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THE RELATIONSHIP OF SCHOOL PRINCIPALS' MINDSETS AND TEACHERS'
PERCEPTIONS OF INTERPERSONAL AND INFORMATIONAL JUSTICE

by

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RE: Study Number IRB-FY2020-127: THE CORRELATION OF SCHOOL PRINCIPALS' MINDSETS AND
TEACHERS' PERCEPTIONS OF INTERPERSONAL AND INFORMATIONAL JUSTICE

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Sincerely,

Ralph Baergen, PhD, MPH, CIP
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Dedication

This work is dedicated, first and foremost, to my amazing wife, Lesly K. Morton, for her unceasing love and support through this process. It is also dedicated to my wonderful children, Madison, McKinzy, Paige, and Alissa who add sunshine and joy to my life. Thank you, family, for making the good times twice as good and the bad times half as bad.

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The Relationship of School Principals' Mindsets and Teachers' Perceptions of Interpersonal and Informational Justice

Dissertation Abstract -- Idaho State University (2021)

As instructional leaders in their schools, principals are tasked with finding ways to increase student achievement. Research has shown that of all the variables that influence student achievement, the teacher is the greatest factor of which we can control. But how do principals increase their teachers' desire to engage in the professional development that would improve their effectiveness? Empirical evidence has shown that employees who perceive higher levels of organizational justice demonstrate higher engagement at work. Dr. Carol Dweck's framework of mindsets also offers a theoretical construct that explains varying levels of employee engagement.

In order to better understand how a school principal can motivate staff to more fully engage in professional development, this study considered the relationship between a principal's growth mindset and the variables of the teachers' perceptions of interpersonal justice and informational justice flowing from their principal, as well as the teachers' perceptions of their principal's mindset.

This study surveyed 62 K-12 public school principals and their faculty throughout the state of Idaho. Principals were surveyed about their own mindsets. Faculty were surveyed about their perceptions of interpersonal and informational justice flowing from the principal, as well as their perceptions of their principal's mindset. Data collected through these surveys were analyzed by computing the Pearson product-moment correlation coefficient (Pearson r) to determine if a correlation existed between a principal's self-assessed mindset and a teacher's perception of the principal's mindset. Linear mixed model analyses were employed to explore

the relationship between a teacher's perception of the principal's mindset and the teacher's perceptions of interpersonal and informational justice.

This study found a small to medium, statistically significant correlation between the principal's mindset and the teacher's perceptions of the principal's mindset. Analyses also revealed a positive correlation between a teacher's perception of the principal's mindset and the teacher's perceptions of interpersonal and informational justice.

Key Words: Organizational Justice, Interpersonal Justice, Informational Justice, Growth Mindset, Fixed Mindset, Carol Dweck, Jason Colquitt, Peter Heslin, Don VandeWalle

The Relationship of School Principals' Mindsets and Teachers' Perceptions of Interpersonal and Informational Justice

In an era of increased accountability for public education, there is a heightened sense of urgency by educators to effect changes that will result in increased student achievement. John Hattie has devoted his research to the various factors in education that influence student learning in order to identify practices that have the greatest impact, or effect size, on student achievement. After reviewing over 900 meta-analyses, which included more than 60,000 studies, Hattie (2012) found teachers to be the most powerful dimension affecting student achievement. Hattie wrote that “teacher’s beliefs and commitments are the greatest influence on student achievement over which we can have some control” (p. 25). Put another way, what teachers do matters; it matters more than which textbooks are chosen, more than poverty levels or other influences from home, more than a student’s level of previous learning, more than schedules, or summer school, or homework.

Teachers hold the key to unlocking the greatest achievement in their students, but increasing teachers’ instructional, technical, and socio-emotional abilities requires a high level of teacher engagement in the improvement process. This need for high levels of teacher engagement leaves the school principal with a problem; how can a school principal effectively influence teachers, with their varied abilities, personalities, and motivation levels, to engage more fully in the process of developing professionally in order to foster greater student achievement?

In their exploration of the engagement construct, Macey and Schneider (2008) presented a model of engagement which included dispositions (trait engagement), feelings (psychological state engagement), and actions (behavioral engagement) that represent “involvement,

commitment, passion, enthusiasm, focused effort, and energy” (p. 4). More importantly, Macey and Schneider reported that the leadership style within an organization influenced trust levels which in turn directly impacted behavioral engagement and moderated the levels of trait and state engagement. Two theoretical frameworks that offer clarity to a leader’s impact on employee engagement are organizational justice and mindsets.

Research in organizational justice has sought to explain the impact of perceived fairness on organizational functioning including employee engagement. The evolution of the research has introduced constructs that distinguish between the different dimensions of organizational justice; distributive, procedural, interpersonal, and informational. Distributive justice focuses on the fairness of outcomes such as compensation given for work that is done (Adams, 1965; Homans, 1961). Procedural justice describes the fairness of the procedures put in place that lead to the decisions involving the distribution of outcomes (Levanthal, 1980; Thibaut & Walker, 1975). Bies and Moag (1986) developed the dimension of interactional justice which focuses on the treatment received by employees in the work environment. Subsequent development has broken down interactional justice into the domains of interpersonal justice and informational justice (Greenberg, 1993). While interpersonal justice focuses on the amount of dignity and respect afforded the employee, informational justice deals with the amount of honesty and information shared with employees when decisions are made (Greenberg, 1993).

Organizational justice research has found that employees who experienced increased perceptions of fairness, exhibited increased levels of commitment to the organization. They demonstrated greater trust in management and showed positive organizational citizenship behaviors (Moorman, 1991; Organ et al., 2006), performed tasks at higher levels (Colquitt et al.,

2001), were less likely to steal from their employers (Greenberg, 2001), and were less litigious in the face of conflict (Werner & Bolino, 1997).

Conversely, employee engagement suffered because of uncertainty caused by the lack of justice in the work place. Colquitt and Zipay (2015) pointed out that it was uncertainty in a work place that shifted an employee's focus away from engagement and onto justice and fairness associated with their job. "Employees feel a sense of uncertainty about something and - as a result - devote more focused attention to justice issues" (p. 4). Consequently, the literature has identified the supervisor as a source of justice, meaning that the supervisor can directly affect an employee's perception of fairness in the workplace.

Another theoretical framework explaining the varying levels of employee engagement is Dweck's (2006) model of mindsets. Originally termed "Implicit Person Theories" (Dweck, 1999), mindsets describe an individual's beliefs about the malleability of individual skills, talents, and intelligence. People with a fixed mindset believe that ability, intelligence, and personality traits are innate or fixed and do not change much over time. Consequently, for a person with a fixed mindset, any failure becomes a personal indictment upon the individual. Dweck explained that people with a fixed mindset would see failures and setbacks "as a direct measure of their competence and worth" (2006, p. 8). This mindset leads people to avoid challenges, decrease effort, ignore feedback, and rapidly form rigid, lasting opinions about others' capabilities.

A growth mindset is characterized by a belief that with effort and perseverance, anyone can increase their abilities and intelligence, and improve upon weaknesses in character. Dweck (2006) explained that a "growth mindset is based on the belief that your basic qualities are things you can cultivate through your efforts" (p. 7). Dweck explained that people with a growth

mindset tend to embrace challenge, view effort as necessary for mastery, seek out corrective feedback, and perceive setbacks and failures as learning opportunities rather than personal weaknesses or flaws.

Keating and Heslin (2015) stated that an employee's mindset had a direct relationship with that employee's level of engagement. They stated that an employee's mindset is a "personal resource that may influence employees' engagement via their enthusiasm for development, construal of effort, focus on attention, perception of setbacks, and interpersonal interactions" (p. 329).

Although the frameworks of mindsets and organizational justice offer an explanation into why some employees embrace improvement efforts and others do not, there is relatively little research on the impact of these frameworks together. Research from Heslin and VandeWalle (2011) has explored how a supervisor's mindset impacted an employee's perception of procedural fairness. Heslin and VandeWalle found that supervisors with a growth mindset were perceived to be more procedurally just than supervisors who had a fixed mindset.

There is limited research addressing the combined impact of organizational justice and mindsets on organizations. This line of enquiry has yet to be explored in the realm of K-12 public education. Hoy and Tarter (2004) stated that organizational justice is, "A neglected concept in educational administration" (p. 250).

Statement of the Purpose

This study sought to explore the relationship between a school principal's mindset and teachers' perceptions of interpersonal and informational justice. While both theoretical frameworks of organizational justice and mindsets have been shown to influence employee engagement, there is limited research that demonstrates how the two frameworks interact with

each other. No research has considered the correlation of mindsets on interpersonal and informational justice, and no research of this type has been conducted specifically in the K-12 educational environment.

This study represents the headwaters of a future stream of research connecting an administrator's mindset to a series of variables that influence student achievement. Assuming that a growth mindset, as well as higher levels of perceived justice lead to greater levels of organizational citizenship behavior (i.e., engagement in professional development) and that increased engagement in professional development leads to higher student achievement, the missing part of the equation is how a principal's mindset influences the justice perceptions of the teachers in the school. But, before causation can be explored, a correlational relationship between these two concepts needs to be examined.

The purpose of this study was to explore the relationship between the school principal's mindset and teachers' perceptions of interpersonal and informational justice in the public K-12 education environment. Given the research that has been conducted to this point in the areas of organizational justice and mindsets, this study sought to determine support for the following hypothesis: A principal's growth mindset is positively related to subordinate teachers' favorable perceptions of interpersonal and informational justice.

Research Questions

To explore the assertion that a principal's growth mindset is positively related to a subordinate teacher's favorable perceptions of interpersonal and informational justice, the following research questions were addressed:

1. To what extent does a principal's mindset correlate with a teacher's perception of the principal's mindset?

2. To what extent does a relationship exist between the teacher's perception of the principal's mindset and the teacher's perception of interpersonal justice?
3. To what extent does a relationship exist between the teacher's perception of the principal's mindset and the teacher's perception of informational justice?
4. To what extent does the teacher's perception of the principal's mindset predict the teacher's perception of interpersonal justice?
5. To what extent does the teacher's perception of the principal's mindset predict the teacher's perception of informational justice?

Definitions

For the purposes of this study, organizational justice was defined as a construct used to describe fairness perceptions in the workplace. The construct subsumed the four different justice dimensions with their differing foci. While the term came into being only after researchers felt the need to distinguish between the distributive and procedural dimensions (Levanthal, 1976), it has since continued to be used to encompass all areas dealing with justice in the workplace including the domains of distributive, procedural, interpersonal, and informational justice.

Distributive justice was the term used to describe the perception of fairness regarding compensation for work done (Adams, 1965; Homans, 1961).

Procedural justice referred to the perception of fairness of the practices and procedures enacted while making decisions regarding the allocation of compensation (Levanthal, 1976; Thibaut & Walker, 1975).

Interpersonal justice denoted the perceptions of fairness in the treatment and dignity afforded the employee when decisions were being made (Greenberg, 1993).

Informational justice referred to the amount of truthfulness and information given as to why decisions were made (Greenberg, 1993).

Organizational Citizenship Behaviors, or OCBs, were defined by Organ (1988a) as behaviors that are aggregate and not specifically delineated on a job description, but that nevertheless promoted the effectiveness of the organization. Organ identified five dimensions of OCBs; altruism, courtesy, sportsmanship, conscientiousness, and civic virtue.

For the purposes of this study, the term mindset referred to a continuum that depicted the extent to which one believes that abilities, intelligence, and character traits are malleable and can be cultivated (Dweck, 2006). At one end of the continuum was the growth mindset which represented the belief that skills and intelligence can be cultivated and changed with effort. The other end of the continuum was the fixed mindset representing the belief that intelligence and abilities were set.

In earlier research, Dweck (1986, 1999) referred to the mindset continuum as implicit theories, and the ends of the continuum were marked by an incremental (growth) orientation and an entity (fixed) orientation. Consequently, earlier researchers referred to an incremental theory and an entity theory to denote differing views that individuals have regarding ability, intelligence, and character traits. These terms are sometimes still employed by researchers, but current trends in research seem to favor the terms of growth and fixed mindsets over those of incremental and entity theories. For ease of reading, this study employed the use of growth mindset and fixed mindset.

For the purposes of this study, the term teacher was used to describe one who is certificated through a state licensing agency to instruct children in a public K-12 educational

setting, and were currently employed in such a setting being supervised by a principal who was also licensed to work in that capacity.

Assumptions

Teachers have a fairness perception that is impacted by their interaction with their principal. For this study, it was assumed that teachers were reflective and honest as they completed the survey used to quantify their perceptions.

It was also assumed that a principal's mindset was reflected in the interactions with teaching staff. In other words, a principal's mindset was not just a latently held set of beliefs, but that it informed the manner in which a principal performed various duties. Consequently, this assumption was addressed in the third study question which compared a principal's self-perceived mindset with the teacher's perceived mindset of that principal.

Limitations

This study did not account for possible differences in perceptions due to demographics such as rural versus more urban settings, gender of respondents, or grade levels taught by the respondents. This demographical data was collected, however, to point to possible areas of future enquiry.

While this study aimed to survey a sufficient number of principals and teachers to give sufficient power to the findings, this study was limited to the number of principals who accepted the invitation to participate, as well as the number of teachers within each school who agreed to participate. The time of year in which the data was collected may have had an effect on the findings of the study. It is plausible to assume that principals and teachers have a more optimistic outlook during the beginning months of a school year. This optimism may decrease as teachers near the completion of a school year. This study recognized the limitation that principal and

teacher sentiment may have fluctuated over the course of a school year. Data for this study were collected from January through the first weeks of March of 2020 and was concluded by the onset of the pervasive shutdown of K-12 schools in the state of Idaho due to the Covid-19 pandemic.

Delimitations

The quality of this study was contingent upon a well-established relationship between the teacher and the principal. The teacher must have had enough interaction with the principal to form a perception of the principal's mindset. Moreover, the teacher must have had experiences with the principal that had led to the creation of justice perceptions in the interpersonal and informational dimensions. For these reasons, this study only considered responses where the teachers and principals had worked together for at least two years. For the same reason, principals and teachers from online schools were not considered for this study.

Some organizational justice scholars debate the conceptual differences between the terms "justice" and "fairness." While earlier literature freely uses these terms interchangeably, recent shifts have sought to define "justice" as adherence to specific protocol and rules, and "fairness" as the individual perception regarding the effects of justice, thus leaving open the option that an action could be just, yet, still unfair. Colquitt and Rodell (2011) explained this nuance by stating that justice is the "perceived adherence to rules that reflect appropriateness in decision contexts" while fairness is a more "global perception of appropriateness" (p. 5).

The scope and focus of this study was not to establish a theoretical difference between these two terms, and since the survey instruments used in this study were not reflective of the current trends to distinguish between these terms, this study made no distinction between justice and fairness and used these terms interchangeably.

Significance of the Study

As previously outlined, there is a connection between perceptions of organizational justice and employee engagement; and there is also a connection between a growth mindset and employee engagement. Heslin and VandeWalle (2011) provided limited research that connects mindsets with justice perceptions in one of the dimensions (procedural justice), but there is a lack of research regarding the correlation of mindsets with the justice perceptions in the interpersonal and informational dimensions. This is especially true in the public K-12 educational setting.

Greenberg (1987) identified two general forms of organizational justice research; reactive and proactive. He explained that reactive research denoted the study of the effects of justice on the work environment. In reactive research, the existence of justice brings about the varied outcomes in the organizational environment. Colquitt and Greenberg (2003) wrote that:

The justice literature has all but ignored what causes leaders to act fairly. Specifically, we know very little about personality differences between fair and unfair leaders. Examining such questions would bring more balance to a literature that has virtually ignored the actor who creates fairness, in favor of the observer who reacts to it. (p. 197)

Colquitt (2012) noted that a vast majority of research in organizational justice is reactive. He stated, “The end result of this reactive focus is that justice is exogenous in most of the empirical studies in the literature” (p. 14). Colquitt, in essence, stated that the bulk of research performed thus far has focused on the byproduct of specific justice situations rather than on those factors that produced specific justice situations.

This sentiment was easily identified in the earlier writing of Moorman (1991) who defined organization justice as a “term used to define the role of fairness as it directly relates to the workplace” (p. 845). Moorman further explained that the study of organizational justice

focused on how employees decided if they had been dealt with fairly and which behaviors flowed from that decision. Absent from Moorman's explanation was consideration of the leadership qualities that promoted or deteriorated employees' perceptions of fairness.

Colquitt (2012) identified proactive research as the frontier in current organizational justice research, where the focus is upon the elements which create perceptions of fairness as opposed to elements flowing from perceptions of fairness. He explained that an emerging trend in organizational research views justice as the dependent rather than the independent variable. By investigating the correlation of a leader's mindset and subordinates' perceptions of interpersonal and informational justice, this study laid the groundwork to advance that trend wherein the focus is not on what conditions and actions are caused by justice, but rather what conditions or actions may cause justice.

Literature Review

The purpose of this study was to explore the relationship between the school principal's mindset and teachers' perceptions of interpersonal and informational justice in the public K-12 education environment. This chapter reviews literature pertinent to this study. Literature reviewed herein focuses on the following topics: (a) elements of effective professional development, (b) a brief history of the evolution of organizational justice and its dimensions, (c) research devoted to the effects of organizational justice on employee behaviors and attitudes, (d) an overview of the origin of the mindsets model, (e) research devoted to the effects of mindsets on behaviors and attitudes, and (f) research devoted to the interaction of organizational justice and mindsets.

The Elements of Effective Professional Development

In a study of teacher effectiveness, Aaronson et al. (2007) found that student achievement was directly correlated to teacher quality. This study was corroborated by a meta-analytic study conducted by Hattie (2012) which found the actions of teachers had a stronger impact on student learning than any other factor.

The vehicle to increase teacher effectiveness is through professional development wherein educators can develop skills and approaches to positively impacting student learning. Griffin (1983) provided insight into the objectives of professional development by explaining that all professional development shared the common purpose to "alter the professional practices, beliefs, and understanding of school persons toward an articulated end" (p. 2).

Yet, many practitioners and researchers point to the ineffectiveness of professional development in bringing about the outcomes that are hoped for (Fullan, 2001; Guskey, 2002; Hoban, 2002). Guskey (2002) stated that professional development efforts usually fail for two

main reasons. The first is a failure to consider the factors that motivate teachers to engage in professional development, and the second is a failure to consider how change occurs with teachers.

While there are numerous claims to the ineffectiveness of professional development, there is research that identifies key elements that lead to the increased effectiveness of professional development efforts. Timperley et al. (2007) identified elements of effective professional development systems. They stated that professional development efforts must focus on the knowledge or skills students need, as well as the knowledge or skills the teachers need in order to address student deficiencies. Effective professional development must also address ways to best engage students in the learning process and allow teachers the opportunity to reflect on the effectiveness of current, as well as newly implemented strategies.

Hattie (2012) reaffirmed these key elements by stating that effective professional development must contain an opportunity for continual coaching and collaboration, a focus on how students best learn the targeted content, and the use of data that quantifies the effectiveness of lesson plans and student progress toward the targeted objectives of those plans. This data is used as feedback for the teacher to assist in identifying strengths, weaknesses, and next steps in the presentation of learning material to students.

Hattie's (2012) research aligns with a meta-analysis devoted to effective professional development practices conducted by Darling-Hammond et al. (2009). These researchers identified four key components that anchor effective professional development. The four identified components are that professional development a) must be continual and connected to classroom practices, b) should be focused on student achievement in specific curriculum content,

c) should be aligned to school improvement initiatives, and d) should help build strong collegial relationships among staff.

While current research has identified the necessary components of effective professional development, Reid (2007) found that teachers' perceptions of effective professional development were not directly aligned with their principal's perceptions of effective professional development. In this study, Reid found that teachers defined effective professional development as specific to their current teaching assignment as well as their current qualifications and skills. More importantly, Reid found that teachers who were professionally disengaged did not benefit from professional development activities to the extent that their engaged colleagues did. Reid also found that a principal's leadership style had a direct impact on a teacher's perception of the effectiveness of professional development.

Taken as a whole, the previously cited research describes effective professional development that enables teachers to engage with their colleagues in the practice of coaching and collaborating in order to identify and augment their skills and approaches used in the classroom. But as Reid (2007) pointed out, professional development is not much help to a disengaged teacher. Reid found that the leadership style of the principal can make a difference in the engagement level of the teachers. This study sought to shed light on the characteristics of a principal that may positively impact this engagement.

The Evolution of Organizational Justice

The construct of justice dates back to the Greek philosophers who explored justice as it pertained to legal and ethical realms. It was not until after World War II that justice was explored by social scientists as a perception held by an individual rather than a philosophical concept. In a study conducted of U.S. military troops, soldiers were asked if they felt they had been treated

fairly by the military (Stouffer et al., 1949). The study found, among other things, that many soldiers thought that the promotion system within the Army was unfair. It also found that the perceptions of justice were influenced as the participants compared how they were treated to how others in their same situation were treated.

This study marked the beginning of a focus on justice, not as it should be, but as a perception held by individuals (Colquitt et al., 2005). What has followed since that time is an evolution of theory that has sought to provide understanding to perceptions of justice and their impact on organizations.

Sociologist George Homans (1961) developed the social exchange theory in order to give context to the mental process that individuals undergo as they weigh out whether the cost of effort put forth was equal to the reward received during an interaction. Homans introduced the construct of distributive justice which describes the idea that a person's reward should be proportional to the costs. In order for a perception of justice to exist, a greater cost would have to be met with a greater reward.

Blau (1964) expanded upon Homans' ideas of fairness in exchange relationships by presenting two types of exchanges: economic and social. Economic exchanges were more contractual in nature and specifically delineated what was to be exchanged, for example, how much money was to be paid for a certain amount of work. Social exchanges, on the other hand, were not explicitly established and represented favors that would create a sense of obligation that was to be repaid at some future point and at the discretion of the recipient of the favor. This social exchange was based on trust between both parties involved, and a perception of injustice was created when one party felt that the other was not abiding by the perceived and unspoken agreement.

Homans' social exchange theory set the stage for Adams' (1965) development of equity theory wherein an individual forms a perception of fairness through weighing the inputs and outcomes of their own experience against the inputs and outcomes of others. Adams perceived inputs as elements such as experience, skill, or effort expended on the job. Outcomes were elements such as pay, benefits, job status, or perks. Adams held that an imbalance of these two factors could lead to feelings of anger if the inputs outweighed the outcomes, or guilt if the outcomes were greater than the inputs. These perceptions were formed as an employee compared their own inputs and outcomes to the inputs and outcomes of other employees.

Even though Homans (1961), Blau (1964), and Adams (1965) each contributed to an understanding of the process that employees might go through to determine whether or not they had been fairly compensated for the work that they had done, it was Adams' equity theory that became the dominant framework for studying questions of fairness in the workplace for the next two decades (Greenberg & Colquitt, 2005).

In the mid-seventies, Leventhal (1976), and Deutsch (1975) both provided arguments that questioned the fairness of Adams's equity model. In a shift of focus from the recipient of justice to the allocator of justice, Leventhal (1976) held that certain group goals are not always aligned with the value of equity. Leventhal argued that since equity distribution of outcomes would necessitate the differentiation of individual contributions, an equity focus would threaten to undermine cooperation within a group and damage relationships among colleagues. When the main objective of an allocator is to promote a sense of team unity and harmony within a group, the norm of equality may be implemented that calls for equal distribution of outcomes regardless of individual contributions. Likewise, Deutsch (1975) argued that a need-based allocation could

be implemented as the norm when the ultimate value is placed upon personal development and welfare of an individual team member.

The work of both Levanthal (1976) and Deutsch (1975) served to add context to the question of distributive justice and called into question the overall purpose of the distribution of outcomes. Consequently, this shift in focus also served to usher in a shift of focus away from merely the distribution of outcomes and onto the procedures used to arrive at distributive allocations. Leventhal (1980) posed the question of what to do about equity theory since it ignores the manner in which distributive decisions are made.

Leventhal's (1980) focus on procedures was reflective of earlier work by Thibaut and Walker (1975) which addressed perceptions of fairness during legal dispute resolutions. In this laboratory study, Thibaut and Walker compared the satisfaction of the outcome from a simulated dispute resolution trial using an adversarial approach (like the U.S. legal system) and an inquisitorial approach (like many European legal systems). Thibaut and Walker found that fairness perceptions were impacted by the processes used to decide the outcomes of the trial independent of the favorability of those outcomes. They found that participants in the dispute resolution process who felt that they had been given voice to tell their side of the story felt a greater sense of justice regardless of the outcome of the trial. Levanthal (1980) applied this reasoning to the workplace and found that employees experienced greater degrees of justice when they had a voice in the decision-making process, there was bias suppression, evaluations were accurate, and there was opportunity to correct errors when the employees felt that an evaluation was not a fair reflection of them or their work. He used the term procedural justice to describe this phenomenon.

Greenberg (1987) verified that the constructs of distributive and procedural justice were indeed separate. He reported that although there was a high correlation between them, they were independent. Greenberg also introduced the term organizational justice to serve as an umbrella encompassing the two facets of distributive and procedural justice.

Organizational Justice Domains

In 1986, Bies and Moag argued that the way individuals are treated during the implementation of procedures is also a form of justice. They introduced the construct of interactional justice that focused on the amount of dignity and respect afforded the employee when procedures were implemented. Folger and Bies (1989) further developed the construct of interactional justice by focusing on the interpersonal treatment of employees from their supervisors.

But not all organizational justice researchers agreed that interactional justice was an independent construct which could stand on its own. In fact, while Folger and Bies (1989) worked to develop the construct, they also held that a manager's interpersonal treatment toward an employee was actually a managerial responsibility that was a part of the enactment of procedural justice. Tyler and Bies (1990) held that the characteristics of interactional justice were not psychologically distinct from those of procedural justice, but that the characteristics of interactional justice were a manifestation of an interpersonal context within the procedural justice domain.

Moorman (1991) proposed that procedural justice had two dimensions, formal and interactional. The formal dimension focused on the organization as the referent of justice, whereas the interactional dimension referred to justice originating from the supervisor. In later years, Rupp and Cropanzano (2002) called for a distinction between referents by introducing the

terms organizational justice and supervisory justice. Blader and Tyler (2003) also drew the distinction of justice originating from the organization as opposed to the supervisor by implementing the terms formal justice and informal justice, respectively.

Aside from introducing the concept of differing referents, Moorman (1991) also held that interactional justice should be viewed as its own dimension. To demonstrate this, Moorman (1991) drew from the works of Leventhal (1980) and Bies and Moag (1986). Upon performing a confirmatory factor analysis, Moorman concluded that interactional justice should be recognized as a dimension that was separate and distinct from procedural and distributive justice, thus refuting Folger and Bies' (1989) stance. Moorman and Byrne (2005) also found that interactional justice served as a better predictor of an employee's demonstration of positive organizational citizenship behavior (OCB) than did the distributive or procedural dimensions.

Further complicating the evolution of organizational justice, Greenberg (1993) argued that interactional justice should actually be broken down into two separate justice constructs. He argued that employees' interactions with supervisors not only referred to amounts of respect and dignity, but also the amount and degree of honesty and information divulged in explaining why decisions were made. Greenberg called for a split of interactional justice into the separate and distinct constructs of interpersonal justice and informational justice. Colquitt (2012) offered a succinct explanation of the difference between interpersonal and informational justice by stating that "at its core, the differentiation of interpersonal and informational justice acknowledges that the politeness and respectfulness of communication is distinct from its honesty and truthfulness" (p. 4).

Consequently, at the end of the century organizational justice researchers were divided as to whether there should be two, three, or four distinct dimensions of justice; and research from

this era were framed differently depending on how many justice dimensions the researcher recognized. Colquitt (2001) conducted a meta-analysis of organizational research and found that while many of the dimensions were highly correlated, there was substantial statistical support for four independent dimensions of justice.

Given this study's focus on the principal as the referent of justice, this study targeted teacher's perceptions of fairness in the interpersonal and informational domains. Since the distributive and procedural domains are more aligned with the organization as the referent of justice, these two domains were not explored.

The Effects of Organizational Justice

Perceived organizational justice has been linked to a number of desirable outcomes and positive employee behaviors. Organizational citizenship behaviors, or OCBs, were defined by Organ (1988a) as behaviors that are not specifically delineated on a job description, but that nevertheless promote the effectiveness of the organization. Organ identifies five dimensions of OCBs: altruism, courtesy, sportsmanship, conscientiousness, and civic virtue. Organ (1988a, 1988b, 1990) found that organizational citizenship behaviors were linked to job satisfaction, and went on to call for further research noting that the relationship between job satisfaction and OCBs could better be described as one between perceptions of fairness and OCBs.

The impact of organizational justice has been linked to key organizational outcomes including organizational commitment, task performance, job satisfaction, trust in supervisors, and citizenship behavior (Cohen-Charash & Spector, 2001; Colquitt et al., 2001). Greenberg (1994) found that organizational justice perceptions were linked to greater acceptance of organizational change, and Lind (2001) observed that organizational justice perceptions were

positively correlated with perceptions of trustworthy authorities, reduced fear of exploitation, and higher levels of cooperation among co-workers.

There is also an inverse correlation between the amount of organizational justice that an employee perceives and the amount of work-related stress felt by that employee (Judge & Colquitt, 2004). Greenberg and Lind (2000) found that organizational justice perceptions were inversely correlated with certain forms of disruptive behavior in the workplace. Higher levels of organizational justice also aligned with smaller amounts of employee theft (Greenberg, 2001), and a lower inclination to litigate during organizational conflict (Werner & Bolino, 1997).

Moorman (1991) found that perceptions of procedural fairness were linked to increases in positive organizational citizenship behavior. Interestingly enough, Moorman found no support for the notion that distributive justice promoted OCBs. Tyler and Lind (1992) found that greater legitimacy was afforded to organizational authorities when higher levels of organizational justice were perceived by that organization's employees.

The level of teacher engagement in professional development aligns with the construct of organizational citizenship behavior. That being the case, increased justice perceptions by the teacher should promote higher levels of engagement in the professional development process. This again could reflect Reid's (2007) finding that a principal's leadership style positively impacts the teacher's perception about the effectiveness of professional development efforts.

The Origins of the Mindsets Model

The genesis of Carol Dweck's (1999) model of mindsets is rooted in social-cognitive theory, which focuses on the way in which individuals learn by processing the social information around them. More specifically, Dr. Dweck's research is closely aligned and influenced by attribution theory, which offers a framework to understand how individuals interpret their

experiences, and more importantly, how individuals account for their own successes and failures (Weiner, 1984; Weiner et al., 1972; Weiner & Kukla, 1970).

However, Dweck's (1999) mindsets model goes beyond understanding the determinations that individuals make while interpreting life events, and seeks to explain the underlying core beliefs that lead individuals to make those determinations. Dweck explained that the mindsets model goes beyond attribution theory by seeking to understand the "meaning system in which the different attributions or explanatory styles occur. That is, it spells out the personal theories and the goals that set up the explanatory styles" (Dweck, 1999, p. 140).

Dweck's (1999) model of mindsets grew from Kelly's (1955) personal construct theory, which claimed that all individuals have an underlying schema with which they interpret the world around them. Dweck was also influenced by Heider's (1958) theory of social perception. Heider postulated that people carry latent perceptions about themselves and others, with which they used to attribute behaviors. These perceptions are either based on dispositions, such as personality traits, or situations, such as peer pressure or social norms.

Dr. Dweck was interested in exploring how "people's beliefs, values, and goals set up a meaning system within which they define themselves and operate" (1999, p. 138). Dweck was particularly interested in the way in which students reacted to failure. Diener and Dweck (1978, 1980) researched how elementary school students reacted to failure when trying to solve conceptual problems. They found that some students demonstrated a "helpless" reaction by making self-deprecating statements about their intelligence or abilities. These students, consequently, found it harder to persist in new challenging tasks, interpreted their struggle to be a sign of inadequacy, and experienced a decrease in their motivation to continue to struggle. This study also found that some students demonstrated a mastery-oriented reaction to their failure by

implementing strategies of self-monitoring and self-instruction that helped their performance. Almost none of the helpless-oriented students demonstrated these approaches.

In an effort to understand the underlying beliefs of helpless-oriented students and mastery-oriented students, Dweck and Elliott (1983; Elliott & Dweck, 1988) set out to explore the achievement goals of students. In other words, what was the motivation behind academic performance? Their research found that students who had a helpless orientation looked at academic achievement as a way to attain positive judgements about their competence, and to avoid any negative judgements. Elliott and Dweck termed these as performance goals, for the goal was to perform well and reinforce the underlying perceptions of intelligence. Students with a mastery orientation sought to increase their abilities and competence. Elliott and Dweck referred to these as learning goals. In essence, the difference between performance and learning goals was whether the motivation was to look smart or to learn something.

In research aimed at identifying the beliefs that accompany student-goal orientations, Bandura and Dweck (1985), and Leggett (1985) found that there was a significant relationship between the goal orientations of elementary and middle school students and their beliefs about intelligence. These researchers found that students with a performance-goal orientation believed that intelligence was a fixed trait, but students with mastery orientation felt that intelligence was something that could be cultivated and grown. Later, Dweck (1999) found similar beliefs among college-aged students as well.

The early research of Carol Dweck and her colleagues laid the foundation for a model of implicit theories. Dweck et al. (1995) outlined this model, which identified two distinct frameworks that represent an individual's core beliefs about intelligence and abilities. This implicit theory proposed that all of us, to some degree, have either a latent, incremental or an

entity based set of beliefs about intelligence. An incremental theory represents the belief that individuals can grow in ability and intelligence with effort. An entity theory, on the other hand, represents the belief that ability and intelligence is inherent and set within the individual, much like a trait, e.g., either an individual is smart or not.

In 2006, Carol Dweck, wrote the book, *Mindset: The New Psychology of Success*, which repackaged the implicit theories. This was the birth of the growth versus fixed mindsets. In this book, Dweck (2006) explained that an incremental theory was synonymous with a growth mindset; and an entity theory was synonymous with a fixed mindset. Dweck's model of mindsets has set the stage for research that seeks to understand how an individual's goals, behaviors, and core beliefs influence success.

The Effects of Mindsets

Using the framework of an individual's implicit beliefs about intelligence and ability, numerous studies have been conducted that have allowed researchers to observe notable effects that have helped to define the mindsets model. In a study among students transitioning from elementary school to middle school, Henderson and Dweck (1990) found that students who espoused an incremental theory of intelligence and ability transitioned easier and were more academically successful in their new setting than students who held an entity theory of intelligence. In a similar study that focused on students transitioning into middle school, Sorich and Dweck (1999) found that students entering middle school with an incremental theory of intelligence earned significantly higher grades in core subject areas than did their peers who espoused an entity theory.

Aronson, Quinn and Spenser (1998), and Steele and Aronson (1995) found that minority students with an incremental theory of intelligence were less susceptible to the negative social

effects that stereotyping can have on minority students. This research demonstrated the impact of how an incremental theory could close the achievement gap created by race.

In a study of college students, Dweck (1999) found that students with an entity theory tended to experience greater loss of self-esteem and depressive reactions to failures and negative experiences than students with an incremental theory. This study illustrated how an entity theory negatively impacted student self-perceptions when faced with setbacks. Dweck (1999) also found that students' goal orientations with their accompanying beliefs about the nature of intelligence, correlated with the students' willingness to accept academic tutoring. In this study, incoming freshmen at the University of Hong Kong were given the choice of taking a remedial English class in order to enhance their abilities to study and communicate in their non-native language (all classes at the university were taught in English). Students who had a performance-goal orientation were significantly less likely to enroll in the class than those students who had a mastery orientation. The interpretation of this finding was that students who believed that intelligence is fixed did not want to take advantage of the remedial class and admit that they were possibly deficient in an area, whereas students who believed that intelligence can be cultivated, enrolled in the class as a way to augment their abilities.

Also noteworthy in this study was the finding that among the students with a performance-goal orientation, the lower the ability in English proficiency, the more likely the student was to reject the tutoring. In essence, the performance-goal oriented students who most needed the help were the least likely to accept it. Yet, students with a mastery-goal orientation were more likely to accept the help (than performance-orientated students) regardless of their level of English proficiency. Dweck (1999) explained the significance as this: "holding a fixed theory of intelligence appears to turn students toward concerns about performing and looking

smart. Holding a malleable theory appears to turn students toward concern about learning new things and getting smarter” (p. 24). In a similar study, Stone (1999) found that when faced with choosing between a difficult, challenging task and an easier task that would not necessarily promote deeper learning, students with a fixed view of intelligence were more apt to choose the easier task.

While these studies point to the negative effects of a fixed mindset, research has also shown that an individual’s orientation toward a fixed mindset can be manipulated. Even though a person’s mindset is relatively stable across time (Robins & Pals, 2002), it can be temporarily changed through various interventions. Research has found that a person with a fixed mindset can adopt a growth mindset through the use of achievement attributions (Dweck & Leggett, 1988; Heyman, 2008), task framing (Wood & Bandura, 1989), and “scientific” testimonials (Chiu et al., 1997; Levy et al., 1998). This is a particularly cogent finding in relation to this research study. If the mindset of a principal is correlated with the justice perceptions of the teachers, and those perceptions impact teacher engagement, then an intervention to move a principal toward a growth mindset should have positive impact on teacher engagement, thus leading to higher student achievement.

In exploring the prevalence of the growth and fixed mindsets in society, Dweck and Molden (2008) found that both mindsets were found with equal frequency across the population and were not mediated by factors of ability, education levels, or cognitive complexity. This equal distribution accounts for variance in the population being considered within this research study.

While much of the research has focused on how mindsets influence the actions and beliefs of an individual, research has also shown how mindsets can influence how individuals see and interact with others. Heyman and Dweck (1998) found that an individual’s implicit theory

impacted their judgements of others, in particular their level of intelligence and their probability of experiencing future successes. Hong (1994) found that college students with an entity theory were more apt to judge other students' future academic success based on limited past academic performances.

Loeb and Dweck (1994) found that when deciding how to deal with offenders, individuals with a growth mindset were more apt to focus on forgiving and educating the wrongdoer, while those with a fixed mindset were more focused on revenge and punishment. Gervy et al. (1999) also found that differing mindsets predicted an individual's belief about the primary purpose of imprisonment. Various studies have also shown that individuals with a fixed mindset tend to exhibit higher levels of stereotyping (Levy, 1998; Levy & Dweck, 1998).

The studies of Heyman and Dweck (1998), Loeb and Dweck (1994), and Gervy et al. (1999), point to a propensity of those with a fixed mindset to rigidly judge others. These judgements impact the perceptions of how others should be treated. In regard to the hypothesis of this research study, such judgements on the part of the principal would have direct impact upon decisions regarding fairness.

The Interaction of Organizational Justice and Mindsets

While many of the reviewed studies have focused on increased achievement and engagement in the educational setting, a current theme to the research on mindsets seeks to understand motivating factors that could lead to higher production in an organizational setting. This focus to understand the factors that influence achievement and production runs congruent to the work in the realm of organizational justice which seeks to understand the elements of fairness and justice that lead to higher productivity and greater organizational citizenship behaviors. This avenue of the mindsets model led Heslin and VandeWalle (2011) to explore the effects of

mindsets on a manager's judgements of others, the manager's willingness to develop the employee, and the manager's inclination to seek input from others as a view into the procedural justice of the manager.

In a series of four studies, Heslin et al. (2005) found that the extent of a supervisor's entity theory predicted their ability to recognize improvements and deteriorations in a subordinate's job performance. These studies found that supervisors who maintained a growth mindset were more apt to recognize the changes in employee performance both for better or worse; whereas supervisors with a fixed mindset were more apt to stick with original suppositions regarding the quality of an employee's work.

Erdley and Dweck (1993) found that people with an entity theory tended to judge others more rigidly and believe more emphatically that current impressions will determine future behavior of the judged individual. Hong et al. (1997) found that people with an entity theory were more prone to apply evaluative labels to people regarding competence.

Dweck et al. (1995) held that entity theorists tend to be disinclined to invest in the development of a subordinate's abilities since abilities are viewed as set and unalterable. This includes giving honest and helpful feedback that would lead to improvement. Heyman and Dweck (1998) found that individuals with an entity theory of intelligence were less likely to provide extensive and helpful suggestions to others that could lead to improvements.

Heslin et al. (2006) found that managers with an incremental theory were more likely to give realistic performance reports accompanied with developmental feedback and coaching that would lead to better job performance. Levine and Ames (2006) found that entity theorists were less likely to provide helpful coaching that would address critical performance deficits. They also

found that compared to incremental theorists, entity theorists provided lower amounts of feedback and lesser quality feedback.

Literature Review Summary

The reviewed research demonstrates that both organizational justice and the growth mindset serve to positively impact employee behaviors and attitudes that would be advantageous to an organization such as increased engagement in effective professional development. In particular, the research suggests that a supervisor with a growth mindset would espouse beliefs and attitudes that would enhance an employee's perception of justice. These attitudes include a willingness to provide honest feedback about an employee's performance, a desire to influence positive professional growth by investing in the employee's development, and an ability to notice performance changes (for better or worse) among employees.

Given this body of research, this study sought to explore whether principals who espoused the beliefs and attitudes of a growth mindset were perceived by teachers as being more interpersonally and informationally just.

Methodology

Study Purpose

The purpose of this study was to explore the relationship between the school principal's mindset and the teachers' perceptions of interpersonal and informational justice flowing from the principal in the K-12 environment. Given the research that has been conducted to this point in the areas of organizational justice and mindsets, this study addressed the hypothesis that a principal's growth mindset is positively related to a teacher's favorable perception of interpersonal and informational justice with the principal as the referent of that justice.

Research Questions

To explore the hypothesis that a principal's growth mindset is positively related to a subordinate teacher's positive perceptions of interpersonal and informational justice, the following research questions were addressed:

1. To what extent does a principal's mindset correlate with a teacher's perception of the principal's mindset?
2. To what extent does a relationship exist between the teacher's perception of the principal's mindset and the teacher's perception of interpersonal justice?
3. To what extent does a relationship exist between the teacher's perception of the principal's mindset and the teacher's perception of informational justice?
4. To what extent does the teacher's perception of the principal's mindset predict the teacher's perception of interpersonal justice?
5. To what extent does the teacher's perception of the principal's mindset predict the teacher's perception of informational justice?

This study interpreted data gathered using surveys sampled from public school principals and teachers in order to answer these research questions.

Participants and Sampling

Participants in this study consisted of principals and teachers working together in the public K-12 setting in Idaho who had worked together for at least the last two school years. Potential respondents in the study included principals and teachers from elementary, middle, and high school levels from traditional and charter schools. Principals and teachers from online public schools were not considered for this study, as the principal/teacher working relationship may be significantly different from those who share a school building.

Schools within the state of Idaho were randomly selected for inclusion in this study. Only schools where the principal had been in place for at least two years were considered for the study. The names of all schools were numbered alphabetically, and the Random Number Generator Plus open-source app from RandomAppsInc was used to select the schools. In the event that a school was selected where the principal had not been in place for at least two full school years, another school was selected.

In order to determine the necessary number of participating teachers needed to provide significance to the study by avoiding a type II error, power was calculated using G*Power© version 3.1.9.4 software. By calculating the necessary sample size for a bivariate normal model correlation with the following parameters, the necessary sample size would be 84 teachers. The calculation called for a two-tailed test with a correlation of 0.3; ($\alpha = 0.05$); with a power of 0.80. But, due to the hierarchical design of this study, the clustering effect of similar responses from within the same school had a weakening effect on the necessary sample size needed to maintain power for this study. Intra-class Correlation Coefficients (ICC) were calculated to determine the

design effect of the clustering. DeLong and Lokhnygina (2014) explained that, “The ICC, together with the degrees of freedom (df) based on the number of groups or clusters, is commonly used to calculate how much the sample size...should be inflated compared with a simple individual-randomized trial.” They explained that this design effect (DEFF) can be calculated with the following equation where n represents the number of clusters in the study:

$$DEFF = 1 + (n - 1) ICC$$

Given this equation, and the ICC values that were calculated during the data analysis, it was determined that the sample size needed to increase by 19.3. Therefore, the necessary sample size given the research design was 104 teachers.

Upon selection of an eligible school, the researcher sought permission through district-level administration for participation in the study (see Appendices A & B). This initially took place through an emailed invitation, and then followed up with telephone contact. After permission was granted from the school district, the principal of that school was sent an email invitation (see Appendix C) and asked to complete the Principal’s Mindset Survey (see Appendix D). In the event that a selected principal opted not to participate in the study, another school was randomly selected. An initial set of 175 invitations was sent at the onset of the study with additional schools added as needed.

Once a principal had agreed to participate in the study, the faculty in that school was asked to complete the Teacher’s Survey of Administrative Mindset and Justice Perceptions (see Appendix E). Just as with correspondence seeking participation at the school district and principal level, the teacher invitation took place using initial emails (see Appendix F) followed up by reminder emails. All teachers within a selected school were invited to participate, but only

data from teachers who had worked with their principal for at least two years were included in the data analysis.

A list of all principal and teacher emails that were sent invitations was maintained in a Microsoft Excel© spreadsheet, and responses received from the specific emails were marked in the spreadsheet. This spreadsheet was separate from the response data and was only used to track who was sent invitations and who responded to those invitations. Response rates for both principals and teachers were reported as part of the findings of this study. Participating principals and teachers had an opportunity to enter a drawing to win one of five Amazon gift cards valued at \$25 each. Upon the completion of the data collection, winners of the Amazon gift cards were selected, and the cards were distributed.

Informed Consent

Both the Principal's Mindset Survey and the Teacher's Survey of Administrative Mindset and Justice Perceptions were administered electronically using Qualtrics© software. The introductory section of both surveys requested informed consent from the participants. The surveys were constructed in a way that participation could only occur once informed consent had been given. Failure to give informed consent prevented the participant from proceeding with the survey, thus ensuring that all respondents gave informed consent prior to participation. Please see the surveys in Appendices D and E for the informed consent statements at the beginning of each survey.

Instrumentation

This study utilized Qualtrics© software to produce and administer the surveys to participating principals and teachers. The data generated by the surveys were also stored using the Qualtrics© software.

Principal's Mindset Survey

The Principal's Mindset Survey is a short questionnaire that was used to measure the principal's mindset. The survey originated from the work of Levy and Dweck (1998; Dweck 1999), who have developed different mindset surveys that reflect the specific intentions of the research being conducted. Some surveys were designed to assess the mindset in a specific area such as personality, moral character, or intelligence. Levy and Dweck referred to these as domain-specific surveys. This study utilized Levy and Dweck's (1998) domain-general "Kind of Person" survey. This survey was a better fit for this study given that the purpose of this study was to explore the connection of a principal's general mindset with teachers' perceptions of interpersonal and informational justice as it flowed from the principal. The purpose of this study was not to explore the specific domains within a mindset, although that may certainly be fertile ground for future research. Levy and Dweck (1998) wrote that, "The domain-general measure ["Kind of Person" survey] is used when the study focuses on judgements and behavior that cut across the social and intellectual domains" (p. 176).

The Principal's Mindset survey consisted of eight statements such as "The kind of person someone is, is something basic about them, and it can't be changed very much" (Dweck, 1999, p. 180). Participants responded to these statements using a 6-point Likert scale which was anchored with (1) strongly disagree to (6) strongly agree. Four of the eight questions depicted the beliefs of someone with a fixed mindset, and the other four questions depicted the beliefs of a growth mindset. The questions depicting a fixed mindset were reversed scored, so that the sum of the responses to all eight questions reflected the magnitude of the growth mindset of the participant. This sum of the responses was divided by eight, and this average represented the respondent's

final score on the survey. These scores ranged from 1 to 6, with higher scores suggesting a stronger growth mindset and lower scores suggesting a stronger fixed mindset.

The Principal's Mindset Survey also contained a brief section soliciting demographic information including the type of school (traditional vs. charter), grades taught in the school, number of students enrolled at the school, years that the principal has been at the school, years of administrative experience, years of experience in education, age, ethnicity, and gender of the principal.

Teacher's Survey of Administrative Mindset and Justice Perceptions

The teacher survey consisted of three parts designed to measure: (1) Teacher's perception of the principal's mindset, (2) Teacher's perception of interpersonal justice with the principal as the referent, and (3) Teacher's perception of informational justice with the principal as the referent.

In measuring the teacher's perception of the principal's mindset, the same questions as those in the principal's survey were used, but were preceded with the phrase "Based on your impression of your principal, your principal believes that..." Thus, the example given in the principal's survey was altered to read "Based on your impression of your principal, your principal believes that the kind of person someone is, is something basic about them, and it can't be changed very much" (Appendix E). The eight questions used to determine the teacher's perception of the principal's mindset were scored in the same manner as the principal's mindset survey, thus revealing a score that quantified the teacher's perception of the principal's mindset. The fourth question in the teacher survey was altered slightly for readability and clarity by inserting the pronouns "he or she" instead of the original "I" in order to maintain the focus of the principal as the referent. Thus, the question read, "Based on your impression of your principal,

your principal believes that as much as he or she hates to admit it, you can't teach an old dog new tricks. People can't really change their deepest attributes” (Appendix E). This necessary change in wording maintained the integrity of the question while focusing on the teacher’s perception of the principal’s belief.

Permission to use the implicit theory questions for the principal’s survey, as well as the altered forms of the questions used in the teacher’s survey was granted by Dr. Carol Dweck. Copies of the correspondence granting permission is included in Appendix G.

The remaining two sections of the teacher’s survey measured the teacher’s perception of interpersonal and informational justice with the principal as the referent. The questions for these sections were derived from the work of Colquitt (2001) whose research findings supported a four-factor model of the justice domains which viewed interpersonal and informational justice as separate and distinct.

Interpersonal justice questions:

1. To what extent has your principal treated you in a polite manner?
2. To what extent has your principal treated you with dignity?
3. To what extent has your principal treated you with respect?
4. To what extent has your principal refrained from improper remarks or comments?

Informational justice questions:

1. To what extent has your principal been candid in his/her communications with you?
2. To what extent has your principal thoroughly explained the process of how decisions that affect you are made?
3. To what extent are your principal’s explanations regarding decision-making processes reasonable?

4. To what extent has your principal communicated details in a timely manner?
5. To what extent has your principal seemed to tailor his/her communications to individuals' specific needs?

Answers for the interpersonal and informational questions on the teacher's survey followed Colquitt's (2001) original study but utilized a 6-point Likert-type scale (instead of Colquitt's 5-point scale) anchored with (1) to a small extent and (6) to a large extent. Sums of the responses from the two sets of questions were averaged and used to quantify the respondent's perceptions of interpersonal justice and informational justice, thus yielding scores between 1 and 6 for each area of justice. See Appendix E for an example of the teacher survey used in the study.

Due to the change in the values of the Likert-type scale, an internal consistency reliability estimate was calculated after the data were collected using the teacher responses ($N = 347$). The Cronbach alpha statistic was generated in SPSS for the responses of perceptions of interpersonal and informational justice. For the interpersonal justice questions, the Cronbach alpha score was .95. The Cronbach alpha score for informational justice was .90. Both values denote strong internal consistency reliability despite the changes to the Likert-type scale.

Permission to use the interpersonal and informational questions in the teacher's survey was granted by Dr. Jason Colquitt. Copies of the correspondence granting permission is included in Appendix H.

The teacher's survey concluded with a brief demographic section in order to gather information. The demographic information solicited consisted of years spent in the profession, years taught in the current school, years working with the current principal, age, ethnicity, and gender of the teacher.

In the teacher's survey, the three question sets (the administrator's mindset, perceptions of informational justice, and perceptions of interpersonal justice) were counterbalanced so that the order in which these sets were presented to the participant was random. For instance, one participant may have begun with the mindset questions, while another may have had the mindset questions following the justice questions.

Both sets of justice questions were anchored with "to a small extent" on one end of the spectrum and "to a large extent" on the other. The mindset items presented statements that were anchored by "strongly disagree" on one end of the spectrum and "strongly agree" on the other. In order to avoid confusion and to increase the continuity of the survey instrument, both sets of justice items were presented together. The order was never presented wherein the mindset questions came between the two justice sets.

Both surveys were piloted using a panel of principals and teachers to review and give feedback on their respective surveys. Feedback regarding the layout of the Likert scales led to adjustments to the layout so as to avoid ambiguities that some panel members experienced.

Reliability and Validity

The principal's survey, as well as the section of the teacher's survey that assessed teacher perceptions of the principal's mindset, utilized questions from an instrument developed from Levy and Dweck (1998). In two validation studies, Levy and Dweck reported a correlation between the growth and fixed mindset questions at $-.69$ and $-.86$ meaning that disagreement to the fixed mindset questions reflected agreement to the growth mindset questions. These two validation studies also yielded internal reliability correlations of $.83$ and $.92$. Levy and Dweck (1998) also reported test-retest reliabilities of $.82$ after a one-week interval and $.71$ after an interval of four weeks.

The sections of the teacher's survey that assessed perceptions of interpersonal and informational justice were derived from the work of Colquitt (2001) who found strong validity for the division of organizational justice into four distinct dimensions. The questions used in the teacher survey were reflective of Colquitt's (2001) four-dimension model and implemented the survey items specific to the informational and interpersonal justice domains. Colquitt's items for these two domains were based on the research of Bies and Moag (1986) and Shapiro et al. (1994).

Colquitt's 2001 analysis of the differing models of justice dimensions utilized fit statistics to determine the incremental and comparative fit of the four different models when compared to the baseline measurement of an absolute model. In this analysis, the four-factor model which called for the distinction of distributive, procedural, interactional, and informational justice, most closely aligned with the baseline measurement with incremental and comparative fit index scores above the .90 level which is "usually used as an arbitrary indicator of a good fit" (p. 392).

Procedures

Participants were sent a link via email which enabled them to take the survey through the Qualtrics© software. Participants' email addresses accompanied the data that was gathered. The identification of data by email address was used to pair the principals and teachers from the same schools. The paired data was linked by correlating identifiers which corresponded to the school's random number which was used during the selection process. For example, a principal from the i^{th} school would have principal mindset data scores identified as M_i . For individual teacher response, data were identified by group according to their corresponding school (i). For instance, P_{ik} represents the perception of interpersonal justice of the k^{th} teacher from the i^{th} school. Data collected through the surveys were assigned the following variables:

M_i = the score from the Principal's Mindset Survey from the principal of the i^{th} school.

T_{ik} = the score of the teacher's perception of the principal's mindset of the k^{th} teacher from the i^{th} school.

P_{ik} = the score of the teacher's perception of interpersonal justice of the k^{th} teacher from the i^{th} school.

F_{ik} = the score of the teacher's perception of informational justice of the k^{th} teacher from the i^{th} school.

Any information identifying specific principals and teachers was deleted from the data set (i.e., email addresses) in order to protect the anonymity of all respondents. It is important to note that the list of schools with accompanied random selection numbers was not a part of the data set. After submission of all completed surveys, the complete data set was uploaded to an external hard drive belonging to the researcher and was not shared with others or used for any purpose other than this study. The data set was stored on the hard drive for the entirety of this study. Upon successful completion of this dissertation, the data file will be destroyed.

Design and Analysis

After the completion of all surveys, data were reviewed to ensure that all surveys were complete and not missing any information. Surveys that were missing data were discarded and not used for the study. All deleted survey responses contained multiple blank data fields. There were 13 teacher surveys that were complete except for the demographic data requesting the teacher's age. It was decided to include these surveys in the study since all other data fields were complete.

The first research question considered the extent to which a principal's self-assessed mindset (M_i) correlated with a teacher's perception of the principal's mindset (T_{ik}). It should be

noted that the subscript “ k ” was not needed with the M variable since there was only one principal from each school participating in the study. The research question was addressed by computing the Pearson product-moment correlation coefficient (Pearson r) for the paired data of M_i and the average score of T_{ik} , (M_i, \bar{T}_i) .

The second and third research questions considered whether or not a statistically significant relationship existed between a teacher’s perception of the principal’s mindset (T_{ik}) and each of the variables representing a teacher’s perception of interpersonal justice (P_{ik}) and teacher’s perception of informational justice (F_{ik}).

The fourth and fifth research questions addressed the extent to which a teacher’s perception of the principal’s mindset predicted the teacher’s perceptions of interpersonal and informational justice. Questions two through five were addressed by constructing linear mixed models with the corresponding variables and computing linear regressions using SPSS software. The linear mixed models are explained in detail later in this section. As part of the linear mixed model analyses, tests on the data were performed to ensure that assumptions were not violated. These tests and their findings are described in the results section in Chapter 4.

The research questions were addressed by performing the procedures outlined beneath each research question listed below:

1. To what extent does a principal’s mindset correlate with a teacher’s perception of the principal’s mindset?

This question hypothesized that a correlation existed between a principal’s self-reported mindset (M_i) and a subordinate teacher’s perception of that principal’s mindset (T_{ik}). The null hypothesis (H_0) stated that no correlation existed. The equation for the null hypothesis is stated below where p represents the correlation within the study population.

$$H_0: p = 0$$

The alternative hypothesis (H_a) stated that the correlation does not equal zero. The equation for the alternate hypothesis is stated as:

$$H_a: p \neq 0$$

The null hypothesis was tested by analyzing the paired data of the principal's self-assessed mindset and the average teachers' perception of the principal's mindset from the i^{th} school such that the paired data was represented as (M_i, \bar{T}_i) .

This question was addressed by computing the Pearson product-moment correlation coefficient (Pearson r) for the paired data (M_i, \bar{T}_i) . Mean scores for the teachers' perceptions of the principal's mindset were utilized in order to avoid a deflation of any findings due to variance within the teachers' scores from the same school. This approach weighted each principal's response equally, regardless of the number of staff members who participated in the study.

2. To what extent does a relationship exist between the teacher's perception of the principal's mindset and the teacher's perception of interpersonal justice?

This question was addressed by developing a linear mixed model which considered the relationship between the teacher's perception of the principal's mindset (T_{ik}) and the teacher's perception of interpersonal justice (P_{ik}) that flowed from the principal. The model accounted for any clustering effect which may have occurred in schools with multiple participants. The linear mixed model equation is as follows:

$$P_{ik} = \beta_0 + \beta_1 T_{ik} + u_i + \varepsilon_{ik}$$

P_{ik} represented the perception of interpersonal justice of the k^{th} teacher from the i^{th} school. β_0 is the overall intercept of the linear equation. β_1 is the regression coefficient. T_{ik} is the independent variable representing the principal's mindset as perceived by the k^{th} teacher from the

i^{th} school. Both u_i and ε_{ik} are residual terms that together constituted the difference between the observed dependent value of P and the expected value of P , given the linear equation. The term u_i represents the clustering effect that may impact P values from teachers in the same school. This value was the variance of P values within school i . The term ε_{ik} represents any other factors that were unaccounted for, which created a discrepancy between the expected and the observed P value.

The data were analyzed using SPSS software to compute the regression correlation and determine if the findings were statistically significant. Data were also analyzed to ensure that assumptions were not violated.

This linear mixed model operated under the hypothesis that a statistically significant correlation existed between a teacher's perception of their principal's mindset and the teacher's perception of interpersonal justice. The null hypothesis (H_0) was that the regression coefficient from the linear mixed model is zero. Both the null and alternative (H_a) hypotheses are as follows:

$$H_0: \beta_1 = 0$$

$$H_a: \beta_1 \neq 0$$

3. To what extent does a relationship exist between the teacher's perception of the principal's mindset and the teacher's perception of informational justice?

Similar to research question two, this question was addressed by developing a linear mixed model which considered the relationship between the teacher's perception of the principal's mindset (T_{ik}) and the teacher's perception of informational justice (F_{ik}) that flowed from the principal. The model accounted for any clustering effect which may have occurred in schools with multiple participants.

The linear mixed model is identical to the one utilized to address question two, except that the variable for informational justice perceptions (F) replaced the variable for interpersonal justice perceptions (P) which was utilized in the previous model. Likewise, the variable v_i (in place of u_i) was used to represent any clustering effect upon the dependent variable of informational justice perceptions (F). The linear mixed model equation that was constructed to address this third research question was as follows:

$$F_{ik} = \beta_0 + \beta_1 T_{ik} + v_i + \varepsilon_{ik}$$

Similar to the analysis employed to address question two, the data were analyzed using SPSS software to compute the regression correlation and determine whether or not the findings were statistically significant. Data were also analyzed to ensure that assumptions were not violated.

This linear mixed model operated under the hypothesis that a statistically-significant correlation existed between a teacher's perception of their principal's mindset and the teacher's perception of informational justice. The null hypothesis (H_0) was that the regression coefficient from the linear mixed model was zero. Both the null and alternative (H_a) hypotheses are as follows:

$$H_0: \beta_1 = 0$$

$$H_a: \beta_1 \neq 0$$

4. To what extent does the teacher's perception of the principal's mindset predict the teacher's perception of interpersonal justice?

This question was addressed by considering the adjusted R^2 value of the linear regression for the paired data set of the teacher's perception of the principal's mindset (T_{ik}) and the teacher's perception of interpersonal justice (P_{ik}). The adjusted R^2 value represents the amount of

a teacher's perception of interpersonal justice that can be statistically attributed to the teacher's perception of the principal's mindset.

5. To what extent does the teacher's perception of the principal's mindset predict the teacher's perception of informational justice?

This question was addressed by considering the adjusted R^2 value of the linear regression for the paired data set of the teacher's perception of the principal's mindset (T_{ik}) and the teacher's perception of informational justice (F_{ik}). The adjusted R^2 value represents the amount of a teacher's perception of informational justice that can be statistically attributed to the teacher's perception of the principal's mindset.

Methodology Summary

In order to address the five research questions outlined in this study, online surveys were utilized to collect data from principals and teachers from public schools within the state of Idaho. This data was used to generate scores for each respondent in the areas of the principal's mindset, the teacher's perception of the principal's mindset, the teacher's perception of interpersonal justice, and the teacher's perception of informational justice.

The first research question was addressed by computing the Pearson product-moment correlation coefficient (Pearson r) for the paired data of the principal's self-assessed mindset and the average teacher's perception of that principal's mindset (M_i, \bar{T}_i).

The second and third study questions were addressed by constructing a linear mixed model that showed the relationship between a teacher's perception of the principal's mindset (T_{ik}) and the teacher's perception of interpersonal (P_{ik}) and informational (F_{ik}) justice flowing from the principal. The analysis of the linear mixed model also produced adjusted R^2 values which addressed the fourth and fifth research questions by addressing how much of a teacher's

perception of interpersonal and informational justice can be statistically attributed to the teacher's perception of the principal's mindset.

Results

As instructional leaders, school principals are tasked with finding ways to positively influence the academic achievement of the students attending their schools. Data supports the notion that highly engaged, effective teachers can have a significant positive impact on student learning (Hattie, 2012). Two frameworks that seek to add context to how teacher engagement can be increased are the Mindsets model (Dweck, 2006), and the domains within the research on organizational justice (Colquitt, 2001; Greenberg, 1993).

In an effort to explore the relationship between a principal's mindset and a teacher's perception of interpersonal and informational justice, this study focused on the following five research questions:

1. To what extent does a principal's mindset correlate with a teacher's perception of the principal's mindset?
2. To what extent does a relationship exist between the teacher's perception of the principal's mindset and the teacher's perception of interpersonal justice?
3. To what extent does a relationship exist between the teacher's perception of the principal's mindset and the teacher's perception of informational justice?
4. To what extent does the teacher's perception of the principal's mindset predict the teacher's perception of interpersonal justice?
5. To what extent does the teacher's perception of the principal's mindset predict the teacher's perception of informational justice?

Surveys were utilized to gather data that were analyzed to address these research questions. The collected data was represented by the following variables:

M_i = the score from the Principal's Mindset Survey from the principal of the i^{th} school.

T_{ik} = the score of the teacher's perception of the principal's mindset of the k^{th} teacher from the i^{th} school.

P_{ik} = the score of the teacher's perception of interpersonal justice of the k^{th} teacher from the i^{th} school.

F_{ik} = the score of the teacher's perception of informational justice of the k^{th} teacher from the i^{th} school.

This chapter presents response rates of district superintendents (or designees), principals, and teachers, as well as a demographic analysis of the respondents. The results from the data analyses addressing the research questions are also presented.

Response Rates

Schools representing 98 districts throughout the state of Idaho were randomly chosen to participate in this study. Permission was sought from the superintendent of each school district, or their designee, in order to send participation invitations to the principals of the selected schools. Of those 98 school districts, five school districts directly declined to participate in the study. Sixteen school districts did not respond to attempts to gain approval. Fifty-three school districts agreed to participate. Twenty-four school districts contained schools wherein the superintendent also acted as a building principal. For instance, a charter school or small rural school would have a superintendent who also acted as the principal. For these 24 schools, school district level requests for participation in the study were accompanied by the principal invitation and survey, thus combining school district-level approval and principal invitations at the same time. These 24 school districts are included in the school district participation numbers in order to accurately reflect the number of school districts included in the principal invitations. Thus, 77

school districts were represented from the schools invited to participate. Of the schools that fully participated in the study, 41 school districts were represented.

A total of 196 randomly selected principals representing 77 school districts were invited to participate in the study. A second invitation was sent to principals who did not respond to the initial invitation after two weeks. Of the initial and follow-up invitations, three principals directly declined to participate and 70 agreed to participate. The other 123 simply did not acknowledge the invitations to participate. An initial review of the data revealed that eight principal surveys were incomplete and unusable. Due to the onset of the coronavirus shutdown of public schools, these principals were not approached to resubmit their surveys. The final number of participating schools, with their principals and faculties in this study was 62. The response rate of principals with useable surveys was 31.6%.

From the participating schools, 1342 invitations to participate in the study were sent out to the teachers of those schools. A second invitation was sent to teachers who did not respond after two weeks. A total of 418 teacher surveys were submitted. Of the 418 returned teacher surveys, 34 were determined to be unusable because they were missing multiple data pieces or they corresponded to a principal survey that was not able to be used. It should be noted that 13 teacher surveys contained complete demographic information except the teacher's age. Since all other data were complete, these surveys were included in the study. Consequently, these 13 responses were not included in figuring the disaggregated demographics when considering the age of the teacher. Thirty-seven responses were from teachers who had worked less than two years with their current principal. These responses were disqualified for use in the study. Ultimately, 347 usable teacher surveys were collected which represented a 25.8% response rate.

Demographic Analysis

A total of 62 schools participated in this study including 30 elementary schools (48.4%), 10 middle schools (16.1%), 12 high schools (19.4%), five (8%) secondary schools (7-12 grades), and five (8%) K-12 schools. Sixty schools (96.8%) were traditional public schools (two of these schools served an alternative population), and two schools (3.2%) were public charter schools. The average student enrollment of participating schools was 418 students with a range of 48-1350 students.

Of the 62 participating principals in this study, the average years of experience as a principal was 9.7 years (range = 2 - 29 years) with 6.25 of those years (range = 2 - 22 years) spent at their current position. The average number of years of experience in the field of education was 22 years (range = 5 - 41 years). Twenty-four (38.7%) of the participating principals were female and 38 (61.3%) were male. The average age of these 62 principals was 48.6 years old (range = 32 - 72). Ethnically, nearly all (57 of the 62; 92%) of the principals identified racially as white, with the exception of one (1.6%) American Indian or Alaska Native, one (1.6%) Asian, one (1.6%) Black or African American, and two (3.2%) who preferred not to identify.

Of the 347 participating teachers, 259 were female (74.6%), 74 were male (21.3%), and 14 (4.0%) preferred not to answer. The average age of the teachers was 44.5 years old (range = 24 - 67 years). The average amount of time that participating teachers have worked in the field of education was 15.4 years (range = 2 - 43 years). The average amount of time working in their current school was 9.3 years (range = 2 - 43 years). The average amount of time that these teachers have worked with their current principal was 5.1 years (range = 2 - 22 years).

Ethnically, 311 (89.6%) of the teachers identified as white, two (0.6%) as American Indian or Alaska Native, one (0.3%) as black or African American, seven (2.0%) as Hispanic/Latino, four (1.2%) as multiple races, and 22 (6.3%) of the teacher respondents marked that they preferred not to identify a race.

Data Analysis

In this study, a principal's mindset score was matched with each of the teachers' scores from that principal's school. The teachers' scores included the teachers' perceptions of interpersonal justice, informational justice, and the teachers' perception of the principal's mindset, thus creating 347 sets of data. The paired data of the applicable variables being considered for each research question were then analyzed to answer the research questions. The five research questions with the analytical findings are as follows:

1. To what extent does a principal's mindset correlate with a teacher's perception of the principal's mindset?

As outlined in the methodology chapter of this study, teacher responses from within the same school were averaged together and paired with the principal response in order to create the paired data points to address this question. Preliminary analysis showed that no assumptions were broken by this data as there was a linear relationship between the principal's self-assessed mindset and the average teacher's perception of the principal's mindset (M_i, \bar{T}_i), and there were no outliers. There was bivariate normality as both variables were normally distributed as assessed by visual inspection of Normal Q-Q Plots. The Normal Q-Q Plots for the principal's self-assessed mindset and the Teachers' perception of the principal's mindset are included in Appendix I (Figures I1 and I2).

By computing the Pearson's product-moment correlation coefficient, it was determined that there was a statistically significant, small to moderate positive correlation between a principal's mindset and a teacher's perception of the principal's mindset, $r(62) = .28, p < .025$. Therefore, the researcher elected to reject the null hypothesis and accept the alternative hypothesis that a small to moderate positive correlation existed.

2. To what extent does a relationship exist between the teacher's perception of the principal's mindset and the teacher's perception of interpersonal justice?

The methodology section of this study outlined how an existing relationship between a teacher's perception of their principal's mindset (T_{ik}) and the teacher's perception of interpersonal justice (P_{ik}) can be described by a linear mixed model. The equation for that model is as follows:

$$P_{ik} = \beta_0 + \beta_1 T_{ik} + u_i + \varepsilon_{ik}$$

This equation represents the line of best fit for the paired data of the teacher's perception of the principal's mindset (T_{ik}) and the teacher's perception of interpersonal justice (P_{ik}). A scatterplot was constructed for the paired data points (T_{ik}, P_{ik}). Visual inspection of the scatterplot revealed that there was a linear relationship between the variables. This scatterplot is included in Appendix J.

Due to the hierarchical nature (or clustering effect) of the data, independence of observations cannot be assumed. The variable, u_i , represents a residual term for the clustering effect on data points, P_{ik} , that originate from the same school, thus accounting for the hierarchical structure within the data. An Intraclass Correlation Coefficient (ICC) was figured to measure the effect of clustering upon this dependent variable. The ICC is a ratio of the variance between the clusters, to the overall variance. It is computed by dividing the between-cluster

variance by the sum of the between-cluster variance and within-cluster variance. The ICC represents the proportion of the variance of the dependent variable (in this case, the teacher's perception of interpersonal justice) that can be accounted for by the clustering effect.

The ICC value representing the teachers' perceptions of interpersonal justice (P_{ik}) was .30. This ICC value means that there was a clustering effect upon the variable that must be accounted for within the model; hence the inclusion of the variable u_i in the equation.

Upon running the linear regression in SPSS, it was determined through the analysis of the Casewise Diagnostics that there were six outliers within the data with standardized residuals greater than three standard deviations away from the expected values given the regression equation. These six data points were deleted from the data set and the linear regression was run again. Culling these outliers resulted in no significant change in the findings. It was subsequently decided to leave the data set intact and include these six outliers.

To check for homoscedasticity, a plot of standardized residuals versus standardized predicted values was generated. This plot is included in Appendix K. Visual inspection of this plot revealed that there was homoscedasticity among the data points considered for this study question. It was also determined that the residuals were normally distributed as assessed by visual inspection of a normal probability plot. This plot is included in Appendix L.

Computing the linear regression of the data points (T_{ik}, P_{ik}) revealed that a statistically significant relationship between a teacher's perception of the principal's mindset and that teacher's perception of interpersonal justice existed, $F(1, 345) = 111.39, p < .001, 95\% \text{ CI } [.45, .65]$. Consequently, the researcher decided to reject the null hypothesis and accept the alternative hypothesis that a statistically-significant relationship existed between the teacher's perception of the principal's mindset and the teacher's perception of interpersonal justice.

Analysis of the coefficients produced by this linear regression created the following equation that represents the linear mixed model:

$$P_{ik} = 2.88 + (.55)T_{ik} + u_i + \varepsilon_{ik}$$

This equation denotes that the expected value of the teacher's perception of interpersonal justice (P_{ik}) was equal to the constant (2.88) plus .55 times the value of the teacher's perception of the principal's mindset (T_{ik}). A one-point increase in a teacher's perception of the principal's mindset resulted in a .55 increase in the teacher's perception of interpersonal justice flowing from the principal.

The difference between the expected value of P_{ik} and the actual observed value of P_{ik} lies within the residual terms u_i and ε_{ik} . The ε_{ik} term represents unaccounted factors that affect a teacher's rating of interpersonal justice. These factors may be demographic differences such as age and gender of either the principal or the teacher, but were not specifically accounted for within the equation. The u_i term represents the effect of the Intraclass Correlation Coefficient (ICC) for that teacher's particular school. It is important to note that while the ICC value of .30 represents the average ratio affecting all scores, the u_i value will vary from school to school. For instance, a school with only one teacher participating in the study will not have any variance within the school and thus the u_i value for that school would be zero, meaning that there is no clustering effect on that teacher's perception. Conversely, a school with many participants in the study will have variance among teacher perceptions that will constitute a clustering effect to those teachers' perceptions. Further discussion about the impact of the ICC is provided in Chapter 5.

3. To what extent does a relationship exist between the teacher's perception of the principal's mindset and the teacher's perception of informational justice?

The methodology section of this study noted that a relationship between a teacher's perception of their principal's mindset (T_{ik}) and the teacher's perception of informational justice (F_{ik}) can be described by a linear mixed model. The equation for this model reads as follows:

$$F_{ik} = \beta_0 + \beta_1 T_{ik} + v_i + \varepsilon_{ik}$$

This equation represents the line of best fit for the paired data of the k^{th} teacher's perception of the principal's mindset from the i^{th} school (T_{ik}) and the k^{th} teacher's perception of informational justice (F_{ik}) from the i^{th} school.

A scatterplot was constructed for the paired data points (T_{ik}, F_{ik}). Visual inspection of the scatterplot revealed that there was a linear relationship between the variables. This scatterplot is included in Appendix M.

Due to the hierarchical nature (or clustering effect) of the data, independence of observations cannot be assumed. The variable, v_i , represents a residual term for the clustering effect on data points, F_{ik} , from within the same (i^{th}) school, thus accounting for the hierarchical structure within the data. An Intraclass Correlation Coefficient (ICC) was figured to measure the effect of clustering upon this dependent variable. The ICC value representing the teachers' perceptions of informational justice (F_{ik}) was .30. Consequently, this is the same ICC value related to the P_{ik} variable. This ICC value means that there was a clustering effect upon the variable that must be accounted for within the model; hence the use of the variable v_i .

A linear regression run using the Casewise Diagnostic feature in SPSS revealed that there was one outlier within the data with a standardized residual greater than three standard deviations away from the expected value. Like the data analysis in question two, it was determined that the deletion of this data point would have no significant impact on the findings of this study, consequently this data point was included in the data set.

To check for homoscedasticity, a plot of standardized residuals versus standardized predicted values was generated. Upon visual inspection of this plot, it was determined that there was homoscedasticity among the data points considered in this study question. This plot is included in Appendix N. It was also determined that the residuals were normally distributed as assessed by visual inspection of a normal probability plot. This plot is included in Appendix O.

Computing the linear regression of the data points (T_{ik} , F_{ik}) revealed that a statistically significant relationship existed between a teacher's perception of the principal's mindset and that teacher's perception of informational justice, $F(1, 345) = 112.10$, $p < .001$, 95% CI [.45, .67]. Consequently, the researcher rejected the null hypothesis and accepted the alternative hypothesis that a statistically-significant relationship existed between these variables.

Analysis of the coefficients produced by this linear regression created the following equation that represents the linear mixed model:

$$F_{ik} = 2.07 + (.56)T_{ik} + v_i + \varepsilon_{ik}$$

This equation denotes that the expected value for F_{ik} was equal to the constant (2.07) plus .56 times the value of the teacher's perception of the principal's mindset (T_{ik}). In other words, a one-point increase in a teacher's perception of the principal's mindset resulted in a .56 increase in the teacher's perception of informational justice flowing from the principal.

The difference between the expected value of F_{ik} and the actual observed value of F_{ik} lies within the residual terms v_i and ε_{ik} . The ε_{ik} term represents unaccounted factors that affect a teacher's rating of informational justice. The v_i term represents the effect of the intraclass correlation on a teacher's perception of informational justice for that teacher's particular school. It is worth reiterating that while the ICC value of .30 represents the average ratio affecting all

scores, the v_i value will vary from school to school. Further discussion about the impact of the Intraclass Correlation coefficient is included in Chapter 5.

4. To what extent does the teacher's perception of the principal's mindset predict the teacher's perception of interpersonal justice?

A linear regression analysis of the data revealed that a teacher's perception of the principal's mindset accounted for 24.2% of the teacher's perception of interpersonal justice with an adjusted R^2 value = .24.

5. To what extent does the teacher's perception of the principal's mindset predict the teacher's perception of informational justice?

A linear regression analysis of the data revealed that a teacher's perception of the principal's mindset accounted for 22.1% of the teacher's perception of interpersonal justice with an adjusted R^2 value = .22.

Results Summary

A total of 62 schools and their principals representing 41 school districts from across the state of Idaho participated in this study. From the participating schools, 347 teachers participated in the study. Results of the correlation between the principal's self-reported mindset and the teacher's perception of that principal's mindset showed a statistically significant, low to medium correlation, with a Pearson $r = .28$.

Construction of a linear mixed model equation revealed a statistically significant relationship existed between a teacher's perception of the principal's mindset and that teacher's perception of both interpersonal and informational justice. Analysis of the data showed that 24.2% of a teacher's perception of interpersonal justice was statistically attributed to the teacher's perception of the principal's mindset. The analysis also showed that 22.1% of the

teacher's perception of informational justice was statistically attributed to the teacher's perception of the principal's mindset. A clustering effect was present in the dependent variables as determined by computation of the Intraclass Correlation Coefficient (ICC). The ICC of the interpersonal justice variable and the informational justice variable were both = .30. The effects of the ICC in both equations were accounted for through the use of an added coefficient in the equation which represented the effect of the clustering on the dependent variables.

Conclusions

The job description of a school principal has changed over the years from one of school manager to one of instructional leader. This has occurred due to a growing focus on the need to increase student academic achievement. A long line of educational initiatives from the Nation at Risk (National Commission on Excellence in Education, 1983) study during the 80's, through the Goals 2000: Educate America Act (1994) and No Child Left Behind (2001), to the most recent Every Student Succeeds Act (2015), call for increases in student achievement.

There is a seemingly infinite set of variables that can influence student achievement. The debate lies in identifying which variables will have the greatest impact and how to implement changes and provide training that will augment those variables. John Hattie (2012) has devoted his research to identifying which variables have the greatest impact on student learning. He has found that the teacher has the greatest influence on student academic achievement. This includes how teachers work with colleagues, establish a learning environment in the classroom, and provide feedback that informs students as to where they are in their learning and what needs to happen next. It follows reason that the principal's greatest task is engaging teachers in the process of professional development that serves to enhance the very skills that Hattie has identified.

The goal of increased employee engagement is not a new concept. In fact, it has been studied for decades in the business world. Research shows that employees who perceive that they are treated fairly in the workplace are more engaged in their jobs (Moorman, 1991; Organ et al., 2006). The construct of organizational justice (Levanthal, 1976) serves to identify the structures and interactions within any organization that enhance or erode employees' perceptions of fair treatment in the work environment.

The evolution of organizational justice research has identified four distinct domains which impact an employee's perception of fairness. These four domains are distributive (Adams, 1965; Homans, 1961), procedural (Levanthal, 1976; Thibaut & Walker, 1975), interpersonal (Greenberg, 1993), and informational (Greenberg, 1993). The distributive and procedural domains tend to focus on an organization's policies and procedures, but the interpersonal and informational domains focus on employee interactions with supervisors. Given the identified problem of how a principal can positively influence a teacher to more fully engage in professional development, a focus on the interactional nature of the interpersonal and informational domains were appropriate for this study.

Another theoretical framework that seeks to explain engagement in professional development is Carol Dweck's (2006) model of growth versus fixed mindsets. This theory holds that people with a fixed mindset tend to believe that a person's character, attributes, and skills are set and cannot be altered much. For example, either a person is good at math or that person is not. Conversely, a person with a growth mindset believes that with effort and practice, anyone's character, attributes, or skills can be improved. Instead of believing that a person can't do math, an individual with a growth mindset believes that perhaps a person can't do math *yet*, but with effort that person can improve.

To put this theory in the context of teacher effectiveness, a principal with a fixed mindset would believe that there are good teachers and there are bad teachers, and little can be done to help a bad teacher become more effective in the classroom. A principal with a growth mindset would believe that a bad teacher could improve to become a better teacher. It is easy to see which mindset would lead a principal to heavily invest in a struggling teacher's skillset, and which would lead a principal to seek the quickest path to a nonrenewal of that teacher's contract.

When viewing the domains of interpersonal and informational justice through a lens of Dweck's (2006) mindset theory, it is predictable that a principal with a growth mindset would be more patient, polite, and respectful of a struggling teacher, and would also provide more honest, timely, and informative feedback regarding evaluations and other decisions that affect that teacher. This correlative prediction is exactly what this study sought to establish.

Research in the business world has found correlations between a supervisor's mindset and the employees' perceptions of procedural justice (Heslin & VandeWalle, 2011), but no research of this type has been conducted in an educational setting. Also, no research has been conducted focusing on a supervisor's mindset and the specific organizational justice domains of interpersonal and informational justice. This study sought to begin to fill this gap. Specifically, this study set out to answer the following five research questions:

1. To what extent does a principal's mindset correlate with a teacher's perception of the principal's mindset?
2. To what extent does a relationship exist between the teacher's perception of the principal's mindset and the teacher's perception of interpersonal justice?
3. To what extent does a relationship exist between the teacher's perception of the principal's mindset and the teacher's perception of informational justice?
4. To what extent does the teacher's perception of the principal's mindset predict the teacher's perception of interpersonal justice?
5. To what extent does the teacher's perception of the principal's mindset predict the teacher's perception of informational justice?

To explore possible correlations, this study surveyed 62 K-12 principals across the state of Idaho and 347 teachers that worked with them. The principal survey included questions used

to assess the principal's own mindset and also collected demographic information about the principal and the school that they led. The teacher survey included questions used to assess the teacher's perception of the principal's mindset as well as questions that assessed the teacher's perceptions of interpersonal and informational justice based on their interactions with their principal. The teacher survey also collected demographic information about the teacher.

Discussion of the Findings

Analysis of the data regarding the correlation of a principal's self-assessed mindset (M_i) and a teacher's perception of the principal's mindset (T_{ik}) revealed a statistically significant Pearson product-moment correlation coefficient of .28. Considering that these two variables were measuring the same thing (the principal's mindset) from the perspective of two different people (the principal and the teacher), this correlation was lower than expected. The significance of this finding is that there was a relative disconnect between how principals feel about their own mindset, and how that mindset is communicated to others by way of words and actions.

Given what we already know about the impact of a supervisor's growth mindset on an organization's culture, employee engagement, and organizational citizenship behavior, strategies that increase a principal's mindset are worth investigating to assess whether these factors can be positively augmented. Strategies to increase a principal's mindset are explored in more detail in the following section on Implications for Practice and Recommendations for Future Research.

Another finding from the data analysis that deserves consideration is the Intraclass Correlation Coefficient (ICC) values for both justice variables. Since all of the teachers from the same school were assessing their perceptions regarding the same referent (the principal), it was expected that there would be a substantial clustering effect. Yet, this clustering effect represented something more than just an explanation for similar scores that focused on the principal. The

clustering effect was a reflection of the school culture that may have influenced the perceptions being measured.

The linear mixed model provided two residual terms that represented the discrepancy between the expected value of the dependent variable and the actual observed value. The term, ε_{ik} , represented unaccounted-for factors, but the other term (either u_i or v_i , depending on the model) represents the effect of the ICC. This term represented factors that were specific to the clustered data that had an impact on the justice perceptions. An example could be when a teacher complains to colleagues about the principal and these comments negatively impact the colleagues' perceptions of the principal which are then reflected in their perceptions of justice.

In this study, the culture of the school, as reflected in the ICC, served only to reinforce the impact of the principal's mindset on the teachers' justice perceptions. Previously cited studies (Heslin et al., 2005; Heslin & VandeWalle, 2011) have established the impact of mindsets and justice perceptions on the work environment. The interaction of an organization's culture and the perceptions of the supervisor's mindset as well as justice perceptions is an area of future research that will be further explored later in this chapter.

Implications for Practice

Efforts of school principals to increase student learning must be focused upon the skill level and performance of the teachers who deliver instruction to the students. This study has established a relationship between the teacher's perception of the principal's mindset and the teacher's perception of interpersonal and informational justice. This relationship, accompanied with the research that linked justice perceptions to employee engagement (Moorman, 1991; Organ et al., 2006), served to demonstrate how a principal can act purposefully to enhance the

levels of teacher engagement. These factors may help inform the decisions of the school principal while mapping out school-improvement strategies.

As a part of continual, data-driven school improvement efforts, data that reflect the teachers' perceptions of interpersonal and informational justice should be gathered on a regular basis in order to provide insight into the school culture and the health of the work environment. Assessments of the principal's and faculty members' mindsets would also provide pertinent information regarding individual beliefs about efforts toward developing as a professional.

Consideration of how faculty perceive the mindset of the principal and the justice domains flowing from the principal may help to identify areas in the culture of the school that may need some attention. If data analysis determined that there was a lack of a growth mindset, a principal may want to purposefully implement interventions that would promote a growth mindset among the faculty. Dweck's research (2006) showed that interventions can serve to increase the growth mindset of individuals and, thus, positively change the way that individual (the principal in this instance) approaches challenges and growth, thus improving teacher engagement.

If the data analysis showed low levels of perceived interpersonal or informational justice, the principal could increase efforts to treat staff with dignity and respect as well as be forthcoming with information about why and how decisions are being made. These types of actions can only serve to increase the teachers' perceptions of interpersonal and informational justice as well as perceptions of the principal's mindset, since the principal is demonstrating through action a belief that staff members can change and improve with effort. These actions should, in turn, have a positive impact on teacher engagement which would invariably lead to higher student achievement.

Recommendations for Future Research

In order to add validity to the findings of this study, any replication of this study would serve to add to the body of knowledge surrounding mindsets and the domains of organizational justice, especially in the school setting. Future researchers who choose to replicate this study may benefit from adding a section specifically assessing teachers' attitudes toward professional development, levels of engagement and work satisfaction, and other organizational citizenship behaviors.

Research has shown that interventions can have a positive effect on moving an individual toward a growth mindset (Dweck, 2006). New research that measures the impact of these interventions on perceptions of justice, teacher engagement, or teacher organizational citizenship behaviors is worthy of pursuit as well. Additionally, research that directly measures the result of student engagement in learning and student achievement due to increases in principal and teacher mindsets is needed.

This study did not focus on disparities within mindset perceptions and justice perceptions that may be attributed to disaggregated factors. For example, did the amount of time that a principal and teacher worked together affect the correlation between a principal's self-assessed mindset and the teachers' perceptions of the principal's mindset? Also, did factors such as gender, age, school size or grade levels within the school influence the relationship between justice perceptions and mindset perceptions? These areas need to be researched further in order to gain a greater understanding of the effects of the perceptions identified in this study.

This study has supported the hypothesis that a teacher's perception of a principal's mindset has a positive relationship with a teacher's perception of interpersonal and informational justice. Justice perceptions have been linked to job satisfaction. Moreover, research addressing

the justice perceptions of those who leave the profession to pursue another career would offer greater insight into how justice perceptions and mindsets affect teacher retention. The possibility of justice perceptions playing a role in a teacher's decision to leave the profession is particularly cogent during current teacher shortages and deserves further exploration.

Colquitt and Greenberg (2003) noted that nearly all of the justice research being conducted only considered the outcomes that flowed from justice instead of the variables that created the justice. Researchers have ignored the causes of a leader's fairness, opting instead to study the consequences of a leader's fairness.

The principal-teacher relationship is a fertile area in which to test interventions that may influence a leader's fairness. Interventions designed to augment the principal's mindset should be studied to ascertain their impact on the teachers' perceptions of the principal's mindset as well as the teachers' perceptions of interpersonal and informational justice. Where this study sought to primarily establish a relationship between mindsets and justice perceptions, the logical next progression would be to consider any causal relationships involved with the variables.

Conclusions Summary

This study set out to determine whether or not a relationship existed between a principal's mindset and a teacher's perception of interpersonal and informational justice flowing from the principal. It also correlated the principal's mindset and the teacher's perception of the principal's mindset. A statistically significant correlation was established between a principal's mindset and a teacher's perception of the principal's mindset.

Moreover, the construction of a linear mixed-model established that a statistically-significant relationship existed between a teacher's perception of the principal's mindset and the teacher's perception of interpersonal and informational justice.

Given an established correlation of the teachers' perceptions of the principal's mindset and interpersonal and informational justice, there are ramifications for decision makers to consider. First, principals should be cognizant of staff perceptions of justice and mindset as a reflection on the culture of the school. Staff perception data can be collected annually in order to provide insights into staff morale and school culture. This data can be an important litmus test when identifying possible areas in need of improvement. For instance, data that shows that teachers perceive low levels of informational justice can serve as a sign for the principal to be more transparent and provide more information to staff about how decisions are reached.

The established relationship between a teacher's perception of the principal's mindset and the teacher's perception of interpersonal and informational justice also points to areas for future research. Certainly, studies are needed in the educational setting which incorporate interventions that have shown to be effective in increasing an individual's growth mindset (Dweck, 2006). Interventions which would positively augment a principal's growth mindset may also positively influence the teachers' perceptions of the principal's mindset and the teachers' perceptions of justice. These interventions are worthy of future research efforts.

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Appendix A

Sample Email to School Superintendents

Dear <Superintendent>

My name is Steven Morton, and I am a doctoral candidate at Idaho State University in Educational Leadership. I am currently researching the correlation of a school principal's mindset and the teachers' perceptions of justice. The schools listed below have been randomly selected to participate in this study which consists of a short (5 minutes) questionnaire for the school principal, and a short (10 minutes) questionnaire for the teachers of that school. All responses will be kept confidential, and data at the individual and school levels will not be reported in this study or shared with participants.

I write to you seeking permission to contact the principals of the listed schools for participation in the study. Your consent in no way obligates the principals or teachers in your district to participate. To give consent, simply click on the link below and select "I give consent" on the google form. Your consideration for my study is greatly appreciated. If you have any questions regarding my research, please contact me at your convenience.

Most Sincerely,

Steven R. Morton, Ed.S.

<link to google form>

School selected for participation:

<school>

<school>

Appendix B

Sample Superintendent's Google Form

Superintendent's Permission to Contact Randomly Selected Schools

This research study seeks to explore the correlation of a school principal's mindset and the teachers' perceptions of justice. The study consists of a short (5 minutes) questionnaire for the school principal, and a short (10 minutes) questionnaire for the teachers of that school. All responses will be kept confidential, and data at the individual and school levels will not be reported in this study or shared with participants.

I understand that consent for this researcher to contact schools in my district in no way obligates the principals or teachers within those schools to participate in the study and that participation is voluntary.

- ☐ I give consent to contact principals of selected schools within my school district
- ☐ I do not give consent to contact principals of selected schools within my school district

<submit>

Appendix C

Sample Email Invitation to Principals

Dear <Principal's Name>

My name is Steven Morton, and I am a doctoral candidate at Idaho State University in Educational Leadership. I am currently researching the correlation of a school principal's mindset and the teachers' perceptions of justice. Your school has been randomly selected to participate in this study which consists of a short (5 minutes) questionnaire for you, the school principal; and a short (10 minutes) questionnaire for the teachers of your school. All responses will be kept confidential, and data at the individual and school levels will not be reported in this study or shared with participants. Additionally, all principals and teachers who participate in this study will have an opportunity to enter a drawing to win one of five \$25 Amazon gift cards.

To participate in this study, simply click the link below and fill out the survey. Your consideration of this research study is greatly appreciated!

Most Sincerely,

Steven Morton, Ed.S.

<link to Qualtrics Principal's Survey>

Appendix D

Principal's Mindset Survey

Principal's Mindset Survey

This survey will measure your beliefs about individual ability, intelligence, and personality traits. The survey also has a short section that will collect demographic information about you and your school. This information will be used as part of a larger study that examines a possible correlation between these beliefs and the interaction between principals and teachers. The entire survey should take less than five minutes. Respondents who complete the survey have the opportunity to enter a drawing to win one of five Amazon gift cards.

Informed Consent

The purpose of this survey is to collect data in order to explore a possible correlation between a principal's mindset about individual ability, intelligence, and personality traits and teachers' perceptions about their interactions with their principal. All responses will be kept confidential, and no individual data will be released publicly or shared with other participants of this study. Data reported in the findings of this study will not be reported at the individual or specific school level but may be dis-aggregated to the level of demographic subgroups (i.e. school size, grade levels served, years of professional experience, etc.). No identifying information of participants in this survey or their schools will be included in this study. By continuing with this survey, you give informed consent to participate in the research study and understand the risks involved in participating. All survey information will be retained and hosted on a third party Qualtrics server and not on an Idaho State University server.

I understand the above statement and give informed consent to participate in this research study.

I give consent <continue to next section>

I do not give consent and do not wish to participate in the study. <skip to end>

BLOCK 1

I believe that the kind of person someone is, is something very basic about them, and it can't be changed very much.

<Likert Scale Answer 1-6>

<Reversed scored 6-1>

I believe that people can do things differently, but the important parts of who they are can't really be changed.

<Likert Scale Answer 1-6>

<Reversed scored 6-1>

I believe that everyone, no matter who they are, can significantly change their basic characteristics.

<Likert Scale Answer 1-6>

I believe that as much as I hate to admit it, you can't teach an old dog new tricks. People can't really change their deepest attributes.

<Likert Scale Answer 1-6>

<Reversed scored 6-1>

I believe that people can always substantially change the kind of person they are.

<Likert Scale Answer 1-6>

I believe that everyone is a certain kind of person, and there is not much that can be done to really change that.

<Likert Scale Answer 1-6>

<Reversed scored 6-1>

I believe that no matter what kind of a person someone is, they can always change very much.

<Likert Scale Answer 1-6>

I believe that all people can change even their most basic qualities.

<Likert Scale Answer 1-6>

<Demographic Questions>

Which option best describes your current school?

Traditional Public School

Public Charter School

Other

What Grade levels are taught in your school?

PreK

Kindergarten

1st

2nd

3rd

4th

5th

6th

7th

8th

9th

10th

11th

12th

How many students attend your school? _____

How many years have you been the principal at your current school? _____

How many years of experience as a principal do you have? _____

How many total years of experience do you have in the field of education? _____

What is your gender?

Male

Female

I prefer not to answer

What is your age? _____

What is your ethnicity?

American Indian or Alaska Native

Asian

Black or African American

Hispanic/Latino

Native Hawaiian or other Pacific Islander

White

Multiple races

I prefer not to answer

<GIFTCARD DRAWING>

Thank you for completing this survey. As a sign of appreciation, you are eligible to win one of five Amazon gift cards worth \$25. Do you wish to be included in this drawing?

YES <Continue to next section>

NO <skip to end of survey>

Name _____

Phone number _____

<END OF SURVEY>

Appendix E

Teacher's Survey of Administrative Mindset and Justice Perceptions

Teacher's Survey of Administrative Mindset and Justice Perceptions

This survey will measure your perceptions of your principal's beliefs about individual ability, intelligence, and personality traits, and your perceptions about interactions between you and your principal. The survey has two short sections which ask about your perceptions as well as a brief section that will collect demographic information about you. The entire survey should take less than fifteen minutes. Respondents who complete the survey have the opportunity to enter a drawing to win one of five Amazon gift cards.

Informed Consent

The purpose of this survey is to collect data in order to explore a possible correlation between a principal's mindset about individual ability, intelligence, and personality traits and teachers' perceptions about their interactions with their principal. All responses will be kept confidential, and no individual data will be released publicly or shared with other participants of this study. Data reported in the findings of this study will not be reported at the individual or specific school level but may be dis-aggregated to the level of demographic subgroups (i.e. school size, grade levels served, years of professional experience, etc.). No identifying information of participants in this survey or their schools will be included in this study. By continuing with this survey, you give informed consent to participate in the research study and understand the risks involved in participating. All survey information will be retained and hosted on a third party Qualtrics server and not on an Idaho State University server.

I understand the above statement and give informed consent to participate in this research study.

☐ I give consent <continue to next section>

☐ I do not give consent and do not wish to participate in the study. <skip to end of survey>

<Randomized order of Principal Mindset Questions and Justice Questions>

<Principal mindset questions>

Based on your impression of your principal, your principal believes that the kind of person someone is, is something very basic about them, and it can't be changed very much.

STRONGLY DISAGREE DISAGREE SOMEWHAT DISAGREE SOMEWHAT AGREE AGREE STRONGLY AGREE

☐ ☐ ☐ ☐ ☐ ☐

<Reversed scored 6-1>

Based on your impression of your principal, your principal believes that people can do things differently, but the important parts of who they are can't really be changed.

STRONGLY DISAGREE DISAGREE SOMEWHAT DISAGREE SOMEWHAT AGREE AGREE STRONGLY AGREE

☐ ☐ ☐ ☐ ☐ ☐

<Reversed scored 6-1>

Based on your impression of your principal, your principal believes that everyone, no matter who they are, can significantly change their basic characteristics.

STRONGLY DISAGREE DISAGREE SOMEWHAT DISAGREE SOMEWHAT AGREE AGREE STRONGLY AGREE

☐ ☐ ☐ ☐ ☐ ☐

Based on your impression of your principal, your principal believes that as much as he or she hates to admit it, you can't teach an old dog new tricks. People can't really change their deepest attributes.

STRONGLY DISAGREE DISAGREE SOMEWHAT DISAGREE SOMEWHAT AGREE AGREE STRONGLY AGREE

☐ ☐ ☐ ☐ ☐ ☐

<Reversed scored 6-1>

Based on your impression of your principal, your principal believes that people can always substantially change the kind of person they are.

STRONGLY DISAGREE	DISAGREE	SOMEWHAT DISAGREE	SOMEWHAT AGREE	AGREE	STRONGLY AGREE
----------------------	----------	----------------------	-------------------	-------	-------------------

○ ○ ○ ○ ○ ○ ○

Based on your impression of your principal, your principal believes that everyone is a certain kind of person, and there is not much that can be done to really change that.

STRONGLY DISAGREE	DISAGREE	SOMEWHAT DISAGREE	SOMEWHAT AGREE	AGREE	STRONGLY AGREE
----------------------	----------	----------------------	-------------------	-------	-------------------

○ ○ ○ ○ ○ ○ ○

<Reversed scored 6-1>

Based on your impression of your principal, your principal believes that no matter what kind of a person someone is, they can always change very much.

STRONGLY DISAGREE	DISAGREE	SOMEWHAT DISAGREE	SOMEWHAT AGREE	AGREE	STRONGLY AGREE
----------------------	----------	----------------------	-------------------	-------	-------------------

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Based on your impression of your principal, your principal believes that people can change even their most basic qualities.

STRONGLY DISAGREE DISAGREE SOMEWHAT DISAGREE SOMEWHAT AGREE AGREE STRONGLY AGREE

○ ○ ○ ○ ○ ○ ○

To what extent has your principal communicated details in a timely manner?

TO A SMALL EXTENT	2	3	4	5	TO A LARGE EXTENT
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

To what extent has your principal seemed to tailor his/her communications to individuals' specific needs?

TO A SMALL EXTENT	2	3	4	5	TO A LARGE EXTENT
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

<Demographic Questions>

How many years have you been a teacher at your current school?

How many years have you worked with your current principal?

How many total years of experience do you have in the field of education?

What is your gender?

- ☐ Male
- ☐ Female
- ☐ I prefer not to answer

What is your age?

What is your ethnicity?

- ☐ American Indian or Alaska Native
- ☐ Asian
- ☐ Black or African American
- ☐ Hispanic/Latino
- ☐ Native Hawaiian or other Pacific Islander
- ☐ White
- ☐ Multiple races
- ☐ I prefer not to answer

<GIFTCARD DRAWING>

Thank you for completing this survey. As a sign of appreciation, you are eligible to win one of five Amazon gift cards worth \$25. Do you wish to be included in this drawing?

- ☐ YES
- ☐ NO <skip to end of survey>

Name

Phone number

<END OF SURVEY>

Appendix F

Sample Email Invitation to Teachers

Dear <Teacher's Name>

My name is Steven Morton, and I am a doctoral candidate at Idaho State University in Educational Leadership. I am currently researching the correlation of a school principal's mindset and the teachers' perceptions of justice. Your school has been randomly selected to participate in this study which consists of a short (5 minutes) questionnaire for your school principal; and a short (10 minutes) questionnaire for you, the teacher. All responses will be kept confidential, and data at the individual and school levels will not be reported in this study or shared with participants. Additionally, all principals and teachers who participate in this study will have an opportunity to enter a drawing to win one of five \$25 Amazon gift cards.

To participate in this study, simply click the link below and fill out the survey. Your consideration of this research study is greatly appreciated!

Most Sincerely,

Steven Morton, Ed.S.

<*link to Qualtrics Teacher's Survey*>

Appendix G

Dr. Dweck Permission to Use Intellectual Property



Steven Morton <mortste2@isu.edu>

Fwd: permission to use intellectual property

4 messages

Steven Morton <mortste2@isu.edu>
To: Steven Morton <mortste2@isu.edu>

Mon, Jan 7, 2019 at 11:54 AM

----- Forwarded message -----

From: Steven Morton <mortste2@isu.edu>
Date: Mon, Jan 7, 2019 at 11:50 AM
Subject: Fwd: permission to use intellectual property
To: <dweck@stanford.edu>, <beedavid@stanford.edu>

----- Forwarded message -----

From: Steven Morton <mortste2@isu.edu>
Date: Wed, Dec 5, 2018 at 6:57 PM
Subject: permission to use intellectual property
To: <dweck@stanford.edu>

Hello Dr. Dweck:

My name is Steven Morton, and I am currently a doctoral candidate at Idaho State University studying Educational Leadership. I am a huge fan of your work which has taught me so much about myself as well as human nature in general. In fact, I have chosen to focus my dissertation on how the mindsets of K-12 school administrators might correlate with their teacher's sense of organizational justice.

The study will measure the Implicit Theory of a school principal as well as the teachers' perceptions of that principal's Implicit Theory. These findings will be correlated with the teachers' sense of organizational justice.

In order to measure the principal's Implicit Theory and the teachers' perceptions of the principal's Implicit Theory, I would like to utilize the questions found in your book Self Theories: Their Role in Motivation, Personality, and Development from 1999. I am asking your permission to utilize the 8 questions that comprise the "Kind of Person" Implicit Theory - "Others" Form for Adults.

Principals will answer the questions as they appear in the appendix of the book using a 6 point Likert scale and scored as prescribed in your literature. Teachers will answer modified versions of the questions so that the focus is on their principal rather than on themselves. Teachers will also use a 6 point Likert scale and scored in the same manner as the principals' survey. The exact questions are listed below as they will be used in the study.

Principal Questions:

1. I believe that the kind of person someone is, is something very basic about them, and it can't be changed very much.
2. I believe that people can do things differently, but the important parts of who they are can't really be changed.
3. I believe that everyone, no matter who they are, can significantly change their basic characteristics.
4. I believe that as much as I hate to admit it, you can't teach an old dog new tricks. People can't really change their deepest attributes.
5. I believe that people can always substantially change the kind of person they are.
6. I believe that everyone is a certain kind of person, and there is not much that can be done to really change that.
7. I believe that no matter what kind of person someone is, they can always change very much.
8. I believe that all people can change even their most basic qualities.

Teacher Questions:

1. Based on your impression of your principal, your principal believes that the kind of person someone is, is something very basic about them, and it can't be changed very much.
2. Based on your impression of your principal, your principal believes that people can do things differently, but the important parts of who they are can't really be changed.
3. Based on your impression of your principal, your principal believes that everyone, no matter who they are, can significantly change their basic characteristics.
4. Based on your impression of your principal, your principal believes that as much as he or she hates to admit it, you can't teach an old dog new tricks. People can't really change their deepest attributes.
5. Based on your impression of your principal, your principal believes that people can always substantially change the kind of person they are.
6. Based on your impression of your principal, your principal believes that everyone is a certain kind of person, and there is not much that can be done to really change that.
7. Based on your impression of your principal, your principal believes that no matter what kind of person someone is, they can always change very much.
8. Based on your impression of your principal, your principal believes that all people can change even their most basic qualities.

May I please have your permission to use these questions for my dissertation? If you would like more information regarding my study, please feel free to contact me at your convenience.

Most Sincerely,

Steven Morton
208-520-1904
mortste2@isu.edu

Carol Dweck <dweck@stanford.edu>
To: Steven Morton <mortste2@isu.edu>

Mon, Jan 7, 2019 at 12:55 PM

Permission granted! I wish you the best with your research.

Warm regards,
Carol Dweck

Lewis & Virginia Eaton Professor
of Psychology

Department of Psychology

Stanford University

Stanford, CA 94035

Appendix H

Dr. Colquitt Permission to Use Intellectual Property



Steven Morton <mortste2@isu.edu>

Permission to use intellectual property

3 messages

Steven Morton <mortste2@isu.edu>
To: colq@uga.edu

Wed, Dec 5, 2018 at 6:58 PM

Hello Dr. Colquitt:

My name is Steven Morton, and I am a doctoral candidate at Idaho State University studying Educational Leadership. I am currently in the process of writing my dissertation proposal which focuses on how the Implicit Theories (Dr. Carol Dweck's work) of K-12 school administrators might correlate with their teacher's sense of interpersonal and informational justice.

The study will measure the Implicit Theory of a school principal as well as the teachers' perceptions of that principal's Implicit Theory. These findings will be correlated with the teachers' sense of interpersonal and informational justice.

In order to assess the teachers' sense of justice in the above named domains, I would like to utilize the questions that you developed in your 2001 work "On the Dimensionality of Organizational justice: A Construct Validation of a measure." The questions will be scored in the same manner as you prescribed in your literature, utilizing a 5 point Likert scale with anchors of 1 = *to a small extent* and 5 = *to a large extent*. The questions have been minimally altered to reflect the school principal as the focus of the questions and are listed below as I wish to use them in my study:

Interpersonal Justice questions:

1. To what extent has your principal treated you in a polite manner?
2. To what extent has your principal treated you with dignity?
3. To what extent has your principal treated you with respect?
4. To what extent has your principal refrained from improper remarks or comments?

Informational Justice:

1. To what extent has your principal been candid in his/her communications with you?
2. To what extent has your principal thoroughly explained the process of how decisions that affect you are made?
3. To what extent are your principal's explanations regarding decision-making processes reasonable?
4. To what extent has your principal communicated details in a timely manner?
5. To what extent has your principal seemed to tailor his/her communications to individuals' specific needs?

May I please have your permission to use these questions for my dissertation? If you would like more information regarding my study, please feel free to contact me at your convenience.

Most Sincerely,

Steven Morton

208-520-1904
mortste2@isu.edu

Jason A. Colquitt <colq@uga.edu>
To: Steven Morton <mortste2@isu.edu>

Thu, Dec 6, 2018 at 12:17 PM

Dear Steven,

Permission granted. Best of luck with your work,

Jason

[Quoted text hidden]

|||||
Jason A. Colquitt, Ph.D.
William Harry Willson Distinguished Chair
Coordinator, [PhD Program in Management](#)
Terry College of Business
University of Georgia
C210 Benson Hall
Athens, GA 30602
Phone: (706) 542-1294
Fax: (706) 542-3743
E-mail: colq@uga.edu
|||||

Appendix I

Normal Q-Q Plots for the Principal's Self-assessed Mindset and the Teacher's Perception of the Principal's Mindset

Figure I1

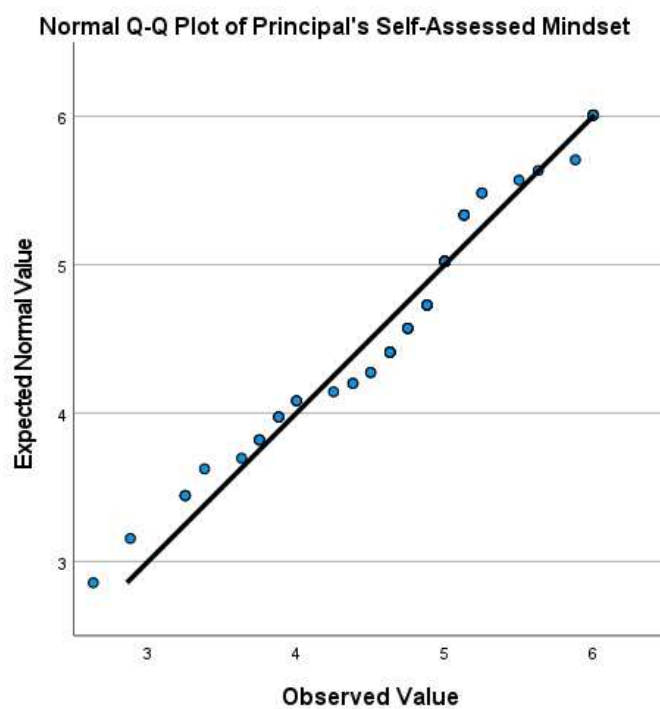
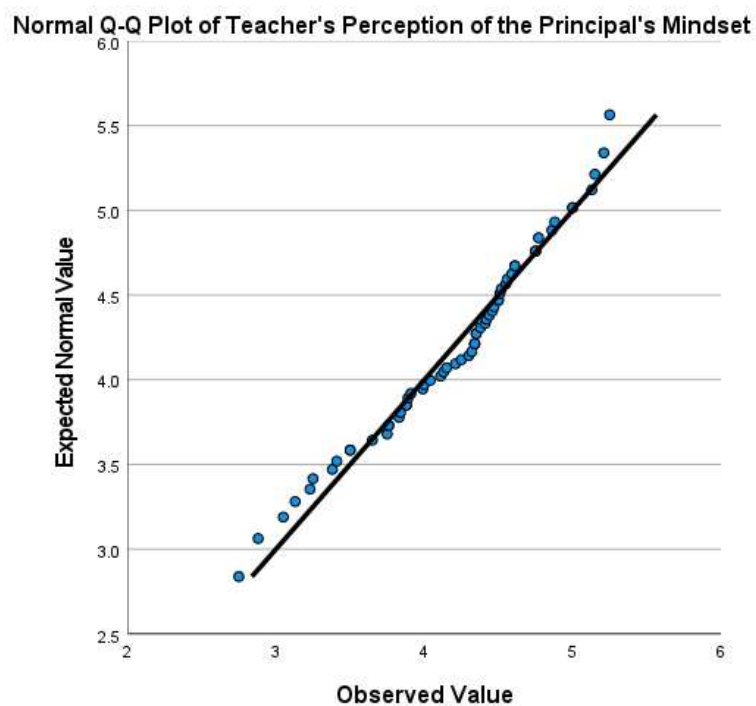
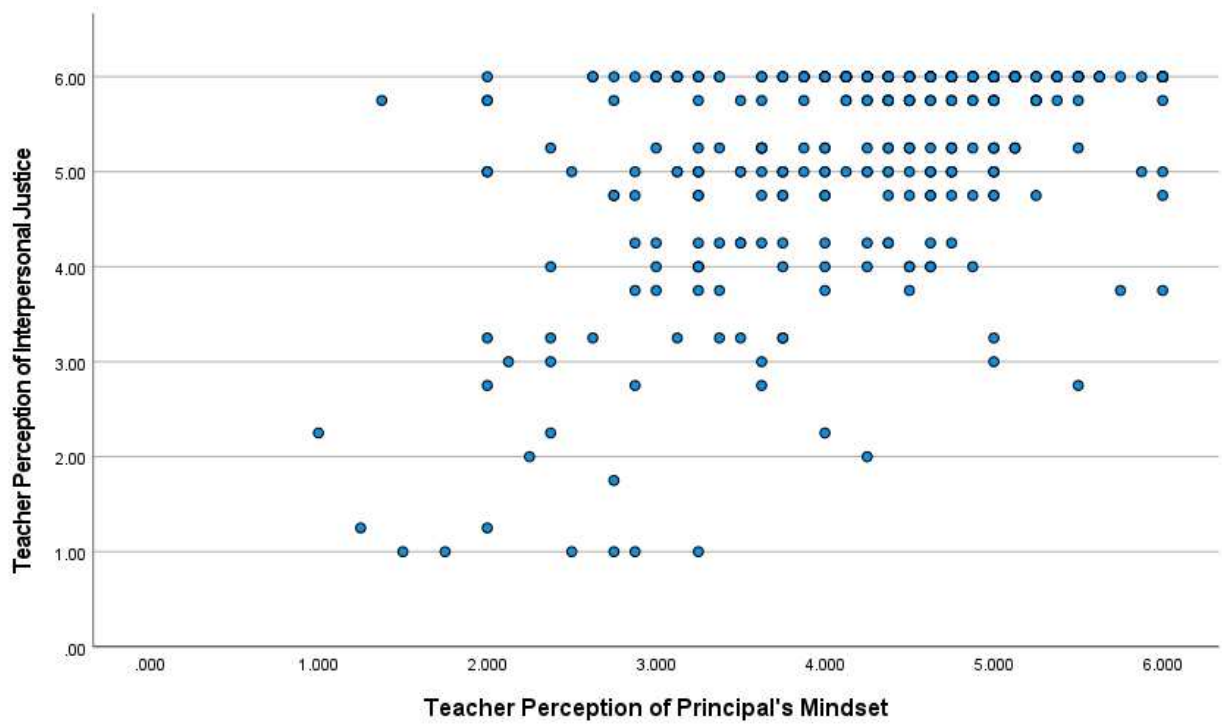


Figure I2



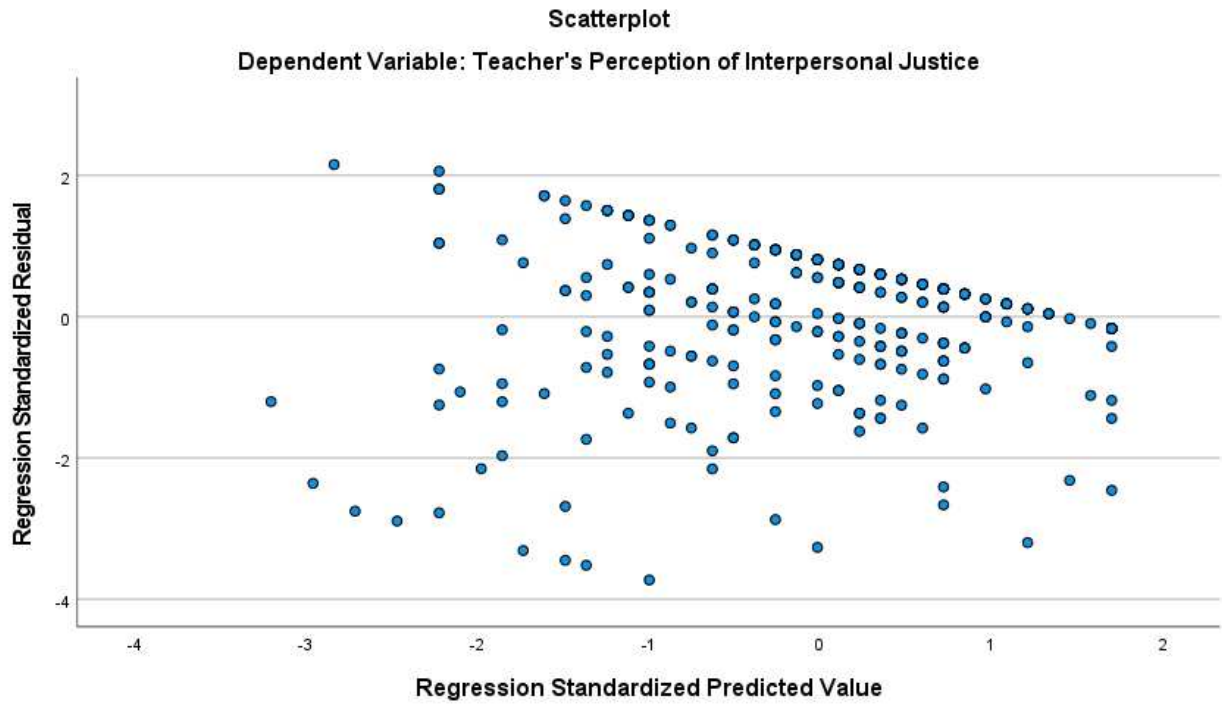
Appendix J

Scatterplot of Teacher Perception of Interpersonal Justice by Teacher Perception of Principal Mindset



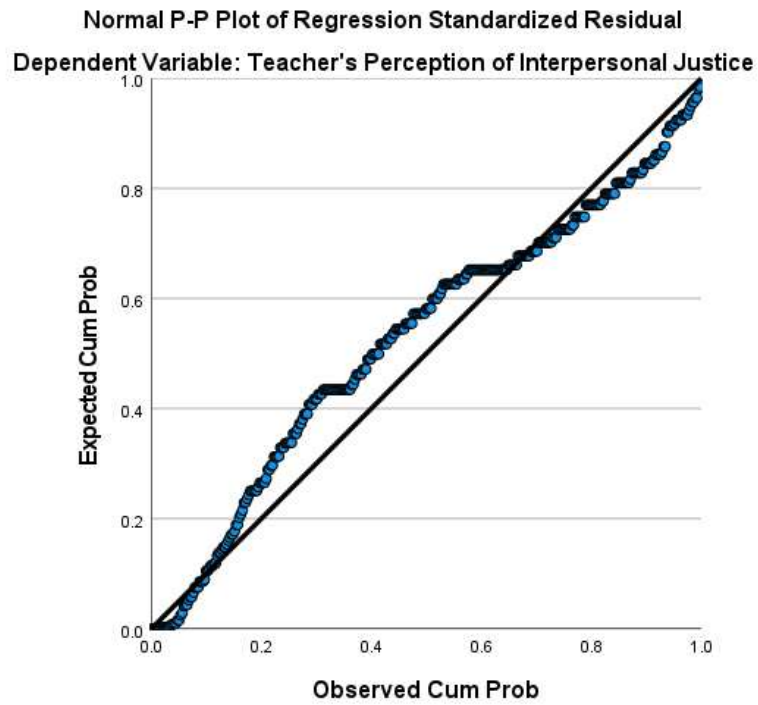
Appendix K

Test for Homoscedasticity for Teacher's Perception of Interpersonal Justice



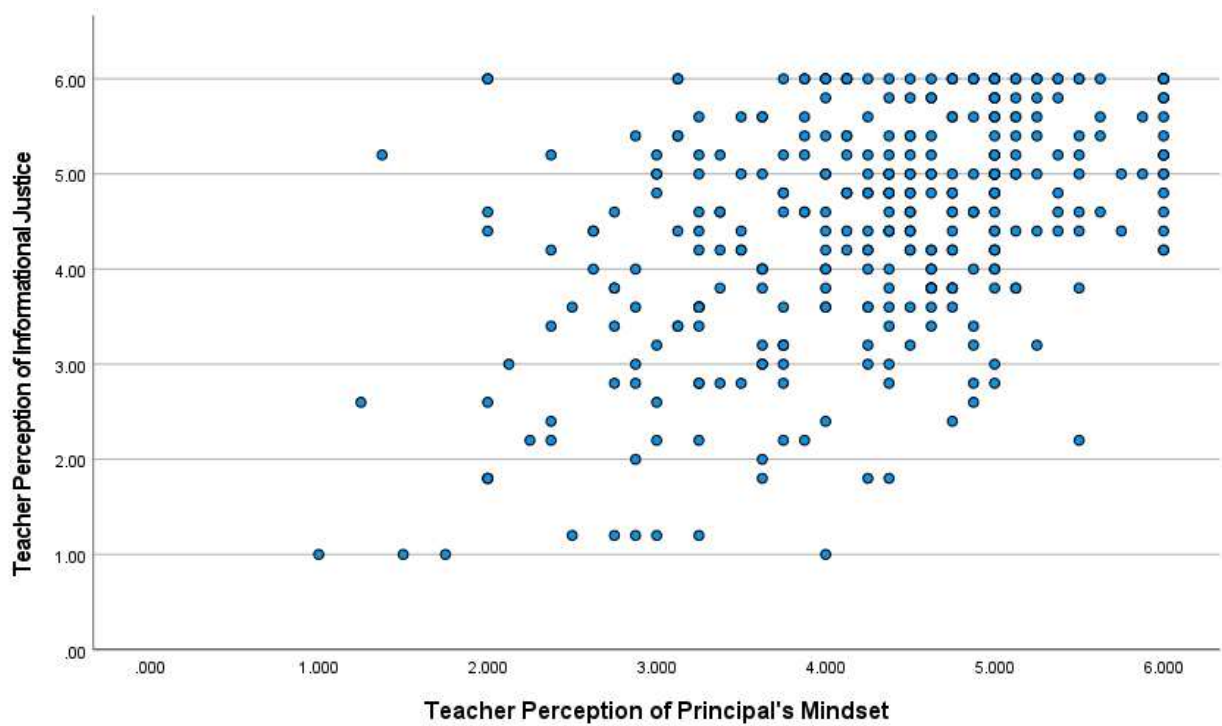
Appendix L

Normal Probability Plot of Residuals for Teacher's Perception of the Principal's Mindset and the Teacher's Perception of Interpersonal Justice



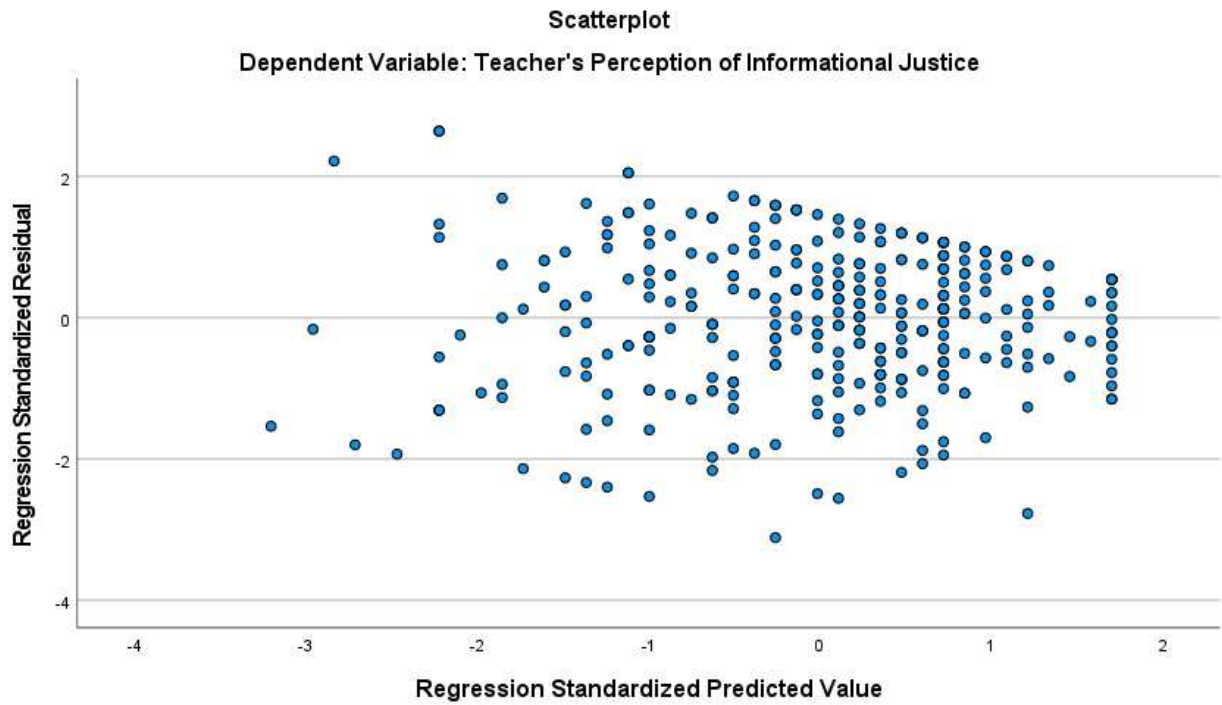
Appendix M

Scatterplot of Teacher Perception of Informational Justice by Teacher Perception of Principal Mindset



Appendix N

Test for Homoscedasticity for Teacher's Perception of Informational Justice



Appendix O

Normal Probability Plot of Residuals for Teacher's Perception of the Principal's Mindset and the Teacher's Perception of Interpersonal Justice

