, and access to resources (Xerri, 2018; Yadav & Yadav, 2016). Distributive justice is felt when decision outcomes are consistent with the norms for the allocation of outcomes or rewards (Colquitt, 2001). Positive perceptions of distributive justice in

the workplace have been positively associated with organizational attachment, identification, and involvement, all indicators of job satisfaction (Chen et al., 2015; Xerri, 2018), while negative perceptions have resulted in increased distrust and disrespect with management, decreased motivation to work, and an increase in disputes between coworkers, all indicators of job dissatisfaction (Abekah-Nkrumah & Atinga, 2013).

A common example of low perceived distributive justice would be an employee who has been at an organization for five years (employee D) being overlooked for a promotion for an employee who has been at that same organization for only two years (employee E). Employee D, who was overlooked, may perceive the decision to promote the other as unfair. They may feel like they deserve the promotion more than employee E because they have been with the organization longer. This displeasing outcome may lead employee D to experience various aspects of low job satisfaction including lower motivation and performance at work, increased issues with management, and overall counterproductive work behaviors. On the other hand, if employee D does receive the promotion, this could lead to increased affective attachment and identification to their organization. This example reflects the impact of distributive justice on various indicators of job satisfaction, an impact that will be further studied in the current research.

Procedural Justice

Procedural justice is the "justice of the processes that lead to decision outcomes" (Colquitt, 2001, p. 386). These processes include the motives, methods, and mechanisms used to determine outcomes (Yadav & Yadav, 2016). Additionally, procedural justice is the feeling of having an opportunity to have one's voice be heard and taken into consideration during decision-making (Abekah-Nkrumah & Atinga, 2013; Yadav & Yadav, 2016). This dimension deals with

the fairness of how one is judged regarding their work. For example, employee F received a sub-par score on their mid-quarter review. Besides the fact that they did not have input into that review, they knew that their workload was very high compared to their coworkers, many times they would ask for assistance without receiving it, and the products they made were constantly on a short turn-around time frame. All of these factors led employee F to receive their low score, and along with being unable to explain this to their supervisor, created a low sense of perceived procedural justice.

Perceived fairness in procedural justice has been found to positively associate with increased job involvement, organizational commitment, trust of management, and cooperation among employees (Cogin et al., 2016). Having procedural justice within an organization means having transparency and honesty in decision-making. Transparency and honesty in how decisions come to be, who had input in creating the policy or the standard operating procedure for making policies that have company-wide implications, having a paper trail and facts so decision-makers can be held accountable, and making sure that personal biases do not impact decisions.

Another example of procedural justice would follow a previously mentioned situation involving the two employees and the promotion of the two-year employee. The procedural justice aspect of fairness would be how the five-year employee perceives the process of the other employee receiving the promotion. Employee D believes that tenure should be the fairest process for determining who receives a promotion. From this point of view, employee D feels like they have been unfairly overlooked for the promotion, negatively impacting their perceived procedural justice.

Interactional Justice

The last dimension of organizational justice is interactional justice, which represents the perceived treatment of an employee by their supervisor(s). It is defined as the "interpersonal treatment people receive as procedures are enacted" (Colquitt, 2001, p. 386). Furthermore, it is concerned with the attitude and methods of a superior when they implement a procedure upon an employee (Yuan et al., 2016). Perceptions of interactional justice has shown to affect intentions to quit (Hassan & Hashim, 2011), job satisfaction (Mahboob & Khan, 2017), and trust in management (Mittal et al., 2019) among employees. Interactional justice is viewed as the human aspect of organizational justice and takes into account three productive aspects of human interaction: politeness, sincerity, and respect (Bies & Moag, 1986). This "human" aspect of justice is important because employees want to know that when they spend most of their waking hours under the management of another, they are treated as a human. A working adult should expect and receive quality, just, and equal treatment from those whom they report to.

Following the same example previously referenced, interactional justice would come into play when employee F is notified and discussed with about why she/he did not get the promotion. During that discussion, if the employee is treated in a respectable manner and gets their questions answered sufficiently, they will most likely have a positive level of interactional justice. If their manager fails to give the employee straight answers, uses disrespectful language, or even chooses not to discuss why they did not get the promotion, that employee may perceive a low level of interactional justice.

In sum, organizational justice has its three dimensions: distributive justice (who gets the information), procedural justice (how the information came to be), and interactional justice (how the information is shared). The outcomes of felt (in)justice can be directly related to job

satisfaction with organizational justice having a positive association with job satisfaction, or indirectly related with both organizational justice and job satisfaction having similar antecedents and outputs.

Job Satisfaction

Introduced by Locke (1969), job satisfaction is defined as the degree to which a worker experiences positive affection towards his or her job as a function of what one wants from a job and what they receive (Locke, 1969). Furthermore, it is a positive emotional state resulting from appraisal of one's job or job experiences and from a worker's comparison of actual outcomes with desired outcomes (Locke, 1969). It can be inferred that an employee's level of job satisfaction can be a result of the fairness of their treatment from others at work, as well as their perceptions of the work safety climate. Relative to the current research, job satisfaction has a wide range of impacts regarding organizational climate, and it is seen as an indicator of emotional and physical working conditions (Neal et al., 2000).

Job Satisfaction and Organizational Justice

The previous research has shown which factors link organizational justice and job satisfaction; now evidence will be provided that describes how strong the relationship between these two constructs is, and why they continue to deserve to be empirically researched. Mahboob and Khan (2017) surveyed and interviewed 200 faculty members from two middle eastern universities and found that all three dimensions of organizational justice not only correlated with job satisfaction, but all three were significant predictors of job satisfaction. Interestingly, interactional justice had the highest significant correlation with job satisfaction. This may hint that the leading employee between these two constructs lie in interpersonal relationships and communication between employee and supervisor (Mahboob & Khan, 2017).

Not only do job satisfaction and organizational justice constructs have a significant predictive impact on each other, but they also have significant importance to organizations. Afridi and Baloch (2018) surveyed 550 public and private faculty and staff of 12 Pakistani universities and found similar results. Although their research did not include the dimension of interpersonal justice, the theory of organizational justice is still present. Procedural justice had the strongest correlation with job satisfaction, while distributive justice was still a significant correlate. Critical to the current research, these two justice dimensions were also found to be predictors of job satisfaction. More important to organizations is the fact that employee satisfaction and motivation to achieve organizational goals was said to entirely depend upon the treatment they receive from their organization (Afridi & Baloch, 2018)

Although each justice dimension is autonomous to the others, evidence supports the fact that each dimension continually shows a strong positive draw towards job satisfaction. There has been further support for the relationships between job satisfaction and distributive justice (McFarlon & Sweeney, 1992; Lambert et al., 2007), procedural justice (Afridi & Boloch, 2018), and interactional justice (Usmani & Jamal, 2013). Each of these studies found significant correlations, if not predictive relationships between each organizational justice dimension and job satisfaction.

Although each dimension of organizational justice has been found to have differing correlational and regression effects on job satisfaction, the current study will look to add to the existing body of evidence finding support for the predictive relationship between each justice dimension and satisfaction. All previous findings lead the researcher to propose that organizational justice will significantly and positively relate to job satisfaction. Therefore, Hypothesis 1 is listed below:

Hypothesis 1a. Distributive justice will positively relate to job satisfaction.

Hypothesis 1b. Procedural justice will positively relate to job satisfaction.

Hypothesis 1c. Interactional justice will positively relate to job satisfaction.

Like organizational justice and job satisfaction, the final construct researched in the current study, perceived safety climate, is a result of the exchange environment an employee works in. With employee safety becoming a priority for many businesses, how safe the climate one works in is, is an important topic to include in the current research.

Perceived Safety Climate

Organizational climate is the shared perceptions of an organization's employees, which they develop about their organization (Reichers & Schneiders,1990). Perceived safety climate narrows this scope down to the employees' perceptions of the organization's safety-related practices and procedures (Neal & Griffin, 1997). Perceived safety climate has three core dimensions: management, safety systems, and risk. Management includes the employees' perceptions of management's attitudes and behaviors relating to safety. Safety systems include the policies and procedures put in place at work. Risk is how people at work perceive risk and risk-taking behaviors (Flin et al., 2000). The current research will examine perceived safety climate as one construct.

Workplace safety has immense organizational implications, especially when regarding a company's bottom line. In 2019 alone, a Liberty Mutual workplace safety index estimated that non-fatal workplace injuries cost American businesses almost $60 billion in worker's compensation claims (*2019 Workplace Safety Index: The top 10 causes of disabling injuries at work*, 2019). Employees need to know that their organization has taken the steps to minimize the negative impacts to their health, for example, by having a standard policy that workers on a

ladder have a spotter or by having a mandatory mask mandate. This may help them perceive a caring organization and improve many aspects of their workplace behavior and can also help that organization avoid cutting into their bottom line.

Perceived Safety Climate and Organizational Justice

One of the underrepresented relationships in workplace research is that between perceived safety climate and organizational justice, although empirical evidence is yet limited. In studying the relationship between organizational justice and perceived safety climate, Gatien (2011) surveyed 325 construction employees across two Canadian construction companies. He found that distributive and procedural justice predicted perceived safety climate, while interpersonal justice did not. Organizational justice, overall, explained 55% of the variance in safety climate perceptions of the employees (Gatien, 2011). These findings demonstrated an under researched relationship between the two constructs, a relationship that will be investigated further in the current study.

Perceived Safety Climate and Job Satisfaction

Job satisfaction has been found to have an impact on a variety of safety-related organizational behaviors and events including occupational injuries and accidents (Gyekye, 2005) and safe behaviors (Probst & Brubaker, 2001). Satisfied workers are more likely than those who are dissatisfied to participate in activities and behaviors that benefit the organization, including engaging and complying with safety practices (Aryee et al., 2002). By assessing over 300 industrial workers, Gyekye (2005) found evidence supporting the relationship between perceived safety climate and job satisfaction. Overall, perceptions of workplace safety reflected the extent to which they perceived their organizations as being supportive and committed to their well-being and satisfaction. Specific findings were positive associations of job satisfaction with

perspectives of safety climate, compliance with safety management policies, and lower rates of accident involvement (Gyekye, 2005).

To research the relationship between job satisfaction and safety climate perceptions, as well as age, Blaževska Stoilkovska et al. (2015) surveyed 155 construction employees in the Republic of Macedonia. They found that participants with higher job satisfaction perceived a safer work environment provided by management, a lower percentage of accidents, and frequent safety inspections. This, along with the evidence provided by the referenced studies, supports the proposed relationship in the current study; perceived safety climate will positively correlate with job satisfaction. Therefore, Hypothesis 2 is listed below:

Hypothesis 2. Perceived safety climate is positively related with job satisfaction.

Mediating Effect of Perceived Climate Safety

There has been no previous research examining the mediating effects of perceived safety climate on organizational justice and job satisfaction. From the previous literature, there have been examples of the similar, and positive relationships of both perceived safety climate and organizational justice on job satisfaction. While there is little research on the relationship of perceived safety climate and organizational justice, the evidence generally points to a positive relationship between the two constructs. The link between all three constructs can be explained by the social exchange theory. When an employee perceives fair and just treatment from their employer, they will also tend to perceive that their employer promotes and provides a safe working environment, both leading to the satisfaction of that employee with their job. This supports the assumption of mediation. After finding the expected positive relationship between organizational justice and job satisfaction, Afridi and Baloch (2018) state that future research could look to explain why that relationship is, by including a mediating or moderating effect. By

following this call for research, the current study shall aim to find that perceived safety climate does, in fact, explain this relationship. Therefore, Hypothesis 3 is listed below:

Hypothesis 3a. Perceived safety climate mediates the relationship between distributive justice – related items and job satisfaction.

Hypothesis 3b. Perceived safety climate mediates the relationship between procedural justice-related items and job satisfaction.

Hypothesis 3c. Perceived safety climate mediates the relationship between interactional justice-related items and job satisfaction.

Chapter III: Methodology

The current research utilizes data from the 2018 General Social Survey (GSS; gssdataexplorer.norc.org). The GSS is a biennial questionnaire that gathers data on many aspects of American society (General Social Survey, 2016). For over four decades, the GSS has covered topics including civil liberties, crime and violence, intergroup intolerance, morality, national spending priorities, psychological well-being, social mobility, and stress and traumatic events, along with demographics, behavioral, and attitudinal questions. It is described as the only personal interview survey in the United States that uses full-probability sampling to monitor the changes in social characteristics and attitudes of adults (General Social Survey, 2016).

Participants

Every two years, the GSS reaches about 2,500 households (General Social Survey, 2016). The households are selected to represent a cross-section of the USA. One adult (18+) per household is randomly selected to participate in the survey. In 2018, the GSS obtained 2,348 responses from adults across the country. Participants who are unable to do the survey in English or Spanish, or those who live in institutions or group quarters are not included in the GSS sample (General Social Survey, 2016).

To estimate the minimum sample size to obtain an acceptable effect size, a power analysis was conducted using GPower (Faul et al., 2009). With an effect size of $f^2 = .30$, alpha level $\alpha = 0.05$, power of .90, a minimum sample size of 46 is needed. The sample here is more than adequate at $n = 2,348$.

Materials

The General Social Survey contains 1100 items for the 2018 survey administration (GSS Data Explorer, n.d.). For the current study, the researcher filtered the items for the following

modules/subjects: quality of working life, work organizations, workplace conflict, and occupational prestige.

Organizational Justice

A total of 11 items were used to capture organizational justice (see Table 1). These items were identified by cross-referencing the GSS list with items found on Colquitt's (2001) *organizational justice scale.* Items did not match word for word, nor were there the same number of items.

There were two items on the GSS that reflected the distributive justice dimension of organizational justice. The first item was an agreement statement. Respondents were asked to rate the degree to which they agreed with the statement, "Promotions are handled fairly," on a 1 (*strongly disagree*) to 4 (*strongly agree*) scale. The second item was, "How fair is what you earn on your job in comparison to others doing the same type of work you do?" This item was rate on a 1 (*much less than you deserve*) to 5 (*much more than you deserve*) scale. In Colquitt's (2001) scale, the terms "reflect," "appropriate," and "justified" are used in obtaining one's opinion of their outcome compared to the work they do. The comparison of what one is paid on their job to what another is paid is used to determine how their pay should "reflect" the effort they put into their work, if their pay is "appropriate" to the work they have completed, and if their pay is "justified" given their performance.

There were 5 items of the GSS that were relative to procedural justice. For example, respondents rated how much they agreed with the statement, "I know what is expected on the job," on a scale of 1 (*strongly agree*) to 4 (*strongly disagree*).

For the current research, the author has identified four items from the GSS that fit the criteria of interactional justice. For instance, respondents were asked to rate how much they

agree with the statement, “At the place where I work, I am treated with respect,” on a scale of 1 (*strongly agree*) to 4 (*strongly disagree*).

Perceived Safety Climate

Four items were used to assess perceived safety climate. For example, participants were asked how strongly they agreed with the statement, “The safety of workers is a high priority with management where I work” on a scale of 1 (*strongly agree*) to 4 (*strongly disagree*).

Job Satisfaction

For the current research, one item from the GSS was used to measure job satisfaction in respondents. Participants were asked, “All in all, how satisfied would you say you are with your job?” and responded on a scale of 1(*very satisfied*) to 4 (*not at all satisfied*). Table 1 below visualizes the definitions and GSS items used for each dimension of justice, perceived safety climate, and job satisfaction.

Table 1

Definition and Items used for each construct.

Construct	Definition	Items
Organizational Justice		
Distributive Justice	Fairness of the distribution of outcomes at work	1. Promotions are handled fairly. 2. How fair is what respondent earns on the job?

Construct	Definition	Items
	The fairness of how one is judged within the context of their work	1. Respondent has too much work to do well. 2. Enough help and equipment to get job done. 3. Respondent knows what's expected on the job. 4. Respondent has enough time to get the job done. 5. How often respondent takes part in decisions.
Interactional Justice	The interpersonal treatment one receives at work	1. Respondent is treated with respect at work. 2. Supervisor is concerned about welfare. 3. Supervisor is fair. 4. Respondent has enough information to get the job done.

Construct	Definition	Items
Perceived Safety Climate	Employees' perceptions of the safety-related practices and procedures	1. The safety of workers is a high priority with management where I work. 2. There are no significant compromises or shortcuts taken when worker safety is at stake. 3. Where I work, employees and management work together to ensure the safest possible working conditions. 4. The safety and health conditions where I worker are good.
Job Satisfaction	The degree to which a worker experiences positive affection towards his or her job	1. All in all, how satisfied would you say you are with your job?

Description of Archival Data Collection Procedures

While these data had already been collected, the survey procedures are described here. The GSS obtained responses using virtual or phone interviews (Global Social Survey, 2016). Surveys took about 90 minutes to complete. Interviewers used quota sampling, wherein they

canvassed and interviewed only to meet quotas of age, sex, and employment status. To reduce the chance of not-at-home sampling bias the interviewers only canvassed and interviewed after 3:00 PM on weekdays or during weekends or holidays. Sample selection happened in three stages. The first stage included Primary Sampling Units which were Standard Metropolitan Statistical Areas or non-metropolitan counties. These were selected by NORC's master sample. These areas were stratified by age, race, and region before the quota sampling within them ensued. The second and third stage included stratification by race and income to create block groups and enumeration districts.

Chapter IV: Results

To test the hypotheses, simple mediation analyses were conducted on the impact of perceived safety climate on the relationship between organizational justice-related indicators and job satisfaction.

Data Preparation

Data exploration revealed a discrepancy between the total number of interviews conducted and the total number of responses for the selected items on the General Social Survey. The maximum number of responses for an item in this data was n = 1,418 and the item with the least number of responses had n = 1,393. Because respondents to the survey could choose not to answer questions if they did not want to, this discrepancy between the total number of responses and the total number of responses for the selected items is not surprising. Prior to importing the data from the General Social Survey to Jamovi for analysis, the data had been exceptionally cleaned, so minimal cleaning was necessary. A possible concern for the researcher was the response rate. As a cutoff, the data was filtered by respondents who responded to at least 70% of the items used. As the data had been previously cleaned, this did not lead to any deletion of responses. Another concern for the researcher was that respondents had the option to choose “I don’t know” for a response to each of the 16 items used for this research. Prior to checking for a 70% response rate, these responses were filtered out. This also did not lead to the deletion of any responses. As a result, the total number of respondents included in the analyses was n = 1,418.

Normality and multicollinearity assumption tests were run prior to the mediation analyses. Table 2 below visualizes the Shapiro-Wilk p-values and the Variance Inflation Factor (VIF) and Tolerance statistics for each justice-related dimension. Each justice-related dimension presented a p-value less than .05 meaning that, for each item, the data significantly differed from

a normal distribution. The VIF and Tolerance tests to see if the data met the assumption of collinearity indicated that multicollinearity was not an issue, as the VIF statistics were nowhere near the suggested maximum of 10.0 and the Tolerance statistics were all within .04 of 1.0 (O'Brien, 2007). Table 3 represents the correlation matrix of all GSS items used in the current study.

Table 2

VIF, Tolerance, and Shapiro-Wilk statistics for Each Justice-Related Dimension

	VIF	Tolerance	Shapiro-Wilk (p – value)
Fair Promotions	1.02	0.98	< .001
Fair Earnings	1.01	0.99	< .001
Too Much Work	1.00	1.00	< .001
Enough Help/Equipment	1.02	0.98	< .001
Knows What's Expected	1.01	0.99	< .001
Enough Time	1.01	0.99	< .001
Decisions	1.00	1.00	< .001
Respectful Treatment	1.04	0.96	< .001
Concerned Supervisor	1.02	0.98	< .001
Fair Supervisor	1.01	0.99	< .001
Enough Information	1.01	0.99	< .001

Note. p-values significant at .05

Table 3

Pearson's r Correlation Matrix for Each Item Involved in Analyses

	Item	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	Fair Earnings	-															
2	Fair Promotions	.26 *	-														
3	Too Much Work	.09 *	.03	-													
4	Enough Help	.23 *	.35 *	.23 *	-												
5	Knows What's Expected	.01	.05 *	.08 *	.17 *	-											
6	Enough Time	.17 *	.26 *	.41 *	.40 *	.14 *	-										
7	Decisions	.06 *	.12 *	.01	.01	.02	-.05 *	-									
8	Respectful Treatment	.21 *	.36 *	.07 *	.35 *	.28 *	.21 *	.16 *	-								
9	Concerned Supervisor	.15 *	.39 *	.06 *	.32 *	.08 *	.17 *	.08 *	.34 *	-							
10	Fair Supervisor	.17 *	.32 *	.07 *	.24 *	.08 *	.14 *	.12 *	.38 *	.44 *	-						
11	Enough Information	.14 *	.29 *	.16 *	.54 *	.23*	.35 *	.01	.29 *	.23 *	.16 *	-					
12	Job Sat	.25 *	.36 *	.13 *	.37 *	.13 *	.31 *	.14	.45 *	.35 *	.30 *	.28 *	-				
13	Good Safety Conditions	.17 *	.31 *	.07 *	.34 *	.18 *	.21 *	.10 *	.46 *	.28 *	.20 *	.27 *	.34 *	-			
14	Work on Safety	.18 *	.35 *	.09 *	.37 *	.22 *	.23 *	.14 *	.47 *	.36 *	.25 *	.31 *	.38 *	.66*	-		
15	No Shortcuts on Safety	.08 *	.27 *	.06 *	.29 *	.18 *	.18 *	.10 *	.36 *	.25 *	.17 *	.23 *	.27 *	.55 *	.61 *	-	

	Item	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
16	Safety Priority	.14 *	.34 *	.07 *	.32 *	.19 *	.19 *	.09 *	.44 *	.32 *	.24 *	.25 *	.33 *	.61 *	.68 *	.62 *	-

Note. * denotes a significant Pearson's r correlation

Distributive Justice

To investigate the impact of perceived safety climate on the relationship of distributive justice-related factors (perceived fairness of earnings and perceived fairness of the handling of promotions) and job satisfaction, simple mediation analyses were conducted. First, the analysis revealed a direct effect ($\beta = .20$, $p < .001$) of fair earnings on job satisfaction. Next, the indirect path was examined. Here, an indirect effect ($\beta = .06$, $p < .001$) of perceived safety climate was observed. Specifically, there was a significant relationship between fair earnings and perceived safety climate ($\beta = .014$, $p < .001$) and between perceived safety climate and job satisfaction ($\beta = .47$, $p < .001$), A bootstrap analysis (5,000 iterations with 95% CI) revealed a range of .04 to .10. The Variance Accounted For (VAF) statistic for this item was 22.2%, indicating a partial mediation.

The second analysis revealed significant direct effect ($\beta = .18$, $p < .001$) of fair promotions on job satisfaction. Next, the indirect effect path was examined. Here, an indirect effect ($\beta = .08$, $p < .001$) of perceived safety climate was noted. Specifically, there was a significant relationship between fair handling of promotions and perceived safety climate ($\beta = .21$, $p < .001$) and between perceived safety climate and job satisfaction ($\beta = .39$, $p < .001$). A bootstrap analysis (5,000 iterations with 95% CI) revealed a range of .06 to .10. The VAF statistic for this item was 30.8%, indicating a partial mediation. See Table 4. As both distributive justice-related items showed a positive association with job satisfaction, hypothesis 1a was supported. As perceived safety climate was found to partially mediate the relationships between both distributive justice-related items and job satisfaction, hypothesis 3a is supported.

Table 4

Mediating Effect Estimates of Perceived Safety Climate on each Distributive Justice Item and Job Satisfaction

				95% Confidence Interval				
Item	Effect	Estimate	SE	Lower	Upper	p-value	VAF	Decision
Fair Earnings								
	Indirect	.06	.01	.04	.09	< .001	22.2%	Partial
	Direct	.20	.03	.15	.26	< .001		
	Total	.27	.03	.20	.33	< .001		
Fair Promotions								
	Indirect	.08	.01	.06	.10	< .001	30.8%	Partial
	Direct	.18	.02	.14	.23	< .001		
	Total	.26	.02	.22	.31	< .001		

Note. This table visualizes the effect estimate, standard error, lower and upper confidence intervals, p-value (significant at .05), variance accounted for (VAF), and mediation decision perceived safety climate on the relationships of each distributive justice-related item and job satisfaction.

Procedural Justice

Simple mediation analyses were conducted to analyze the effect of perceived safety climate on the relationship of procedural justice-related factors and job satisfaction. This dimension of organizational justice included 5 items from the General Social Survey. The first indicator was if the respondent had too much work to do well. The analysis revealed a significant direct effect ($\beta = .07$, $p < .001$) of procedural justice on job satisfaction. Next, the indirect path was examined. Here, an indirect effect ($\beta = .03$, $p < .004$) of perceived safety climate was observed. Specifically, there was a significant relationship between too much work and

perceived safety climate (β = .05, p = .003) and perceived safety climate and job satisfaction (β = .50, p < .001). A bootstrap analysis revealed a range of .01 to .04. The VAF statistic for this item was 33.3%, indicating a partial mediation.

The second indicator item was if the respondent had enough equipment and help to get their job done. The analysis revealed a significant direct effect (β = .23, p < .001) of procedural justice on job satisfaction. Next, the indirect path was examined. Here, an indirect effect (β = .10, p < .001) of perceived safety climate was observed. Specifically, there was a significant relationship between enough help and perceived safety climate (β = .27, p = .001) and perceived safety climate and job satisfaction (β = .38, p < .001). A bootstrap analysis revealed a range of .07 to .13. The VAF statistic for this item was 29.4%, indicating a partial mediation.

The third indicator was if the respondent knew what was expected on their job. The analysis revealed an insignificant direct effect (β = .06, p < .123) of procedural justice on job satisfaction. Using Hayes' (2009) approach, although there is no direct effect, the possibility of an indirect effect was tested. This analysis revealed a significant indirect effect (β = .11, p < .001) of perceived safety climate. Specifically, there as a significant relationship between knowing what's expected and perceived safety climate (β = .23, p < .001) and perceived safety climate to job satisfaction (β = .50, p < .001). A bootstrap analysis revealed a range of .08 to .15. The VAF statistic for this item was 64.7%, indicating a partial mediation.

The fourth indicator was if the respondent had enough time to get their job done. The analysis revealed a significant direct effect (β = .18, p < .001) of procedural justice on job satisfaction. Next, the indirect path was examined. Here, an indirect effect (β = .07, p < .001) of perceived safety climate was observed. Specifically, there was a significant relationship between enough time and perceived safety climate (β = .15, p = .001) and perceived safety climate and

job satisfaction (β = .44, $p < .001$). A bootstrap analysis revealed a range of .05 to .09. The VAF statistic for this item was 37.5%, indicating a partial mediation.

The final procedural justice-related indicator was how often the respondent takes part in decisions. The analysis revealed a significant direct effect (β = .06, $p < .001$) of procedural justice on job satisfaction. Next, the indirect path was examined. Here, an indirect effect (β = .03 $p < .001$) of perceived safety climate was observed. Specifically, there was a significant relationship between decisions and perceived safety climate (β = .07, $p = .001$) and perceived safety climate and job satisfaction (β = .50, $p < .001$). A bootstrap analysis revealed a range of .03 to .10. The VAF statistic for this item was 33.3%, indicating a partial mediation.

As four of the five procedural justice-related factors showed a significant association with job satisfaction, hypothesis 1b was partially supported. As perceived safety climate partially mediated the relationship between procedural-justice related factors and job satisfaction, hypothesis 3b was supported. Table 5 below visualizes the statistics for the mediation pathways for this organizational justice dimension.

Table 5

Mediating Effect Estimates of Perceived Safety Climate on each Procedural Justice-Related Item and Job Satisfaction

				95% Confidence Interval				
Item	Effect	Estimate	SE	Lower	Upper	p-value	VAF	Decision
Too Much Work	Indirect	.03	.01	.01	.04	.004	33.3%	Partial
	Direct	.07	.02	.04	.11	< .001		
	Total	.10	.02	.06	.14	< .001		

Item	Effect	Estimate	SE	Lower	Upper	p-value	VAF	Decision
Knows What's Expected								
	Indirect	.11	.02	.08	.15	< .001	64.7%	Partial
	Direct	.06	.04	-.01	.13	.115		
	Total	.17	.04	.10	.24	< .001		
Enough Help								
	Indirect	.10	.01	.08	.13	< .001	29.4%	Partial
	Direct	.23	.03	.18	.29	< .001		
	Total	.34	.03	.28	.40	< .001		
Enough Time								
	Indirect	.12	.02	.09	.15	< .001	37.5%	Partial
	Direct	.20	.03	.14	.27	< .001		
	Total	.32	.03	.26	.39	< .001		
Decisions								
	Indirect	.03	.01	.02	.05	< .001	33.3%	Partial
	Direct	.06	.02	.03	.10	.001		
	Total	.10	.02	.06	.14	< .001		

Note. This table visualizes the effect estimate, standard error, lower and upper confidence intervals, p-value (significant at .05), variance accounted for (VAF), and mediation decision perceived safety climate on the relationships of each procedural justice-related item and job satisfaction.

Interactional Justice

A simple mediation analysis was conducted to analyze the impact of perceived safety climate on the relationship of interactional justice-related indicators and job satisfaction. The first indicator was if the respondent felt like they were treated with respect at work. The analysis revealed a significant direct effect ($\beta = .37$, $p < .001$) of interactional justice on job satisfaction. Next, the indirect path was examined. Here, an indirect effect ($\beta = .12$, $p < .001$) of perceived safety climate was observed. Specifically, there was a significant relationship between respectful treatment and perceived safety climate ($\beta = .42$, $p = .001$) and perceived safety climate and job

satisfaction (β = .29, $p < .001$). A bootstrap analysis revealed a range of .08 to .16. The VAF statistic for this item was 24.5%, indicating a partial mediation.

The second indicator was if the respondent felt like their supervisor was concerned for their welfare. The analysis revealed a significant direct effect (β = .20, $p < .001$) of interactional justice on job satisfaction. Next, the indirect path was examined. Here, an indirect effect (β = .09, $p < .001$) of perceived safety climate was observed. Specifically, there was a significant relationship between concerned supervisor and perceived safety climate (β = .22, $p = .001$) and perceived safety climate and job satisfaction (β = .39, $p < .001$). A bootstrap analysis revealed a range of .06 to .11. The VAF statistic for this item was 31%, indicating a partial mediation.

The third indicator was if the respondent felt like their supervisor was fair. The analysis revealed a significant direct effect (β = .33, $p < .001$) of interactional justice on job satisfaction. Next, the indirect path was examined. Here, an indirect effect (β = .13, $p < .001$) of perceived safety climate was observed. Specifically, there was a significant relationship between fair supervisor and perceived safety climate (β = .29, $p < .001$) and perceived safety climate and job satisfaction (β = .44, $p < .001$). A bootstrap analysis revealed a range of .23 to .44. The VAF statistic for this item was 28.3%, indicating a partial mediation.

The final indicator was if the respondent felt like they had enough information to get their job done. The analysis revealed a significant direct effect (β = .20, $p < .001$) of interactional justice on job satisfaction. Next, the indirect path was examined. Here, an indirect effect (β = .12, $p < .001$) of perceived safety climate was observed. Specifically, there was a significant relationship between enough information and perceived safety climate (β = .27, $p = .001$) and perceived safety climate and job satisfaction (β = .44, $p < .001$). A bootstrap analysis revealed a range of .14 to .27. The VAF statistic for this item was 37.5%, indicating a partial mediation.

Table 6 below visualizes the statistics for the mediation pathways for this organizational justice dimension.

Table 6

Mediating Effect Estimates of Perceived Safety Climate on each Interactional Justice Item and Job Satisfaction

				95% Confidence Interval				
Item	Effect	Estimate	SE	Lower	Upper	p-value	VAF	Decision
Respectful Treatment								
	Indirect	.12	.02	.08	.16	< .001	24.5%	Partial
	Direct	.37	.04	.29	.45	< .001		
	Total	.49	.04	.42	.56	< .001		
Concerned Supervisor								
	Indirect	.09	.01	.06	.11	< .001	31%	Partial
	Direct	.20	.03	.15	.25	< .001		
	Total	.29	.03	.24	.34	< .001		
Fair Supervisor								
	Indirect	.13	.02	.09	.17	< .001	28.3%	Partial
	Direct	.33	.05	.23	.44	< .001		
	Total	.46	.06	.35	.57	< .001		
Enough Information								
	Indirect	.12	.02	.09	.15	< .001	37.5%	Partial
	Direct	.20	.03	.14	.27	< .001		
	Total	.32	.03	.26	.39	< .001		

Note. This table visualizes the effect estimate, standard error, lower and upper confidence intervals, p-value (significant at .05), variance accounted for (VAF), and mediation decision perceived safety climate on the relationships of each interactional justice-related item and job satisfaction.

As each interactional justice-related indicator showed a significant relationship with job satisfaction, hypothesis 1c was supported. As perceived safety climate partially mediated the

relationship between interactional justice-related items, hypothesis 3c was also supported. Similarly, perceived safety climate was shown to positively associate with job satisfaction throughout the mediation analyses, supporting hypothesis 2.

Chapter V: Discussion

The purpose of this study was to put perceived safety climate under the microscope, to see how impactful it can be on the relationship between organizational justice and job satisfaction. The hypothesized mediation was supported by the affect theory of social exchange (Lawler, 2001). Using this theory, it can be inferred that if employees are treated justly and with respect, and if they perceive a relatively safe employer-provided working environment, they will reciprocate these positive actions by their employer with conscious or subconscious actions or feelings (e.g., job satisfaction) which positively influences various organizational benefits. This exchange between employer and employee has been theorized and supported in the current research, and so far, this is the only study, to-date, that has examined this relationship.

The main goal of the current research was to determine if perceived safety climate mediated the relationship between organizational justice-related indicators and job satisfaction. Although partial, perceived safety climate mediated this relationship for each justice-related indicator it was tested against.

Firstly, perceived safety climate partially mediated the relationships between both distributive justice-related item and job satisfaction. This infers that the job satisfaction an employee gains from the fair distribution of outcomes and resources can be partially explained by how much of an organizational priority their safety is at work. With safety in mind, personal protective equipment (PPE, e.g. face mask, gloves) or a spotter when one is on a ladder, could be included in the resources that are referred to in distributive justice. The just and fair distribution of a resources may very well affect an employee's job satisfaction, hence the direct relationship between distributive justice-related items and satisfaction. While the fact that the organization may have even stayed fully staffed even though they could not properly protect their employee's

from COVID would easily negatively impact an employee's perceptions of how safety was a priority for that organization in the current situation. From the results of the current study, and logically, this situation would likely end in a negative impact on the positive affectivity an employee has on their jobs in this context and more broadly.

Secondly, perceived safety climate partially mediated the relationship between almost all procedural justice-related items and job satisfaction. This infers that the job satisfaction that an employee gains from their perceived fairness of aspects of decision-making procedures at their workplace is partially due to how much they perceive their organization to make safety a priority at work. Interestingly, for the procedural justice-related item of knowing what is expected on one's job, there was no direct relationship with job satisfaction until perceived safety climate was added to the mix. This infers that an employee's knowledge of what is expected of them at work does not influence their overall job satisfaction, only when taking into account an employee's sense of how much their safety is a priority at work, does their job satisfaction matter. In fact, perceived safety climate had the strongest influence on this relationship out of all of mediation relationships tested in the current study. Using the affect theory of social exchange (Lawler, 2001), this can be explained by an employee gaining more positive emotions and feelings by their safety being a priority to their organization than knowing what is expected of them at work. The amount and weight of these experienced positive emotions and feelings determine the amount of positive affectivity associated with their source. Simply put, the emotions and feelings experienced from knowing what is expected on one's job is not enough to influence one's positive affectivity towards that job, but when one feels their safety is a priority at work, more positive emotions and feelings are added, then this becomes enough to influence that positive affectivity.

Similar to its influence on distributive justice and job satisfaction, perceived safety climate partially mediated the relationships between all four interactional justice-related items and job satisfaction. This infers that the positive affectivity one gains from being treated fairly at work, is in part due to their sense of safety prioritization from their organization. In other words, fair and just treatment of an employee increases their positive affectivity with their job through their perceived sense of organizational safety prioritization.

Limitations and Future Directions

Although perceived safety climate was found to partially mediate the relationships between all organizational justice-related items and job satisfaction in this case, there were several limitations to the study. The first limitation included the items used for analysis in this study. This research used archival data, meaning that using previously validated and reliable measures to gather and analyze data were not an option. Items were carefully selected from the General Social Survey (GSS) by mapping them to the verbally or intuitively similar Colquitt's (2001) organizational justice scale, and verbally or intuitively related to perceived safety climate. This also eliminates the opportunity to claim, for example, that perceived safety climate partially mediates the relationship between organizational justice and job satisfaction, and instead had to use the term "organizational justice-related indicator." Unless researchers use archival data from valid and reliable justice, perceived safety climate, and job satisfaction measures, non-archival data should be collected and analyzed in future work on this topic. This will allow researchers to further support that perceived safety climate (partially) mediates the relationship between organizational justice and job satisfaction, and not just justice-related items.

Another limitation was that the current research did not account for job differences. This is the first attempt at empirically examining the impact of perceived safety climate on the

relationship between organizational justice and job satisfaction. It is fair to say that a construction worker would prioritize work safety much more than a data analyst, or that an internal HR representative would have more organizational justice-related exchanges than a sanitation specialist. These occupational differences may lead to different results, than what was found in the current study. Future research should examine the differences of the effect of perceived safety climate on the relationship between organizational justice and job satisfaction in different types of occupations, specifically, the differences between occupations where safety hazards are imminent (e.g., construction or production occupations) and those which have minimal safety hazards (e.g., data analyst occupations).

Finally, these data were collected in 2018, before COVID-19. This research has made reference to the organizational impacts the pandemic has had, but the data used was collected two years before the pandemic. It is highly probable that the pandemic has made an impact on each of the three constructs included in this study. COVID-19 has impacted the relationship between perceived safety climate and job satisfaction, by way of organizational trust. Avram et al. (2021), for example, found perceived safety climate to positively predict organizational trust (an indicator of organizational justice). Additionally, Bulinka-Stangrecka (2021) found organizational trust to strongly predict the job satisfaction of workers during the pandemic. These results, along with many federal workplace safety guidelines (OSHA, 2021) issued during the pandemic strongly suggest that future work on the mediation of perceived safety climate on the relationship between organizational justice and job satisfaction will show similar, if not more convincing, results.

Conclusion

This study examined the potential mediating role of safety climate on the organizational justice–job satisfaction relationship. In sum, the findings above highlight three major conclusions: 1) overall, if an employee perceives a fair and just work environment, they will tend to have positive affectivity towards their work, 2) if an employee perceives a work environment that prioritizes their safety, they will tend to have positive affectivity with their work, and 3) the positive affectivity an employee gains from perceiving a fair and just work environment is, in part, due to their workplace prioritizing their safety. Even before the pandemic, safety was a factor for having satisfied employees, and now, in the midst of it, safety can only have a stronger determination of satisfied employees. If an organization wants to have and maintain satisfaction within their employees, they not only need to focus on the fair and just treatment of those employees, but also build the perception that they prioritize their employee's safety.

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