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Relational Trust as a Determinant of Principal Turnover: A Quantitative Analysis

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DePaul University

College of Education

RELATIONAL TRUST AS A DETERMINANT OF PRINCIPAL TURNOVER:

A QUANTITATIVE ANALYSIS

A Dissertation in Education
with a Concentration in Educational Leadership

by

Steven M. Jeretina

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Submitted in Partial Fulfillment
of the Requirements
for the Degree of

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June 2020

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Certificate of Authorship

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A handwritten signature in black ink, appearing to be 'J. Galt', written over a horizontal line.

Date: 3/18/2020

ABSTRACT

The issue of principal turnover in American schools has gained greater attention over the last twenty years due to the trend of double-digit annual principal turnover rates. The connection between principal turnover and school climate has largely been focused on how changes in the principal position negatively affects school climate. No research, to this point, has examined the correlation between relational trust between teachers and their principal and principal turnover rates. This study achieves this goal by addressing the question: What, if any, is the relationship between relational trust and principal turnover? This study employed a quantitative methodology supported by secondary data sources. The sample population included 696 Illinois PK-12 public schools that administered the 5Essentials Survey in six consecutive years (2013-2014 to 2018-2019). The Teacher-Principal Trust measure score from the 5Essentials Survey represented the measurement of relational trust. Principal turnover first appeared as a metric on the Illinois report cards during the 2013-2014 school year. The timeframe which principal turnover is relevant is from the 2013-2014 school year through the 2018-2019 school year, matching the years that Teacher-Principal Trust was examined. The researcher's analysis sought to determine the extent to which a relationship exists between Teacher-Principal Trust scores and principal turnover rates in six distinct areas. Ultimately, this study found that schools with relational trust issues have a high rate of principal turnover, that principal turnover issues transcend urbanicity, and that school-level demographics largely do not affect principal turnover rates. The findings from this study provide needed perspective on relational trust as a measure directly correlated to principal turnover rates. Additionally, this study provides insight on a new typology of principal more susceptible to vacating their position: principals who struggle to form relational trust with teachers.

Keywords: 5Essentials Survey, Illinois report card, relational trust, Teacher-Principal Trust

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SJ

Chapter I

INTRODUCTION

Overview of Relational Trust and Principal Turnover

When discussing the phenomenon of trust, scholars of organizational management have used descriptive terminology such as fabric, lubricant, or even lifeblood to illustrate the significant role that trust plays in developing a professional culture and attaining organizational goals (Bryk, Sebring, Allensworth, Luppescu, & Easton, 2010; Bryk & Schneider, 2003; Mayer, Davis, & Schoorman, 1995). Trust is defined as “confidence in or reliance on the integrity, veracity, justice, friendship, or other sound principle, of another person or group” (Louis, 2007). In the context of schools, relational trust, a form of trust characterized by the social exchanges between stakeholder groups (between teachers and a school principal, for example), emphasizes the need for each group to fulfill its responsibilities in order to further develop trust and work towards organizational outcomes that benefit students (Bryk & Schneider, 2003). In action, a principal builds trust by recognizing the abilities of teachers, by creating a culture where continual improvement is valued, as well as through the principal’s ability to shape a vision and support efforts to improve practices of teaching and learning to benefit all learners (Hallinger, 2003). Yet due to the growing complexity of the position, principal turnover has noticeably increased in American education over the last twenty years.

Principal turnover can serve as the equivalent of hitting the “reset button” of social exchanges that build trust between a principal and teachers. Fullan (2016) recognized this issue by stating that when impactful individuals within an organization, such as a principal, leave their position “success can be undone almost overnight. Thus, from the point of view of ‘sustaining

change,' even in those small number of success cases, there are serious problems" (p. 12). While the goal of this study will be to examine the extent to which a correlation exists between relational trust and principal turnover, one must first understand how the role of the American school principal has come to be as we know it today.

The Evolving role of the American School Principal

The role of principal in the American public school system originated in the mid-19th century, fulfilling the need for a school leader responsible for the organizational demands of separating students into grade levels by age and achievement, and to serve as a conduit to the superintendent (Rousmaniere, 2007). Many early principals were selected based upon their teaching seniority or their willingness to complete the duties of the position, while others were appointed to the position because of nepotistic relationships with members of their district's board of education (Rousmaniere, 2007). Continuing into the mid-20th century, school principals throughout the United States (U.S.) were predominantly overseers of managerial tasks whose responsibilities included financial matters and maintenance of schools, accountability and disciplining of students, and other duties associated with modern day human resource departments (Callahan, 1962).

The responsibilities of principals differed by the size and level of urbanization of the school district. In the mid-19th century when urban industrial centers were the hub of the school consolidation movement, principals were mid-level bureaucrats. Conversely, rural communities lacked the fiscal means or need to support such a position. In communities where this position did exist, the extent to which principals acted as instructional leaders depended upon the size of a school, as some principals taught classes on top of their administrative responsibilities. Though

principals of this era were typically tasked with supervising teachers, many lacked the training to provide meaningful feedback to improve instruction (Nutt, 1918). It was not until the post-World War II era that one-third of states held requirements for individuals to become principals, demonstrating the professionalization of principalship (Glass, Mason, & Eaton, 2004).

By the late 1970s and early 1980s, a growing number of studies illustrated “that principals in instructionally effective schools exercised strong instructional leadership” (Hallinger, 2005). Hallinger and Murphy’s (1985) seminal work on instructional leadership established a framework that encompassed the practices of effective instructional leaders. The “dimensions” of instructional management that the researchers identified included defining the school’s mission (establishing and communicating goals), overseeing instruction (teacher evaluation, curriculum development, monitoring student progress) and promoting school climate (protecting instructional time, providing professional development for teachers, being visible, maintaining academic standards) (Hallinger & Murphy, p. 221). Recent and expansive efforts to improve the quality of teaching and learning in schools across the U.S. reflect the overlapping nature of the dimensions of instructional leadership and relationship building to effectively implement initiatives.

Professional learning communities (PLC) emerged as an effort to establish collaborative teams of teachers working to produce a sense of agency whereby all students learn and set the conditions to make such a vision a reality. Hallam, Smith, Hite, Hite, and Wilcox (2015) found that principals who establish a sense of distributed leadership and empower teachers to be involved in decision-making are more likely to obtain buy-in for initiatives, such as developing PLC teams in their school. Similarly, wide scale adoption of the Danielson Framework for Teaching Evaluation (or similar frameworks) reflects a more robust and reinvented approach

towards teacher evaluation. Such models establish “standards against which to benchmark teacher performance, [require] more intensive observations of classrooms, [incorporate] validated instruments, and [utilize] data on the learning gains of the particular teacher” (Hallinger, Heck, & Murphy, 2014). Efforts to establish teacher support for such a change to the evaluation process requires teachers to trust that their evaluator possesses the competency to appraise their professional work, communicate their appraisal with evidence, and help teachers reflect upon how to improve future instructional practices. This study, as well as subsequent research related to the topic of principals as instructional leaders, play a major role in the evolution of a principal’s responsibilities, further illustrating both the significance and growing complexity of the position.

In addition to research influencing the development of the principal’s responsibilities from manager to instructional leader, congressional reforms have led to increased accountability measures pertaining to student achievement and school improvement that principals are responsible for implementing. Landmark legislative actions affecting education, such as the Elementary and Secondary Education Act (ESEA), has been reauthorized eight times since its passage in 1965. Over the last six decades, reauthorizations of the ESEA, with the two most recent being the 2002 No Child Left Behind Act (NCLB), and the 2015 Every Student Succeeds Act (ESSA), ushered in and sustained accountability measures aimed to improve education in the U.S. Though these federal reauthorizations strive to improve equity and opportunity for students, principals shoulder significant responsibility for interpreting requirements, communicating the requirements with stakeholders and taking the necessary measures to lead implementation.

Despite federal efforts to increase equity through funding and establish accountability-based achievement standards, reports such as *A Nation at Risk* (Gardner, Larsen, Baker, Campbell, & Crosby, 1983) and to a degree, *A Test of Leadership: Charting the Future of U.S. Higher Education* (Spellings, 2006) questioned the efficacy of American education, further altering principals' leadership responsibilities in an effort to improve the instructional environment for their schools. Externally initiated reforms aimed to improve education tend to utilize large-scale, standardized measurements to quantify the extent to which change has occurred but rely upon local school leadership in order to initiate change (Leithwood, Louis, Anderson, & Wahlstrom, 2004). Hence, the complexity and volume of such mandated policy review, implementation and evaluation can increase principals' managerial responsibilities and shift their focus away from duties, which have a more immediate and direct impact upon the instructional environment of their school (Pollock, Wang, & Hauseman, 2015).

The last 150 years of American education illustrate the evolution of the role of the principal. The responsibilities of the modern American school principal are multifaceted and complex, but crucial to the success of schools. Today's leading principals balance the demands of being institutional visionaries; providing instructional leadership, shaping a vision of academic success for all learners, developing and maintaining a culture of learning, and managing people, data, and processes (The Wallace Foundation, 2013). When examining factors that positively impact student learning, effective school leadership ranks only behind effective teaching as having the most profound impact, yet many schools struggle to develop and retain principals due to high levels of turnover (Béteille, Kalogrides, & Loeb, 2012; DeAngelis & White, 2011; Fuller & Young, 2009; Goldring & Taie, 2014; Leithwood et al., 2004; Louis, Gordon, Michelin, Thomas, & Wahlstrom, 2010). Literature pertaining to principal turnover has

relatively recent origins; however, the body of literature has grown to inform practitioners, policymakers, and scholars about the determinants and consequences of principal turnover, as well as the significant role that principals play in developing a positive school culture.

Context of Study

In *The Speed of Trust: The One Thing that Changes Everything* (2008), Stephen Covey stated, “The number one job of any leader is to inspire trust. It’s to release the creativity and capacity of individuals to be their best and to create a high-trust environment in which they can effectively work with others” (p. 298). The growing churn of K-12 public school principals across the U.S. is a hindrance to creating relational trust, a form of trust rooted in social respect, interpersonal bonds, professional competence, and integrity (Bryk et al., 2010). A climate of relational trust lays the foundation for communication and collaboration that is needed for school improvement. Saphier (2018) stated that unlike CEOs and business leaders who possess the utmost authority over decisions regarding staffing, compensation, and organizational direction, school principals must take a much more collaborative approach in order to develop an organizational culture that supports adult learning, leading to increased student learning.

The current body of research on principal turnover emphasizes the negative impact that frequent leadership change can have on schools and provides a wide array of opportunities for further research that could lead to efforts to promote higher levels of principal retention. Findings about the determinants and consequences of principal turnover have provided leaders of principal preparation programs, school district leaders, and policymakers with an array of information that largely accepts that principal turnover negatively impacts “student achievement, teacher turnover, and school culture, climate, and resources” (Snodgrass Rangel, 2018). These

findings provide opportunities for future research to replicate or test existing findings and illustrate that further research is needed to develop consensus on what principal turnover means and how it is measured (Snodgrass Rangel, 2018).

Snodgrass Rangel's *A Review of the Literature on Principal Turnover* (2018) detailed the findings of 36 studies related to the determinants and consequence of principal turnover and provided numerous recommendations for future research on the topic. To further disaggregated determinants of turnover, the author emphasized the need to replicate and extend the work of Boyce and Bowers (2016), who used a latent class analysis to determine if there was a typology of 7,460 principals who exited their position. Citing prior studies (Béteille et al., 2012; DeAngelis & White, 2011; Fuller & Young, 2009; Tekleselassie & Villarreal, 2011), Boyce and Bowers (2016) classified overarching determinants of principal turnover into three areas: principal-level factors (gender, education, experience), school level factors (performance, demographics, socioeconomic status), and climate factors (relationships with teachers, students, community). Using data from the 2007-2008 School and Staffing Survey (SASS) and the 2008-2009 Principal Follow Up Survey, the researchers found that principals' self-perceptions of four areas (influence, school climate, attitudes, and salary) had a significant impact on their decision to remain in their position. Those principals who reported more positive perceptions in these areas were classified as "satisfied" and less likely to leave their position than principals who held more negative perceptions and were deemed "disaffected." While the three determinants of principal turnover represent areas critical to understanding what influences turnover, the researcher focused on climate factors, as research examining the relationship between school climate and principal turnover is limited.

In looking at the climate factors of principal turnover more deeply, Boyce and Bowers (2016) acknowledged that a principal's ability to develop positive, trusting relationships with teachers as a critical component of developing a positive school climate (p. 241). Additionally, the authors stated that their findings would benefit from further research of the "different types of principals who exit their schools to allow for better understanding of how policy and individual-level principal turnover factors interact with one another" (p. 262). Among these types of principals who left their position were those that cited school climate issues as a leading cause for their exit. In the context of the authors' study, climate "refers to the human element of schooling as demonstrated through factors such as relationships, morale, connectedness, and trust" (p. 241). The factor of trust exists as a foundational element of the relationship between individuals, and in schools, reflects the relationship between a principal and teachers. The idea of relational trust is grounded in the interdependent nature of the day-to-day social exchanges of people within an organization and the extent to which the interpersonal bonds, professional competence, and integrity of people within an organization are valued. (Bryk et al., 2010, pp. 138–139).

Examining the correlation between relational trust and principal turnover is not new (Burkhauser, 2017; Hanselman, Grigg, Gamoran, & Bruch, 2016; Hargreaves & Fink, 2006; Mascall & Leithwood, 2010; Miskel & Owens, 1983; Noonan & Goldman, 1995), but is a phenomenon that has yet to be articulated deeply. Research examining the connection between principal turnover and school climate (the broader category under which relational trust falls), has been focused on how change in principals negatively affects school climate. No research, to this point, has looked at the variables inversely, examining if relational trust is connected to principal turnover. Results from this study has the ability to influence district and state-efforts

to: 1) promote professional development on meaningful principal-teacher relationships as well as 2) more strategically and substantially incorporate teacher-principal trust measures into the principal evaluation process. As this study focused on relational trust and principal turnover in Illinois PK-12 public schools, the 5Essentials Survey (5E), a researched-based diagnostic school improvement survey facilitated by UChicago Impact was the primary source of data on the levels of relational trust between principals and teachers.

Statement of Problem

Further examination of principal turnover was warranted given the significance principals play in influencing efforts to improve student learning experiences, as well as the fiscal expense of replacing a principal. From an instructional standpoint, research has found that effective school leadership plays a significant role in “influencing internal school processes that are directly linked to student learning” (Hallinger & Heck, 1996). Additionally, as public school districts have a fiduciary responsibility to the members of their communities, a conservative estimate to hire, onboard, and continually educate a principal is \$75,000 (School Leaders Network, 2014).

Concerns about principal turnover have surged over the past two decades due to an aging population of school administrators (Newton, Giesen, Freeman, Bishop, & Zeitoun, 2003) and school districts’ dilemma of retaining high quality principals (Snodgrass Rangel, 2018). In 2006, the average American school administrator was 50 years of age, 25-30 years into their career in education and approaching retirement resulting in a significant increase in the number of vacancies for educational administrators (Best, 2006, p. 22). Unease about the growing trend of principal turnover has led to increased research on the topic, with great attention being paid to

the determinants and typology of principals who leave their position (Béteille & Kalogrides, 2012; DeAngelis & White, 2011; Fuller & Young, 2009; Gates et al., 2006; Sun & Ni, 2016; Tekleselassie & Villarreal, 2011; Tran & Buckman, 2017) and the consequences that principal turnover has on schools (Allensworth, Ponisciak, & Mazzeo, 2009; Béteille, Kalogrides, & Loeb, 2012; Branch, Hanushek, & Rivkin, 2009; Fink & Brayman, 2006; Fullan, 2016; Hargreaves & Goodson, 2006; Marinell & Coca, 2013; Miller, 2013; Seashore-Louis et al., 2010; Tekleselassie & Villarreal, 2011). Research examining principal turnover has been conducted in individual states across the U.S. as well as on a national level. Consistent in the current body of research is that at least 20% of principals leave their position annually (Béteille & Kalogrides., 2012; Branch, Hanushek, & Rivkin, 2009; DeAngelis & White, 2011; Fuller & Young, 2009; Gates et al., 2006; Goldring & Taie, 2014; Loeb, Kalogrides, & Horng, 2010). When examining PK-12 turnover trends beyond a principal's first year, Fuller and Young (2009) found that public schools in Texas saw the turnover rate increase to 37% by a principal's third year, 60% after their fifth year, and 87% after their tenth year. When disaggregated by level, high school principals had the highest rate of turnover with a 3% increase about their elementary or middle school counterparts at the one, three, and five-year marks (p. 9).

Despite the continuing trend of principal turnover, there is no shortage of candidates who possess the credentials necessary to become a principal (Mitgang, 2003). This does not mean that all individuals with the credentials needed to become a principal are qualified. Rather, it implies that the increasing complexity of the principalship is making the task of attracting, hiring, and retaining candidates who can successfully implement a vision and establish a culture that values continuous learning for its stakeholders more challenging. Additionally, in some cases principal turnover can benefit schools in need of stronger leadership. Schools with new

leaders who are more capable of fulfilling the role of principal, as compared to less capable exiting principals, have the opportunity to positively impact their school in ways not previously experienced (Baker, Punswick, & Belt, 2010).

Purpose and Research Question of the Study

As stated by Bryk et al. (2010), relational trust serves “as both a lubricant for organizational change and a moral resource for sustaining the hard work of local school improvement” (p. 207). The purpose of this study was to examine this statement in the context of how relational trust impacts principal turnover. Additionally, this study sought to add to Boyce and Bowers (2016) by describing the extent to which levels of relational trust and principal turnover are interrelated. Thus, the study’s research question was: What, if any, is the relationship between relational trust and principal turnover? A Spearman’s rank-order correlation was the statistical test of choosing for this study, as the intent was to measure the strength and direction of relationship between relational trust and principal turnover. The dependent variable of principal turnover was represented by continuous (interval) data, and the continuous (ratio) independent variable of relational trust was quantified by the teacher-principal trust measure score from the 5E.

Definition of Terms and Concepts

Principal turnover can be defined as “when a principal does not return to the same school from one year to the next” (Snodgrass Rangel, 2018, p. 87). This definition, with minor variations in interpretation, is widely referenced in the current body of research. The generality of the definition lacks context, specifically why a principal did not return to his or her position

from one year to the next. Multiple studies have elaborated upon this definition in an effort to determine if a principal's exit was voluntary or not, but in doing so, have interpreted turnover in differing ways.

The Varying Definitions of Principal Turnover

In Battle and Gruber's (2010) study of 117,140 school principals during the 2007-2008 school year, the authors added to the definition of principal turnover by characterizing exiting principals as either "movers", as represented by principals that obtained a principal position at another school after the 2007-2008 school year, or "leavers", representing the principals that had left the principalship after the 2007-2008 school year. Boyce and Bowers (2016) added their own contributions to Snodgrass Rangel's (2018) definition of principal turnover by determining the extent to which a principal's job satisfaction affected their decision to remain in their position or leave. Factors, which would classify a principal as being "satisfied" with their position, included higher levels of influence, higher pay, fewer school climate issues, and a more positive outlook of the principalship. Factors which classified principals as "disaffected" included gender (female principals were more frequently characterized as disaffected), principals without access to aspiring principal programs and less community involvement (p. 261). Ultimately, the researchers identified principals with disaffected views as more likely to leave their position than principals who were satisfied with their role.

Unique from Battle and Gruber (2010), Farley-Ripple, Raffel, and Welch (2012) contributed to the definition of principal turnover by classifying principal turnover based on "push" or "pull factors." In this study, the researchers interviewed 48 principals and assistant principals in the state of Delaware school system who entered, moved within, or exited from the

principalship from 2003-2008. Their study examined the complexities of career decisions of principals (or assistant principals who would become principals), ultimately identifying the influences which led to career mobility of principals, which were classified as voluntary or involuntary. Voluntary or self-initiated decisions were driven by choice, aligned to the idea of a “pull” factor such as early retirement opportunities and the desire for a position with new challenges. Involuntary decisions were more aligned to “push” factors, such as reassignment of a principal from one school to another (within the same district), being passed over from receiving an open principal position, or being removed from the principalship.

As this study examined the topic of principal turnover in Illinois, it is important to note that the Illinois State Board of Education (ISBE) has their own definition of principal turnover. The ISBE defines principal turnover as “the number of principals at the same school over the past six years” (Illinois State Board of Education, n.d.), referencing the significance that retaining principals has on school culture, but also acknowledging the importance of replacing ineffective principals in order to improve the overall quality of a school. Additionally, each school’s report card includes access to research detailing the significance that principal preparation, experience, and tenure has upon the success of schools (Center for Public Education, n.d.; Clark, Martorell, & Rockoff, 2009; Samuels, 2012). While the work of Battle and Gruber (2010), Boyce and Bowers (2016), and Farley-Ripple et al. (2012) expound upon the definition of principal turnover to illustrate the complex nature of principal turnover by illustrating factors that influence principals’ job satisfaction, and in turn, influence on turnover, for the purpose of this study, the ISBE definition of principal turnover was utilized for two reasons: 1) The aim of this study was to quantify the extent to which a relationship exists between levels of relational

trust and principal turnover 2) Principal turnover is a data point included on all Illinois public school report cards.

Defining Relational Trust

As stated in the Chapter 1 introduction, trust is the “confidence in or reliance on the integrity, veracity, justice, friendship, or other sound principle, of another person or group” (Louis, 2007). Trust represents a foundational component for societies to function, as people rely upon one another in nearly all facets of life. In the field of education, there is no shortage of research discussing the role of trust school-based operations and outcomes; however, what makes relational trust distinct, and hence less prevalent in the research, is the emphasis that social capital plays in developing and sustaining trusting relationships. Citing James Coleman, Robert Putnam and Francis Fukuyama’s work on social capital which emphasize the significance of sustained social interactions on individual and collective wellbeing, Bryk and Schneider (2003) define relational trust as a form of trust characterized by the social exchanges between stakeholder groups (Bryk & Schneider, 2003). Similarly, Louis (2007) defined relational trust, as “is the inevitable result of repeated interactions with others in modern organizations. While personal relationships may be limited, individuals interact repeatedly with the same individuals, which leads to expectations specific to that individual or group” (p. 3). Collectively, these definitions shape how relational trust is examined in the context of this study.

The Varying Definitions of School Climate

Similar to principal turnover, the current body of research pertaining to school climate issues because of principal turnover is broadly interpreted. Relational trust is a factor referenced in research linking school climate and principal turnover, and as a result, benefits from clarification of how the current body of research defines school climate.

According to the National School Climate Council (NSCC, 2007), school climate is defined as “people's experiences of school life and reflects norms, goals, values, interpersonal relationships, teaching and learning practices, and organizational structures” (p. 5). Thapa, Cohen, Guffey, and Higgins-D’Alessandro (2013) elucidate the NSCC’s definition by recognizing five concrete dimensions of school climate. These dimensions include safety, relationships, teaching and learning, institutional environment, and the school improvement process. Much of the research on connecting school climate and principal turnover identify at least one of these five dimensions as determinants of turnover, with many drawing connections between student disciplinary issues and principal turnover (Béteille et al., 2012; Sun & Ni, 2016; Tekleselassie & Villarreal, 2011). Relational trust encompasses adult relationships, acts as a foundational component of a positive school climate (Thapa et al., 2013, pp. 363-364), is aligned to the relationship dimensions that Thapa et al. (2013) reference and is linked to several studies in the current body of research (Burkhauser et al., 2012; Hanselman et al., 2016; Mascall & Leithwood, 2010; Noonan & Goldman, 1995).

While not explicitly stated, relational trust emerges from the discussion of school climate as the NSCC and Thapa et al. specifically emphasize the significance of relationships within a school community. As Bryk et al. (2010) indicated, “Relationships are the lifeblood of activity in a school community” (p. 137). At the most foundational level, relational trust is rooted in the

belief that the voices and opinions of all individuals of a school community, though they may not always agree, are heard, respected, and recognized.

School Climate versus School Culture

Educational publications often use the terms school climate and school culture in an interchangeable manner, yet the terms have clear distinctions. Climate represents the attitude of an organization at a particular moment in time and culture represents the organization's collective disposition and belief system that is developed over time. As Gruenert puts it, "It is much easier to change an organization's attitude [climate] than it is to change its personality [culture]" (2008, p. 58). Gruenert's reference reiterates the need for an examination of the relationship between principal turnover and relational trust. A "revolving door" of principals can establish a culture where teachers and other members of the school community develop a collective feeling that the next principal may have a short shelf life much like his or her predecessor(s), and as a result, may make that new principal's attempts to initiate change more challenging. Establishing a climate of relational trust between a principal and teachers, starting with addressing the attitude (climate) by taking time each day to build trust, has the potential to alter perceptions of when new leadership is ushered in.

Researcher Perspective

As an educator with 15 years of experience at two different schools in the Chicago suburbs—seven as a classroom teacher and eight as an administrator—the researcher has worked for five principals: four male and one female. All five of the principals were assistant principals before becoming principals, three of which had a background in operations and two that had backgrounds in instruction. Each of the five principals that the researcher worked for had unique

styles and approaches to the principal role. Of these five leaders, the mean tenure was 3.6 years. Fuller and Young (2009) indicated that 50% of new principals exit their role by the end of their third year and that in some states, the principal retention rate drops to 36% by year five (p. 15).

It must be disclosed that the researcher's interest on the issues within this study are motivated by the researcher's professional goals. While the researcher's long-term goal is to become a superintendent of a suburban high school district, the researcher is cognizant that being an effective building principal is a critical leadership role that many superintendents possess before holding their position. The researcher's intent is not to attain a high school principal position as a stepping-stone, but rather to serve as a leader and agent of change that helps to establish an environment of continuous learning. With that being said, it is the researcher's hypothesis that Illinois public high schools with higher levels of teacher-principal trust exhibit lower principal turnover. The researcher's goal is that the results of this study benefit the greater educational community and for the researcher's own professional learning.

Paradigm and Theoretical Framework

The deductive approach of this research whereby a quasi-experimental methodology is utilized for data collection reflects an objectivist epistemology, the belief that research aims to discover objective truth (Gray, 2014). The post-positivist theoretical perspective paradigm that serves as the lens through which this research is to be conducted, seeks to assign "probabilities that observed findings are correct (not certainties)" (Gray, 2014, p. 23).

Post-Positivism

The work of post-positivists is rooted in the empirical nature that early positivism was, but what makes post-positivists researchers distinctly different from their positivist predecessors is their understanding that finding truth through scientific observation is an inherently fallible practice. Instead of seeking to discover truth, post-positivists believe that researchers are “justified in believing and acting upon the most rigorously produced knowledge that is available, until something better (more justified or warranted) comes along to replace it” (Paul, 2005, p. 55). This belief in the potential fallibility of research due to an observer’s methodology, values, or interpretation of findings illustrates the evolution of this paradigm over time. While early positivists believed that science is value-free, post-positivists have discarded this mindset in favor of a more common sense point of view. In doing so, they recognize the significance of conducting observation in a reliable, trustworthy, and ethical manner in order to develop a further understanding of a particular topic or issue, while knowing that the results of their observations are open to assessment or can be improved upon. This study utilized a post-positivist approach in the examination of principal turnover to determine the impact of relational trust upon the rate of principal turnover in Illinois over time.

Theoretical Framework

Relational trust is represented by four core areas: social respect, interpersonal bonds, professional competence, and integrity (Bryk et al., 2010, pp. 138–139). To that end, behavioral sociologist George C. Homans’ (1958) social exchange theory framed this research as it likens interactions of individuals to that of a cost-benefit analysis, where the value of the interaction is represented by the ratio of rewards versus cost. Homans explained this theory by saying:

Social behavior is an exchange of goods, material goods but also non-material ones, such as the symbols of approval or prestige. Persons that give much to others try to get much from them, and persons that get much from others are under pressure to give much to them. This process of influence tends to work out at equilibrium to a balance in the exchanges. For a person engaged in exchange, what he gives may be a cost to him, just as what he gets may be a reward, and his behavior changes less as profit, that is, reward less cost, tends to a maximum...The cost and the value of what he gives and of what he gets vary with the quantity of what he gives and gets (Homans; 1958, p. 606).

In the context of this study, a trusting relationship between a principal and his or her teachers, characterized by the reciprocal ability to treat one another with respect, honor others' professional competencies, and believe in the goodness of one another and their decision making reflects a limited "cost" to all parties. At the same time, a lack of trust between a principal and his or her teachers (perhaps characterized by authoritarian decision-making or a lack of respect due to a specific act) can represent a significant "cost" to one of the involved parties. As a result, of negative social exchanges, future exchanges could become more challenging, or a greater "cost" to one party.

Assumptions and Limitations

The primary assumption associated with this study was that survey validity could affect a person's perception of the topic, person, or institution they are reviewing (Greenwald, 1997). Hence, cumulative ratings from surveys administered to a wide audience may not provide valid information on the effectiveness of a given measure. As the 5E results from Illinois PK-12 public schools represent a critical source of data pertaining to teacher perceptions of teacher-

principal trust, the measure most reflective of relational trust, it should be recognized that the findings of this study represent general claims about the impact of relational trust upon rates of principal turnover.

The researcher recognizes that public policy aims to address the needs and concerns of society. With the passage of Public Act 097-0008 in June 2011, more commonly referred to as Senate Bill 7 (SB7), the Illinois State legislature gave the ISBE the authority to identify a measure that would be used to elicit feedback about the instructional environment of schools from teachers, students, and parents. The ISBE's selection of UChicago Impact's 5E as the tool that Illinois PK-12 public schools would use to obtain stakeholders' perceptions about five areas is critical to school improvement. While the overwhelming majority of schools and districts throughout the state use the 5E, the ISBE offered schools an approved list of three alternatives to the 5E starting in 2014-2015 school year. By 2016, schools in 34 districts across the state elected to administer one of the approved alternate surveys (Illinois State Board of Education, 2017) compared to the 3,220 individual schools that did administer the 5E (R. Bloomfield, personal communication, August 20, 2018). In its inaugural year, 85% of Illinois school, and 68% of Illinois teachers and students took part in the 5E (Klugman, Gordon, Sebring, & Spote, 2015). Thus, while all PK-12 Illinois public schools utilize learning conditions survey data to evaluate stakeholder perceptions (students, teachers, and parents) of their school's aspects of their instructional environment, including relational trust, not all Illinois PK-12 public school data derives from the 5E. As a result, the findings that this study produced is not representation of all public schools in Illinois, just those that are comprise of the research sample.

After the inaugural administration of the 5E in spring 2013, the ISBE and former Illinois State Superintendent Christopher Koch faced significant backlash when it was decided that the

results of the survey would be released in the form of “responses to questions but will hide the ratings that show how schools and principals perform compared to their peers” (“Editorial,” 2013). This decision was based on feedback provided from superintendents and principals of public schools throughout Illinois citing concerns of how the statistical measures of the 5E would be reported to the public (Godard, 2014). Hence, 5E data by school was not available until the 2013-2014 school year. In 2014, the ISBE enlisted the services of the Illinois Education Research Council (IERC) to evaluate school stakeholder perceptions of the survey and make recommendations for improving the 5E and its implementation. The IERC offered five recommendations, including: 1) Better framing the purpose of the 5E to increase buy-in 2) Increasing participation rates 3) Using a “rostered” format to make sure participants take the survey once for the school that applies to them 4) Revise survey items for clarity and to shorten the time required 5) Move the administration of the survey to earlier in the school year (rather than the spring) 6) Provide more time for actionable feedback (Klostermann, White, Lichtenberger, & Holt, 2014). While the initial 2013 survey did not possess feedback provided in the 2014 IERC report, the ISBE and UChicago Impact implemented numerous recommended IERC changes to the 5E to improve the clarity of purpose, administration, and communication of survey results.

Significance of Problem and Study

According to a 2014 School Leaders Network Report, mining and logging, retail, and leisure and hospitality industries are the only industries that have a higher turnover rate than principals of high poverty schools (School Leaders Network, 2014). While data collected in this study will not exclusively pertain to principal turnover rates in high poverty schools, the rate of

turnover in these socioeconomically challenged schools contribute to the 20% annual turnover rates for PK-12 principals in the U.S. (Béteille and Kalogrides., 2012; Branch, Hanushek, & Rivkin, 2009; DeAngelis & White, 2011, 2011; Fuller & Young, 2009; Gates et al., 2006; Goldring & Taie, 2014; Loeb, Kalogrides, & Horng, 2010). Significant research has been conducted to identify the determinants and consequences of principal turnover, aiming to illustrate the significance of retaining effective school leaders. In addition, relational trust is recognized as a cornerstone of building effective educational communities, namely through the ability of principals, teachers, students, and parents to understand their roles and the interdependent nature each role has upon other roles (Bryk & Schneider, 2003). Hence, this study aimed to understand the extent to which a relationship exists between principal turnover and relational trust.

Federal mandates now require State Education Agencies (SEAs) to identify climate surveys for public schools to administer annually to address ESSA requirements. ESSA requires SEAs, such as the ISBE, to establish a plan that addresses accountability, support, and improvement for schools as measured through academic and school quality indicators, of which the 5E meets all requirements. Stakeholder participation rates (students and staff) count as five percent of a school's overall ESSA rating designation, which is directly linked to the level of funding schools receive from SEAs. While making the 5E "high stakes" was not the initial intent of mandate for the implementation of the 5E, an unintended positive consequence may be greater attention of school and district-level leadership of stakeholder perceptions of a school's learning environment, including Teacher-Principal Trust (TPT). Analyzing results of TPT and correlating it with principal turnover data extends the work of Boyce and Bowers (2016) by

looking beyond the determinants of principal turnover to see if schools with high levels of relational trust also have higher levels of principal retention.

Findings from this study aim to contribute to the enduring discussion of the determinants and consequences of principal turnover in American education, and to establish a foundation for future studies to add to the limited body of research examining the relationship between relational trust and principal turnover. The results inform and support principal preparation, initiate policy efforts to increase the role of relational trust in principal evaluation and fund endeavors to develop and retain principals. Moreover, this study reiterates the importance of establishing survey inter-rater reliability to develop a shared understanding of how the 5E is collectively valued and used as a means to engage all stakeholders in continuous improvement of a school.

Chapter I Summary

This opening chapter provided insight into the evolving role of the American school principal, the research problem and significance, and the goals, concepts, and realities that guided this study. The issue of principal turnover has gained greater attention over the last two decades due to continuing trends of high principal turnover, resulting in the goal of this study to determine the extent to which relational trust influences levels of principal turnover.

While research pertaining to a wide array of determinants and consequences of principal turnover exists, research examining the relationship between school climate and principal turnover is limited. This study aimed to contribute to this void. Hence, the research question for this study is: What, if any, is the relationship between relational trust and principal turnover?

This study employed a deductive research approach to investigate the role that relational trust between a school principal and teacher has upon the tenure of principals.

Chapter II

REVIEW OF RELATED LITERATURE

Introduction

Public policy and research-based practices have played a significant role in transforming the responsibilities of PK-12 principals in the U.S. from school managers to transformational leaders. Concurrent with the expanding responsibilities of principals is increased levels of principal turnover, with annual rates across the U.S. exceeding 20% (Béteille & Kalogrides, 2012; Branch et al., 2009; DeAngelis & White, 2011; Fuller & Young, 2009; Gates et al., 2006; Goldring & Taie, 2014; Loeb et al., 2010). Research investigating the determinants and consequences of principal turnover has grown over the last two decades, providing insight into the typology of principals who leave their position as well as the impact that principal turnover has on schools. School climate is categorized as a consequence of principal turnover and represents a factor that has seen attention from researchers. Relational trust, or the social respect, personal regard, role competence, personal integrity of people within an organization (Bryk et al., 2010) is a critical attribute of building a positive school climate and school improvement, but has received limited attention in the current body of research on principal turnover.

The ISBE recognizes that high rates of principal turnover can limit school improvement efforts, and require PK-12 public schools across Illinois to collect data on school climate, including teacher-principal relationships. It is the intent of the researcher to present the body of research pertaining to principal turnover and the significance of relational trust in organizations to illuminate the need for research examining the relationship between relational trust, as measured by the TPT measure score of the 5E, and principal turnover in PK-12 public schools in Illinois.

Literature Search Strategies and the Extent of Existing Literature

The examination of scholarly literature on the topics of relational trust and principal turnover was initiated by executing targeted searches through the DePaul University Library and Google Scholar. These initial searches led to the identification of published works pertaining to the topics of interest and housed within the following databases: Education Resources Information Center (ERIC), Journal Storage (JSTOR), Emerald Insight, Sage Journal, Springer Link, Taylor and Francis Online, as well as publications available through online directories with open access. Keyword searches that led to the identification of works related to this study include, but are not limited to: principal turnover, principal attrition, relational trust, school climate, school culture, and transformational leadership. A targeted search of principal turnover and relational trust on Google Scholar produced over 28,000 results, with many results from the first several pages producing literature that discusses the relationship between a principal's ability to develop trust and teacher retention. For that reason, keyword searches were conducted independently or in combination with other terms reflective of determinants and consequences of principal turnover, leading to the identification of literature relevant to this study.

Snodgrass Rangel's *A Review of the Literature on Principal Turnover* (2018) proved to be significantly helpful in examining the body of literature pertaining to principal turnover. In this review, the author systematically detailed 36 empirical studies related to the determinants and consequences of principal turnover in the U.S. (including studies on principal attrition and mobility). The author's review illustrates that research on principal turnover requires additional attention to become more valid and consistent. Among the limitations of principal turnover research, Snodgrass Rangel (2018) cited the broad interpretation of how principal turnover has been measured, the absence of replicated studies, and the lack of studies examining principals as diverse individuals with dissimilar experiences as notable confines of the current body of

research. Among the recommendations for future research, Snodgrass Rangel (2018) stated the need to expand upon the consequences of principal turnover.

This researcher's study examined the relationship between principal turnover and relational trust. Of the studies detailed in Snodgrass Rangel's (2018) review, only four studies (Burkhauser, 2017; Hanselman et al. 2016; Mascall & Leithwood, 2010; Noonan & Goldman, 1995) demonstrated some alignment to the researcher's study examining the relationship between with relational trust and principal turnover. These four studies were classified as consequences of principal turnover, an area of research that has seen less attention than studies pertaining to the determinants of principal turnover, and will be discussed in depth in order to further demonstrate their relevance to the this study.

Organization of the Current Body of Literature

This chapter provides context to the researcher's study by appraising the findings on the current body of research pertaining to relational trust and principal turnover as variables independent and interrelated of one another. This chapter will be divided into three sections: 1) The determinants and consequences of principal turnover 2) The impact of relational trust upon organizational climate and 3) Policy implications: the 5Essentials Survey and ESSA.

Section 1: The Determinants and Consequences of Principal Turnover

This section utilizes the terms "determinants" and "consequences" from Snodgrass Rangel's *A Review of the Literature on Principal Turnover* (2018) to organize findings relevant to the researcher's study. Within the category of determinants, studies are thematically arranged into subcategories reflective of findings about individual and school-level factors related to

principal turnover (Age, for example, will be the first individual-level subcategory discussed under the theme of determinants of principal turnover).

Tekleselassie & Villarreal's (2011) identification of individual and school-level departure and mobility intentions of principals serve as the subcategories for discussion of the determinants of principal turnover. By detailing Tekleselassie & Villarreal's (2011) findings in these two areas, as well as other studies related to these areas, the reader will better understand the significance of the role of the principal as an individual within a school and a leader of a team in developing a trusting relationship. In Tekleselassie & Villarreal's (2011) widely recognized study, the authors examined 7,740 principal responses from the 2003-2004 Schools and Staffing Survey (SASS) which led to the identification of five areas that influence the departure and mobility intentions of principals: individual, school, district and workplace conditions (Bacharach & Mitchell, 1983; Eckman, 2004; Friedman, 2002; Graham, 1997; Graham & Messner, 1998; Harris, Arnold, Lowery, & Crocker, 2000; Hertling, 2001; Howley, Andrianaivo, & Perry, 2005; Jacobson, n.d.; Johnson & Holdaway, 1994; Kafka, 2009; McGuinn, 2006; Meyer & Feistritzer, 2003; Militello & Fredette, 2006; Murphy & Louis, 1994; Norton, 2002; Papa, Lankford, & Wyckoff, 2002; Portin, 1997; Pounder & Merrill, 2001; Shakeshaft, 1999; Whitaker, 1995; Winter & Morgenthal, 2002; Winter, Rinehart, & Muñoz, 2002; Yerkes & Guaglianone, 1998) and the emotional aspect (Beggan, 1992; Cooley & Shen, 1999; Iannone, 2001; Van Dyne & Pierce, 2004) of the principalship (p. 277). In order to most accurately describe the current academic conversation related to relational trust and principal turnover, the individual and school-level departure intentions were the main points of focus. Additionally, given the wide-ranging implications of Tekleselassie & Villarreal (2011), the authors' findings will be addressed throughout the discussion of the determinants of principal turnover.

Determinants of Principal Turnover: Individual Level Factors

Among the individual factors identified as having a significant impact upon a principal's intentions, age, gender, experience, salary, the principal's level of education and their school's level of urbanicity were identified as critical factors having a significant influence upon a principal's intent to remain or leave their position. As numerous other findings from other studies have corroborated the same factors as playing a significant role in a principal's decision to leave their position, these factors will represent subcategories used to detail the determinants of principal turnover.

Age

Tekleselassie and Villarreal's (2011) analysis of principals' departure and mobility intentions identified age as a statistically significant variable ($\chi^2(2) = 6.53, p < 0.05$) that contributes to a principal's decision to leave their position. More specifically, as a principal ages, they are less likely to leave their position for a similar position or different profession (p. 270). Fuller and Young's (2009) examination of the tenure and retention of 1,504 newly hired K-12 public school principals in Texas between 1996-2008 found that principals under the age of 35, and principals over the age of 55 had shorter tenures in their positions than principals who were between the ages of 36 and 54. In both Tekleselassie and Villarreal (2011) and Fuller and Young (2009), it was recognized that as principals get closer to retirement age, they are less likely to leave their position. Correspondingly, DeAngelis and White's (2011) tracking of principal mobility in Illinois, a study which included 7,075 principals who served for at least one year from 2001-2008, the authors found that principals who were 55 years or older were less likely to remain in their role from one year to the next as compared to their principal counterparts

who were in the 41-54 year old age range or under 40 age range. Collectively, the findings from these studies infer that principals above the age of 54 experience higher levels of turnover, which can potentially be attributed to retirement. While it may not be entirely relevant to the goals of these studies, none drew comparisons between a principal's age and their relationship with teachers.

Gender

The current body of literature examining to the correlation between gender and principal turnover is relatively mixed in its findings. When examining gender as a factor of principal turnover in North Carolina and Illinois from 1987-2001, Gates et al. (2006) found that, female principals in North Carolina were 0.6% more likely to leave their position on an annual basis than their male counterparts, and 0.8% more likely to leave their position in Illinois (p. 297). Additionally, Boyce and Bowers' (2016) latent class analysis found that female principals were more likely to be classified as "disaffected", holding negative perceptions towards their level of influence, the climate in their school, and salary (p. 261). Ultimately, disaffected principals were more likely to leave their position than satisfied principals were.

Conversely, several other studies produced findings that opposed the work of Boyce and Bowers (2016) and Gates et al. (2006). Fuller, Young, and Orr's (2007) examined the career paths of 1,768 principals who came into the principalship in the state of Texas during the 1995-1996 school year. Of the principals in this cohort, a larger percentage of females remained in the position of principal as compared to their male counterparts. While only separated by a 3% difference after year one (88.2% of females stayed in their position as compared to 85.2%), this

difference increased to a gap of at least 5.4% from year two through year ten, showing higher levels of principal retention for females.

Baker et al. (2010) examined 2,700 Missouri school principals from 1996-2006 and found that male principals were 20% more likely to leave their position than their female counterparts (p. 539). DeAngelis & White (2011) found that from 2001-2008, female principals in Illinois were 3% more likely to remain in their position than male principals. Tekleselassie and Villarreal's (2011) examination of the topic on a national level indicated that female principals were less likely to switch and leave schools (factor of .79 times, .81 times respectively) compared to their male counterparts (p. 270). Further obscuring a clear understanding of this topic, Ni, Sun, & Rorrer's (2015) examination of principals in Utah schools from 2004-2011 found that while charter schools exhibited higher levels of annual principal turnover (40%) as compared to traditional public schools (20%) gender was not a significant factor of turnover in either type of school.

Collectively, when examining the influence of a principal's gender upon turnover rates, the body of literature on the topic is split on the extent to which a relationship exists. Tekleselassie and Villarreal's (2011) study was the only study conducted on a national level, the others focused on individual states. It should also be recognized that only Boyce and Bowers (2016) study took into account how climate-level factors could affect a principal's decision to remain or leave their position. While examining climate-level factors as a determinant may not have been a goal of the studies discussed, the absence of studies detailing factors closely related to relational trust was evident.

Experience

Studies that reference the term “experience” as a variable or result of principal turnover use the term in one of two ways. In some cases, experience is represented by the number of years of experience that a principal has as a teacher before assuming their role. In other cases, experience refers to the number of years that a principal serves in their role as the leader of their school before moving onto another position or out of the field of education altogether. In the context of this section, findings pertaining to the role experience plays in principal turnover were based upon the latter of these two descriptions.

Tekleselassie and Villarreal (2011) found that a principal’s years of experience in their position was not a significant factor that contributes to turnover, yet other studies found that the more time that a principal stays in their role, the less likely they are to leave their position. This was affirmed in Podgursky, Ehlert, Lindsay, and Wan’s (2016) study of over 5,7000 teachers, principals, and superintendents in public schools in Iowa, Minnesota, and Wisconsin from 2005-2011, where it was found that both teachers and principals were less likely to move to similar positions in other school districts as their level of experience increased (p. 13). The conclusion of higher levels of experience resulting in greater retention has been reiterated by other studies as well (Baker et al., 2010; Gates et al., 2006). DeAngelis and White (2011) affirmed that increased experience decreases levels of principal turnover, but added context to this trend by stating that principals with 2-3 years of experience are more likely than first-year principals or principals with four or more years of experience to move to another school (p. 12).

Other studies have taken the approach of disaggregating findings about principal turnover rates based upon school level or school type. When examining the distinction of principal turnover rates in charter schools, newer traditional public schools, and more established

traditional public schools, Ni et al. (2015) found that by the end of a principal's eighth year, 17% of charter school principals, 22% of established traditional public schools, and 30% of newer public schools were likely to remain in the same position at the same school (p. 424). When examined by school level, Fuller et al. (2008) found the most significant drop off in principal retention rates in Texas public high schools, being 3% lower than the other two levels after year one, 5.8% lower after year three, and 6.5% lower after year five (p. 9). To suggest that a principal's experience would result in stronger relationships with teachers, and in turn, lead to higher levels of retention is feasible. The consistency among the findings on the relationship between a principal's level of experience and turnover rates suggest that increased experience equates to increased principal retention. The researcher's findings pertaining to teachers' relationship with their principal(s) over time was able to contextualize the statement above.

Urbanicity

The National Center for Education Statistics (NCES) uses four designations to describe the urbanicity of schools within a given area. From most to least urban, these designations are: city, suburb, town, and rural. These designations of urbanicity are based upon a location's proximity to a principal city (a social and economic center) and the population density of a given area ("Rural Education in America - Definitions," n.d.). The designation assigned to a given area, and as a result, schools in that area, are significant as trends illustrate that principals of schools in less urbanized areas are more likely to leave their position than their counterparts in urban areas.

Gates et al. (2006) discovered that from 1987-2001 principals in Chicago were 50% more likely to leave their position for a principal position at another school than principals of the

Chicago suburbs and rural areas, but were also 50% less likely to leave the principalship for another position (ex. Assistant Superintendent or Superintendent role) than their non-urban counterparts.

Conversely, principals in rural areas of Illinois were more likely to leave the principalship for another position than urban and suburban principals. DeAngelis and White (2011) clarified this finding of Gates et al. (2006) by recognizing that while principals of schools in the Chicago Public Schools (CPS) system were likely to leave their position, their move would likely keep them in the same role but at a different school within CPS. Tekleselassie and Villarreal's (2011) findings on the relationship between the urbanicity of a school and principal turnover affirm the findings of Gates et al. (2006) and DeAngelis and White (2011), in that the authors concur that principal turnover is more prevalent among principals in rural and suburban areas. Principals in urban areas, however, were the least likely to leave their position than their counterparts in less urban areas. The researchers surmised that educational and employment opportunities for themselves and their family members, as well as a desire to lead schools in underserved communities, may be the reason for this trend.

Additionally, Tekleselassie and Villarreal (2011) did not recognize if principals leaving suburban schools were likely to attain a similar position in another suburban area or if principals in rural areas are more likely to matriculate to more urban areas. The three studies above that examine the relationship between urbanicity and principal turnover illustrate the impact that geography places in a principal's mobility intentions, a key determinant of principal turnover, but shed little light on the consequences of their leaving on the culture and climate of the school they left.

Salary

Inferences on the perception that a principal has regarding their financial compensation and a principal's intent to remain or leave their position have produced uniform discoveries from studies that have examined this topic. A key finding gleaned from 156 California public school principals that responded to Tran's (2017) pay satisfaction questionnaire reflect a common finding pertaining to the relationship between principal salary and turnover in that principals unsatisfied satisfied with their salary. The consensus results from this study showed that principals were more likely to leave their position if they held negative perceptions of their salary in comparison to the salary of other administrators and teachers both in their district and outside their district.

Several studies affirm Tran (2017). Tekleselassie and Villarreal (2011) found that a \$10,000 increase to a principal's salary decreases their intention to leave their position by a factor of .88 times. Cullen and Mazzeo's (2007) examination of the relationship between a school's academic performance and the labor market experience of 17,339 Texas public school principals from 1989-2006 found an average annual wage increase of 1.4% for the 79% of principals who stayed in their position from one year to the next. For the 21% of principals who left their position after any given year of service in the era examined, the principals who accepted a similar position within the same school district saw a wage increase of 2.8%, while those who took principal roles outside of their school district saw wage increases upwards of 5.9% (p. 12). These findings are supported by Baker et al. (2010) who found that Missouri principals that obtained a principal position in a new school obtained a 5% raise from their previous position.

Collectively, Cullen and Mazzeo (2007) and Baker et al. (2010), demonstrate that extrinsic motivators, such as pay, has a significant impact upon a principal's decision to remain or leave their position, and that labor market opportunities for principals improve when looking beyond their current position. These studies also provide opportunities for future research aimed at examining school-base climate consequences of a principal's departure from their position upon their school, specifically the perception of a school's staff when they aware that the outgoing principal accepts a similar position when influenced by financial opportunities.

Level of Education

Studies examining the relationship between the highest degree earned by a principal and turnover are limited in nature. Tekleselassie and Villarreal (2011) found that principals who possess a doctorate are less likely to leave their position than principals with lesser degrees, attributing this to the belief that "completing a doctoral program may enhance principals' ability to lead schools with sustained effort and vision, building their sense efficacy, leading to a longer career in education" (p. 278). While no additional studies exist to validate this assumption that increased educational backgrounds improve leadership efficacy, both Ni et al. (2015) and Gates et al. (2006) found that principals who possessed an advanced degree (master's degree or doctorate) were less likely to leave their position than principals with only a bachelor's degree, supporting Tekleselassie and Villarreal (2011). The researcher's hypothesis that Illinois PK-12 public schools with higher levels of relational trust exhibit lower levels principal turnover was not statistically significant, failing to support Tekleselassie and Villarreal's (2011) positive correlation between principals with doctorates and longer tenures in the position.

Summary of the Individual-Level Determinants of Principal Turnover

Collectively, the individual-level determinants of principal turnover illustrate several reasons why a principal may choose to leave his or her position, ranging from identity markers (age, gender) to extrinsic motivators (salary, urbanicity). The findings of the studies provide excellent context pertaining to the determinants of principal turnover, but offer little to illustrate the connections between individual-level determinants of principal turnover and relational trust. Despite these limitations, it is important to note that individual-level determinants demonstrate relevance to the researcher's study, as the researcher's work was able to contextualize a principal's ability to develop and sustain relational trust as a quantifiable determinant of principal turnover.

Determinants of Principal Turnover: School Level Factors

The current body of literature on principal turnover also recognizes several school-level factors that can increase a principal's intentions to leave their position. These factors include lower academic designations for the school they lead (as measured by state or federal standards), negative school conditions (associated with disciplinary issues), and socioeconomic challenges of the community where principals serve. These factors will represent subcategories to detail the school-level determinants of principal turnover.

Student Achievement

High performing schools and schools in suburban communities are apt to be on the receiving end of principals seeking to move on from schools deemed academically underperforming (DeAngelis & White, 2011; Loeb et al., 2010). Findings supporting this trend illustrate that schools in need of strong instructional leadership tend to be those that experience the greatest turnover. When examining the correlation between principal turnover and student achievement, standardized state or national assessments represent the primary measurement for student achievement. While individual student scores or composite school or district scores on standardized assessments are far from all-encompassing measures of student learning, achievement data from these assessments provide a reference point to examine how changes in the role of the principal can affect efforts to provide students' access to high quality learning experience.

When looking at the relationship between student achievement and principal tenure, it is widely held that there is a positive relationship between the two variables. Branch et al. (2009) examined data of more than 32,000 Texas public school principals from the years 1995-2001. Data collected from the Public Education Information Management System (PEIMS). This database provided the authors with demographic data for schools (including student achievement data) and school personnel data (teacher and administrator experience, salary, education, etc.), both of which were relevant data sources as the authors sought to describe the relationship between fixed effects of principal characteristics (overall experience and tenure at a specific school) and levels of student achievement. Ultimately, the authors found that principals become more effective with experience, inferring that the loss of principals with experience results in declining achievement. More specifically, the authors found that students perform “two-

hundredths of a standard deviation less in the first year of a new principal” (p. 13). While this data point represents a limited negative impact on student achievement, schools that experience high levels of principal turnover, when compounded by frequent replacement of principals, face a potential obstacle to academic growth. Branch et al. (2009) found that a principal’s tenure in their role at one school likely results in higher levels of student performance on standardized assessments, yet the schools with greatest needs or located in more disadvantaged communities experience the most principal turnover.

Several other studies have corroborated the connection between standardized assessment performance and principal turnover. Burkhauser et al. (2012) examined 519 first-year principals across six major metropolitan areas in the U.S. during the 2007–2008 school year. Sixty-one principals in this study did not return to their school for the 2008-2009 school year. The authors found that 78% of the principals that did not return for their second year served in schools where student scores on standardized assessments that measured Adequate Yearly Progress (AYP), a measure associated with NCLB, had declined from the previous year. The authors surmised that these principals’ decision to leave might have been a result of perceptions of district leaders or other school stakeholders about a principal’s performance (xiii). While the authors did not possess any statistical data to demonstrate the causality of this claim, it does provide credence to the significance of trusting relationships within organizational climate, in this case not between teachers and a principal, but rather principals and district administration.

DeAngelis and White (2011) arrived at similar conclusions about the role that a school not making AYP played in a principal’s decision to leave their position (0.82 compared to 0.75 for principals whose school met AYP), and also found that principals in schools with higher levels of non-highly qualified teachers, another NCLB-based designation, were more likely to

leave their position. Similarly, when examining data from the state education agencies in Iowa, Minnesota, and Wisconsin from 2006-2011, Podgursky et al. (2016) attributed higher levels of student academic proficiency on standardized state assessments as a statistically relevant factor of principals in retaining principals Minnesota and Wisconsin (0.988 and 0.97 respectively).

In the state of Texas, Fuller and Young (2009) disaggregated the relationship between principal retention rates and student results on the Texas Assessment of Academic Skills (TAAS), a statewide-standardized assessment administered in third through eighth grade. The authors found that elementary and middle schools deemed high performing on the TAAS had principal retention rates that were more than a full-year higher than the lowest performing schools. Elementary schools deemed high performing had a nearly 90% principal retention rate after year one as compared to the lowest performing schools, which 81% of principals returned to. This gap of principal retention rates between the highest and lowest performing schools would widen to nearly 16% by year three, and nearly 20% by year five. At the middle school level, schools deemed high performing returned 81.6% of principals after year one, as compared to the lowest performing middle schools, which returned 73.5% of principals after year one. By year five, only 26% of principals in the lowest performing middle schools remained in their position, compared to 42% in the highest performing. Though not measured by the TAAS, Texas high schools had similar principal retention rates as middle schools (80% returned for year two in high performing schools, 74.5% returned for year two in low performing schools), however retention rates declined significantly after year three and five, with the highest performing schools retaining 30% of principals and 23.6% in low performing schools.

The five studies detailed above, though representative of different states and sample sizes, substantiate the claim that student achievement is a powerful determinant to retain a

principal. While standardized assessment results represent a small snapshot of what students know and are able to do, the results highlight the significance of consistency in school leadership upon student achievement. Whether intentional or not, these studies neglect to examine the role that principals play as instructional leaders, specifically in setting direction, developing teachers, and evaluating instruction. Examining the correlation between relational trust and principal turnover provides depth to the discussion of student achievement, namely by evaluating teacher's perceptions of their principal's ability to effectively address and implement meaningful professional development for teachers, a critical component for establishing a culture of learning for all members of the school community and to drive instructional improvement.

School Conditions

One of the primary aspects Tekleselassie and Villarreal (2011) associated with school conditions and the likelihood of a principal to leave their position was the frequency of student disciplinary challenges (students class cutting, chronic absenteeism and tardiness) (p. 276). The authors found that regular disciplinary challenges increased a principal's likelihood to leave their position by a one standard deviation increase (a factor of 1.09) or the equivalent of a 9% increase (Snodgrass Rangel, 2018; Tekleselassie & Villarreal, 2011). While the authors deemed this finding statistically unrelated to principal mobility intentions, it is relevant when combined with factors related to a school's learning climate. The authors noted that when disciplinary issues were combined with a negative learning climate, principals were more likely to leave their position. As teachers play a critical role in developing and maintaining a safe and positive learning environment for students, one can infer that a negative shift in how a teacher interacts with students or within the learning environment could be a product of their job satisfaction, or

their approval of the work of the building leadership, namely the principal. While this claim represents a mere supposition, a more concrete analysis of teachers' perceptions of a principal, as reflected in the work of this researcher, provides depth to the findings of Tekleselassie and Villarreal (2011) on this issue.

Tekleselassie and Villarreal's (2011) findings pertaining to student disciplinary challenges and principals' mobility intentions were confirmed by Béteille et al. (2012) in the examination of longitudinal data from the Miami-Dade County Public School (MDCPS) system from 2003-2009. This study also contextualized Tekleselassie and Villarreal's (2011) findings by illustrating what MDCPS principals perceived as ideal and non-ideal school conditions. Results from the authors' 2010 online survey of MDCPS principals (55% response rate) found statistically relevant data (p-value of .05 or higher) about certain school characteristics preferred by principals, and among them being schools with fewer students suspended or chronically absent (p. 912). Data from nearly 400 schools comprised the sample from this study, and though not explicitly stated, it is presumed that the principals' recognition of the preference above was held by at least 198 MDCPS principals. Along with a preference for higher achieving student populations, the authors surmised that MDCPS principals also preferred working in schools with less challenging school conditions and in communities with fewer socioeconomic challenges.

Though examined from a different "angle", Sun and Ni (2016) corroborate the findings of Béteille et al. (2012) in that disciplinary issues increase the likelihood of increase principal turnover. The authors examined principal turnover rates of charter and traditional public schools (TPS), 28.7% and 20.6% respectively, to understand factors influencing turnover unique to each type of school as well as factors they have in common. Using responses from nearly 5,000 principals (4,750 TPS, 220 Charter) from 2007-2008 SASS and 2008-2009 Principal Follow Up

Survey (PFS) researchers discovered that teacher abuse had a significant impact on principal turnover rates. Using a Wald test to examine the relationship between abused teachers (physical and verbal abuse of teachers by students, disorder in classrooms) and principal turnover, the authors found a positive relationship between the two variables, resulting in likelihood that a principal would not return to their school the following year.

Socioeconomic Factors

Across many studies that referenced poverty as a variable within their study, poverty has been measured by determining the percent of students in a school deemed eligible to receive free or reduced price lunch services through the National School Lunch Program (NSLP). In Clotfelter, Ladd, Vigdor, and Wheeler's (2006) study, the authors used poverty as one variable to determine the extent to which teacher and principal quality differed in high and low poverty schools in North Carolina. With a sample size of 2,232 North Carolina schools in 2004 which were disaggregated by level (elementary, middle, high school), the authors further broke down the schools at each level into quartiles by "degree" of poverty levels (level one had the highest levels of poverty, level four had the lowest levels). Using data from the North Carolina Department of Public Instruction through the North Carolina Education Research Center at Duke University, the researchers found that standardized test scores (Praxis II), leadership ratings, and principal tenure were all lowest in the level one quartile, as compared to the other three quartiles. Additionally, when examining principal turnover longitudinally (1996-2004), level one schools in exhibited the highest rate of turnover in eight of the nine years measured. A critical finding of this study that conceptually aligns to the researcher's work was that principals with higher leadership ratings and longer tenure were attributed with reducing teacher turnover and attracting

higher quality teacher candidates due to their ability to positively influence levels of student achievement.

Clotfelter et al. (2006) is one of the few studies that incorporated results of a teacher survey as a quantitative measure better understand teachers' perception of the principal leading their school. This measure, The Teacher Working Conditions (TWC) Survey was first instituted in North Carolina in 2002 and has since been administered on an annual basis across North Carolina public schools. Though the researcher's variables of relational trust and principal turnover are slightly different from the variables referenced in Clotfelter et al. (2006), the goals of the present study demonstrate alignment.

When examining the connection between percentages of low-income students and principal turnover, DeAngelis and White (2011) identified that the relationship between schools with higher levels of low-income students and principals who moved to a similar position within the same school district or left Illinois Public Schools (IPS) was statistically significant. Unlike Clotfelter et al. (2006), the authors did not find any statistical significance between percentages of poverty at a school and a principal taking a similar position in another district or changing to another position (presumably to an assistant principal or district office role). Instead, the authors suggest that decisions at the district-level to "shuffle" principals from one school to another may be the primary reason for the higher level of intra-district principal mobility.

Similar to Tekleselassie and Villarreal (2011), Loeb et al. (2010) also examined MDCPS, finding that when viewed in terms of human capital, not all principals are created equal. Notably among their findings was that schools with higher levels of poverty were more likely to have less experienced and adept leaders. Using data from the MDCPS staff database from 2003-2004 through 2008-2009 to gather demographic measures, professional history, and educational

backgrounds on 552 principals and assistant principals that held principal positions, the authors sought to answer three questions: 1) Do low-income, low-achieving, and racial-minority students attend schools led by principals with different characteristics than do other students? 2) Are there varied patterns of principal placement, turnover, and replacement among different schools? 3) Are principals' and APs' preferences for school characteristics consistent with the patterns of transfer and attrition that we observe in the administrative data? To organize the findings for the first two questions, the authors organized the 373 MDCPS into quartiles, with the top quartile having the lowest levels of poverty and the schools bottom quartile having the highest levels of poverty.

Data compiled to answer the first question regarding distinctions between principals serving schools with the highest and lowest levels of poverty across MDCPS found that over the six-year period, 20% of principals in schools with highest levels of poverty were new as compared to 11% in schools with schools with the lowest levels of poverty. Additionally, only 5% schools lowest levels of poverty had an interim principal during the years of the study as compared to 17% of the highest levels of poverty. Findings related to the second question of patterns of principal placement, turnover, and replacement, 80% of principals in schools with the lowest levels of poverty remained in their position after three years, as compared to 60% of principals in the in schools with the highest levels of poverty. Additionally, when hiring a new principal, 61% of schools with the lowest level of poverty hired a principal with previous experience in the position as compared to 15% of schools with the highest levels of poverty (60% of principal positions were filled by individuals holding an assistant principal role).

Building upon the findings presented above, Loeb et. al. (2010) utilized a survey data from a questionnaire from the 2007-2008 school year that 943 principals and assistant principals

participated in to understand the characteristics of schools they would want to lead. Respondents were provided 16 school characteristics and asked to rank on a five-point Likert scale. The top three preferences from the respondents included: safety of the school, the availability of resources, and the desire for supportive parents. Conversely, the least selected preferences from respondents included: many students of poverty, high English Language (EL) population, and failing schools in need of reform. The survey data presented by the authors illustrates M-DCPS principals' preferences for schools that are easier to lead, and also provides some corroboration to the findings illustrating that students and teachers in higher poverty schools are at a distinct disadvantage when compared to lower poverty schools when it comes to quality of school leadership. In the discussion of their study, the authors note that,

A further understanding of ...the effectiveness of targeted interventions to address the differences in leadership across schools, would put us in a better position to address these disparities and improve the likelihood of well implementing the variety of current reforms that rely on effective school leadership (Loeb et al., 2010, p. 227).

The researcher's work examining relational trust between teachers and the principal and the rate of turnover among the principals add credence to this reference from Loeb et al. (2010). Though the researcher's hypothesis that schools with higher TPT measure scores exhibit lower principal turnover was not found accurate, future studies might seek to clarify the disparities between Loeb et al. (2010) and the findings of this researcher.

Summary of the School-Level Determinants of Principal Turnover

Distinct from the individual-level determinants of principal turnover, the school-level determinants described (academic designation, school conditions, socioeconomic status of community) represent traits of a school that precede a principal's tenure or that change over time. These factors illustrate that schools with more challenging academic, behavioral, and economic circumstances are more likely to experience principal turnover than schools with less of these challenges. The extent to which trusting relationships are formed by a principal with members of the school community plays a role in compounding or abating these challenges are far from widely understood, as Clotfelter et al. (2006) was the lone study which referenced teacher perception of school leadership. Understanding these perceptions are important, especially from teachers working in schools that experience high levels of principal turnover as they provide context to the impact that principal turnover has on students, teachers, and the broader community.

Consequences of Principal Turnover

The findings describing individual and school-level determinants of principal turnover provide context about many of the factors that may influence principals to leave their position. Determinants of principal turnover provide leaders of school districts, researchers, and policymakers with needed information to understand trends and factors that perpetuate the ongoing issue of principal churn in an effort to mitigate turnover. Yet the literature regarding the consequences of principal turnover has received a fraction of the attention on this topic. Continued research on the consequences of principal turnover is necessary in order to provide

greater insight on the wide-ranging impact that principal turnover has on school culture and stakeholder groups within a school community.

This section aims to illuminate the consequences of principal turnover, specifically examining how schools “feel” principal turnover, namely by looking at the impact that principal turnover has on teacher retention, student achievement gains and school improvement efforts. While school climate would also fall under the category of consequences, it will be discussed at length in the next in order to illustrate the literature that draws the closest parallels to the researcher’s work examining relational trust between teachers and principals and principal turnover.

Teacher Retention

Studies have shown that replacing ineffective principals can have a positive influence on schools (Baker et al., 2010; Gates et al., 2006), a finding which applies to teachers as well. Multiple studies have sought to determine the extent to which principal turnover effects the retention of teachers, specifically teachers who have a positive influence upon students and their school community.

Béteille et al. (2012) examined the relationship between principal turnover and school outcomes, with one measureable outcome being teacher turnover. With a sample of over 100,000 MDCPS teachers from 2003-2009, principal turnover had a direct impact upon teacher retention rates. In their study, the authors applied a value added measure that examined a teacher’s contribution to student learning. This measure led to the finding that teachers at the mean of the value added demonstrated that teachers were 19% more likely to leave their school with a new principal enters the position, and that teachers one standard deviation higher than the mean value

added were 32% more likely to leave their school with a new principal. These two data points illustrate that teachers having an average to high impact on student learning were those that were exiting their position at a greater rate than teachers with a lesser impact.

While a value added measure was not included in Allensworth et al. (2009), when looking at teacher mobility rates in CPS from 2003-2006, the authors' examination of nearly 25,000 teacher personnel records painted a different picture from that of Béteille et al. (2012). The authors found that principal turnover was not related to teacher turnover. In the case of elementary schools in CPS, only 3% of teachers at this level were more likely to leave when a new principal was coming in, citing 78% retention when a new principal was coming in versus 81% when a principal stayed from one year to the next. Unique to this study is the authors' identification of TPT as a significant factor influencing teacher retention, presumably pulled from CPS' use of the 5E prior to Illinois' statewide adoption in 2011. The authors found that schools with high levels of TPT and where teachers' perceive their principal as a strong instructional leader possess retention rates four to five percentage points higher than schools that have lower ratings in these same areas (p. 26)

In their examination of the growing rate of turnover amongst New York City (NYC) teachers, Marinell and Coca's (2013) 2010 survey of over 4,000 NYC middle school teachers reiterated the findings from Allensworth et al. (2009) pertaining to teachers' value of trusting relationships with their principal and teachers' perception of their principal of an instructional leader. This was evidenced by a 5% difference in teacher turnover rates between schools with principals receiving the highest rating (20% of teachers left within 1.5 years of taking the survey) and those schools with lower rated principals (25% of teachers left within 1.5 years of taking the survey).

Collectively, these three studies demonstrate the impact that new principal leadership has upon teacher turnover rates and what characteristics teachers value in school leaders. Unlike many studies focused on the determinants of principal turnover, studies detailing the consequences of principal turnover illustrate the impact of principal turnover on teacher retention, which is significant as teachers have the greatest influence upon student learning.

Student Achievement Gains

The earlier discussion of standardized assessment illustrated how lower student outcomes on state mandated assessments influence a principal's decision to leave their position. While student achievement on standardized assessments is a determinant of principal turnover, it should also be noted that a principal's decision to exit their position negatively affects student achievements on these assessments after the principal's departure.

Béteille et al. (2012) found that schools in the MDCPS system deemed "failing" and those with high levels of poverty saw student scores on reading and math assessments .06 standard deviations lower when they have a new principal, a statistic that the authors did not find in schools deemed high performing or in communities with few socioeconomic challenges. This finding corroborates Branch et al. (2009), who found that student scores on standardized assessments in Texas were two-hundredths of a standard deviation less during a principal's first year.

When examining the correlation between principal turnover and student achievement over a 12-year period for grades three through eight in North Carolina, Miller (2013) recognized and added to the trend identified by Béteille et al. (2012) and Branch et al. (2009). The author found that, on average, student scores in reading and math assessments decline two years before

a transition from one principal to the next, with scores rebounding to the pre-transition mean two years into the succeeding principal's tenure. The author did not attribute any specific causal explanation for the decline in test score preceding a principal's exit. However, these studies collectively illustrate that when a school district replaces a principal, student achievement on standardized assessments is likely to decline.

School Improvement Efforts

Seashore-Louis et al. (2006) recognized "Setting directions, developing people, redesigning the organization, and managing the instructional program" as core leadership competencies universal to organizational improvement (pp. 67-68). All four practices are critical for school principals and district leaders as they seek to build and sustain a culture with learning at the forefront. Timelines to initiate, implement, and evaluate change that leads to organizational improvement differs for every school or organization.

Fullan (2016) recognized that establishing a practice or introducing a change within an organization takes time. Depending upon the scope and size of the change, Fullan (2016) suggested that from initiation to institutionalization, moderate organizational change takes between from 2-4 years and larger scale change can take from 5-10 years (p. 58). Consensus in the literature shows that annual turnover rates for PK-12 principals in the U.S. hover around 20% (Béteille & Kalogrides., 2012; Branch et al., 2009; DeAngelis & White, 2011, 2011; Fuller & Young, 2009; Gates et al., 2006; Goldring & Taie, 2014; Loeb et al., 2010). Hence, when comparing principal turnover rates with the time for school-level initiatives to move from idea to practice, many principals will exit their position before seeing their efforts into the institutionalization phase.

Challenges to organizational change (Fullan, 2006) were contextualized by Hargreaves and Goodson (2006) in their “Change over time?” study. Here, the authors conducted over 250 teacher interviews in eight schools located in Ontario, Canada, and in New York state in an effort to understand teachers’ perception of educational change from 1970s-1990s. Among the authors’ findings was the theme of leadership succession, which was consistently represented as “emotionally intense events” (p. 18). This perception was captured by the authors’ description of the how ongoing principal turnover impacts school initiatives, and how teachers perceive such principal turnover:

Inbound knowledge is everything, improvement efforts are repeatedly cut short, and sustainability is the casualty. In this accelerating carousel of principal succession, the principals spin around and around while the schools just go up and down (Hargreaves, Fink, Moore, Brayman, & White, 2003). Principals rotate through schools and teachers endure, waiting their leaders out—ensuring that unplanned continuity and discontinuity will be the consequence of most succession events and that teacher resistance to change will become entrenched (MacMillan, 2000). As the current principal of Stewart Heights said, having replaced his predecessor who had stayed for just 3 years, “It’s only been 1-plus years [of his tenure at the school], but teachers are coming to me already and asking how long am I going to be here (Hargreaves and Goodson, 2006, p. 20).

Hargreaves and Goodson’s (2006) work sheds light upon a developing trend: that frequent principal turnover is a growing concern that did not affect school improvement efforts as widely in the 1970s and 1980s as it has in recent decades. A byproduct of this growing “revolving door” trend of principals is an emergent perception among teachers that initiatives ushered in by

new principals can be waited out until a principal leaves, creating barriers to school improvement efforts that may not have been pervasive in the past.

The work of Fink and Brayman (2006) built upon the leadership succession findings of Hargreaves and Goodson (2006). By interviewing principals who served in three high schools from Hargreaves and Goodson's (2006) study, the authors sought to "capture an in-depth understanding of principals' leadership and the effects of principals' transitions" (Fink and Brayman, 2006, p. 68). The factors and implications identified by the authors include: 1) the acceleration of principal turnover "breeds staff cynicism, which subverts long-term, sustainable improvement" (p. 84). 2) Educational mandates and reform demands (district, state, or federal) impede new principals' ability to build the trust of staff and implement improvement efforts that address the needs of their school. 3) Purposeful principal succession plans increase the likelihood of sustained school improvement efforts from one principal to the next. The findings from this study cannot be recognized as applicable to all public schools across the U.S. nor representative of a panacea to principal turnover. Yet, the authors' findings about principal succession can be recognized as cautionary measures that provide district and state-level leadership as well as leaders of principal preparatory programs opportunities to better prepare for principal onboarding in the event of principal turnover.

Summary of the Consequences of Principal Turnover

Tekleselassie & Villarreal (2011) recognized that "turnover of proficient and skilled school leaders undermines the school's capacity to realize a sustainable and continuous growth and change process leading to successful implementation of educational programs and initiatives" (p. 282). Based upon the findings discussed in this section, increased teacher

turnover, declines in student achievement, and initiative “fatigue” represent significant costs when principal turnover occurs. The research detailing these costs provide needed context of how principal turnover affects stakeholders that are most directly affected by the role and responsibilities of the principal (students, teachers, community members). Consequently, these costs further emphasize the significance for future research on the consequences of principal turnover to be addressed with as much veracity as research about the determinants of principal turnover has received.

Collectively, the body of literature pertaining the consequences of principal turnover reflect the negative impact that frequent principal turnover can have upon school climate, especially when leadership succession plans are not in place and where distributed leadership does not exist. When considering Fullan’s (2016) finding that organizational change can take upwards of 5-10 years with the fact that states across the U.S. face an annual principal attrition rate of 20% (Béteille et al., 2012; Branch, Hanushek, & Rivkin, 2009; DeAngelis & White, 2011, 2011; Fuller & Young, 2009; Gates et al., 2006; Goldring & Taie, 2014; Loeb, Kalogrides, & Horng, 2010), the vicious cycle of which principal turnover can have upon the climate and culture on a school and its stakeholders becomes evident and grossly understated as initiatives and mandates from policymakers impact American public education.

As school climate is referenced frequently in the following section, it becomes necessary to reiterate the distinction between culture and climate. As previously mentioned, climate represents the attitude of an organization at a particular moment in time and culture represents the organization’s collective disposition and belief system that is developed over time. Modern school principals are charged with developing a school culture that promotes continuous improvement and the development a learner-centered, personalized approach for students, yet

studies have shown that schools dealing with high rates of principal turnover develop a culture that negatively affects the people who most significantly affect student learning: teachers. The studies presented in Section 1 address demonstrate the significance of school climate as a foundational component on which relational trust is built. The studies detailed in Section 2 also represent consequences of principal turnover, yet due to the strong alignment between the variables of school climate and principal turnover, necessitate their own section to draw parallels to the researcher's work.

Section 2: The Impact of Relational Trust upon School Climate

In the growing body of literature on the determinants and consequences of principal turnover, attention to the topic of relational trust, is lacking. In returning to the dimensions of school climate which Thapa, et al. (2013) presented (safety, relationships, teaching and learning, institutional environment, and the school improvement process), relational trust can be considered both a determinant and consequence of principal turnover. Principal turnover can represent a determinant as a principal's inability to develop and sustain interpersonal relationships could lead to their exit (voluntary or forced) or the exit of teachers, and a consequence, as the transition of an outgoing principal who struggled to develop relational trust could create challenges for the next principal in developing trusting relationships with staff. The studies discussed in this section detail the body of knowledge reflective of what is known about the principal's role in developing school climate and how principal turnover affects this responsibility.

Impact of Leadership Turnover on Trust

Seeking to answer the question “Do new principals have an impact on elementary school climate” (Noonan & Goldman, 1995, p. 2), Noonan and Goldman’s (1995) qualitative study serves as a significant work when examining the relationship between principal succession and school climate. In this study, a key aspect of the school climate measure utilized was focused on the “openness of teacher to principal interactions” (p. 4), of which a principal was deemed successful by being supportive of teachers, limiting directedness by promoting teacher innovation, and not acting in a restrictive fashion. The authors collected data from 12 elementary schools in a large urban district during the 1994-1995 school year. Of the twelve schools, six had experience turnover the previous year and were anticipating a new principal. The study utilized a 57-item questionnaire (of which 42 questions were pulled from the Organizational Climate Descriptive Questionnaire) to gather data about teacher perceptions on school climate, as measured by openness of teacher to principal interactions and the openness of teacher to teacher interactions. The questionnaire asked teachers to select one of the following options that best describe their principals’ behavior in a given area related to different dimensions of school climate: 1) Supportive (concern/support for faculty) 2) Directive (task-oriented) 3) Restrictive (behavior impeding teacher work) (p. 4). Cumulative responses from teachers then generated a “score” to rate the level of openness that a principal demonstrates, as perceived by their staff.

Ultimately, the survey results showed that all six of the schools with new leaders demonstrated less openness and more directive behavior, of which the authors attribute this approach to new principals attempting to “set a tone, a vision when they first arrive” (Noonan & Goldman, 1995, p. 6). Beyond this finding, the authors discovered that some schools within their

study experienced changing teacher perceptions of their principal (over the course of the school year) in becoming more or less open, and as a result, surmised that principal turnover had mixed effects upon schools, but where changes in perception did occur, were limited in nature. This finding corroborates Miskel and Owens' (1983) work that found that principal turnover had a limited impact upon teacher's job satisfaction, instruction, and the climate of the school. While Noonan and Goldman's (1995) study is significant as it represents one of the few which link principal turnover and school climate, it is important to note that the role of the principal has changed significantly over the 25 years since this study was published. As the researcher examined the correlation between relational trust and principal turnover, findings from this study offer a 21st century lens of Noonan and Goldman's (1995) work.

Distributed Leadership as a Deterrent of Turnover Malaise

Citing the consequences of principal turnover upon student achievement and school improvement efforts, Mascall and Leithwood (2010) examined the impact of distributed leadership, the practice of extending leadership opportunities throughout an organization, among teachers to negate the impact of principal turnover upon school climate and academic achievement. Citing Hargreaves and Fink (2006), the authors stated that “ post-succession process is best managed when the departing leader leaves a legacy of distributed leadership marked by shared vision, investment, and capacity that ensures the sustainability of school improvement initiatives” (p. 372). Findings of this study were derived by a questionnaire taken by 2,570 teachers across 80 schools throughout the U.S. Teachers were asked to rate statements about instructional practices on a six-point Likert scale and survey results were then correlated with principal turnover rates of the 80 schools over a 10-year period.

The researchers found that principal turnover “has a significant and moderately negative effect on school culture... [and] school culture has moderately strong, significant effects on student achievement” (p. 375). Beyond the survey results, the researchers employed a case study of four schools, from the initial sample, which had the highest levels of principal turnover in the 10-year period being measured. Of the four schools in the case study, two exhibited greater more established practices of distributed leadership among staff, and as a result, the negative effects associated with principal turnover were significantly lessened. Ultimately, the researchers corroborated Hargreaves and Fink (2006) by concluding that creating and sustaining a culture of distributed leadership will moderate the negative effects associated with principal turnover and promote the continuation of school improvement initiatives after a principal has left and a new principal has assume the role. This finding is supported by Spillane, Diamond, and Jita (2003) who found that “Schools that cultivate certain in-school conditions, including shared visions for instruction, norms of collaboration, and collective responsibility for students’ academic success, create incentives and opportunities for teachers to improve, and thereby aid the implementation process” (p. 534).

Lastly, Mascall and Leithwood (2010) identify three implications that require attention from future research in order to assess the validity of each implication. These implications include the need for principals to remain in their position for at least four years (with five to seven years being preferred), for new principals to honor and continue the work of school staff during a leadership transition, and for principals to develop a culture of distributed leadership.

Impact of Turnover upon Social Resources

In their analysis of 73 Los Angeles elementary schools, Hanselman et al. (2016) examined how social resources, or the interpersonal relationship between a principal and teachers as well as among teachers themselves, are impacted based upon turnover (both principal and teacher). The authors utilized data from the System-Wide Change (SWC) study, a questionnaire administered to 80 elementary schools in the Los Angeles Unified School District (LAUSD) from 2006 and 2008. All 80 schools in this study were deemed “minimally prepared” to implement a curricular reform in science. One of the reason that this measure was selected, and is relevant to the researcher’s study, is that the SWC included a subset of questions that allowed teachers to evaluate principal leadership in the context of social resources.

The researchers found that principal turnover has a significant “destabilizing” effect upon social resources, serving as a reset that negates the growth of interpersonal relationships developed by prior principals, and poses a significant threat to the long-term relationship between school leaders and teachers (p. 73). It should be noted that the schools experiencing “average” levels of turnover were the schools that were most significantly impacted by a principal’s departure. This finding may corroborate the findings of Mascall & Leithwood (2010) regarding distributed leadership, as the schools with the lowest levels of turnover may have been led by a principal and administration who helped to establish a culture of distributed leadership with teachers.

Principals’ Influence on Teacher Working Conditions

Burkhauser (2017) sought to understand the extent to which principals affect teacher perceptions about the working conditions of their school. Using longitudinal data (from the

2005-2006 through 2011-2012 school years) from North Carolina's biannual TWC survey (the same questionnaire utilized in Clotfelter et al (2006) the author examined four school environment measures (teachers' ability to focus on teaching, physical environment's ability to be conducive to teaching, school leadership, professional development) and correlated teacher responses with a principal's job placement over the years when the survey was administered. Of the 3,740 principals who led North Carolina public PK-12 schools across the seven-year span of the study, only 629 principals, or 16.8% of all North Carolina principals remained in the same position (p. 134). The remaining 3,111 principals were grouped into "connected networks" reflective of the multiple schools they led over the length of the study. These groupings were developed by the author in order to assign the fixed effects of the principal upon the school they led over the duration of the study. Ultimately, the author found that "nearly all of the estimated principal effects are highly correlated across the four dimensions of the school environment" (p. 137), signifying that principals play a substantial role in how teachers perceive their work environment. The focus of Burkhauser's (2017) work is the role that the principal plays in developing a positive working environment, not on principal turnover. However, based upon the findings of this study, it can be inferred that principals play a significant role in developing a positive school climate, which when established, can mitigate teacher turnover.

Summary: The Principal's role in Promoting Positive School Climate

In 2010, Zenger Folkman conducted a study with nearly 100,000 participants asked to evaluate the effectiveness of their supervisor and their satisfaction and commitment to their organization. A compelling finding of the study was that trust was recognized as a critical leadership behavior that positively affected employee satisfaction and commitment to an

organization (Folkman, 2010). This study accentuates the widely held belief that employees value leaders of strong character and competence (Covey, 2008). Research detailing the principal's role in developing a positive school climate and how principal turnover impacts this responsibility shows that unless a culture of distributive leadership exists, turnover in the principal position can serve as the equivalent of hitting a "reset button" of social exchanges between a principal and teachers. As previously stated, Fullan (2016) recognizes the significant role of key individuals in an organization (such as the principal) when he said, "One or two key people leave and the success can be undone almost overnight. Thus, from the point of view of 'sustaining change,' even in those small number of success cases, there are serious problems" (p. 12). While the studies described reflect the significance of principals as relationship builders and culture "creators", further examination of the topic can aide district and state leaders in prioritizing the need to identify, develop, and retain effective school leaders.

Section Three: Policy implications: The 5E and ESSA

The previous two sections of this chapter have detailed the body of literature relevant to determinants and consequences of principal turnover, as well as research highlighting the significant role principals play in developing a sustained culture characterized by positive interactions among staff and between staff and administration. In reviewing works relevant to these areas, several studies (Burkhauser, 2017; Clotfelter et al., 2006; Hanselman et al., 2016; Noonan & Goldman, 1995) have incorporated data from teacher climate survey in an effort to contextualize the principal's role in developing a positive school climate. In Illinois, 5E is administered for a similar purpose. In this section, the researcher will provide historical context and current implications that the 5E has upon Illinois public schools. Additionally, and most

importantly in the context of this study, the researcher will contextualize the “Effective Leadership” measure of the 5E, specifically the sub-area of TPT, a measure developed from teacher responses of eight questions on the 5E. This measure represents how the researcher quantified the level of relational trust between teachers and their principal.

Origins of the 5E

The research that supports the use of the 5E dates back to 1988 when the Illinois State Legislature passed Public Act 84-1418 decentralizing CPS, giving more control to Local School Councils (LSC). LSCs are comprised of a school’s principal as well as a teacher, parent, and community representative and have the responsibility to hire and evaluate their school’s principal, develop school improvement plans, and manage resources. From 1989-1996 researchers from the University of Chicago examined hundreds of elementary schools in CPS seeking to understand how increased democratization of decision-making LSCs had over their respective school’s improvement efforts fostered organizational change, and as a result, the extent that such change would impact student achievement.

Results of early findings, reported in *Charting Chicago School Reform: Democratic Localism as a Lever for Change* (Bryk, Sebring, Kerbow, Rollow, Easton, 1998), found that schools with stronger leadership and where parents engaged in improvement initiatives saw positive changes in student achievement. This finding led the authors to ask the question, “What did the improving schools actually do to realize these gains in student learning?” (Bryk et al., 2010, p. 20) In an effort to answer this question, the authors conducted longitudinal study in elementary schools in CPS that led to the identification of five interrelated areas, which collectively are at the core of school improvement. This framework recognizes effective

leadership as a catalyst for the entire framework, requiring efforts to “stimulate and nourish the development of four additional core organizational supports: collaborative teachers, involved families, supportive environment, and ambitious instruction” (Klugman et al., 2015, p. 5).

When schools are led by effective leaders who create a safe, supportive environment where collaboration is valued and the needs of all students are addressed, these “five essentials” lead to improvement in schools, both academically and organizationally (Bryk et al., 2010). The five essential supports comprise the core areas of the 5E which Illinois teachers and students are asked to provide feedback on. Responses from teachers and students are combined together and a Rasch analysis is conducted in order to develop both a measure score (ex. TPT) and an essential score for each of the five supports (ex. Effective Leaders).

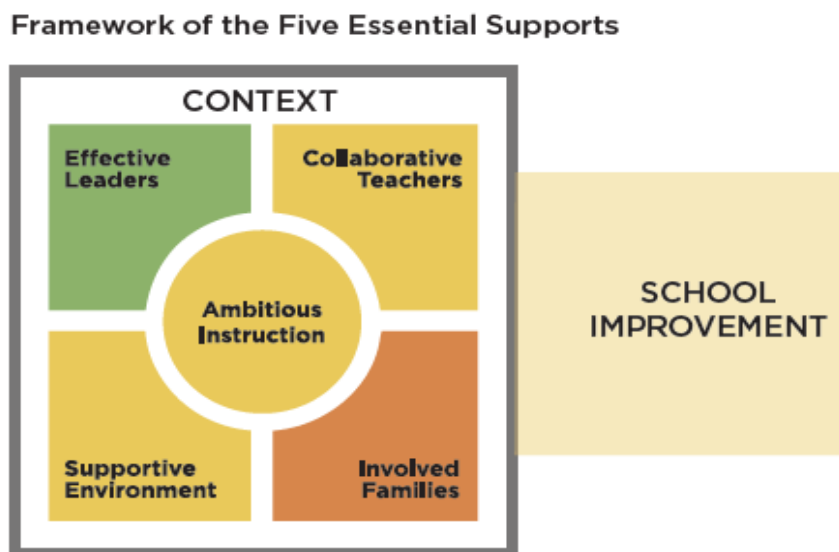


Figure 2.1 Framework of the 5Essentials Supports. The Teacher-Principal Trust measure falls within the Effective Leaders Support. Reprinted from A First Look at the 5Essentials in Illinois, 2015. Retrieved from <https://consortium.uchicago.edu/publications/first-look-5essentials-illinois-schools>

5E Implementation History

As stated in Chapter 1, the Illinois State Legislature's passage of SB7 in 2011 led to the ISBE's adoption of the University of Chicago's 5E. As mandated by SB7, teachers (PK-12) and students (grades 4-12) were to take part in a school learning conditions survey to provide perceptions on teaching and learning that reports on schools' cumulative test scores could not provide. With the adoption of the 5E, the goal was (and continues to be) to provide stakeholder groups the opportunity to provide feedback on five areas critical for school success, which include: 1) Effective Leaders 2) Collaborative Teachers 3) Involved Families 4) Supportive Environment 5) Ambitious instruction. According to UChicago Impact, the division of the Urban Education Institute at the University of Chicago who oversees the 5E, the 5E "has been administered in nearly 6,000 schools across the country, with over 5 million students, teachers, and parents completing the survey and contributing to school improvement processes" ("5Essentials | UChicago Impact," n.d.).

Statewide, biannual administration of the 5E originated in the 2012-2013 school year. Many schools have opted to use the 5E on an annual basis in order to utilize results to inform annual school improvement efforts. As SB7 required Illinois PK-12 public schools to administer a learning conditions survey, not specifically the 5E, alternative options to the 5E were made available in the 2014-2015 school year. While some schools did opt to use alternative learning conditions measures, in the 2012-2013 school year 85% of Illinois schools took the 5E (Klugman, Gordon, Sebring, & Sporte, 2015). Cumulative results by school, which is comprised of the responses from teacher and student responses, are included in each school's state report

when participation exceeds the 50% response threshold. Parent responses are only available to schools and not on a school's report card.

The 5E in Research

From 1991-2009, the 5E was developed and later administered in CPS, but with the passage of SB7 in 2011, was adopted for use in public schools throughout Illinois. (Klugman, Gordon, Sebring, & Spote, 2015). According to UChicago Impact, the 5E has also been adopted by numerous jurisdictions across 20 states (“5Essentials | UChicago Impact,” n.d.). Despite the growing application of the 5E in Illinois and across the nation, the use of the 5E in research is limited. An exhaustive search for peer-reviewed works discussing the 5E produced four studies (Ehrlich et al., 2016; Godard, 2014; Lenhoff & Pogodzinski, 2018; Luppescu, 2016).

Luppescu (2016) examined the extent to which 5E survey results from students in grades four and five could be deemed reliable given that the 5E may not be cognitively appropriate for students of this age group. The author examined 5E results from the 2014-2015 school year from a larger urban school district in the Midwest that had 36,000 student responses from grades four and five and 72,000 student responses from grades six through eight. Using a Rasch analysis for the two groups, the author “compared the individual-level reliability, school-level reliability and intra-class correlation for each measure for each group” (Luppescu, 2016, p. 2). Findings of the study showed that while reliability of results at the individual and school-levels were slightly lower for students in grades four and five as compared with students in grades six through eight, responses from students in grades four and five produced outcomes in the acceptable range of the reliabilities of the 5E.

Lenhoff and Pogodzinski (2018) utilized 2014-2015 results from the 5E from 165 traditional public and charter schools in Detroit to illustrate the significance of chronic absenteeism (students missing 10 or more days per year) on educational outcomes. Citing a 58% chronic absenteeism in 2014-2015, the authors ran a series of least squares regressions to approximate “correlational and predictive relationships between school-level characteristics and chronic absenteeism, with a focus on those factors that schools can directly influence” (Lenhoff & Pogodzinski, 2018, p. 159). The five-5E ratings of organizational effectiveness, ranging from “Not Yet” (lowest) to “Well Organized” for all 35-measure scores were included as variables that would be used to determine correlations to schools’ levels of chronic absenteeism. Ultimately, the authors identified that 16 5E measure scores were negatively and significantly correlated to the 165 traditional public and charter schools that were part of the authors’ sample.

Citing the significance of early childhood education for low-income children in developing learning competencies, Ehrlich, Pacchiano, Luppescu, and Stein (2016) developed an early childhood education teacher and parent surveys influenced by the findings of Bryk et al. (2010), who produced the framework for the 5E. Adaptations made by the authors modified language to reflect core elements of early childhood education, and in other situations, questions were kept in their original form or removed entirely based upon the appropriateness for early childhood education.

Regardless of the changes made, the authors sought to maintain the integrity of the 5E by having the survey results inform school improvement efforts based upon the voice of key stakeholder groups. Pilot surveys were taken by 1,153 early education teachers and 229 parents within the same school district in spring 2015. Results of a Rasch analysis of results from both surveys showed that 60% of responses had a reliability rate at or exceeding .80. The author cited

that results under .80 would be dropped or revised for future use. Ultimately, by using the 5E as framework for early education teacher and parent surveys, the authors aimed to develop a tool which “enable researchers studying early education interventions to evaluate the impact of organizational conditions on implementation fidelity and intervention effectiveness” (Ehrlich et al., 2016, p. 4).

Measures of school achievement, specifically the impact data may have upon school stakeholders, are often the subject of debate. The public reporting of the 5E is not exempt from such scrutiny. Goddard (2014) pointed out the ethical implication, and at times dilemma that publicly reported data can produce. While the author did not explicitly refer to his involvement with the 5E, he did lead a group of ISBE data professionals in summarizing and reporting the results from the inaugural administration of the 5E in 2013. The author detailed the ethical dilemma that arose about releasing results of the inaugural 5E report by saying:

As principals and superintendents reviewed our preliminary data, they were interested in the responses students and teachers gave to the questions we asked. However, they also raised concerns about publicly reporting the statistical measures built from those questions, even though—from a purely statistical perspective—the calculation of the measures was sound (Goddard, 2014, p. 56).

While the author’s discussion of the ISBE’s decision to report only the raw data and hold off on publicly reporting the statistical measures of the 5E until the following year was highly criticized by the media, the author reported that by taking an additional year to evaluate and address the concerns of superintendents, principals, and teachers allowed for refinement of the survey before 2013-2014 5E results were made available to the public

The 5E and Teacher-Principal Trust

Relational trust is grounded in social respect, interpersonal bonds, professional competence, and integrity (Bryk et al., 2010, pp. 138–139). Without relational trust as the foundation for communication and collaboration, efforts to effectively address the five essential supports for school improvement are significantly challenged (Klugman et al., 2015). As effective leaders are at the core of organizational improvement, retaining such leaders is of significant importance. For that reason, TPT measure scores from the 5E were examined as TPT reflects core aspects of the definition of relational trust.

The Effective Leaders Essential is comprised of four measures: Teacher Influence, Principal Instructional Leadership, Program Coherence, and TPT. TPT, as defined on the 5E website, is “Teachers and principals share a high level of mutual trust and respect” (Illinois 5Essentials Survey, 2017). A school’s score for the TPT measure is scored on a 0-99 scale, with each 20-point increment reflecting a level of proficiency (least, less, average, more, most). Scores are based upon teachers’ responses to eight survey questions where teachers select a response on a Likert scale (strongly disagree, disagree, agree, and strongly agree). The questions that comprise the TPT measure on the 5E include are detailed in Table 2.1 (“Illinois 5Essentials Survey,” 2017):

Table 2. 1 *5E Survey Items used to determine a School’s TPT Measure Score*

It’s OK in this school to discuss feelings, worries, and frustrations with the principal.
The principal looks out for the personal welfare of the faculty members.
I trust the principal at his or her word.
The principal at this school is an effective manager who makes the school run smoothly.
The principal places the needs of children ahead of personal and political interests.
The principal has confidence in the expertise of the teachers.
The principal takes a personal interest in the professional development of teachers.
Teachers feel respected by the principal

The eight statements in Table 2.1 aim to measure teachers' perceptions of Bryk et.al (2010) four dispositions of relational trust (social respect, personal regard, role competence, personal integrity; pp. 138-139). While research indicates that survey validity can be affected by a person's perception of a topic, person, or institution they are reviewing (Greenwald, 1997), the use of a Rasch analysis can remove missing or unreliable responses to provide the accurate reflection of teachers' perceptions on the effectiveness of TPT or of the 35 measures that comprise the 5E.

The 5Essentials and Illinois' ESSA plan

The 2015 passage of ESSA requires State Education Agencies (SEAs) across the U.S. to develop a comprehensive plan to ensure that all students have access to a high-quality educational experience, making a path to college and career opportunities accessible. The Illinois ESSA Plan is measured by ten indicators of performance, comprised of both academic and non-academic (school quality and student success) measures. Academic indicators (75% of overall score) will include results from standardized assessments and measures of academic progress, English Learner (EL) proficiency, and graduation rates. Non-academic indicators (25% of overall score) will include absenteeism rates, participation rates from annually mandated climate surveys, college-and-career readiness, and early learning. Together, results from academic and non-academic indicators will be combined to assign a rating designation to schools, ranging from the title of "Exemplary", the highest tier, to "Lowest Performing", the lowest of the four tiers.

The school climate survey comprises 5% of a school's designation. The ISBE has decided to utilize the 5E as the metric to address the ESSA requirement of a school climate

survey, requiring that the 5E (or approved alternative climate surveys) be administered annually rather than bi-annually, which was standard practice for Illinois public schools since the passage of SB7 in 2011. The overall rating a school receives for the school climate indicator is based on participation rates of teachers and students, not the results of the survey.

Annual administration of the 5E across PK-12 schools statewide provides evidence needed to identify interventions to improve learning, the environment in which learning takes place, community engagement, and the leadership of schools. As an essential support of Effective Leadership, TPT is a critical component for improving the four other supports. Results reflecting teachers' perceptions of school leaders provide needed feedback for principals to set goals for personal improvement and useful data for district leaders to evaluate principal effectiveness and identify areas of need for principals' professional development. Unique to ESSA is the financial commitment to support principals. Between \$15 and \$16 billion dollars in Title I funds will be allocated as School Improvement Funds, which can be used to improve school leadership. \$2.3 billion in Title II Part A funds will be allocated to states to improve the quality of teachers, principals, and other school leaders, of which up to 3% of a state's allocation can be used for training, professional development, and retention of principals (Rothman, 2017).

Summary: The 5E and its Implications

Since the publication of *Organizing Schools for Improvement: Lessons from Chicago* (Bryk et al., 2010), the 5E has grown in significance and notoriety, namely as lynchpin that has brought together research, practice, and policy on the significance of measures other than student achievement to measure levels of success in schools. Studies incorporating the 5E as a major variable have produced findings that point to implications regarding how to improve the learning

climate for students, teachers, and community members. Research has shown that schools rated highly in at least three of the 5E are ten times more likely to demonstrate substantial gains in student learning as compared to schools weak in three or more of the 5E (“5Essentials | UChicago Impact,” n.d.). While the 5E joins other climate surveys (such as North Carolina’s TWC survey) that are administered to public schools on a statewide level, opportunities abound for schools utilize the survey results to improve the learning environment and instructional climate in order to provide students the best educational experience possible.

Summary of Chapter II

President Theodore Roosevelt is often attributed with the saying “Nobody cares how much you know until they know how much you care.” The goals of this chapter were to illustrate the significance of relational trust between principals and teachers in developing a positive organizational culture, how principal turnover can act as a hindrance towards that effort.

Additionally, this chapter provided context about the current body of research pertaining to relational trust and principal turnover as variables independent and potentially interrelated of one another. This was achieved by examining these topics in the following sections: 1) the determinants and consequences of principal turnover 2) The impact of relational trust upon organizational climate and 3) Policy implications: the 5Essentials Survey and ESSA.

Chapter III

METHODOLOGY

Introduction

The previous two chapters provided insight into the changing role of the American school principal and highlighted key findings from the growing body of literature on the determinants and consequences of principal turnover. Additionally, the history and policy implications of the 5Essentials Survey (5E) were discussed to illustrate progress made in obtaining stakeholder feedback about Illinois public schools, namely to provide an additional measure, outside of student achievement, to inform school improvement efforts.

This study investigated the relationship between two key variables: relational trust (between teachers and a principal, as measured by the TPT measure of the 5E) and principal turnover in PK-12 public schools in Illinois. This chapter aims to inform the reader of the study's research question and related hypotheses, as well as the research methods and design.

Research Question and Hypotheses

This study sought to answer one main question: What, if any, is the relationship between relational trust and principal turnover? In order to address the complexity of this question, the researcher postulated six hypotheses:

1. Illinois public schools (PK-12) with levels of teacher-principal trust above the Illinois statewide average will exhibit lower principal turnover.
2. PK-12 public schools in CPS have lower levels of teacher-principal trust and higher levels of principal turnover as compared to non-CPS PK-12 public schools.

3. Schools with minority-majority student populations (a school where the student body is represented by one or more racial and/or ethnic group(s) that make up a more than 50% of total enrollment) have lower levels of teacher-principal trust and higher levels of principal turnover.
4. Schools with an English learner (EL) population above the Illinois statewide average have lower levels of teacher-principal trust and higher levels of principal turnover.
5. Schools whose percentage of students with IEPs exceed the Illinois statewide average have lower levels of teacher-principal trust and higher levels of principal turnover.
6. Schools with a student population coming from low-income families that exceeds the Illinois statewide average have lower levels of teacher-principal trust and higher levels of principal turnover.

Table 3. 1 Question, Associated Hypotheses, and Corresponding Statistical Tests

Question	Hypothesis	Analysis/ Measure
What, if any, is the relationship between relational trust and principal turnover?	Illinois public schools (PK-12) with levels of teacher-principal trust above the Illinois statewide average will exhibit lower principal turnover.	Inferential Statistics; Spearman Correlation Coefficient
	PK-12 public schools in CPS have lower levels of teacher-principal trust and higher levels of principal turnover as compared to non-CPS PK-12 public schools.	
	Schools with minority-majority student populations have lower levels of teacher-principal trust and higher levels of principal turnover.	
	Schools with English learner (EL) populations above the Illinois statewide average have lower levels of teacher-principal trust and higher levels of principal turnover.	
	Schools whose percentage of students with IEPs exceed the Illinois statewide average have lower levels of teacher-principal trust and higher levels of principal turnover.	
	Schools with a student population coming from low-income families that exceeds the Illinois statewide average have lower levels of teacher-principal trust and higher levels of principal turnover.	

Contextualization of Hypotheses 1-6

The question that drove this study was: What, if any, is the relationship between relational trust and principal turnover? Valuable research exists discussing the significance of relational trust as the foundation for creating a successful organizational culture in schools, (Bryk et al., 2010; Bryk & Schneider, 2003), however no individual study has attempted to determine if a correlation exists between perceived levels of relational trust, as measured by the TPT measure of the 5E and principal turnover. The answer to this research question will provide needed context to the body of literature pertaining to the relationship between school climate and principal turnover. Accepting the researcher's hypothesis (Illinois public schools with higher levels of TPT exhibit lower principal turnover) or the null hypothesis (there is no relationship between TPT measure scores and principal turnover) represents a needed finding to existing literature. It is also the researcher's intent to offer more in depth context to the study's question by examining the relationship between TPT and principal turnover in schools with more specific student demographics. The researcher attempted to model the methodology of this study upon existing research, however, efforts to identify a study attempting to determine the correlation of variables in a similar fashion of this study proved unsuccessful.

The demographic factors identified in Hypotheses two through six were influenced by the work of Lenhoff and Pogodzinski (2018), who utilized school-level scores from the 5E and demographic data from Detroit Public Schools (DPS) and Detroit charter schools (DCS) during the 2014-2015 school year to determine if any of these factors could be correlated with chronic absenteeism (p. 159). The variables utilized by the authors (as measured by the percentage of students at a school that fall into a category) include gender, race/ethnicity, special education status, English Language learner status (EL) and economic disadvantage. Independent of these

variables, Lenhoff and Pogodzinski (2018) also sought to understand if a correlation exists between cumulative 5E scores and individual essential scores of the 165 DPS and DCS in the study's sample.

The authors ran a series of least square regressions to determine if a relationship existed between the variables of interest and chronic absenteeism. Lenhoff and Pogodzinski (2018) found positive correlations ($p < .05$) between DPS and chronic absenteeism in schools with higher percentages of male students, African American students, economically disadvantaged students and students receiving special education services. The authors found a negative correlation between DPS and chronic absenteeism in schools with higher percentages of Hispanic students, EL students, and all 5E score indicators (p. 160). Many of the subgroups referenced by Lenhoff and Pogodzinski's (2018) work are also data points referenced on the Illinois school report card. Hence, the researcher utilized many of the same subgroups found in Lenhoff and Pogodzinski's (2018) study in order to elucidate this study's research question to the greatest extent possible.

Hypothesis 1

Illinois public schools (PK-12) with levels of TPT above the 2018-2019 Illinois statewide average will exhibit lower principal turnover. The 2018-2019 statewide average for the TPT was 58, a measure score that falls within the range of the "more implementation" rating (U Chicago Impact, 2018). Of the 696 schools which comprise the sample population, just over 36% of schools had a TPT designation of 59 or higher.

As the foundational hypothesis in this study, the researcher aimed to build on the work of Boyce and Bowers' (2016). The authors found that disaffected principals (one of two types of

principals who exit their role, the other type being deemed ‘satisfied’) cited that poor working relationships, a category closely aligned to low levels of TPT, was a critical reason for leaving their position (p. 257).

Using a Spearman’s rank-order correlation, the researcher was able to determine the extent to which a relationship exists between higher TPT scores and lower levels principal turnover. The resulting negative correlation led to the acceptance of the null hypothesis, finding that there is no relationship between higher levels of TPT and lower levels of principal turnover among the sample population. Given the lack of research on the role of relational trust in retaining principals or precipitating turnover, findings related to this aspect of the study provides avenues for future research to build upon.

Hypothesis 2

PK-12 public schools in CPS exhibit lower levels of TPT and higher levels of principal turnover as compared to non-CPS PK-12 public schools in Illinois. This hypothesis, though different in measurement (TPT rather than chronic absenteeism) and types of schools (public and charter schools combined rather than public versus charter schools), was influenced by Lenhoff and Pogodzinski’s comparison of chronic absenteeism among DPS and DCS. By disaggregating the types of schools available to families in Detroit, the authors discovered a correlation between certain variables and chronic absenteeism in either DPS or DCS, or in some instances, both DPS and DCS.

In the researcher’s study, the relationship between TPT and principal turnover will be disaggregated between CPS, the largest public school district in Illinois and non-CPS public schools across Illinois. Like CPS, some of the non-CPS schools represented in the sample

population are also located in urban areas, however the overwhelming majority of non-CPS schools within the sample are located in rural or suburban areas. Hence, this hypothesis was largely focused on examining the impact that urbanicity has upon TPT and principal turnover. Existing research has laid the foundation for understanding the relationship between principal turnover and urbanicity. Gates et al. (2006) discovered that from 1987-2001 principals in CPS were 50% more likely to take a similar position within CPS when compared with principals serving in suburban and rural areas of Illinois. This finding was reiterated in DeAngelis and White's (2011) work, who found that while principals of schools in CPS were likely to leave their position at one school, they were likely to transition into the same role in another school within CPS.

Because of these two studies' findings, the researcher proposes that due to higher rates of principal turnover within CPS, levels of TPT will be lower than in non-CPS schools. The researcher will disaggregate the sample population into CPS and non-CPS schools and conduct a Spearman's correlation to determine if there is a relationship between TPT and principal turnover among CPS versus non-CPS schools.

Hypothesis 3

Schools with minority-majority student populations exhibit lower levels of TPT and higher levels of principal turnover. Lenhoff and Pogodzinski (2018) found that school-level percentages of African American students correlated with chronic absenteeism, however this correlation did not exist in schools where the student population was predominantly Hispanic. This finding is unique from the work of Gates et al. (2006) who discovered that principal turnover increased in schools where the student population had higher proportions of students of

minority racial/ethnic groups (the exception to this finding was when the principal was of the same racial/ethnic background as the largest group of students). Similarly, Loeb et al. (2010) found that as the percentage of non-white students increase, the likelihood of principal turnover also increased.

During the 2018-2019 school year, the state of Illinois reported that African American/Black students comprised 16.7% of students attending public schools and Hispanic/Latino students comprised 26.4% of students attending public schools (Illinois State Board of Education, 2019a). Hence, the researcher will run a Spearman correlation to determine if there is a relationship between TPT and principal turnover in schools within the sample population with majority (50.1% or higher) African American/Black or Hispanic/Latino student populations result in lower levels of TPT and higher levels of principal turnover.

Hypothesis 4

Schools with English learner (EL) populations above the 2018-2019 Illinois statewide average exhibit lower levels of TPT and higher levels of principal turnover. In the 2018-2019 school year, the total percentage of students enrolled in EL programs within Illinois public schools was 12.1% (Illinois State Board of Education, 2019a).

Lenhoff and Pogodzinski (2018) found that higher EL populations were negatively correlated with chronic absenteeism in DPS and DCS. Conversely, when Loeb et al. (2010) surveyed MDCPS principals to understand their preferred school characteristics, having many EL students within their school was among the least selected school characteristics, being rated 14th out of a possible 16 school characteristics. As the average EL population across Illinois public schools is 12.1%, the researcher postulates that schools within the sample with EL

populations above the state-average will have higher rates of principal turnover, and as a result, demonstrate lower levels of TPT.

Hypothesis 5

Schools whose percentage of students with IEPs exceed the 2018-2019 Illinois statewide average exhibit lower levels of TPT and higher levels of principal turnover. In the 2018-2019 school year, the total percentage of students with IEPs enrolled in Illinois public schools was 15.5% (Illinois State Board of Education, 2019a).

Special education services are comprised of Individualized Education Plans (IEP) and Section 504 plans. IEPs are legal documents designed to address individual student disabilities and access to a free and appropriate public education, as required by the 1974 Individuals with Disabilities Education Act (IDEA). A student's IEP details specific services and supports needed to provide them the greatest opportunity to be successful in the least restrictive educational environment. A Section 504 plan also falls under the umbrella of special education services, but differs in that the focus is on creating a plan for the student to address a major life function that may affect their educational experience. Section 504 plans are protected under the Rehabilitation Act of 1973.

Lenhoff and Pogodzinski (2018) found that a positive correlation existed between school-level percentage of students receiving special education services and chronic absenteeism in both DPS and DCS (the study does not delineate special education services being represented by IEPs and/or 504s). The relationship between these variables draws some parallels to a finding of Tekleselassie and Villarreal (2011), who found that the frequency of student disciplinary challenges (including chronic absenteeism) increased a principal's likelihood to leave their position by a one standard deviation increase (a factor of 1.09) or 9% (p. 276).

The relationship between chronic absenteeism and students receiving special education services as stated in Lenhoff and Pogodzinski (2018) as well as the correlation between chronic absenteeism and principal turnover identified Tekleselassie and Villarreal (2011) is what led the researcher to hypothesize that schools within the sample where more than 15.5.% of students in their school receiving special education services would have higher rates of principal turnover and lower levels of TPT. Similar to all other hypotheses, the researcher will run a Spearman correlation to determine if there is a relationship between these variables.

Hypothesis 6

Schools with a student population coming from low-income families that exceeds 2018-2019 Illinois statewide average exhibit lower levels of TPT and higher levels of principal turnover. In the 2018-2019 school year, the total percentage of students coming from low-income families enrolled in Illinois public schools was 48.8% (Illinois State Board of Education, 2019a).

Lenhoff and Pogodzinski (2018) found a strong correlation between the percentage of economically disadvantaged students in all schools within their sample and chronic absenteeism. As discussed in Chapter Two, Clotfelter et al. (2006) found that the schools in North Carolina with the highest poverty rates had higher rates of principal turnover in all but one year from 1996-2004. Similarly, Loeb et. al. (2010) found that MDCPS from 2003-2009 experienced a 40% turnover rate in schools with the highest levels of poverty.

On the Illinois school report card, low income is defined as “Students in families receiving public aid, living in substitute care, or eligible to receive free or reduced price lunches” (Illinois State Board of Education, n.d.). Based upon the findings of Loeb et al. (2010) and

Clotfelter et al. (2006), the researcher hypothesized that schools within the sample where more than 48.8% of students come from low income families would have a higher rate of principal turnover, and thus a lower level of TPT. A Spearman's correlation was used utilized to test this hypothesis.

Research Design: Data Sources and Variables

The variables from this study derived from two secondary sources: The 5E and the ISBE Report Card Data Library. The independent variable in this study, TPT, is one of four measures that comprises the Effective Leadership "Essential" of the 5E. Cumulative TPT measure scores from six years of 5E administration in Illinois (2013-2014 through the 2018-2019 school years) were collected by the researcher to utilize in this study. The dependent variable in this study, principal turnover, is a metric available on each Illinois public school's state report card. The publicly available 2018-2019 Illinois School Report Card data set was obtained from the ISBE Report Card Data Library.

Independent Variable: Teacher-Principal Trust

TPT is defined as when "teachers and principals share a high level of mutual trust and respect" (Illinois 5Essentials Survey, 2017). The ISBE granted the researcher access to TPT data detailing four years of 5E administration (2014-2015 to 2017-2018), which were provided to the researcher by UChicago Impact. The 2013-2014 TPT dataset was later acquired from the ISBE after a Freedom of Information Act (FOIA) request was made by the researcher. The 2018-2019 TPT dataset was also part of this request, but was not provided to the researcher, as the data was not available at the time of the request. Later, the researcher made another FOIA request for the

2018-2019 TPT, at which time 5E datasets dating back to 2013-2014 were made available to the public on the ISBE’s website.

It should be noted that the 5E datasets referenced in Table 3.2 include schools with a 5E teacher response rate of 50% or higher, the threshold required for 5E data to be published on the 5E website and a school’s annual report card. From the 2013-2014 through 2018-2019, the average number of schools detailed in the ISBE’s annually reported 5E statewide data was 2,746 schools.

Table 3. 2 *Number of Schools included in the 5E Illinois Dataset by Year*

Year of 5E Administration	Number of Schools included in the 5E Statewide Dataset
2018-2019	3,212
2017-2018	2,313
2016-2017	3,219
2015-2016	2,150
2014-2015	3,712
2013-2014	1,870

As previously discussed in Chapter Two, an individual school’s score for the TPT measure (or any other 5E measure) and cumulative “essential” score (ex. Effective Leadership) are represented on a 0-99 scale with each 20-point increment reflecting a different level of implementation (shown in Table 3.3).

Table 3. 3 *5Essential Score Ranges and Accompanying Ratings*

Measure/Essential Score	Level of Implementation
81-99	Most
61-80	More
41-60	Average
21-40	Less
0-20	Least

Measure scores are based on participants' responses to survey questions for a given measure. In the case of TPT, the measure is calculated based upon teacher responses to eight statements pertaining to their perceptions of their school's principal (Table 2.1). Response options are presented on an ordinal Likert scale (strongly disagree, disagree, agree, and strongly agree). Cumulative measure scores do not represent a percentage or the mean of all participant responses, but rather is representative of a Rasch analysis calculation.

The Rasch analysis is a psychometric technique that can be used for purposes such as improving the precision of survey tools, evaluating measurement instrument quality, and contextualizing the meaning of a test or survey score (Boone, 2016). In the case of the 5E, UChicago Impact utilizes the Rasch analysis technique to produce the most accurate measure and essential scores, namely by identifying "a 'standard error' for the responses of each survey participant, and calculates the reliability of a participant's responses. The recognition of the standard error aids researchers in estimating how accurate raw scores are" ("How Scores Are Calculated," n.d.). Individual participant scores have a larger standard error if 1) data is missing (which occur if a participant skips survey questions), 2) the respondent submits answers with erratic patterns, or 3) the respondent selects item answers that are deemed challenging to support. After assigning the standard error to each participant's responses, surveys carrying smaller standard errors are assigned a heavier weight than surveys with larger standard errors, creating

the adjusted score that becomes a measure score for each of the 22 measures that comprise the 5E.

Dependent Variable: Principal Turnover

Principal turnover is defined on annually published Illinois school report cards as “the number of different principals at the same school over the past six years” (Illinois State Board of Education, n.d.). Principal turnover first appeared as a metric on the Illinois school report cards during the 2013-2014 school year. In the context of this study, the timeframe which principal turnover is relevant is from the 2013-2014 school year through the 2018-2019 school year, matching the years that TPT was examined.

Research Sample

Six hundred and ninety-six schools represent the research sample for this study. These schools were selected based upon purposive sampling methods, and each school met the criteria of administering the 5E annually, from 2013-2014 through 2018-2019. While Illinois public schools were only required to administer the 5E biannually from the 2012-2013 school year through the 2017-2018 school year (with the annual administration to fulfill ESSA requirements starting the 2018-2019 school year), the 696 schools in this sample administered the 5E on an annual basis. It is the view of the researcher that by identifying Illinois PK-12 public schools which administered the 5E on an annual basis, the additional data points provided a more accurate response to this study’s purpose: to determine if teacher perceptions of TPT correlate to the level of principal turnover from the 2013-2014 school year through the 2018-2019 school year. The total sample population in this study is 696 schools representing 4,176-paired

observations. Table 3.4 details the unique subpopulation relevant to each of the researcher's hypotheses.

Table 3. 4 *Sample Size by Hypothesis*

Hypothesis	Sample Size (in paired observations)
Illinois public schools (PK-12) with higher levels of teacher-principal trust will exhibit lower principal turnover.	59 and over (n)=1521 58 and under (n)= 2655
PK-12 public schools in CPS have lower levels of teacher-principal trust and higher levels of principal turnover as compared to non-CPS PK-12 public schools.	CPS (n)=2,532 non-CPS (n)=1,644
Schools with minority-majority student populations have lower levels of teacher-principal trust and higher levels of principal turnover.	African American (n)= 1,293 Hispanic (n)=1,337 No-minority majority (n)=1,232
Schools with an English learner (EL) population above the 2018-2019 Illinois statewide average have lower levels of teacher-principal trust and higher levels of principal turnover	Above the state average (n)=1,961 At or below the state average (n)=2,215
Schools whose percentage of students with IEPs exceed the 2018-2019 Illinois statewide average have lower levels of teacher-principal trust and higher levels of principal turnover.	Above the state average (n)=1,691 At or below the state average (n)=2,485
Schools with a student population coming from low-income families that exceeds 2018-2019 Illinois statewide average have lower levels of teacher-principal trust and higher levels of principal turnover.	Above the state average (n)=3,021 At or below the state average (n)=1,155

Data Collection

The 5E datasets provided to the researcher by the UChicago Impact and available on the ISBE's website included an annual average of 2,746 PK-12 public schools across Illinois (Illinois State Board of Education, 2019b). The 2014-2015 to 2017-2018 dataset provided to the researcher from UChicago Impact includes the following information: school name, address, 5E report ID, CPS or non-CPS designation and TPT rating for the 2013-2014 to 2017-2018 school years. The 2013-2014 TPT dataset provided by the ISBE after the researcher's FOIA request included the same information, but also included student and teacher response rates. The 2018-2019 dataset obtained from the ISBE's website included all of the information detailed above as well as scores for all 5E measures.

The population for this study includes all schools which administered the 5E annually from 2013-2014 to 2018-2019. Six hundred and ninety-six schools (representing 4,176-paired observations) ultimately met this criterion. Schools were excluded from the researcher's study for several reasons, including: 1) if the 5E was not administered annually from 2013-2014 to 2018-2019 2) if the TPT score was not available for one or more years in the range relevant to this study 3) if data relevant to any of the researcher's hypotheses was not available from the 2018-2019 Illinois school report card data set 4) if a change to a school's name or address from one year to another in 5E annual datasets made it problematic to verify that the same school was being referenced.

On October 30, 2019, the 2018-2019 Illinois school report card data set became available to the public. This dataset included all metrics on each Illinois public school's annual report card. The metrics relevant to this study, as stated previously, include principal turnover, as well as the percentage of students enrolled in a given school that fall within one of the following categories:

African Americans/Black, Hispanic/Latino, EL learners, possessing an IEP, or coming from a low-income household. The TPT datasets and Illinois report card dataset were merged into a single dataset representative of the 696 schools that comprise the sample population

Data Analysis

To address each hypothesis, the researcher's dataset was examined for potential correlations between TPT and principal turnover using IBM's SPSS statistical analysis software. This dataset included TPT measure scores for 696 schools from the 2013-2014 to 2018-2019 school years, or 4,176 paired observations. Individual school designation of being in CPS or not in CPS as well as demographic information relevant to hypotheses three through six (percentage of Black/African American student enrollment, percentage of Hispanic/Latino student enrollment, percentage of English Learner student enrollment, percentage of students possessing IEPs) were included in the dataset. All demographic data was reflective of the 2018-2019 school year.

A Spearman's rank-order correlation statistical test was used to determine the potential relationship between TPT and principal turnover. The Spearman's correlation was chosen as the most appropriate statistical test for the six hypotheses in this study as two critical assumptions for each hypothesis were met: First, the independent variable, TPT, is measured at the ratio level (scores are measured from 0-99) and the dependent variable, principal turnover, is measured at the interval level (all schools in the sample have had as few as one principal over the last six years and as many as nine principals in the same time period). Second, TPT and principal turnover represent paired observations. Each school's TPT scores and number of principals over the last six years will produce a data point ("Spearman's correlation in SPSS Statistics, Laerd

Statistics Premium,” n.d.). As there were 696 schools in the sample population, each represented in six school years, 4,176 paired observations exist. With the statewide mean of principal turnover over the last six years being 2.0, the paired observation (TPT and number of principals in the last six years) for each school will create a data point to determine the extent to which a monotonic relationship exists (as the researcher hypothesizes, TPT increases, principal turnover decreases). Lastly, a bivariate procedure was conducted to produce two outputs: a correlation coefficient (r_s) determined the strength of association between TPT and principal turnover as well as the statistical significance ($p < .05$) between the two variables.

The researcher chose to run an initial and secondary analysis to assess the validity of each hypothesis. The initial analysis included all paired observations relevant to each hypothesis. The secondary analysis included all paired observations that fell within the interquartile range of a boxplot (within the 25th to 75th percentile of all results). The secondary analysis decreased the standard deviation average for each TPT measure for each hypothesis from 18.07 to 7.45. In both the initial and secondary analysis, results were displayed on a scatterplot to highlight the extent to which the two variables are correlated.

Measurement Validity and Ethical Considerations

The results of this study represent a sample of Illinois PK-12 public schools as opposed to all public schools across the state. The 5E data provided to the researcher and published for public viewing were available only if schools exceeded the 50% response rate for both teachers and students, hence not all public schools across Illinois were represented in this study.

Additionally, many schools were excluded from the researcher’s sample despite meeting the ISBE’s criteria for bi-annual administration of the 5E through the 2017-2018 school year.

The frequency that a school administered the 5E, whether annually or bi-annually, was not the focus of this study. Instead, it was the researcher's intention to develop a purposive sample population comprised of schools who administered the 5E annually from 2013-2014 through 2018-2019 to align to the principal turnover metric depicted on Illinois report cards. It should not be assumed that TPT results (or any other 5E measure score) are more valid when administered annually rather than bi-annually. While the utilization of a Rasch analysis aims to produce the most accurate representation of school stakeholder (teacher, student, parent) perception for a given 5E measure, it cannot be stated that the frequency with which a stakeholder takes the 5E produces results that are more accurate.

A few schools within the sample population changed the name of their school (namely due to changes in charter school operators) at some point within the period that this study aims to examine. As long as the structure of these schools remained the same (grade levels, address, 5E Report ID) and met the researcher's purposive criteria, schools with name changes remained in the sample population.

The 696 schools that made up this study's sample were not broken down by level of education (elementary, middle school or junior high, and high school). School districts throughout the state organize individual schools develop grade-level structures best suited for the needs of their students and community. These local decisions create variance throughout the state (for example, within CPS, one elementary school is comprised of grades PK-3 while another is K-6, but both are categorized in the Illinois Report Card dataset as 'Elementary'). This type of variance is common throughout Illinois. As a result, this study did not examine the relationship between TPT and principal turnover by level of schooling.

At the time that this study was conducted, the 5E website had statewide reports dating back to the 2016-2017 school year, however only the two most recent years of results were available to the public. The researcher's creation of a dataset detailing six years of individual school TPT results and 2018-2019 Illinois school report card data pertinent to this study (principal turnover, percentage of students who are African Americans, Hispanic, EL learners, possessing an IEP, or coming from a low-income household) resulted in the creation of a unique dataset that may lead readers to develop perceptions about schools within the sample. Hence, school names were replaced with numerical assignments and addresses and school report IDs will be removed, protecting the identity of all schools within the sample.

Summary

Within this study, the goal of the researcher was to determine the extent to which a relationship exists between relational trust (as represented by TPT) and principal turnover. This chapter provided context about the researcher question and six related hypotheses, the influence that the work of Boyce and Bowers (2016), Lenhoff and Pogodzinski (2018), and other studies had upon the researcher's hypotheses and how findings from this study builds upon the current body of research pertaining to school climate and principal turnover. Details about the research sources and related variables were discussed in order to explain the relevance to the following research question: What, if any, is the relationship between relational trust and principal turnover?

Additionally, clarification was offered regarding the purposive process of identifying schools that comprise the sample population, as well as the process of collecting and analyzing

data. The researcher also offered relevant information pertaining to measurement validity and ethical considerations.

Chapter IV

FINDINGS AND ANALYSIS OF DATA

Introduction

The aim of this study was to examine the relationship between relational trust and principal turnover. Relational trust is characterized by the social exchanges between stakeholder groups, and emphasizes the need for each group to fulfill its responsibilities in order to develop trust and work towards outcomes that benefit students (Bryk & Schneider, 2003). A principal's ability to build and sustain trusting relationships with teachers is critical to institutional improvement and success, however due to the growing complexity of the principalship; principal turnover has noticeably increased in American education over the last 20 years.

In this study, relational trust was represented by each schools' TPT measure scores from six annually administered 5E Surveys (2013-2014 to 2018-2019). Principal turnover was represented by the number of principals that served in a school from 2013-2014 to 2018-2019. In total, 696 schools represented 4,176-paired observations (each paired observation represented an administration of the 5E from one of the six years of 5E administration for each school in the sample population) that comprised the sample population of this study. This chapter details the descriptive statistics relevant to each of the researcher's six hypotheses and the findings of the initial and secondary analysis for each hypothesis.

Research Question and Hypotheses

The researcher's primary aim in this study was to shed light on the following question: What, if any, is the relationship between relational trust and principal turnover? An initial and secondary analysis using a Spearman correlation coefficient test was conducted to examine each

of the researcher's six hypotheses. These tests were run to understand the strength and direction of the relationship between the independent variable of relational trust (TPT) and dependent variable (principal turnover) across different school-level demographics represented in each hypothesis. The six hypotheses postulated by the researcher were:

1. Illinois public schools (PK-12) with levels of TPT exceeding the Illinois statewide average exhibit lower principal turnover.
2. PK-12 public schools in CPS exhibit lower levels of TPT and higher levels of principal turnover as compared to non-CPS PK-12 public schools.
3. Schools with minority-majority student populations that exceed the Illinois statewide average exhibit lower levels TPT and higher levels of principal turnover.
4. Schools with an English learner (EL) population above the Illinois statewide average exhibit lower levels of TPT and higher levels of principal turnover.
5. Schools whose percentage of students with IEPs exceed the Illinois statewide average exhibit lower levels of TPT and higher levels of principal turnover.
6. Schools with a student population coming from low-income families that exceeds the Illinois statewide average exhibit lower levels of TPT and higher levels of principal turnover.

Descriptive Statistics

For context regarding the scope of each of the researcher's six hypotheses, descriptive statistics are provided to assist the reader in understanding the number of paired observations (n), the range of data (as defined by the minimum and maximum TPT measure scores), the mean, and

standard deviation. Descriptive statistics for both the dependent variable (principal turnover) and independent variable (TPT) are provided.

Hypothesis 1: Descriptive Statistics

The researcher postulated that Illinois public schools (PK-12) with levels of TPT above the statewide average exhibit lower principal turnover. With the 2018-2019 statewide average for TPT being 58 (on a scale of 1-99), Table 4.1 illustrates the number of paired observations that exceeded the TPT state average of 58 and Table 4.2 illustrates the number of paired observations that were at or below the state average. Four thousand, one hundred and seventy-six total paired observations are represented.

Table 4. 1 *TPT Measure Scores Exceeding the Statewide Average, 2013-2014 to 2018-2019*

TPT Ratings of 59 and Over					
	N	Minimum	Maximum	Mean	Std. Deviation
Teacher-Principal Trust	1521	59	99	70.42	8.918
Principal Turnover within 6 Years	1521	1	6	1.90	.959
Valid N (listwise)	1521				

Table 4. 2 *TPT Measure Scores at or below the Statewide Average, 2013-2014 to 2018-2019*

TPT Ratings of 58 and Under					
	N	Minimum	Maximum	Mean	Std. Deviation
Teacher-Principal Trust	2655	1	58	39.10	13.883
Principal Turnover within 6 Years	2655	1	9	2.13	1.099
Valid N (listwise)	2655				

The researcher ran Spearman's correlations using the data from Tables 4.1 and 4.2 to address the study's research question. Monotonic relationships were present in the scatter plots depicting data from Tables 4.1 and 4.2 (as displayed in Figure 4.14 and Figure 4.16). However boxplots for

the data in Tables 4.1 and 4.2 (as displayed in Figure 4.1 and Figure 4.2) demonstrated significant variance towards the “whiskers”, or the areas where scores outside the middle 50% of all paired observations.

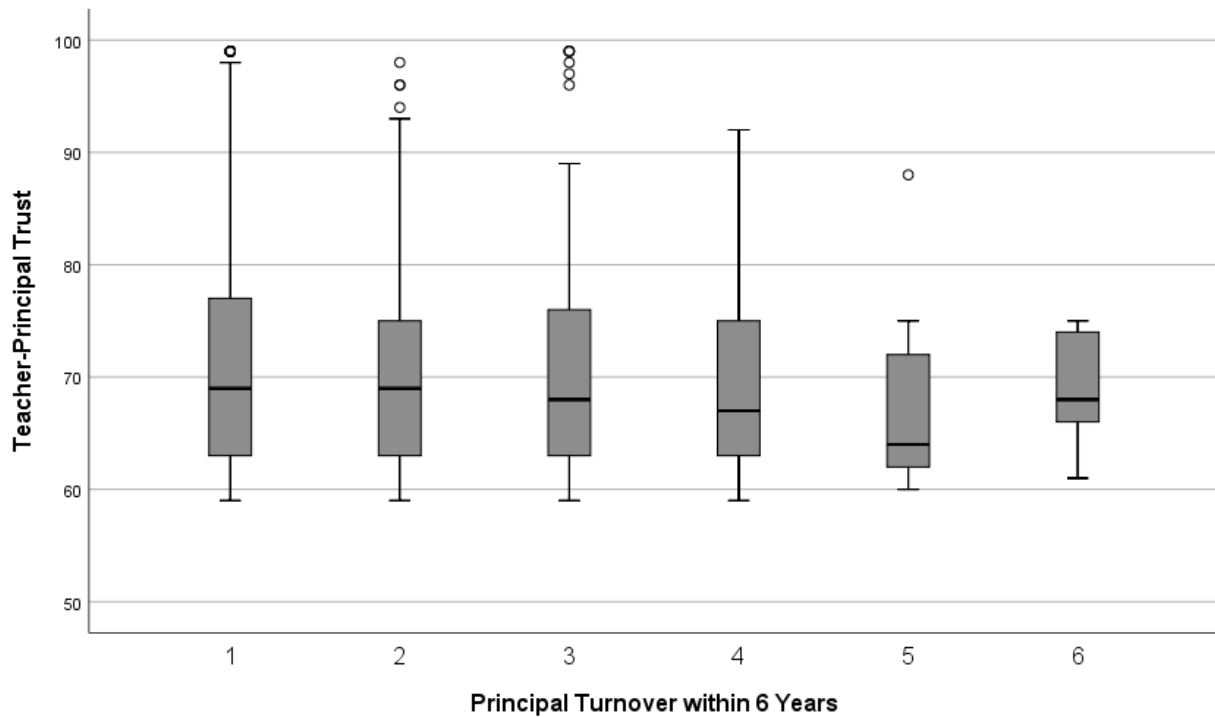


Figure 4. 1 Boxplot displaying TPT measure scores exceeding the statewide average. This boxplot demonstrates significant variance in the top 25% of TPT scores for schools with one to four principals in six years. The boxplot also depicts a decline in the median TPT measure score in school with more than four principals in six years.

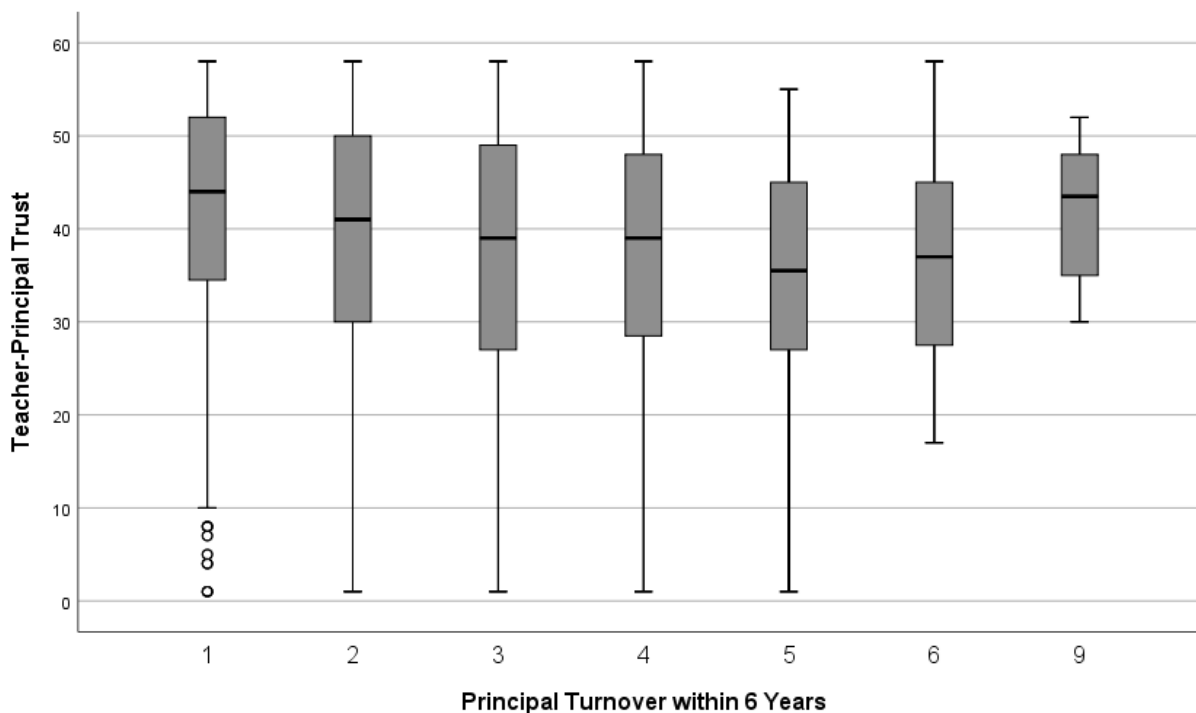


Figure 4. 2 Boxplot displaying TPT at or below the statewide average. This figure demonstrates significant variance in the bottom 25% of TPT scores for schools with one to five principals in six years. The boxplot also depicts a decline in the median TPT measure score in school with more than four principals in six years.

The findings from initial analyses from the data displayed in Tables 4.1 and 4.2 led the researcher to conduct a secondary analysis, also using a Spearman's correlation, for the data represented in Tables 4.3 and 4.4. The data from these tables include all paired observations from the inter-quartile range, or the 25th to 75th quartiles in Table 4.1 and 4.2 respectively. For paired observations which exceeded the statewide TPT average of 58, the inter-quartile range examined in the secondary analysis included TPT measure scores in the range of 63 (25th percentile) to 76 (75th percentile). For paired observations which were at or below the statewide TPT average of 58, the inter-quartile range examined in the secondary analysis included TPT measure scores in the range 30 (25th percentile) to 51 (75th percentile).

The secondary analysis took place with the goal of limiting the number of outlier TPT measure scores falling outside the inner quartile (middle 50%) of the sample population. The most

significant impact on the sample population was a decline in the number of paired observations, which decreased from 4,176 to 2,289.

Table 4. 3 *Secondary Analysis: TPT Measure Scores Exceeding the Statewide Average, 2013-2014 to 2018-2019*

TPT Ratings of 63-76					
	N	Minimum	Maximum	Mean	Std. Deviation
Teacher-Principal Trust	851	63	76	68.60	3.936
Principal Turnover within 6 Years	851	1	6	1.91	.979
Valid N (listwise)	851				

Table 4. 4 *Secondary Analysis: TPT Measure Scores at or below the Statewide Average, 2013-2014 to 2018-2019*

TPT Ratings of 30-51					
	N	Minimum	Maximum	Mean	Std. Deviation
Teacher-Principal Trust	1438	30	51	41.37	6.096
Principal Turnover within 6 Years	1438	1	9	2.13	1.139
Valid N (listwise)	1438				

Hypothesis 2: Descriptive Statistics

The researcher postulated that CPS (PK-12) exhibit lower levels of TPT and higher levels of principal turnover as compared to non-CPS (PK-12) Illinois public schools. Table 4.5 illustrates the number of paired observations for CPS and Table 4.6 illustrates the number of paired observations of schools not in CPS. The 4,176 total paired observations were represented.

Table 4. 5 *TPT Measure Scores and Principal Turnover Rates for CPS, 2013-2014 to 2018-2019*

CPS					
	N	Minimum	Maximum	Mean	Std. Deviation
Teacher-Principal Trust	2532	1	99	51.64	19.055
Principal Turnover within 6 Years	2532	1	9	2.11	1.147
Valid N (listwise)	2532				

Table 4. 6 *TPT Measure Scores and Principal Turnover Rates for Schools not in CPS, 2013-2014 to 2018-2019*

Non-CPS					
	N	Minimum	Maximum	Mean	Std. Deviation
Teacher-Principal Trust	1644	1	99	48.77	19.947
Principal Turnover within 6 Years	1644	1	6	1.95	.889
Valid N (listwise)	1644				

The researcher ran a Spearman's correlation using the data from Tables 4.5 and 4.6 to address the study's research question. Monotonic relationships were present in the scatter plots depicting data from Table 4.5 and 4.6 (as displayed in Figure 4.18 and Figure 4.20), boxplots for the data in Table 4.5 and 4.6 (as displayed in Figure 4.3 and Figure 4.4) demonstrated significant variance towards the "whiskers", or the areas where scores outside the middle 50% of all paired observations.

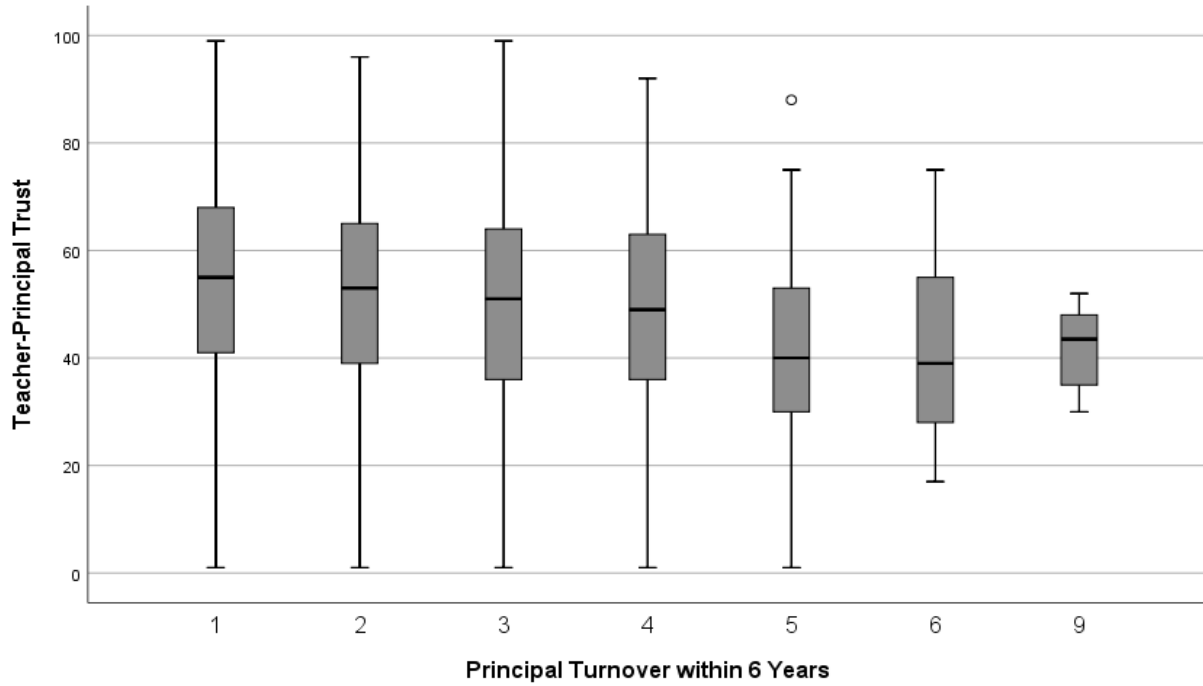


Figure 4. 3 Boxplot displaying TPT Measure Scores and Principal Turnover Rates for CPS. This figure demonstrates significant variance in the top and bottom 25% of TPT scores for schools with one to five principals in six years. The boxplot also depicts a decline in the median TPT measure score in schools having more than four principals in six years.

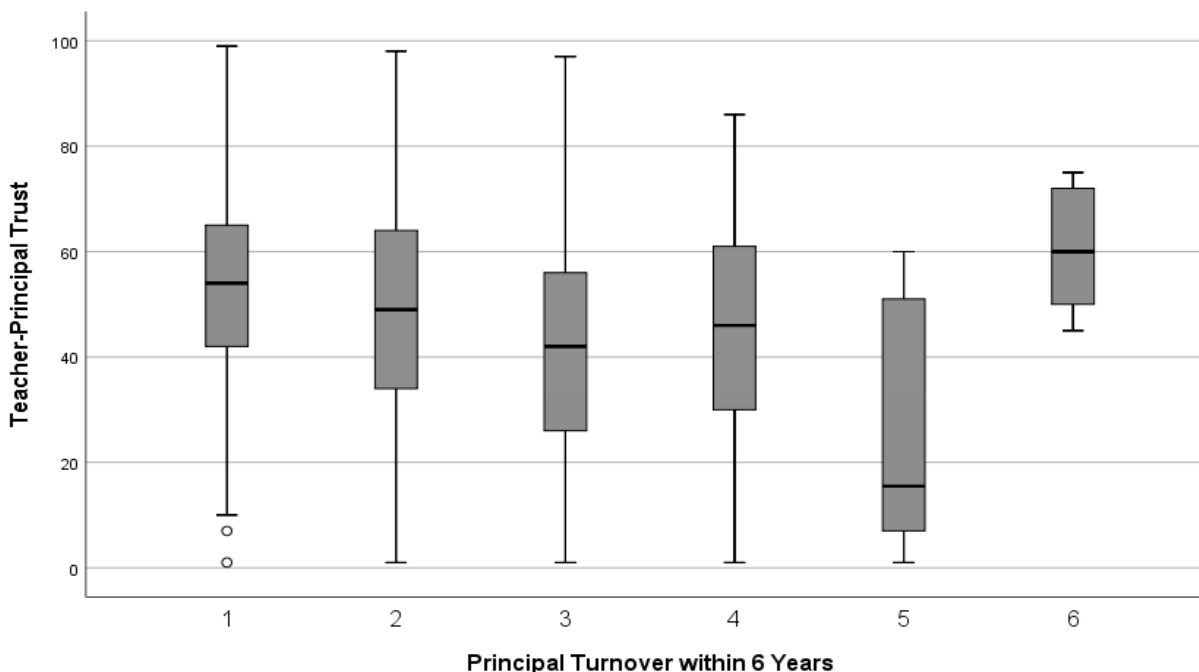


Figure 4. 4 Boxplot displaying TPT Measure Scores and Principal Turnover Rates for schools not in CPS. This figure demonstrates significant variance in the top and bottom 25% of TPT scores for schools with one to five principals in six years. The boxplot also depicts a significant decline in in the median TPT measure score between schools having more than four principals in six years.

The findings from initial analyses of the data displayed in Tables 4.5 and 4.6 led the researcher to conduct a secondary analysis, also with Spearman's correlations, for the data represented in Tables 4.7 and 4.8. The data in these tables include all paired observations from the inter-quartile range, or the 25th to 75th quartiles in Table 4.3 and 4.4 respectively. For paired observations representative of CPS, the inter-quartile range examined in the secondary analysis included TPT measure scores in the range of 39 (25th percentile) to 65 (75th percentile). For paired observations representative of non-CPS schools, the inter-quartile range examined in the secondary analysis included TPT measure scores in the range 35 (25th percentile) to 63 (75th percentile).

The secondary analysis took place with the goal of limiting the number of outlier TPT measure scores falling outside the inner quartile (middle 50%) of the sample population. The most

significant impact on the sample population was decline in the number of paired observations, which decreased from 4,176 to 2,141.

Table 4. 7 *Secondary Analysis: TPT Measure Scores and Principal Turnover Rates for CPS, 2013-2014 to 2018-2019*

CPS (39-65)					
	N	Minimum	Maximum	Mean	Std. Deviation
Teacher-Principal Trust	1286	39	65	52.34	7.827
Principal Turnover within 6 Years	1286	1	9	2.08	1.127
Valid N (listwise)	1286				

Table 4. 8 *Secondary Analysis: TPT Measure Scores and Principal Turnover Rates for Schools not in CPS, 2013-2014 to 2018-2019*

Non-CPS (35-63)					
	N	Minimum	Maximum	Mean	Std. Deviation
Teacher-Principal Trust	855	35	63	49.74	8.173
Principal Turnover within 6 Years	855	1	6	1.89	.884
Valid N (listwise)	855				

Hypothesis 3: Descriptive Statistics

The researcher postulated that Illinois public schools (PK-12) with minority-majority student populations would exhibit lower levels of TPT and higher levels of principal turnover as compared to Illinois public schools (PK-12) that do not have minority-majority student populations. Minority-majority student populations were represented by student bodies where one or more racial and/or ethnic group(s) made up more than 50% of total enrollment.

Table 4.9 illustrates the number of paired observations with a majority African American/Black student population, Table 4.10 illustrates the number of paired observations with a Hispanic/Latino majority student population, and Table 4.11 illustrates the number of

paired observations of schools whose combined African American and Hispanic population is less than 50%. 3,862-paired observations are represented.

Table 4. 9 *TPT Measure Scores and Principal Turnover Rates for Schools with African American/Black Majority Student Populations, 2013-2014 to 2018-2019*

African American/Black Majority Student Population					
	N	Minimum	Maximum	Mean	Std. Deviation
Teacher-Principal Trust	1293	1	98	48.76	18.745
Principal Turnover within 6 Years	1293	1	5	2.08	.970
Valid N (listwise)	1293				

Table 4. 10 *TPT Measure Scores and Principal Turnover Rates for Schools with Hispanic/Latino Majority Student Populations, 2013-2014 to 2018-2019*

Hispanic/Latino Majority Student Population					
	N	Minimum	Maximum	Mean	Std. Deviation
Teacher-Principal Trust	1337	1	99	49.04	20.137
Principal Turnover within 6 Years	1337	1	6	2.09	1.109
Valid N (listwise)	1337				

Table 4. 11 *TPT Measure Scores and Principal Turnover Rates for Schools with no Minority-Majority Student Population, 2013-2014 to 2018-2019*

No Minority-Majority Student Population					
	N	Minimum	Maximum	Mean	Std. Deviation
Teacher-Principal Trust	1232	1	99	54.35	18.246
Principal Turnover within 6 Years	1232	1	9	1.93	1.038
Valid N (listwise)	1232				

The researcher ran a Spearman's correlation using the data from Tables 4.9-4.11 to address the study's research question. Monotonic relationships were present in the scatter plots depicting data from Tables 4.9-4.11 (as displayed in Figure 4.22, Figure 4.24, and Figure 4.26). However boxplots for the data in Tables 4.9-4.11 (as displayed in Figure 4.5, Figure 4.6, and Figure 4.7)

demonstrated significant variance towards the “whiskers”, or the areas where scores outside the middle 50% of all paired observations.

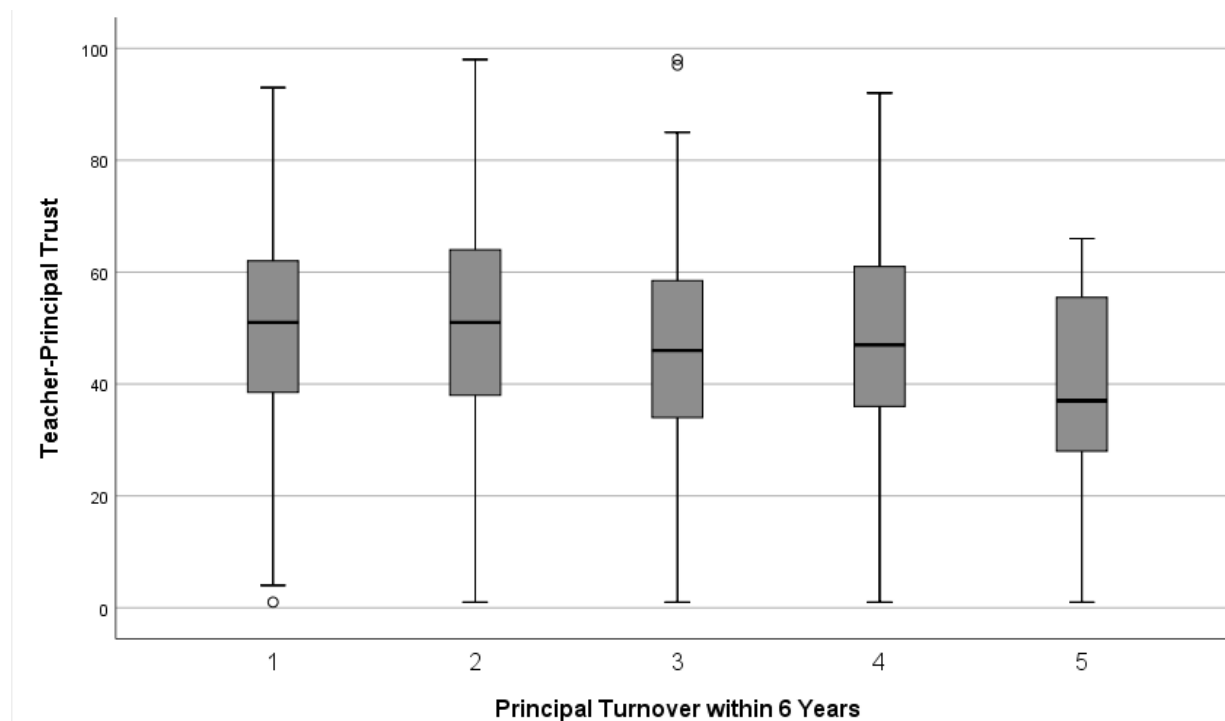


Figure 4. 5 Boxplots displaying paired observations with African American/Black majority student populations. The boxplot demonstrates significant variance in the top and bottom 25% of TPT scores for schools with one to four principals in six years. The boxplot also depicts a significant decline in the median TPT measure score for schools with more than four principals in six years.

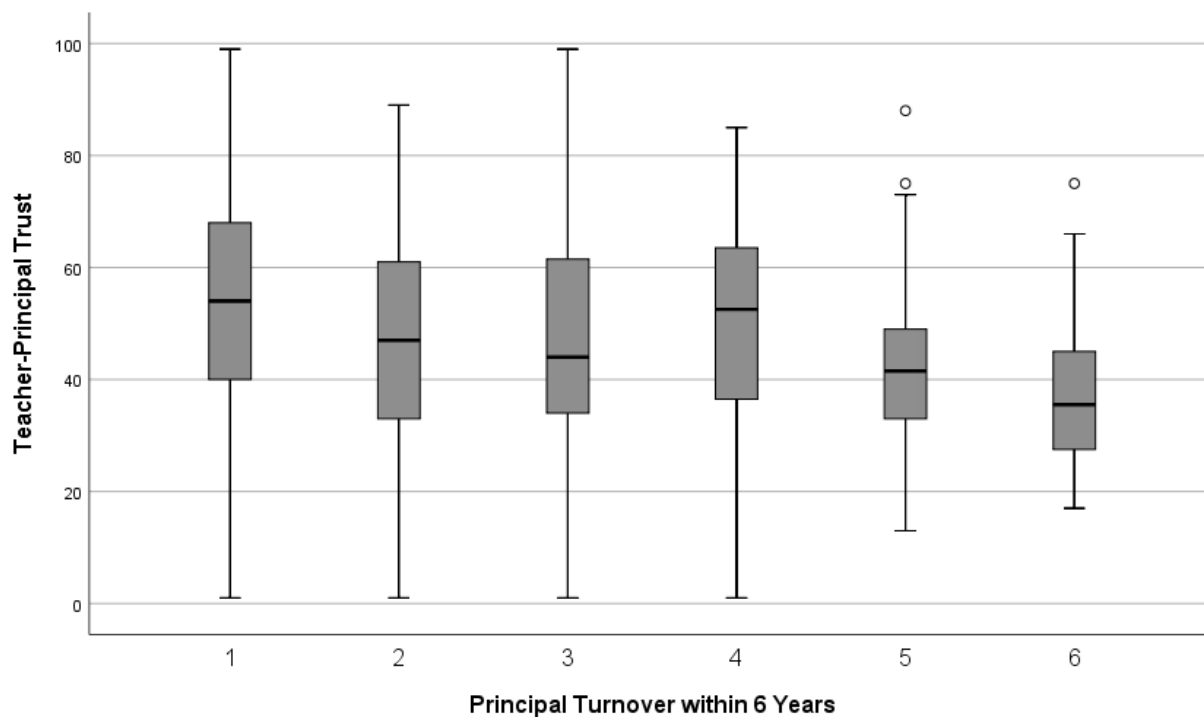


Figure 4. 6 Boxplots Displaying Paired Observations with Hispanic/Latino Majority Student Populations. This boxplot demonstrates significant variance in the top and bottom 25% of TPT scores for schools with one to four principals in six years. The boxplot also depicts a significant decline in the median TPT measure score for schools with more than four principals in six years.

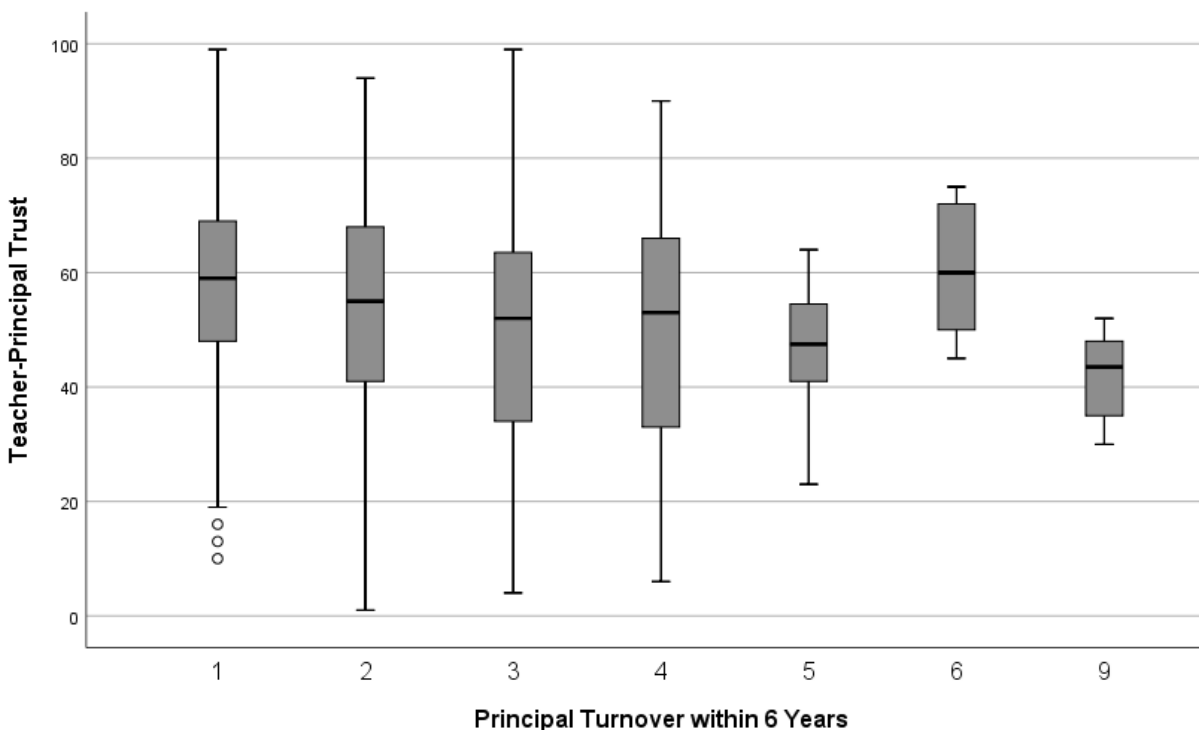


Figure 4.7 Boxplots Displaying Paired Observations with no Minority-Majority Student Population. This figure demonstrates significant variance in TPT scores for schools with one to four principals in six years. The boxplot also depicts a significant decline in the median TPT measure score between schools having four principals versus five principals in the six-year timeframe.

The findings from initial analyses from the data displayed in Tables 4.9-4.11 led the researcher to conduct a secondary analysis, also using a Spearman's correlation, for the data represented. The data in these tables include all paired observations from the inter-quartile range, or the 25th to 75th quartiles in Tables 4.9-4.11 respectively. For paired observations representing African American/Black majority student populations, the inter-quartile range examined in the secondary analysis included TPT measure scores in the range of 37 (25th percentile) to 62 (75th percentile). For paired observations representing Hispanic/Latino majority student populations, the inter-quartile range examined in the secondary analysis included TPT measure scores in the range 35 (25th percentile) to 64 (75th percentile). For paired observations representing student populations

with no minority majority, the inter-quartile range examined in the secondary analysis included TPT measure scores in the range 42 (25th percentile) to 68 (75th percentile).

The secondary analysis took place with the goal of limiting the number of outlier TPT measure scores falling outside the inner quartile (middle 50%) of the sample population. The most significant impact on the sample population was a decline in the number of paired observations, which decreased from 3,862 to 1,986.

Table 4. 12 *Secondary Analysis: TPT Measure Scores and Principal Turnover Rates for Schools with African American/Black Majority Student Populations, 2013-2014 to 2018-2019*

TPT Ratings of 37-62					
	N	Minimum	Maximum	Mean	Std. Deviation
Teacher-Principal Trust	652	37	62	49.72	7.392
Principal Turnover within 6 Years	652	1	5	2.04	.973
Valid N (listwise)	652				

Table 4. 13 *Secondary Analysis: TPT Measure Scores and Principal Turnover Rates for Schools with Hispanic/Latino Majority Student Populations, 2013-2014 to 2018-2019*

TPT Ratings of 35-64					
	N	Minimum	Maximum	Mean	Std. Deviation
Teacher-Principal Trust	689	35	64	49.30	8.580
Principal Turnover within 6 Years	689	1	6	2.10	1.102
Valid N (listwise)	689				

Table 4. 14 *Secondary Analysis: TPT Measure Scores and Principal Turnover Rates for Schools with no Minority Majority Student Population, 2013-2014 to 2018-2019*

TPT Ratings of 42-68					
	N	Minimum	Maximum	Mean	Std. Deviation
Teacher-Principal Trust	645	42	68	55.72	7.414
Principal Turnover within 6 Years	645	1	9	1.90	1.069
Valid N (listwise)	645				

Hypothesis 4: Descriptive Statistics

The researcher postulated that Illinois public schools (PK-12) with an English learner (EL) student population above the statewide average would exhibit lower levels of TPT and higher levels of principal turnover than Illinois public schools (PK-12) with EL student populations at or below the statewide average. The 2018-2019 statewide average for the percentage of students receiving EL services in an Illinois public school (PK-12) was 12.1%. Table 4.15 illustrates the number of paired observations representing schools that exceed the statewide average EL student population and Table 4.16 illustrates the number of paired observations representing schools at or below the statewide average EL student population. Four thousand, one hundred and seventy-six observations were represented.

Table 4. 15 *TPT Measure Scores and Principal Turnover Rates for Schools with EL Student Populations exceeding the Statewide Average, 2013-2014 to 2018-2019*

EL Student Populations Exceeding the Statewide Average					
	N	Minimum	Maximum	Mean	Std. Deviation
Teacher-Principal Trust	1961	1	99	49.59	20.006
Principal Turnover within 6 Years	1961	1	6	2.01	1.031
Valid N (listwise)	1961				

Table 4. 16 *TPT Measure Scores and Principal Turnover Rates for Schools with EL Student Populations at or below the Statewide Average, 2013-2014 to 2018-2019*

EL Student Populations at or below the Statewide Average					
	N	Minimum	Maximum	Mean	Std. Deviation
Teacher-Principal Trust	2215	1	99	51.32	18.930
Principal Turnover within 6 Years	2215	1	9	2.08	1.077
Valid N (listwise)	2215				

The researcher ran a Spearman's correlation using the data from Tables 4.15 and 4.16 to address the study's research question. Monotonic relationships were present in the scatter plots

depicting data from Tables 4.15 and 4.16 (as displayed in Figure 4.28 and Figure 4.30). Boxplots for the data in Tables 4.15 and 4.16 (as displayed in Figure 4.8 and Figure 4.9) demonstrated significant variance towards the “whiskers”, or the areas where scores outside the middle 50% of all paired observations.

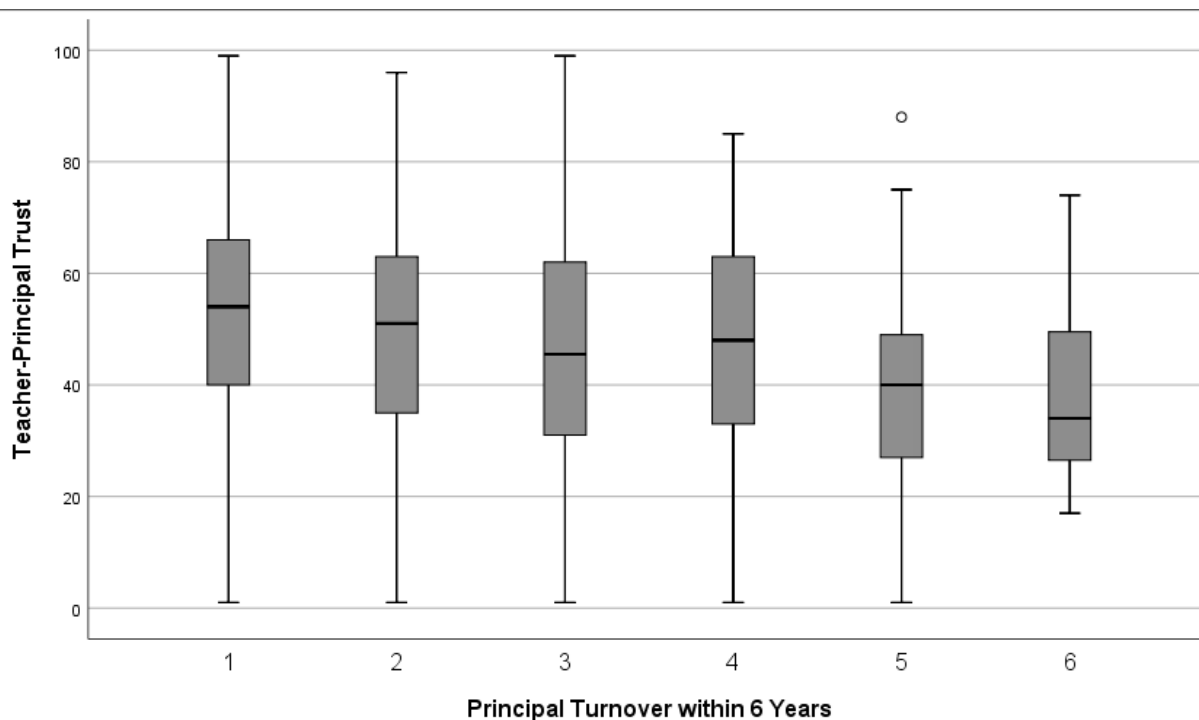


Figure 4. 8 Boxplot displaying EL student populations exceeding the statewide average. This boxplot demonstrates significant variance at the top and bottom 25% of TPT scores for schools with one to four principals in six years. The boxplot also depicts a significant decline in the median TPT measure score in schools with more than four principals in six years.

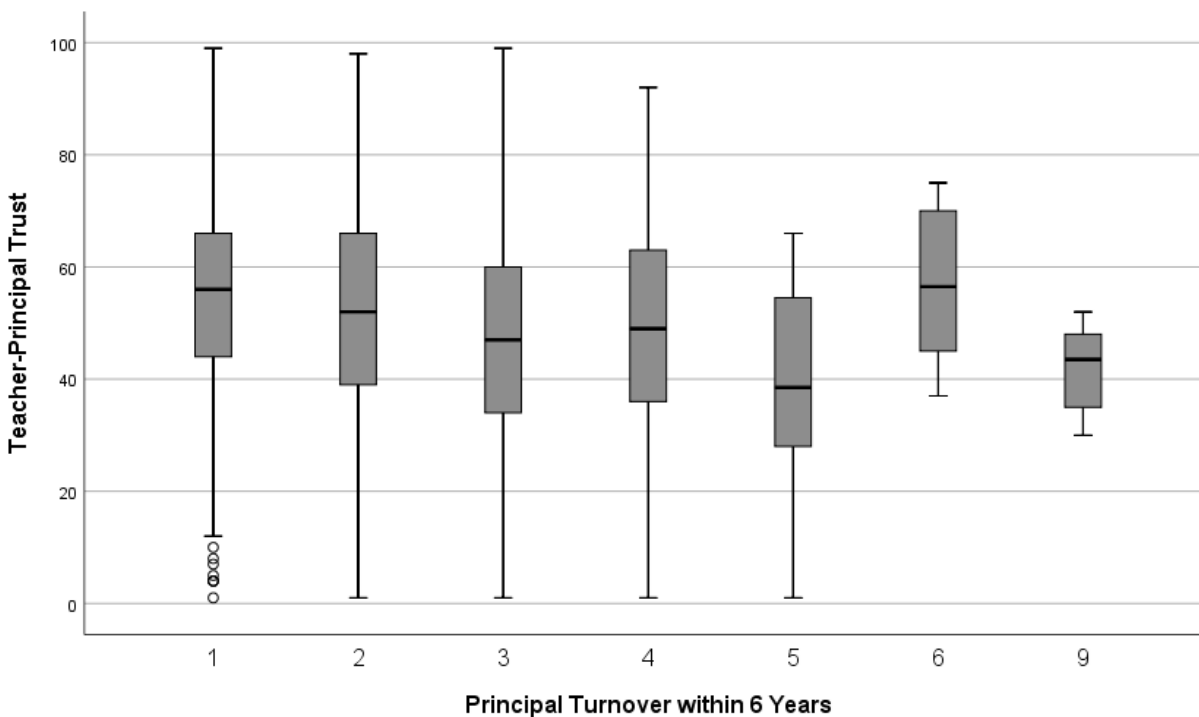


Figure 4.9 Boxplot displaying EL student populations at or below the statewide average. This boxplot demonstrates significant variance in the top and bottom 25% of TPT scores for schools with one to four principals in six years. The boxplot also depicts a significant decline in the median TPT measure score in schools having five principals in six years.

The findings from initial analyses from the data displayed in Tables 4.15 and 4.16 led the researcher to conduct a secondary analysis, also using a Spearman's correlation, for the data represented in Tables 4.15 and 4.16. The data from these tables include all paired observations from the inter-quartile range, or the 25th to 75th quartiles in Tables 4.15 and 4.16 respectively. For paired observations which exceeded the statewide EL student population average of 12.1%, the inter-quartile range examined in the secondary analysis included TPT measure scores in the range of 35 (25th percentile) to 64 (75th percentile). For paired observations which were at or below the statewide EL student population average of 12.1%, the inter-quartile range examined in the secondary analysis included TPT measure scores in the range 39 (25th percentile) to 65 (75th percentile).

The secondary analysis took place with the goal of limiting the number of outlier TPT measure scores falling outside the inner quartile (middle 50%) of the sample population. The most

significant impact on the sample population was a decline in the number of paired observations, which decreased from 4,176 to 2,174.

Table 4. 17 *Secondary Analysis: TPT Measure Scores and Principal Turnover Rates for Schools with EL Student Populations Exceeding the Statewide Average, 2013-2014 to 2018-2019*

TPT Ratings of 35-64					
	N	Minimum	Maximum	Mean	Std. Deviation
Teacher-Principal Trust	1018	35	64	49.92	8.468
Principal Turnover within 6 Years	1018	1	6	1.97	1.005
Valid N (listwise)	1018				

Table 4. 18 *Secondary Analysis: TPT Measure Scores and Principal Turnover Rates for Schools with EL Student Populations at or below the Statewide Average, 2013-2014 to 2018-2019*

TPT Ratings of 39-65					
	N	Minimum	Maximum	Mean	Std. Deviation
Teacher-Principal Trust	1156	39	65	52.55	7.716
Principal Turnover within 6 Years	1156	1	9	2.04	1.086
Valid N (listwise)	1156				

Hypothesis 5: Descriptive Statistics

The researcher postulated that Illinois public schools (PK-12) whose population of students with IEPs exceeded the statewide average exhibit lower levels of TPT and higher levels of principal turnover as compared to Illinois public schools (PK-12) whose population of students with IEPs was at or below the statewide average. The 2018-2019 statewide average percentage (by school) of students with IEPs was 15.5%. Table 4.19 illustrates the number of paired observations representing schools whose population of students with IEPs exceeded the statewide average and Table 4.20 illustrated the number of paired observations representing

schools whose population of students with IEPs was at or below the statewide average. 4,176-paired observations were represented.

Table 4. 19 *TPT Measure Scores and Principal Turnover Rates for Schools whose Population of Students with IEPs Exceeds the Statewide Average, 2013-2014 to 2018-2019*

Percentage of Students with IEPs Exceeding the Statewide Average					
	N	Minimum	Maximum	Mean	Std. Deviation
Teacher-Principal Trust	1691	1	99	48.97	19.288
Principal Turnover within 6 Years	1691	1	6	2.09	1.066
Valid N (listwise)	1691				

Table 4. 20 *TPT Measure Scores and Principal Turnover Rates for Schools whose Population of Students with IEPs is at or below the Statewide Average, 2013-2014 to 2018-2019*

Percentage of Students with IEPs at or below the Statewide Average					
	N	Minimum	Maximum	Mean	Std. Deviation
Teacher-Principal Trust	2485	1	99	51.55	19.510
Principal Turnover within 6 Years	2485	1	9	2.02	1.049
Valid N (listwise)	2485				

The researcher ran Spearman's correlations using the data from Tables 4.19 and 4.20 to address the study's research question backed by empirical data. Monotonic relationships were present in the scatter plots depicting data from Tables 4.19 and 4.20 (as displayed in Figure 4.32 and Figure 4.34). Boxplots for the data in Tables 4.19 and 4.20 (as displayed in Figure 4.10 and Figure 4.11) demonstrated significant variance towards the "whiskers", or the areas where scores outside the middle 50% of all paired observations.

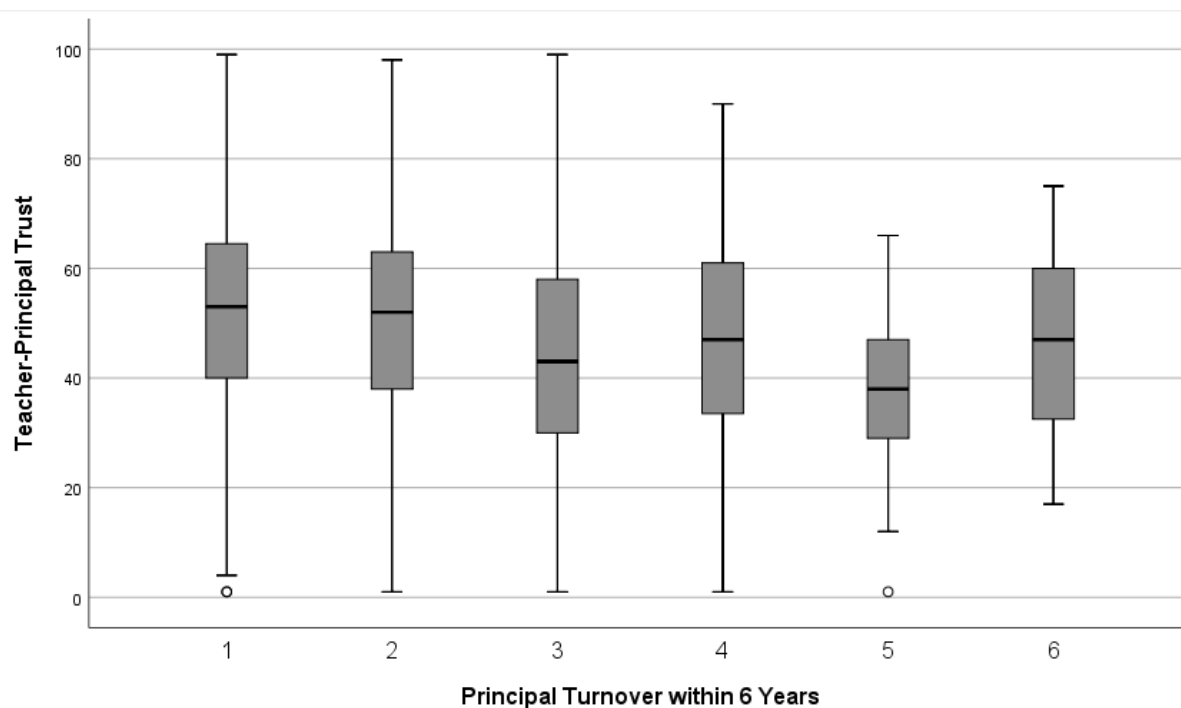


Figure 4. 10 Boxplot displaying schools whose population of students with IEPs exceeds the statewide average. This boxplot demonstrates significant variance in the top and bottom 25% of TPT scores for schools with one to four principals in six years. The boxplot also depicts a decline in the median TPT measure score outside the TPT measure score range of 40-60 for schools with five principals in the six-year timeframe.

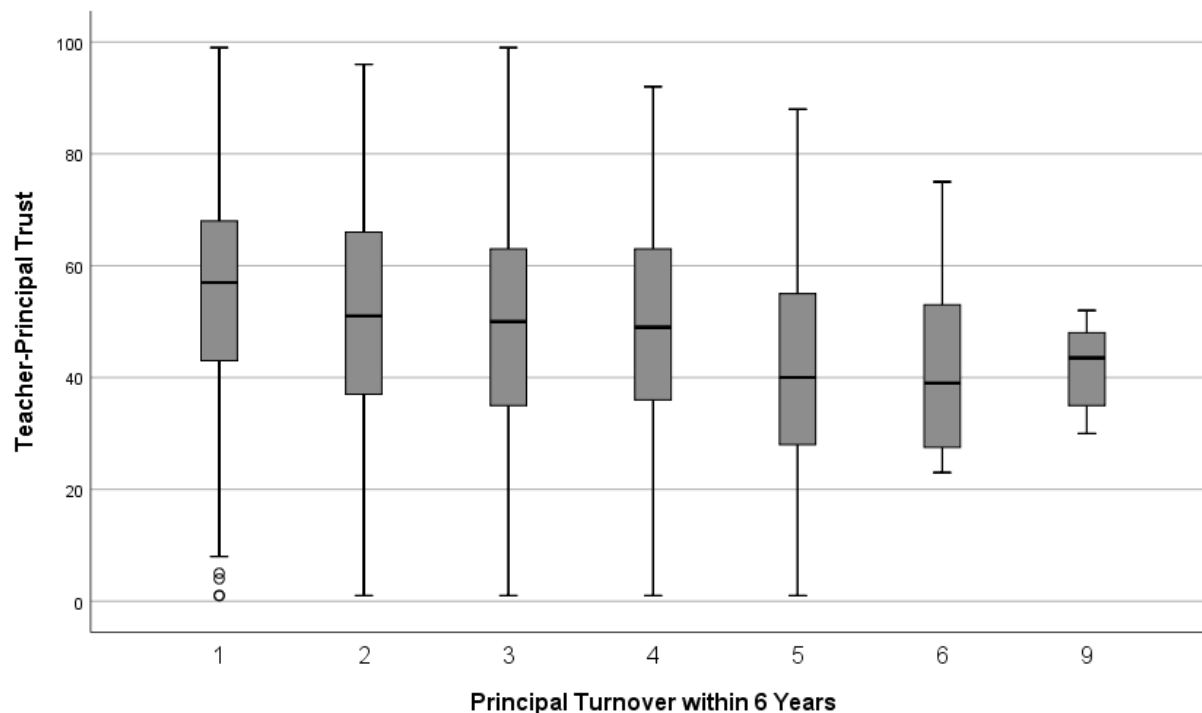


Figure 4. 11 Boxplot displaying schools whose population of students with IEPs was at or below the statewide average. This boxplot demonstrates significant variance in the top and bottom 25% of TPT scores for schools with one to five principals in six years. The boxplot also depicts that the lowest median TPT measure scores were in schools with six principals in six years.

The findings from initial analyses from the data displayed in Tables 4.19 and 4.20 led the researcher to conduct a secondary analysis, also a Spearman's correlation, for the data represented. The data from these tables include all paired observations from the inter-quartile range, or the 25th to 75th quartiles in Tables 4.19 and 4.20 respectively. For paired observations which exceeded the statewide IEP student population average of 15.5%, the inter-quartile range examined in the secondary analysis included TPT measure scores in the range of 36 (25th percentile) to 62 (75th percentile). For paired observations which were at or below the statewide IEP student population average of 15.5%, the inter-quartile range examined in the secondary analysis included TPT measure scores in the range 38 (25th percentile) to 66 (75th percentile).

The secondary analysis took place with the goal of limiting the number of outlier TPT measure scores falling outside the inner quartile (middle 50%) of the sample population. The most significant impact on the sample population was a decline in the number of paired observations, which decreased from 4,176 to 2,170.

Table 4. 21 *Secondary Analysis: TPT Measure Scores and Principal Turnover Rates for Schools with Population of Students with IEPs Exceeds the Statewide Average, 2013-2014 to 2018-2019*

TPT Ratings (36-62)					
	N	Minimum	Maximum	Mean	Std. Deviation
Teacher-Principal Trust	875	36	62	49.61	7.537
Principal Turnover within 6 Years	875	1	6	2.07	1.051
Valid N (listwise)	875				

Table 4. 22 *Secondary Analysis: TPT Measure Scores and Principal Turnover Rates for Schools with Population of Students with IEPs is at or below the Statewide Average, 2013-2014 to 2018-2019*

TPT Ratings (38-66)					
	N	Minimum	Maximum	Mean	Std. Deviation
Teacher-Principal Trust	1295	38	66	52.50	8.400
Principal Turnover within 6 Years	1295	1	9	1.99	1.064
Valid N (listwise)	1295				

Hypothesis 6: Descriptive Statistics

The researcher postulated that Illinois public schools (PK-12) whose low-income student population exceeded the Illinois statewide average would exhibit lower levels of TPT and higher levels of principal turnover than Illinois public schools (PK-12) whose low-income student population was at or below the statewide average. With the 2018-2019 statewide average percentage of students coming from low income families being 48.8%, Table 4.23 illustrates the number of paired observations representing schools that exceed the state average and Table 4.24

illustrates the number of paired observations representing schools at or below the state average.

Four thousand, one hundred and seventy-six observations were represented.

Table 4. 23 *TPT Measure Scores and Principal Turnover Rates for Schools with Low-Income Student Populations Exceeding the Statewide Average, 2013-2014 to 2018-2019*

Percentage of Students Coming from Low Income Families Exceeding the State Average					
	N	Minimum	Maximum	Mean	Std. Deviation
Teacher-Principal Trust	3021	1	99	48.75	19.386
Principal Turnover within 6 Years	3021	1	6	2.08	1.044
Valid N (listwise)	3021				

Table 4. 24 *TPT Measure Scores and Principal Turnover Rates for Schools with Low-Income Student Populations at or below the Statewide Average, 2013-2014 to 2018-2019*

Percentage of Students Coming from Low Income Families at or below the State Average					
	N	Minimum	Maximum	Mean	Std. Deviation
Teacher-Principal Trust	1155	1	99	55.11	18.900
Principal Turnover within 6 Years	1155	1	9	1.96	1.084
Valid N (listwise)	1155				

The researcher ran a Spearman's correlation using the data from Tables 4.23 and 4.24 to address the study's research question backed by empirical data. Monotonic relationships were present in the scatter plots depicting data from Tables 4.23 and 4.24 (as displayed in Figure 4.36 and Figure 4.38). Boxplots for the data in Tables 4.23 and 4.24 (as displayed in Figure 4.12 and Figure 4.13) demonstrated significant variance towards the "whiskers", or the areas where scores outside the middle 50% of all paired observations.

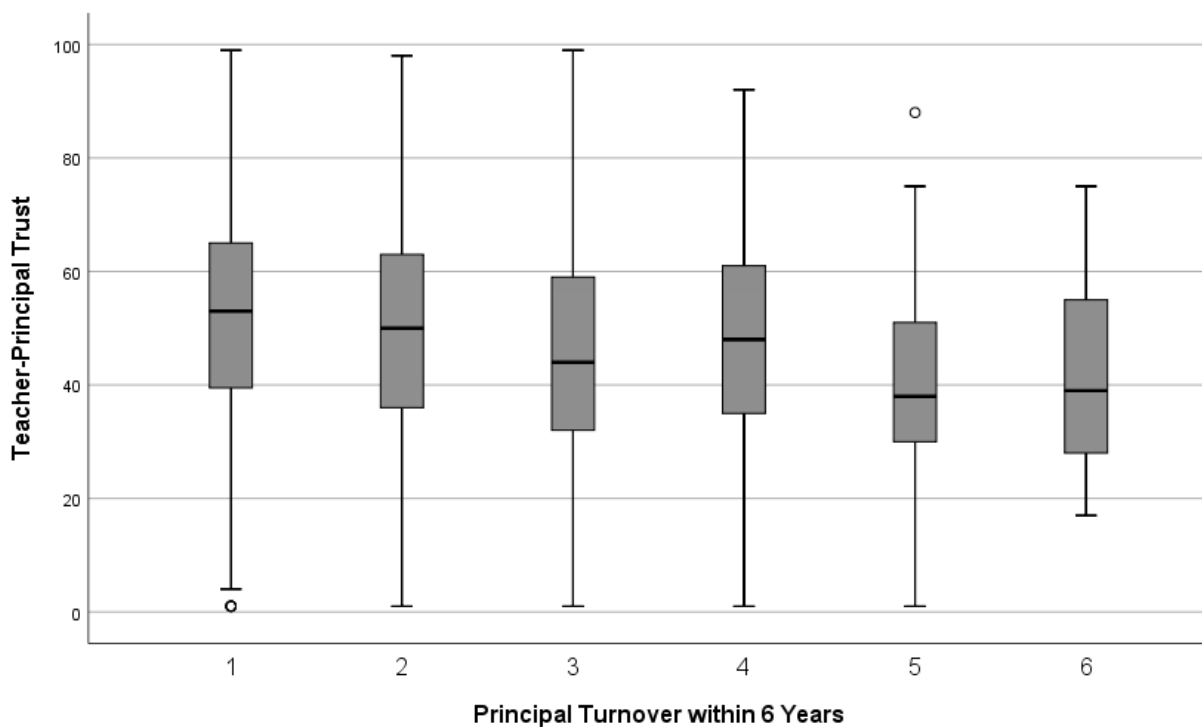


Figure 4. 12 Boxplot displaying schools with low-income student populations exceeding the statewide average. This boxplot demonstrates significant variance in the top and bottom 25% of scores for schools with one to four principals in six years. The boxplot also depicts a significant decline in the median TPT measure score between schools having four principals versus five principals in the six-year timeframe.

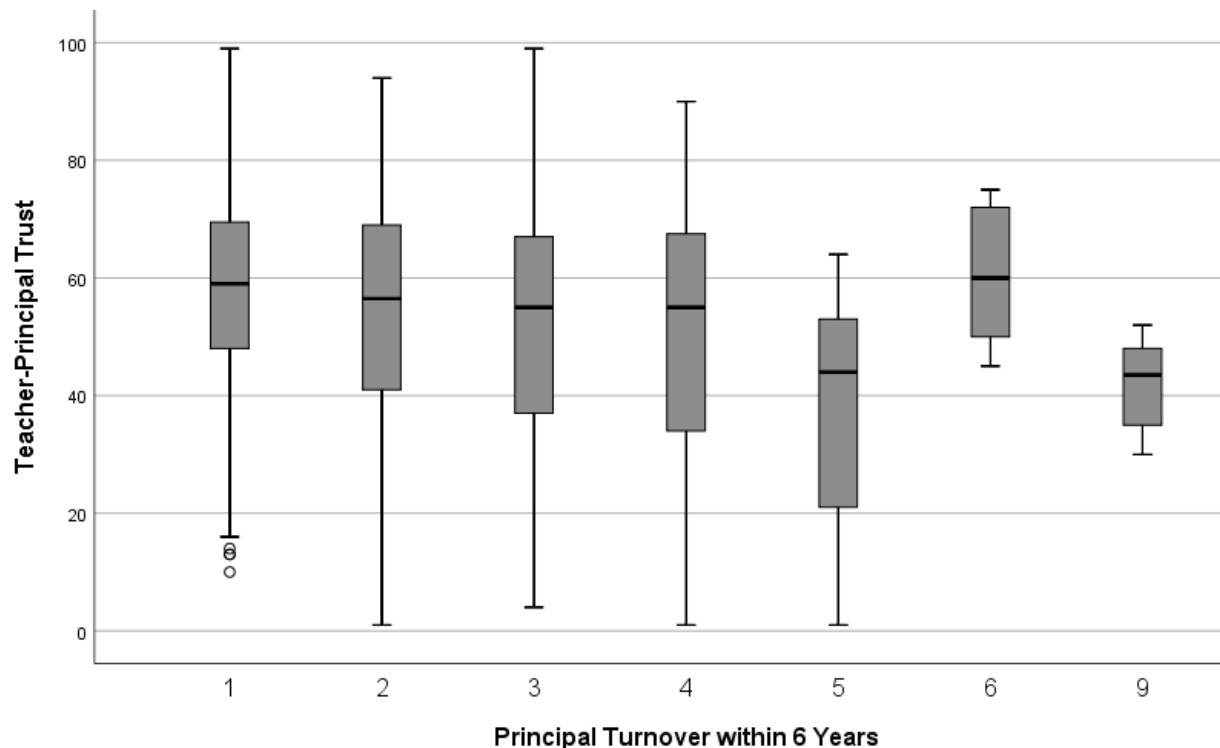


Figure 4.13 Boxplot displaying schools with low-income student populations at or below the statewide average. This boxplot demonstrates significant variance in the top and bottom 25% of TPT scores for schools with one to four principals in six years. The boxplot also depicts a decline in the median TPT measure score between schools having four principals versus five principals in the six-year timeframe.

The findings from initial analyses from the data displayed in Tables 4.23 and 4.24 led the researcher to conduct a secondary analysis, also using a Spearman's correlation, for the data represented in Tables 4.23 and 4.24. The data from these tables include all paired observations from the inter-quartile range, or the 25th to 75th quartiles in Tables 4.23 and 4.24 respectively. For paired observations of schools with low-income student populations exceeding the statewide average of 48.8%, the inter-quartile range examined in the secondary analysis included TPT measure scores in the range of 36 (25th percentile) to 63 (75th percentile). For paired observations of schools with low-income student populations at or below the statewide average

of 48.8%, the inter-quartile range examined in the secondary analysis included TPT measure scores in the range 43 (25th percentile) to 69 (75th percentile).

The secondary analysis took place with the goal of limiting the number of outlier TPT measure scores falling outside the inner quartile (middle 50%) of the sample population. The most significant impact on the sample population was a decline in the number of paired observations, which decreased from 4,176 to 2,171.

Table 4. 25 *Secondary Analysis: TPT Measure Scores and Principal Turnover Rates for Schools with Low-Income Student Population Exceeding the Statewide Average, 2013-2014 to 2018-2019*

TPT Ratings (36-63)					
	N	Minimum	Maximum	Mean	Std. Deviation
Teacher-Principal Trust	1570	36	63	49.56	8.006
Principal Turnover within 6 Years	1570	1	6	2.07	1.028
Valid N (listwise)	1570				

Table 4. 26 *Secondary Analysis: TPT Measure Scores and Principal Turnover Rates for Schools with Low-Income Student Populations at or below the Statewide Average, 2013-2014 to 2018-2019*

TPT Ratings (43-69)					
	N	Minimum	Maximum	Mean	Std. Deviation
Teacher-Principal Trust	601	43	69	56.99	7.379
Principal Turnover within 6 Years	601	1	9	1.92	1.105
Valid N (listwise)	601				

Hypothesis Summary of Findings

The Spearman's rank-order correlation was used in the initial and secondary analysis for each hypothesis to determine monotonicity of the dependent (principal turnover) and independent (TPT) variables. Monotonicity reflects the idea that as the value of one variable increases, the value of the other variable either increase or decreases in response. In the context of this study, the scatterplots shown in later sections demonstrate that as principal turnover rates increase, TPT declines.

The affirmation of monotonicity for each analysis, upon visual inspection, led the researcher to conduct a bivariate correlation. This process led to the outputs needed to determine the correlation coefficient (r_s), which determines the relationship between the two variables and statistical significance (p -value) for each hypothesis. This information allowed the researcher to determine if the null or alternative hypothesis should be accepted. An alpha level of less than .05 would result in a statistically significant Spearman rank-order correlation.

Hypothesis 1

The researcher hypothesized that Illinois public schools (PK-12) with TPT measure scores above the statewide average (58) would exhibit lower principal turnover than Illinois public schools (PK-12) with TPT measure scores at or below the statewide average.

TPT Measure Scores above the Statewide Average

A Spearman's rank-order correlation was run in order to determine the strength and relationship between TPT ratings and principal turnover. 1,521-paired observations represented schools whose TPT ratings exceeded the statewide average in the 2018-2019 administration of the 5E. Preliminary analysis showed the relationship between the dependent and independent variable to be monotonic, as assessed by visual inspection of a scatterplot (Figure 4.14), which demonstrated decreasing TPT measure scores as principal turnover rates rose.

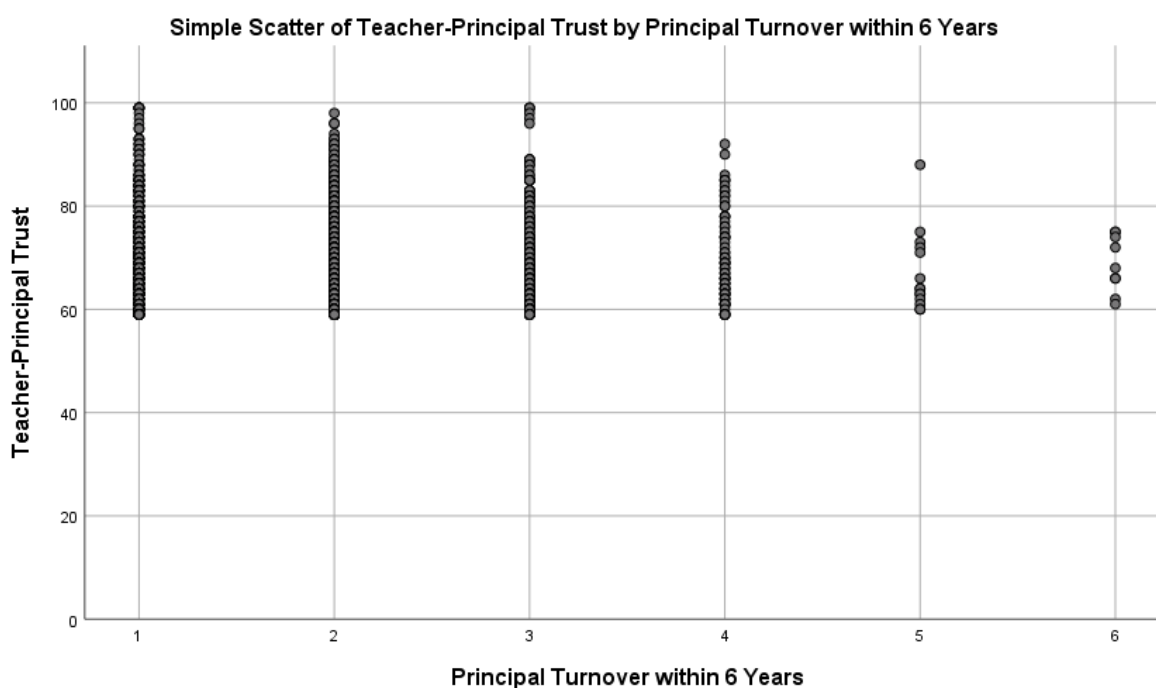


Figure 4. 14 Scatterplot displaying the analysis of TPT measure scores and principal turnover for Illinois schools exceeding the TPT measure score state average of 58. The scatterplot displays a decline in frequency as the number of principals over six years increase and TPT scores in the 80-99 range.

Table 4.27 provides the correlation coefficient (r_s), statistical significance (p -value) of the correlation coefficient, and number of paired observations (n) that exceeded the TPT 2018-2019 statewide average of 58. The researcher's claim that schools with TPT measure scores

exceeding the statewide average would result in lower levels of principal turnover failed to reject the null hypothesis, as the relationship between TPT measure scores and principal turnover was not statistically significant ($r_s = -.036, p = .161$).

Table 4. 27 *Correlation and Statistical Significance: TPT Measure Scores and Principal Turnover Rates for Schools Exceeding the Statewide Average, 2013-2014 to 2018-2019*

		Teacher-Principal Trust	Principal Turnover within 6 Years
Teacher-Principal Trust	Correlation Coefficient	1.000	-.036
	Sig. (2-tailed)	.	.161
	N	1521	1521
Principal Turnover within 6 Years	Correlation Coefficient	-.036	1.000
	Sig. (2-tailed)	.161	.
	N	1521	1521

After this initial analysis, the researcher conducted a secondary analysis of paired observations exceeding the 2018-2019 statewide TPT measure scores. This secondary analysis differed from the initial analysis in that the sample was comprised of the middle 50% of the TPT measure scores represented in the initial analysis. The decision to conduct this secondary analysis was because the range of scores representing the top 25% of the TPT measure scores for the sample population demonstrated variance far exceeding that of the inter-quartile range, specifically in schools with one to four principals of the six-year time span of the study.

Similar to the initial analysis, a Spearman's rank-order correlation was run to determine the strength and relationship between TPT ratings and principal turnover. 851-paired observations represented schools with TPT ratings exceeding the statewide average in the 2018-2019 administration of the 5E, but whose measure score fell in the range of 63-76 (representing the middle 50% of scores from the initial analysis). Preliminary analysis showed the relationship

between the dependent and independent variable to be monotonic, as assessed by visual inspection of a scatterplot (Figure 4.15), which demonstrated decreasing TPT measure scores as principal turnover rates rose.

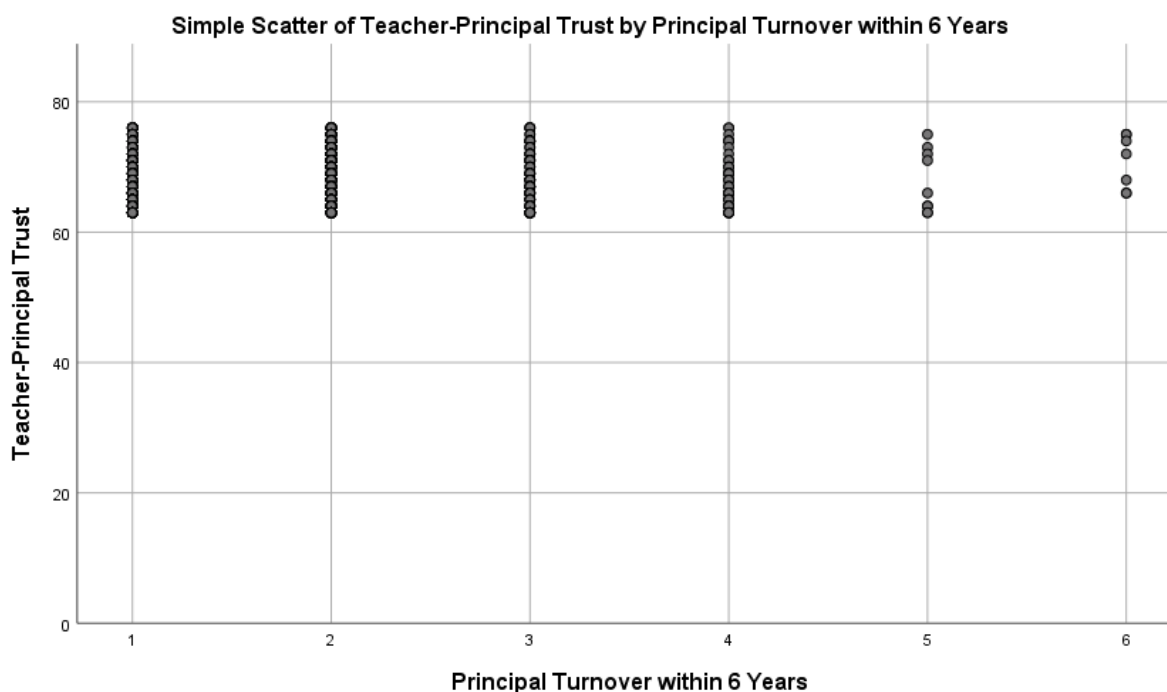


Figure 4. 15 Scatterplot displaying the analysis of TPT measure scores and principal turnover for Illinois schools falling in the 25th to 75th quartile (as represented by TPT scores ranging from 63-76). While the monotonicity between the two variables is gradual, note the decreased frequency of TPT measure scores in the range of 60-80 for schools with five and six principals in six years.

Table 4.28 provides the correlation coefficient (r_s), statistical significance (p -value) of the correlation coefficient, and number of paired observations (n) that fall within the range of 63-76 (representing the 25th to 75th quartile of all paired observations exceeding the 2018-2019 state average of 58). This test demonstrated a positive correlation between TPT and principal turnover, but there was no statistically significant correlation between TPT and principal turnover for schools that exceed the statewide average ($r_s = .013$, $p = .703$).

Table 4. 28 *Correlation and Statistical Significance: TPT Measure Scores and Principal Turnover Rates for Schools exceeding the 2018-2019 IL Statewide Average (falling within the 25th to 75th quartile) 2013-2014 to 2018-2019*

		Teacher-Principal Trust	Principal Turnover within 6 Years
Teacher-Principal Trust	Correlation Coefficient	1.000	.013
	Sig. (2-tailed)	.	.703
	N	851	851
Principal Turnover within 6 Years	Correlation Coefficient	.013	1.000
	Sig. (2-tailed)	.703	.
	N	851	851

TPT Measure Scores at or below the Statewide Average

The initial and secondary analysis of schools' TPT measure scores exceeding the 2018-2019 Illinois statewide average found no statistically significant relationship. The researcher also examined the relationship between the two variables for schools that were at or below the statewide TPT measure score.

A Spearman's rank-order correlation was run in order to determine the strength and relationship between TPT ratings and principal turnover. 2,655-paired observations represented schools whose TPT ratings was at or below the statewide average in the 2018-2019 administration of the 5E. Preliminary analysis showed the relationship between the dependent and independent variable to be monotonic, as assessed by visual inspection of a scatterplot (Figure 4.16), which demonstrated decreasing TPT measure scores as principal turnover rates rose.

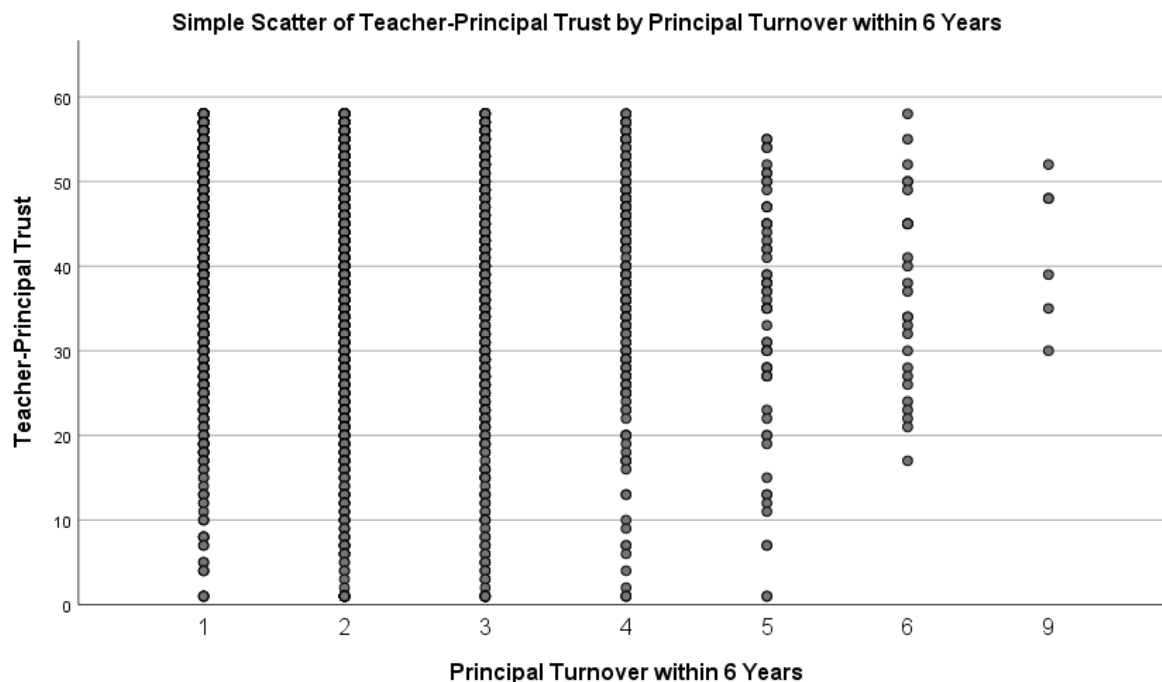


Figure 4. 16 Scatterplot displaying the analysis of TPT measure scores and principal turnover for schools whose TPT measure score was at or below the statewide average of 58. While the monotonicity between the two variables is gradual, note the decreased frequency of TPT measure scores above 50 for schools with more than five principals in six years.

Table 4.29 provides the correlation coefficient (r_s), statistical significance (p -value) of the correlation coefficient, and number of paired observations (n) for schools at or below the TPT 2018-2019 statewide average of 58. In this case, there was a statistically significant relationship between TPT measure scores at or below the state average and principal turnover ($r_s = -.143$, $p = .000$).

Table 4. 29 *Correlation and Statistical Significance: TPT Measure Scores and Principal Turnover Rates for Schools at or below the 2018-2019 IL Statewide Average 2013-2014 to 2018-2019*

		Teacher-Principal Trust	Principal Turnover within 6 Years
Teacher-Principal Trust	Correlation Coefficient	1.000	-.143**
	Sig. (2-tailed)	.	.000
	N	2655	2655
Principal Turnover within 6 Years	Correlation Coefficient	-.143**	1.000
	Sig. (2-tailed)	.000	.
	N	2655	2655

** . Correlation is significant at the 0.01 level (2-tailed).

Consistent with the initial and secondary analysis of schools exceeding the 2018-2019 statewide TPT measure score, the researcher conducted a secondary analysis (following the same criteria) for schools at or below the statewide TPT measure score. Unique to this secondary analysis was that the range of scores representing the bottom 25% of the TPT measure scores for the sample population demonstrated variance far exceeding that of the inter-quartile range, specifically in schools with one to five principals of the six-year time span that the study represents.

A Spearman's rank-order correlation was run in order to determine the strength and relationship between TPT ratings and principal turnover. 1,438-paired observations represented schools whose TPT ratings at or below the statewide average in the 2018-2019 administration of the 5E, but whose measure score fell in the range of 30-51 (representing the middle 50% of scores from the initial analysis). Preliminary analysis showed the relationship between the dependent and independent variable to be gradually monotonic, as assessed by visual inspection

of a scatterplot (Figure 18), which demonstrated decreasing TPT measure scores as principal turnover rates rose.

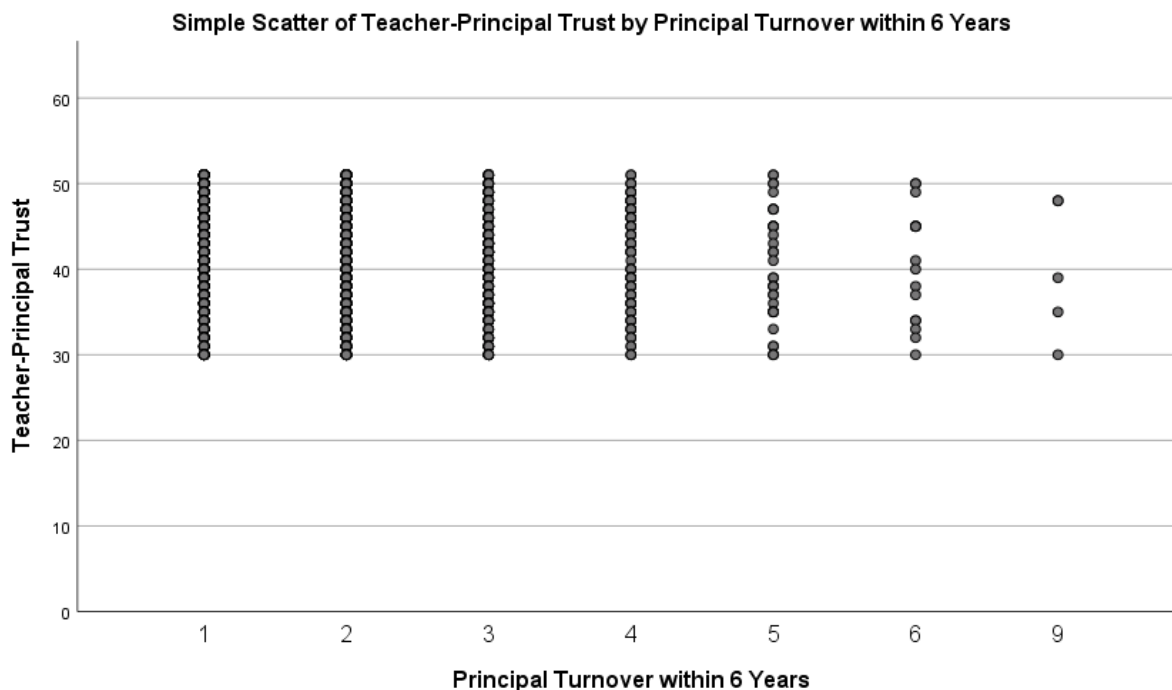


Figure 4. 17 Scatterplot displaying the analysis of TPT measure scores and principal turnover for schools whose TPT measure was in the 25th to 75th quartile (as represented by TPT scores ranging from 30-51). While the monotonicity between the two variables is gradual, note the decreased frequency of TPT measure scores above 40 for schools with more than five principals in six years.

Table 4.30 provides the correlation coefficient (r_s), statistical significance (p -value) of the correlation coefficient, and number of paired observations (n) that fall within the range of 30-51 (representing the 25th to 75th quartile of all paired observations exceeding the 2018-2019 state average of 58). Consistent with the initial analysis, there is a statistically significant relationship between TPT measure scores at or below the state average and principal turnover ($r_s = -.80$, $p = .002$).

Table 4. 30 *Correlation and Statistical Significance: TPT Measure Scores and Principal Turnover Rates for schools at or below the 2018-2019 IL Statewide Average (within the 25th to 75th quartile) 2013-2014 to 2018-2019*

		Teacher-Principal Trust	Principal Turnover within 6 Years
Teacher-Principal Trust	Correlation Coefficient	1.000	-.080**
	Sig. (2-tailed)	.	.002
	N	1438	1438
Principal Turnover within 6 Years	Correlation Coefficient	-.080**	1.000
	Sig. (2-tailed)	.002	.
	N	1438	1438

** . Correlation is significant at the 0.01 level (2-tailed).

Hypothesis 1 Findings

The relationship between TPT measure scores exceeding the statewide average and principal turnover was not statistically significant: initial analysis ($p=.161$), secondary analysis ($p=.703$). Therefore, the researcher cannot reject the null hypothesis. It must be noted that in the initial and secondary analysis of paired observations representing TPT measure scores at or below the statewide average and principal turnover, a statistically significant relationship exists: ($p=.000$); secondary ($p=.002$). Additionally, the results of the initial analysis demonstrate that all schools within the sample can expect a decrease in TPT as principal turnover increases, with the most notable decline occurring in schools with more than four principals in six years.

Hypothesis 2

The researcher hypothesized that schools (PK-12) in CPS have lower levels of TPT and higher levels of principal turnover as compared to Illinois public schools (PK-12) not in CPS.

CPS

A Spearman's rank-order correlation was run in order to determine the strength and relationship between TPT ratings and principal turnover. 2,532-paired observations represented CPS (PK-12) TPT and principal turnover rates from 2013-2014 to 2018-2019. Preliminary analysis showed the relationship between the dependent and independent variable to be monotonic, as assessed by visual inspection of a scatterplot (Figure 4.18), which demonstrated decreasing TPT measure scores as principal turnover rates rose.

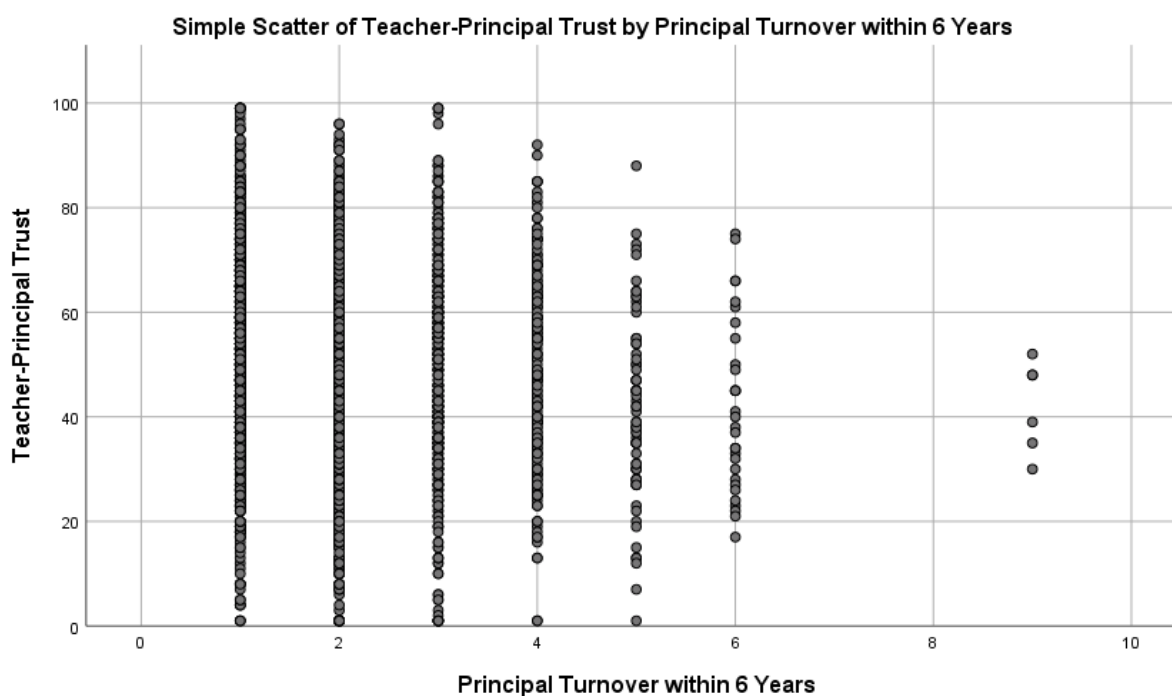


Figure 4. 18 Scatterplot displaying the analysis of TPT measure scores and principal turnover for CPS, 2013-2014 to 2018-2019. The monotonicity between the two variables can be seen through the sharp decline in TPT measure scores as the number of principals increase over six years.

Table 4.31 provides the correlation coefficient (r_s), statistical significance (p -value) of the correlation coefficient, and number of paired observations (n) for CPS TPT measure scores and principal turnover rates from 2013-2014 to 2018-2019. There was a statistically significant,

strong negative correlation between TPT and principal turnover rates in CPS (PK-12) from the 2013-2014 to the 2018-2019 school year ($r_s = -.128, p = .000$).

Table 4. 31 *Correlation and Statistical Significance: CPS TPT Measure scores and Principal Turnover Rates, 2013-2014 to 2018-2019.*

		Teacher-Principal Trust	Principal Turnover within 6 Years
Teacher-Principal Trust	Correlation Coefficient	1.000	-.128**
	Sig. (2-tailed)	.	.000
	N	2532	2532
Principal Turnover within 6 Years	Correlation Coefficient	-.128**	1.000
	Sig. (2-tailed)	.000	.
	N	2532	2532

** . Correlation is significant at the 0.01 level (2-tailed).

Though the initial analysis of this hypothesis resulted in a statistically significant relationship between the independent and dependent variable, the researcher conducted a secondary analysis. The secondary analysis examined paired observations within CPS from 2013-2014 to 2018-2019 and was conducted to understand how the middle 50% of the TPT measure scores represented in the initial analysis would be affected under similar guidelines. This secondary analysis occurred as the range of scores representing the top and bottom 25% of the TPT measure scores for the sample population demonstrated significant variance far exceeding that of the inter-quartile range, specifically in schools with one to five principals of the six-year time span that the study represents.

Similar to the initial analysis, a Spearman's rank-order correlation was run to determine the strength and relationship between TPT ratings and principal turnover. 1,286-paired observations represented schools whose TPT ratings exceeded the statewide average in the 2018-2019 administration of the 5E, but whose measure score fell in the range of 39-65 (representing

the middle 50% of scores from the initial analysis). Preliminary analysis showed the relationship between the dependent and independent variable to be monotonic, as assessed by visual inspection of a scatterplot (Figure 4.19), which demonstrated decreasing TPT measure scores as principal turnover rates rose.

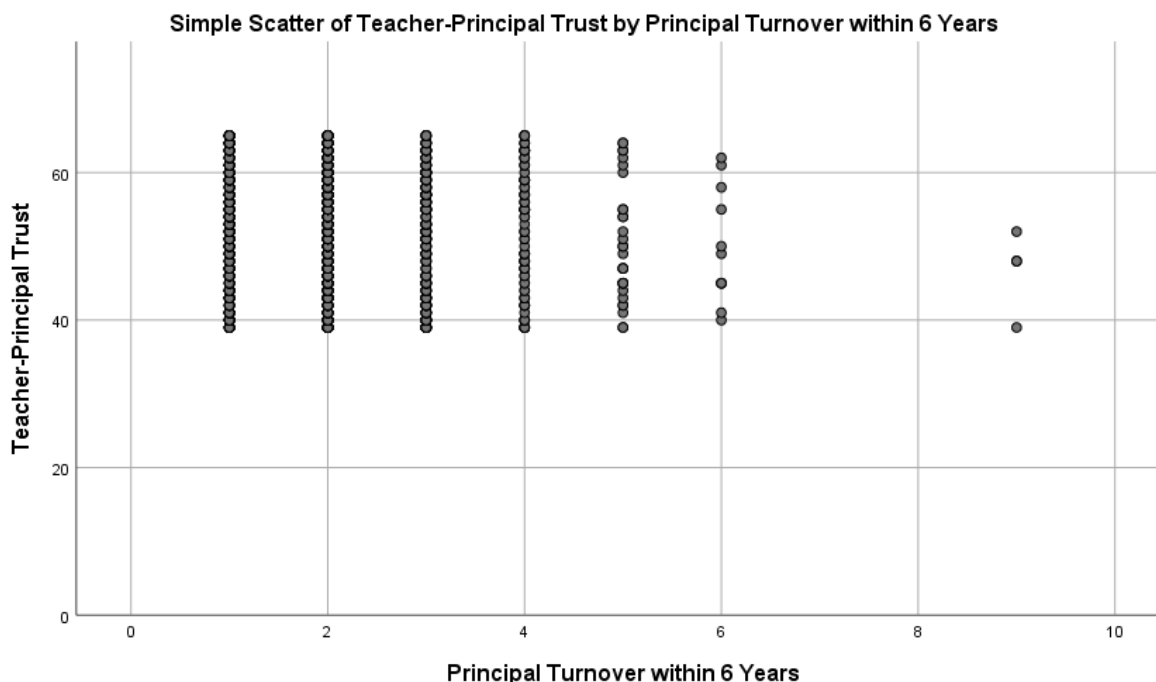


Figure 4. 19 Scatterplot displaying the analysis of CPS TPT measure scores and Principal Turnover whose TPT measure was in the 25th to 75th quartile (as represented by TPT scores ranging from 39-65), 2013-2014 to 2018-2019. While the monotonicity between the two variables is gradual, note the decreased frequency of TPT measure scores above 60 for schools with more than four principals in six years.

Table 4.32 provides the correlation coefficient (r_s), statistical significance (p -value) of the correlation coefficient, and number of paired observations (n) that fall within the range of 39-65 (representing the 25th to 75th quartile of all paired observations for CPS). Consistent with the initial analysis, there is a statistically significant, negative correlation between TPT and principal turnover ($r_s = -.58$, $p = .038$).

Table 4. 32 *Correlation and Statistical Significance: CPS TPT Measure scores and Principal Turnover Rates (within the 25th to 75th quartile), 2013-2014 to 2018-2019.*

		Teacher-Principal Trust	Principal Turnover within 6 Years
Teacher-Principal Trust	Correlation Coefficient	1.000	-.058*
	Sig. (2-tailed)	.	.038
	N	1286	1286
Principal Turnover within 6 Years	Correlation Coefficient	-.058*	1.000
	Sig. (2-tailed)	.038	.
	N	1286	1286

*. Correlation is significant at the 0.05 level (2-tailed).

Non-CPS Public Schools

The initial and secondary analysis of CPS (PK-12) TPT measure scores and principal turnover rates from 2013-2014 to 2018-2019 found a statistically significant relationship. The researcher also examined the relationship between the two variables for non-CPS schools during the same timeframe. The results of these analyses would determine the validity of the researcher's hypothesis comparing TPT and principal turnover among CPS and non-CPS schools.

A Spearman's rank-order correlation was run in order to determine the strength and relationship between TPT ratings and principal turnover. 1,644-paired observations represented non-CPS schools. Preliminary analysis showed the relationship between the dependent and independent variable to be monotonic, as assessed by visual inspection of a scatterplot (Figure 4.20), which demonstrated decreasing TPT measure scores as principal turnover rates rose.

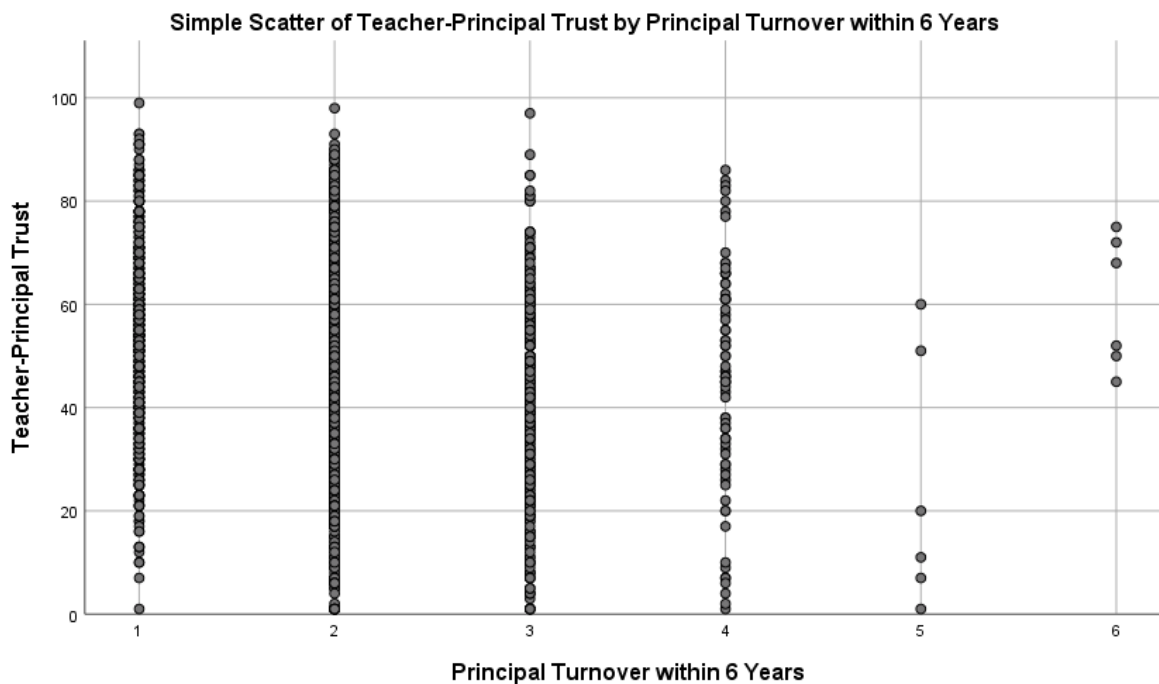


Figure 4. 20 Scatterplot displaying the analysis of non-CPS schools' TPT measure scores and principal turnover, 2013-2014 to 2018-2019. The monotonicity between the two variables is distinct, with the highest TPT measure scores declining as the number of principals increase.

Table 4.33 provides the correlation coefficient (r_s), statistical significance (p -value) of the correlation coefficient, and number of paired observations (n) for non-CPS schools. There was a statistically significant, negative correlation between TPT and principal turnover rates in non-schools from the 2013-2014 to the 2018-2019 school year ($r_s = -.204, p = .000$).

Table 4. 33 *Correlation and Statistical Significance: CPS TPT Measure scores and Principal Turnover Rates (within the 25th to 75th quartile), 2013-2014 to 2018-2019.*

		Teacher-Principal Trust	Principal Turnover within 6 Years
Teacher-Principal Trust	Correlation Coefficient	1.000	-.204**
	Sig. (2-tailed)	.	.000
	N	1644	1644
Principal Turnover within 6 Years	Correlation Coefficient	-.204**	1.000
	Sig. (2-tailed)	.000	.
	N	1644	1644

** . Correlation is significant at the 0.01 level (2-tailed).

The researcher conducted a secondary analysis of paired observations for non-CPS TPT measure scores from 2013-2014 to 2018-2019 in order to examine a more concentrated sample population and limit variance found in the initial sample. This secondary analysis was comprised of the middle 50% of the TPT measure scores represented in the initial analysis. The decision to conduct this secondary analysis was because the range of scores representing the top and bottom 25% of the TPT measure scores for the sample population demonstrated variance far exceeding that of the inter-quartile range, specifically in schools with one to five principals of the six-year time span that the study represents.

Similar to the initial analysis, a Spearman's rank-order correlation was run to determine the strength and relationship between TPT ratings and principal turnover. 855-paired observations represented schools whose TPT ratings exceeded the statewide average in the 2018-2019 administration of the 5E, but whose measure score fell in the range of 35-63 (representing the middle 50% of scores from the initial analysis). Preliminary analysis showed the relationship between the dependent and independent variable to be monotonic, as assessed by visual

inspection of a scatterplot (Figure 4.21), which demonstrated decreasing TPT measure scores as principal turnover rates rose.

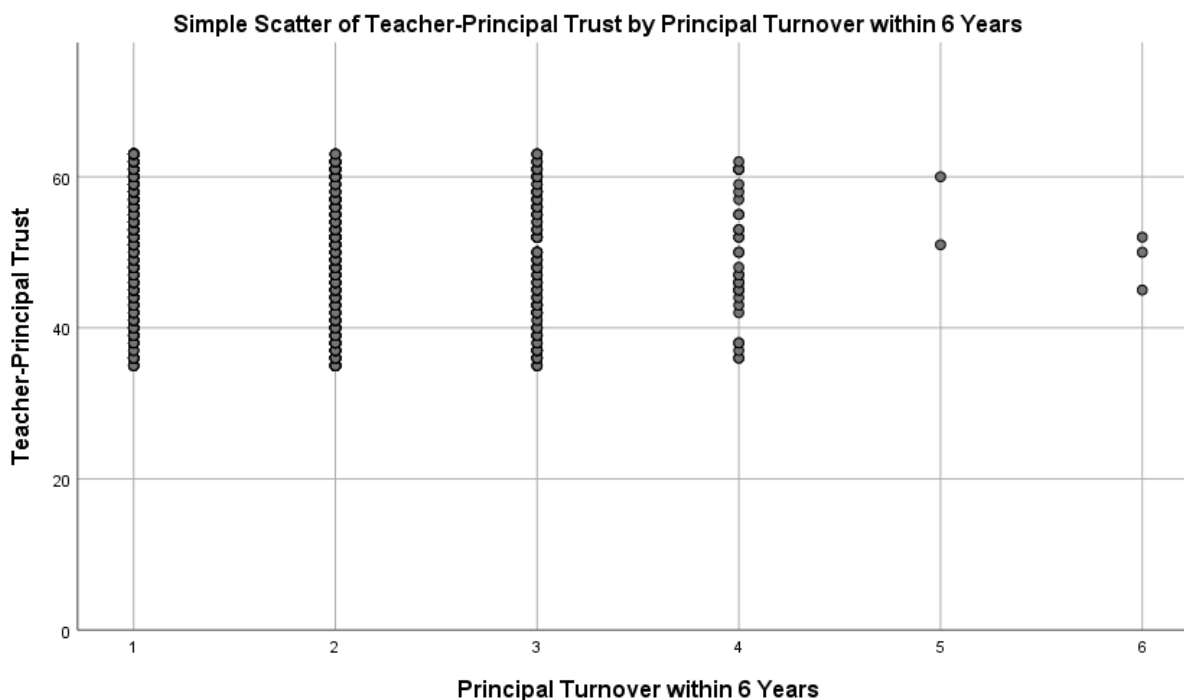


Figure 4. 21 Scatterplot displaying the analysis of non-CPS schools' TPT measure scores and Principal Turnover whose TPT measure was in the 25th to 75th quartile (as represented by TPT scores ranging from 35-63), 2013-2014 to 2018-2019. While the monotonicity between the two variables is gradual, note the decreased frequency of TPT measure scores above 60 for schools with more than four principals in six years.

Table 4.34 provides the correlation coefficient (r_s), statistical significance (p -value) of the correlation coefficient, and number of paired observations (n) for non-CPS schools TPT measure scores and Principal Turnover falling in the 25th to 75th quartile, as represented by TPT scores ranging from 35-63. There was a statistically significant, negative correlation between TPT and principal turnover rates in non-CPS schools from the 2013-2014 to the 2018-2019 school year ($r_s = -.113, p = .001$).

Table 4. 34 *Correlation and Statistical Significance: Non-CPS TPT Measure scores and Principal Turnover rates (within the 25th to 75th quartile), 2013-2014 to 2018-2019.*

		Teacher-Principal Trust	Principal Turnover within 6 Years
Teacher-Principal Trust	Correlation Coefficient	1.000	-.113**
	Sig. (2-tailed)	.	.001
	N	855	855
Principal Turnover within 6 Years	Correlation Coefficient	-.113**	1.000
	Sig. (2-tailed)	.001	.
	N	855	855

** . Correlation is significant at the 0.01 level (2-tailed).

Hypothesis 2 Findings

The researcher's assertion that CPS would exhibit lower levels of TPT and higher levels of principal turnover as compared to non-CPS public schools was inaccurate. Therefore, the researcher cannot reject the null hypothesis and cannot accept the alternative hypothesis. The relationship between CPS TPT measure scores and principal turnover rates for the initial and secondary analysis demonstrated a statistically significant, negative correlation: initial analysis ($p=.000$), secondary analysis ($p=.038$). Similarly, relationship between non-CPS public schools TPT measure scores and principal turnover rates for the initial and secondary analysis demonstrated a statistically significant, negative correlation: initial analysis ($p=.000$), secondary analysis ($p=.001$).

Additionally, the results of the initial analysis for CPS demonstrated that schools within the sample had declining rates of TPT as principal turnover increased, with the most significant decline occurring in schools with more than four principals in six years. The results of the initial analysis for non-CPS schools saw a gradual decline in TPT for schools with one to three

principals in six years and a slight increase in TPT in schools with four principals. However, the decline in TPT in schools with more than four principals exhibited a precipitous decline in TPT.

Hypothesis 3

The researcher hypothesized that Illinois public schools with minority-majority student populations exhibit lower levels of TPT and higher levels of principal turnover as compared to Illinois public schools that do not have minority-majority student populations.

A Spearman's rank-order correlation was run in order to determine the strength and relationship between TPT ratings and principal turnover for paired observations representing African American/Black and Hispanic/Latino minority majority populations. Additionally, schools whose combined African American/Black and Hispanic/Latino student populations was less than 50% was classified as “no minority-majority” and was examined.

African American/Black Majority Student Population

1,293-paired observations represented schools with African American/Black majority student population. Preliminary analysis showed the relationship between the dependent and independent variable to be monotonic, as assessed by visual inspection of a scatterplot (Figure 4.22), which demonstrated decreasing TPT measure scores as principal turnover rates rose.

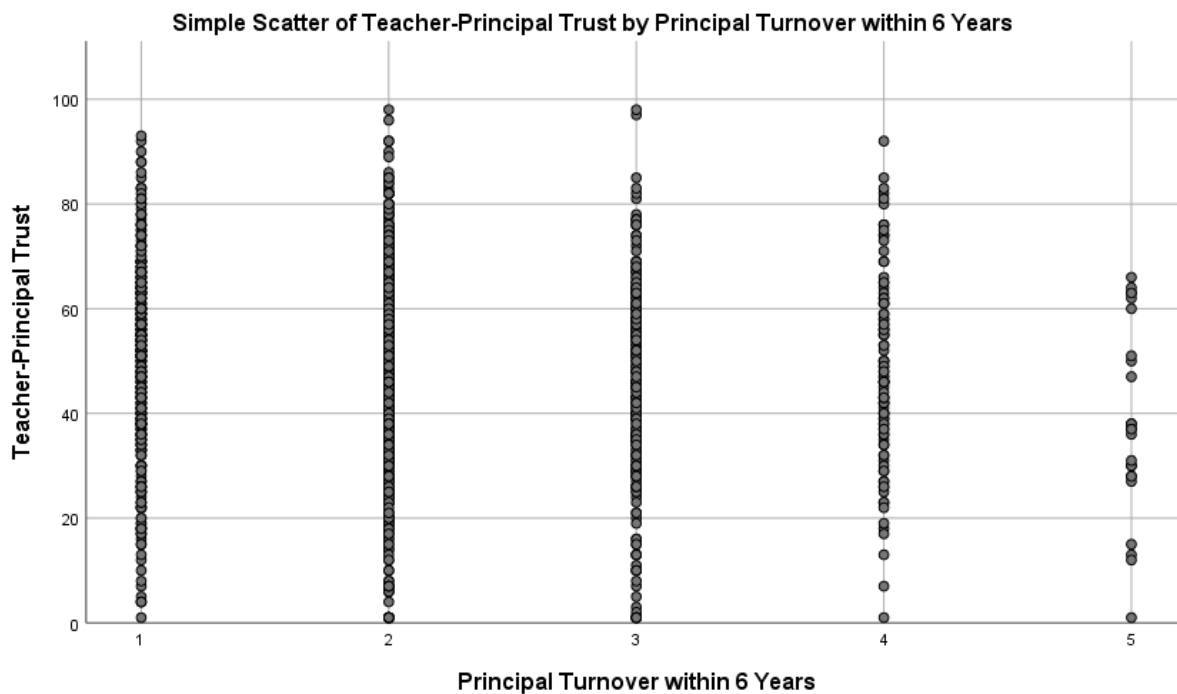


Figure 4. 22 Scatterplot displaying the analysis of the TPT measure scores and principal turnover rates for schools with African American/Black majority student populations, 2013-2014 to 2018-2019. The monotonicity between the two variables is gradual, however the highest TPT measure scores for schools with five principals over six years shows a sharp decline.

Table 4.35 provides the correlation coefficient (r_s), statistical significance (p -value) of the correlation coefficient, and number of paired observations (n) for African American/Black majority student populations. There was a statistically significant, negative correlation between TPT and principal turnover rates from the 2013-2014 to the 2018-2019 school year ($r_s = -.079$, $p = .005$).

Table 4. 35 *Correlation and Statistical Significance: African American/Black Majority Student Populations, 2013-2014 to 2018-2019*

		Teacher-Principal Trust	Principal Turnover within 6 Years
Teacher-Principal Trust	Correlation Coefficient	1.000	-.079**
	Sig. (2-tailed)	.	.005
	N	1293	1293
Principal Turnover within 6 Years	Correlation Coefficient	-.079**	1.000
	Sig. (2-tailed)	.005	.
	N	1293	1293

** . Correlation is significant at the 0.01 level (2-tailed).

After this initial analysis, the researcher conducted a secondary analysis of paired observations for schools with African American/Black majority student populations. This secondary analysis differed from the initial analysis in that it the sample was comprise of the middle 50% of the TPT measure scores represented in the initial analysis. The decision to conduct this secondary analysis was because the range of scores representing the top and bottom 25% of the TPT measure scores for the sample population demonstrated variance far exceeding that of the inter-quartile range, specifically in schools with one to four principals of the six-year time span that the study represents.

Similar to the initial analysis, a Spearman's rank-order correlation was run to determine the strength and relationship between TPT ratings and principal turnover. 652-paired observations represented schools with African American/Black majority student populations, but whose TPT measure score was in the range of 37-62. Preliminary analysis showed the relationship between the dependent and independent variable to be monotonic, as assessed by visual inspection of a scatterplot (Figure 4.23), which demonstrated decreasing TPT measure scores as principal turnover rates rose.

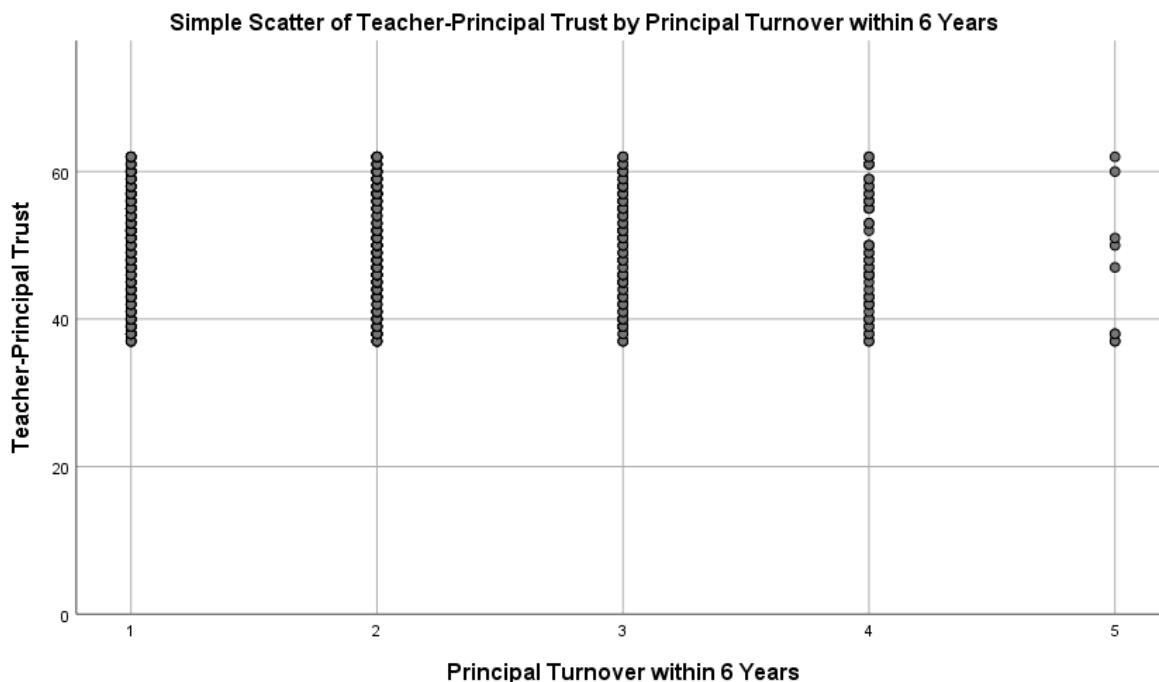


Figure 4. 23 Scatterplot displaying the analysis of the TPT measure scores and principal turnover rates for schools with African American/Black majority student populations whose TPT measure was in the 25th to 75th quartile (as represented by TPT scores ranging from 37-62), 2013-2014 to 2018-2019. The monotonicity between the two variables is gradual, with the frequency of TPT measure scores declining significantly in schools with more than four principals in six years.

Table 4.36 provides the correlation coefficient (r_s), statistical significance (p -value) of the correlation coefficient, and number of paired observations (n) for African American/Black majority student populations whose school's TPT score ranged from 37-62. Unlike in the initial analysis, the secondary analysis demonstrated no statistical significance between TPT and principal turnover rates from the 2013-2014 to 2018-2019 school year ($r_s = -.016$, $p = .675$).

Table 4. 36 *Correlation and Statistical Significance: African American Minority Majority Student Populations, with scores in the 25th to 75th Quartile, 2013-2014 to 2018-2019*

		Teacher-Principal Trust	Principal Turnover within 6 Years
Teacher-Principal Trust	Correlation Coefficient	1.000	-.016
	Sig. (2-tailed)	.	.675
	N	652	652
Principal Turnover within 6 Years	Correlation Coefficient	-.016	1.000
	Sig. (2-tailed)	.675	.
	N	652	652

Hispanic/Latino Majority Student Population

1,337-paired observations represented schools with Hispanic/Latino majority student populations. Preliminary analysis showed the relationship between the dependent and independent variable to be monotonic, as assessed by visual inspection of a scatterplot (Figure 4.24), which demonstrated decreasing TPT measure scores as principal turnover rates rose.

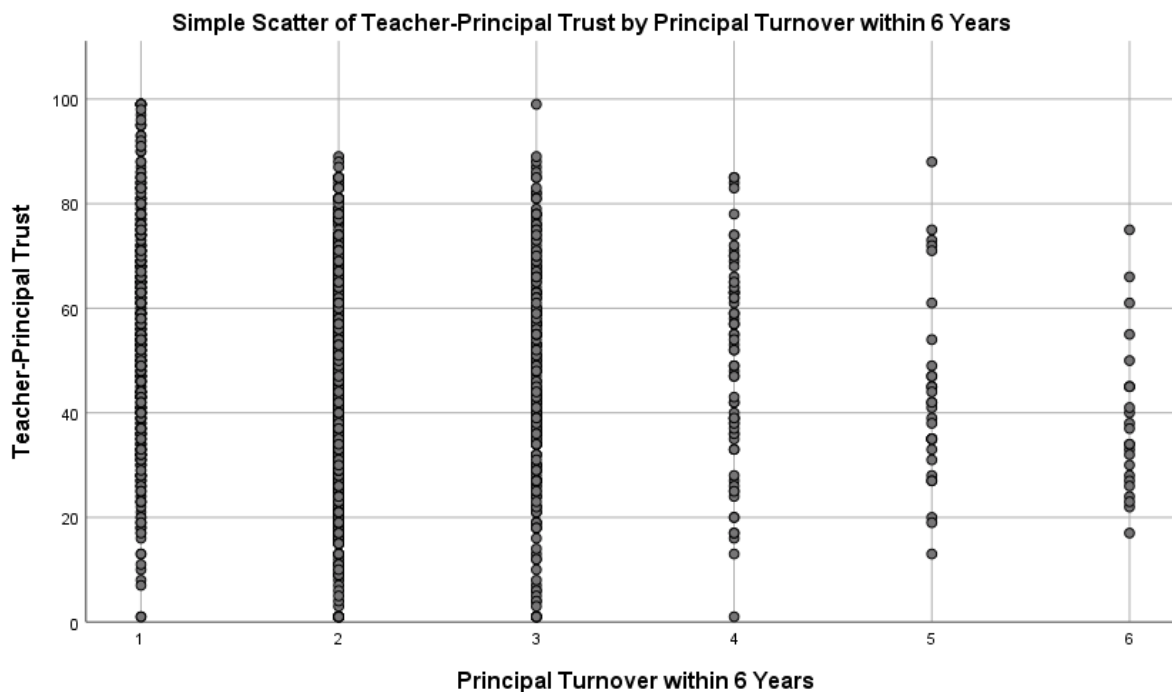


Figure 4. 24 Scatterplot displaying the analysis of the TPT measure scores and principal turnover rates for schools with Hispanic/Latino majority student populations, 2013-2014 to 2018-2019. The monotonicity between the two variables is gradual, with the frequency of TPT measure scores declining significantly in schools with more than three principals in six years.

Table 4.37 provides the correlation coefficient (r_s), statistical significance (p -value) of the correlation coefficient, and number of paired observations (n) for Hispanic/Latino majority student populations. There was a statistically significant, negative correlation between TPT and principal turnover rates from the 2013-2014 to the 2018-2019 school year ($r_s = -.160$, $p = .000$).

Table 4. 37 *Correlation and Statistical Significance: Hispanic/Latino Majority Student Populations, 2013-2014 to 2018-2019*

		Teacher-Principal Trust	Principal Turnover within 6 Years
Teacher-Principal Trust	Correlation Coefficient	1.000	-.160**
	Sig. (2-tailed)	.	.000
	N	1337	1337
Principal Turnover within 6 Years	Correlation Coefficient	-.160**	1.000
	Sig. (2-tailed)	.000	.
	N	1337	1337

** . Correlation is significant at the 0.01 level (2-tailed).

After this initial analysis, the researcher conducted a secondary analysis of paired observations for Hispanic/Latino majority student populations. This secondary analysis differed from the initial analysis in that it the sample was comprise of the middle 50% of the TPT measure scores represented in the initial analysis. The decision to conduct this secondary analysis was because the range of scores representing the top and bottom 25% of the TPT measure scores for the sample population demonstrated variance far exceeding that of the inter-quartile range, specifically in schools with one to four principals of the six-year time span that the study represents.

Similar to the initial analysis, a Spearman's rank-order correlation was run to determine the strength and relationship between TPT ratings and principal turnover. 689-paired observations represented schools with Hispanic/Latino majority student populations, but whose measure score fell in the range of 35-64. Preliminary analysis showed the relationship between the dependent and independent variable to be monotonic, as assessed by visual inspection of a scatterplot (Figure 4.25), which demonstrated decreasing TPT measure scores as principal turnover rates rose.

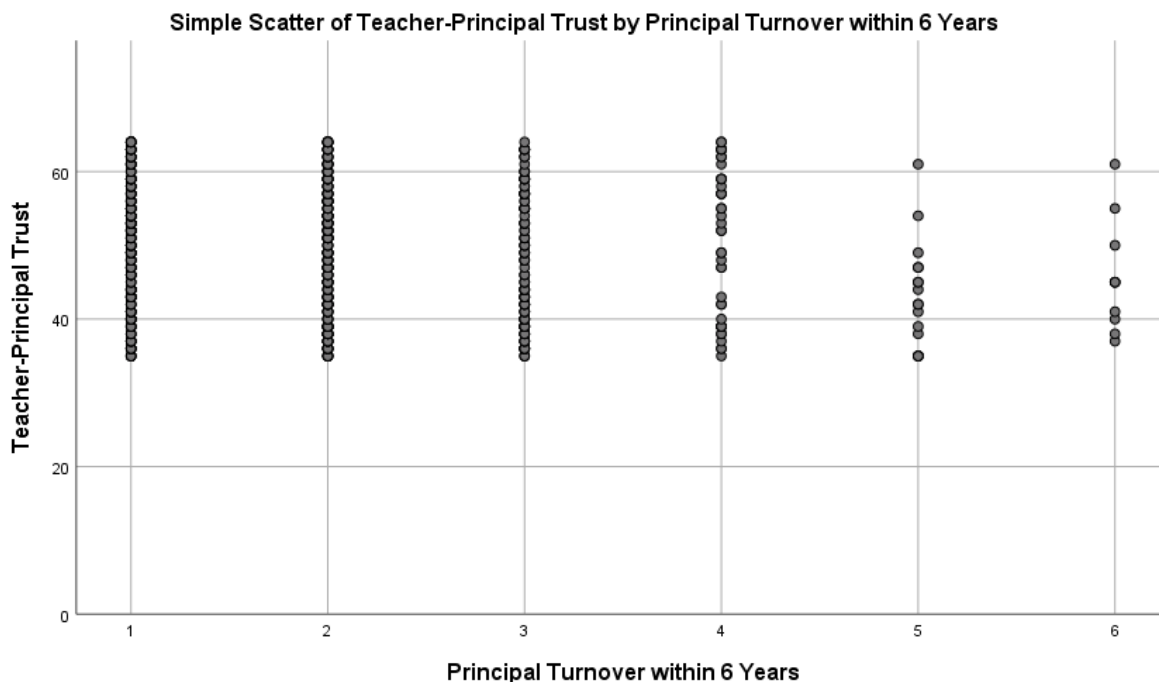


Figure 4. 25 Scatterplot displaying the analysis of the TPT measure scores and principal turnover rates for schools with Hispanic/Latino majority student populations whose TPT measure was in the 25th to 75th quartile (as represented by TPT scores ranging from 35-64), 2013-2014 to 2018-2019. The monotonicity between the two variables is gradual, with the frequency of TPT measure scores declining significantly in schools with more than four principals in six years.

Table 4.38 provides the correlation coefficient (r_s), statistical significance (p -value) of the correlation coefficient, and number of paired observations (n) for Hispanic/Latino majority student populations whose school's TPT measure score fell in the range of 35-64. Similar to the initial analysis, the secondary analysis demonstrated a statistically significant, negative correlation between TPT and principal turnover rates from the 2013-2014 to the 2018-2019 school year ($r_s = -.101, p = .008$).

Table 4. 38 *Correlation and Statistical Significance: Hispanic/Latino Majority Student Populations with scores in the 25th to 75th Quartile, 2013-2014 to 2018-2019*

		Teacher-Principal Trust	Principal Turnover within 6 Years
Teacher-Principal Trust	Correlation Coefficient	1.000	-.101**
	Sig. (2-tailed)	.	.008
	N	689	689
Principal Turnover within 6 Years	Correlation Coefficient	-.101**	1.000
	Sig. (2-tailed)	.008	.
	N	689	689

** . Correlation is significant at the 0.01 level (2-tailed).

No minority-Majority Student Population

1,232-paired observations represented schools with no minority-majority student population. Preliminary analysis showed the relationship between the dependent and independent variable to be monotonic, as assessed by visual inspection of a scatterplot (Figure 4.26), which demonstrated decreasing TPT measure scores as principal turnover rates rose.

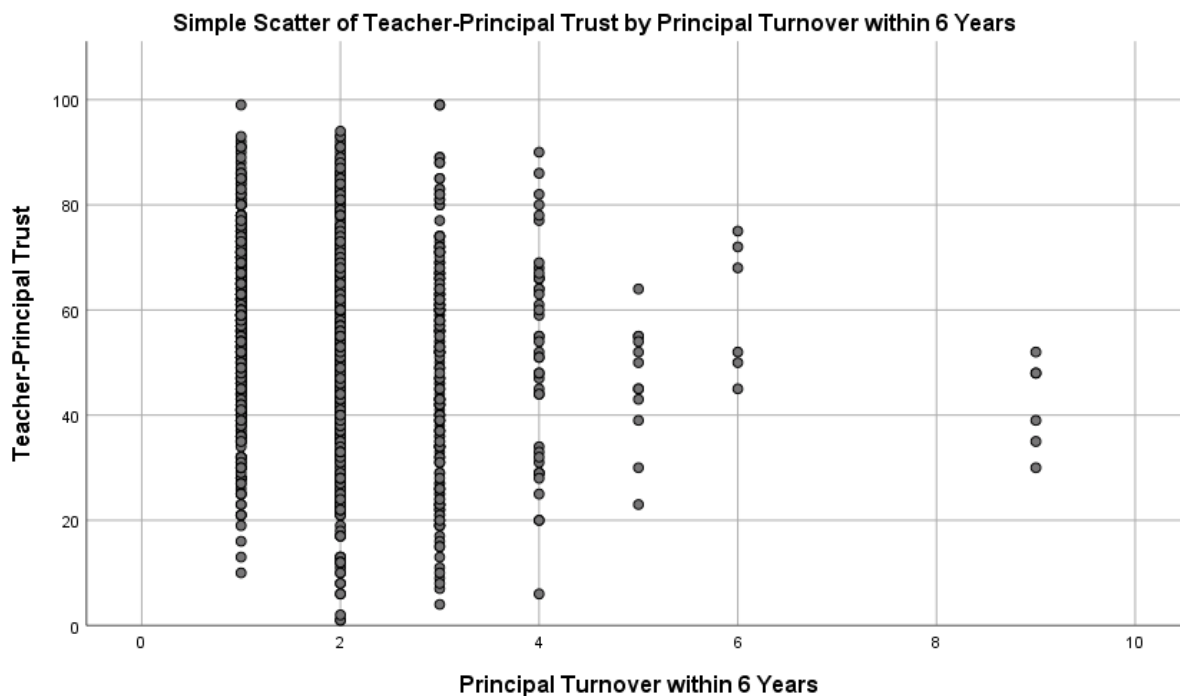


Figure 4. 26 Scatterplot displaying the analysis of the TPT measure scores and principal turnover rates for schools with no minority-majority student population, 2013-2014 to 2018-2019. The monotonicity between the two variables is distinct, with the frequency of TPT measure scores declining significantly in schools with more than three principals in six years.

Table 4.39 provides the correlation coefficient (r_s), statistical significance (p -value) of the correlation coefficient, and number of paired observations (n) for schools with no minority-majority student population. There was a statistically significant, negative correlation between TPT and principal turnover rates from the 2013-2014 to the 2018-2019 school year ($r_s = -.160$, $p = .000$).

Table 4. 39 *Correlation and Statistical Significance: No Minority-Majority Student Population, 2013-2014 to 2018-2019*

		Teacher-Principal Trust	Principal Turnover within 6 Years
Teacher-Principal Trust	Correlation Coefficient	1.000	-.160**
	Sig. (2-tailed)	.	.000
	N	1232	1232
Principal Turnover within 6 Years	Correlation Coefficient	-.160**	1.000
	Sig. (2-tailed)	.000	.
	N	1232	1232

** . Correlation is significant at the 0.01 level (2-tailed).

After this initial analysis, the researcher conducted a secondary analysis of paired observations for paired observations for schools with no minority-majority student population. This secondary analysis differed from the initial analysis in that it the sample was comprise of the middle 50% of the TPT measure scores represented in the initial analysis. The decision to conduct this secondary analysis was because the range of scores representing the top and bottom 25% of the TPT measure scores for the sample population demonstrated variance far exceeding that of the inter-quartile range, specifically in schools with one to four principals of the six-year time span that the study represents.

Similar to the initial analysis, a Spearman's rank-order correlation was run to determine the strength and relationship between TPT ratings and principal turnover. 645-paired observations represented schools with no minority-majority student population, but whose measure score fell in the range of 42-68. Preliminary analysis showed the relationship between the dependent and independent variable to be monotonic, as assessed by visual inspection of a scatterplot (Figure 4.27), which demonstrated decreasing TPT measure scores as principal turnover rates rose.

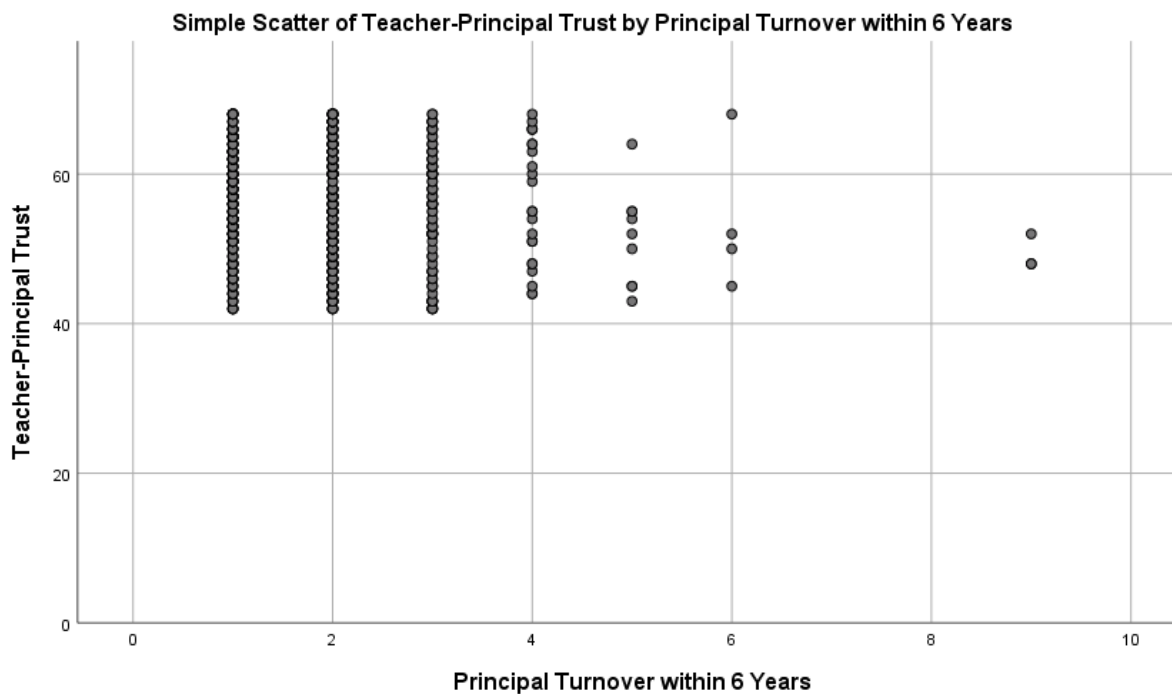


Figure 4. 27 Scatterplot displaying the analysis of the TPT measure scores and principal turnover rates for schools with no minority-majority student population whose TPT measure was in the 25th to 75th quartile (as represented by TPT scores ranging from 42-68), 2013-2014 to 2018-2019. The monotonicity between the two variables is gradual, but demonstrates a sharp decline the frequency of TPT measure scores above 60 in schools with more than four principals in six years.

Table 4.40 provides the correlation coefficient (r_s), statistical significance (p -value) of the correlation coefficient, and number of paired observations (n) for paired observations (n) for schools with no minority-majority student population whose school's TPT measure score fell in the range of 42-68. Unlike to the initial analysis, the secondary analysis demonstrated no statistical significance between TPT and principal turnover rates from the 2013-2014 to the 2018-2019 school year ($r_s = -.073$, $p = .064$).

Table 4. 40 *Correlation and Statistical Significance: No Minority Majority Student Population with scores in the 25th to 75th Quartile, 2013-2014 to 2018-2019*

		Teacher-Principal Trust	Principal Turnover within 6 Years
Teacher-Principal Trust	Correlation Coefficient	1.000	-.073
	Sig. (2-tailed)	.	.064
	N	645	645
Principal Turnover within 6 Years	Correlation Coefficient	-.073	1.000
	Sig. (2-tailed)	.064	.
	N	645	645

Hypothesis 3 Findings

The researcher's assertion that Illinois public schools with minority-majority student populations would exhibit lower levels of TPT and higher levels principal turnover as compared to Illinois public schools without minority-majority student populations was inaccurate in the initial analysis, but accurate in the secondary analysis. Therefore, the researcher's hypothesis can only be conditionally accepted.

In the initial analysis, the relationship between TPT measure scores and principal turnover rates for schools with an African American/Black ($p=.005$), Hispanic/Latino ($p=.000$), and no minority majority ($p=.000$) student population demonstrated statistical significance in the initial analysis. In the secondary analysis, the relationship between TPT measure scores and principal turnover rates for schools with an African American/Black ($p=.675$) and schools without a minority- majority ($p=.064$) student population demonstrated no statistical significance initial analysis. However the secondary analysis for schools with a Hispanic/Latino ($p=.008$) majority minority student populations did demonstrate a statistically significant relationship. As a result, the researcher's hypothesis can be accepted in schools with Hispanic/Latino majority

student populations whose school's TPT measure score fell in the range of 35-64. The null hypothesis must be accepted in all other conditions.

Additionally, the results of the initial analysis for schools with an African American/Black majority student population and schools with no minority-majority student population demonstrated declining rates of TPT as principal turnover increased. Schools with Hispanic/Latino majority student populations saw declining TPT as principal turnover in schools with one to three principals in six years and a slight increase in TPT in schools with four principals in six years. Across the sample population, the largest decline in TPT occurred in schools with more than four principals in six years.

Hypothesis 4

The researcher postulates that Illinois public schools (PK-12) with English learner (EL) populations above the Illinois statewide average (12.1%) will have lower levels of TPT and higher levels of principal turnover as compared to Illinois public schools (PK-12) with English learner (EL) populations at or below the statewide average.

Paired Observations Representing EL Populations Exceeding the Statewide Average

A Spearman's rank-order correlation was run in order to determine the strength and relationship between TPT ratings and principal turnover. 1,961-paired observations represented schools with English learner (EL) populations exceeding the Illinois statewide average. Preliminary analysis showed the relationship between the dependent and independent variable to be monotonic, as assessed by visual inspection of a scatterplot (Figure 4.28), which demonstrated decreasing TPT measure scores as principal turnover rates rose.

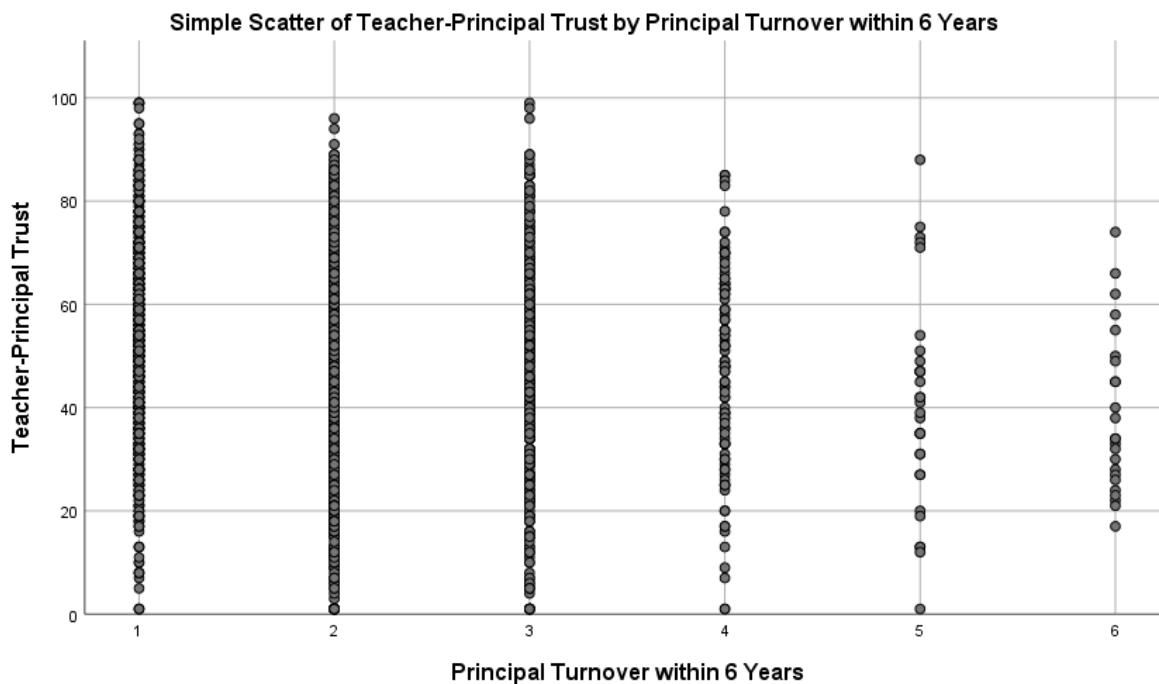


Figure 4. 28 Scatterplot displaying the analysis of the TPT measure scores and principal turnover rates for schools with EL populations exceeding the statewide average, 2013-2014 to 2018-2019. The monotonicity between the two variables is gradual for schools with one to three principals over six years, however is much more significant in schools with four to six principals over six years.

Table 4.41 provides the correlation coefficient (r_s), statistical significance (p -value) of the correlation coefficient, and number of paired observations (n) EL populations exceeding the statewide average. There was a statistically significant, negative correlation between TPT and principal turnover rates from the 2013-2014 to the 2018-2019 school year ($r_s = -.141$, $p = .000$).

Table 4. 41 *Correlation and Statistical Significance: Schools with EL populations exceeding the statewide average, 2013-2014 to 2018-2019*

		Teacher-Principal Trust	Principal Turnover within 6 Years
Teacher-Principal Trust	Correlation Coefficient	1.000	-.141**
	Sig. (2-tailed)	.	.000
	N	1961	1961
Principal Turnover within 6 Years	Correlation Coefficient	-.141**	1.000
	Sig. (2-tailed)	.000	.
	N	1961	1961

** . Correlation is significant at the 0.01 level (2-tailed).

The researcher conducted a secondary analysis of paired observations of EL populations exceeding the statewide average. This secondary analysis differed from the initial analysis in that it the sample was comprise of the middle 50% of the TPT measure scores represented in the initial analysis. The decision to conduct this secondary analysis was because the range of scores representing the top and bottom 25% of the TPT measure scores for the sample population demonstrated variance far exceeding that of the inter-quartile range, specifically in schools with one to four principals of the six-year time span that the study represents.

Similar to the initial analysis, a Spearman's rank-order correlation was run to determine the strength and relationship between TPT ratings and principal turnover. 1,018-paired observations represented schools with EL populations exceeding the statewide average with measure scores in the 35-64 range (representing the middle 50% of scores from the initial analysis). Preliminary analysis showed the relationship between the dependent and independent variable to be monotonic, as assessed by visual inspection of a scatterplot (Figure 4.29), which demonstrated decreasing TPT measure scores as principal turnover rates rose.

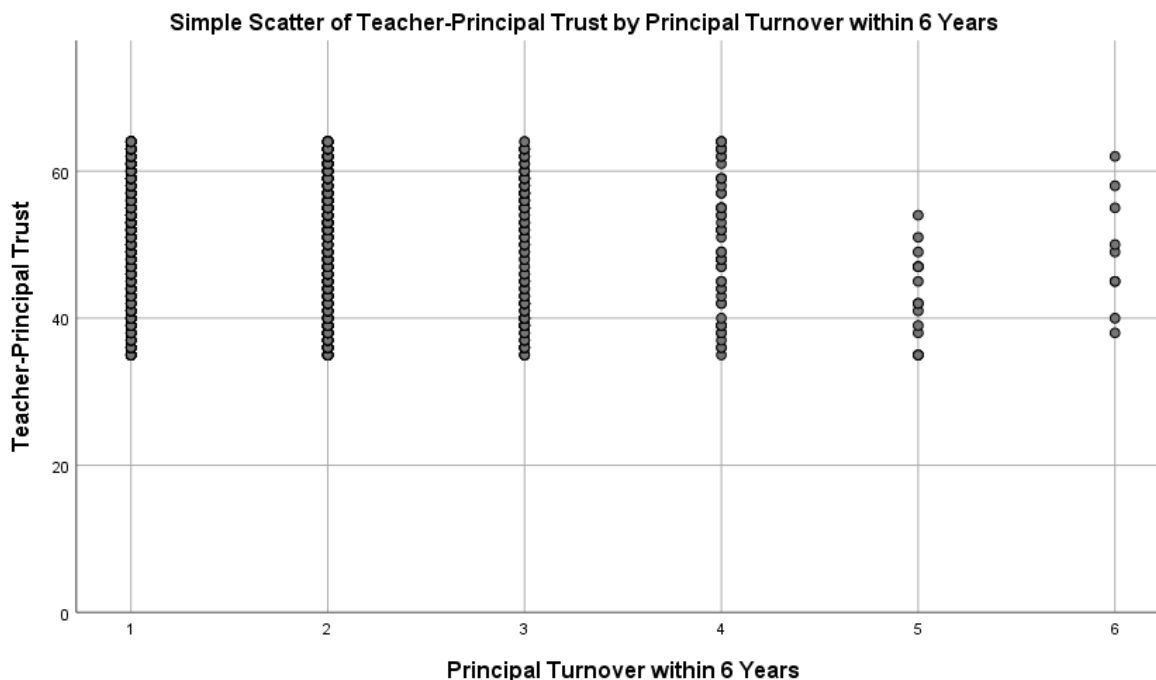


Figure 4. 29 Scatterplot displaying the analysis of the TPT measure scores and principal turnover rates for EL populations exceeding the statewide average whose TPT measure was in the 25th to 75th quartile (as represented by TPT scores ranging from 35-64), 2013-2014 to 2018-2019. The monotonicity between the two variables is gradual for schools with one to four principals in six years, but demonstrates a sharp decline the frequency of TPT measure scores in the 25th to 75th quartile for schools with five or more principals in six years.

Table 4.42 provides the correlation coefficient (r_s), statistical significance (p -value) of the correlation coefficient, and number of paired observations (n) for paired observations (n) for the secondary analysis of paired observations of schools with EL populations exceeding the statewide average with TPT measure scores in the 35-64 range. Unlike to the initial analysis, the secondary analysis demonstrated a no statistically significant negative correlation between TPT and principal turnover rates from the 2013-2014 to 2018-2019 school year ($r_s = -.052$ $p = .097$).

Table 4. 42 *Correlation and Statistical Significance: Schools with EL populations exceeding the statewide average with TPT Measure Scores in the 25th to 75th Quartile, 2013-2014 to 2018-2019*

		Teacher-Principal Trust	Principal Turnover within 6 Years
Teacher-Principal Trust	Correlation Coefficient	1.000	-.052
	Sig. (2-tailed)	.	.097
	N	1018	1018
Principal Turnover within 6 Years	Correlation Coefficient	-.052	1.000
	Sig. (2-tailed)	.097	.
	N	1018	1018

Paired Observations Representing EL Populations at or below the Statewide Average

A Spearman's rank-order correlation was run in order to determine the strength and relationship between TPT ratings and principal turnover. 2,251-paired observations represented schools with English learner (EL) populations at or below the Illinois statewide average (12.1%). Preliminary analysis showed the relationship between the dependent and independent variable to be monotonic, as assessed by visual inspection of a scatterplot (Figure 4.30), which demonstrated decreasing TPT measure scores as principal turnover rates rose.

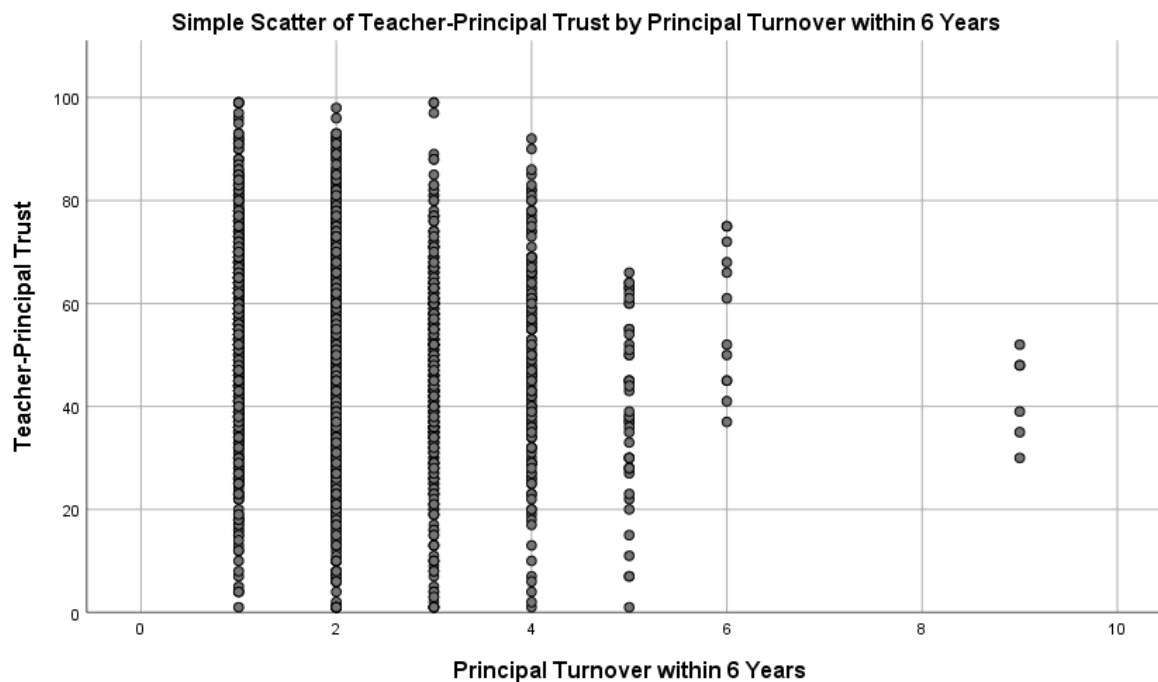


Figure 4.30 Scatterplot displaying the analysis of the TPT measure scores and principal turnover rates for schools with EL populations at or below the statewide average, 2013-2014 to 2018-2019. The monotonicity between the two variables is gradual for schools with one to three principals over six years; however, the frequency of scores declines significantly in schools with more than four principals in six years.

Table 4.43 provides the correlation coefficient (r_s), statistical significance (p -value) of the correlation coefficient, and number of paired observations (n) EL populations at or below the statewide average. This analysis demonstrated a statistically significant, negative correlation between TPT and principal turnover rates from the 2013-2014 to the 2018-2019 school year ($r_s = -.164$, $p = .000$).

Table 4. 43 *Correlation and Statistical Significance: Schools with EL populations at or below the statewide average, 2013-2014 to 2018-2019*

		Teacher-Principal Trust	Principal Turnover within 6 Years
Teacher-Principal Trust	Correlation Coefficient	1.000	-.164**
	Sig. (2-tailed)	.	.000
	N	2215	2215
Principal Turnover within 6 Years	Correlation Coefficient	-.164**	1.000
	Sig. (2-tailed)	.000	.
	N	2215	2215

** . Correlation is significant at the 0.01 level (2-tailed).

The researcher conducted a secondary analysis of paired observations of EL populations at or below the statewide average. This secondary analysis differed from the initial analysis in that the sample was comprised of the middle 50% of the TPT measure scores represented in the initial analysis. The decision to conduct this secondary analysis was because the range of scores representing the top and bottom 25% of the TPT measure scores for the sample population demonstrated variance far exceeding that of the inter-quartile range, specifically in schools with one to four principals of the six-year time span that the study represents.

Similar to the initial analysis, a Spearman's rank-order correlation was run to determine the strength and relationship between TPT ratings and principal turnover. 1,156-paired observations represented schools with EL populations at or below the statewide average with measure scores in the 39-65 range (representing the middle 50% of scores from the initial analysis). Preliminary analysis showed the relationship between the dependent and independent variable to be monotonic, as assessed by visual inspection of a scatterplot (Figure 4.31), which demonstrated decreasing TPT measure scores as principal turnover rates rose.

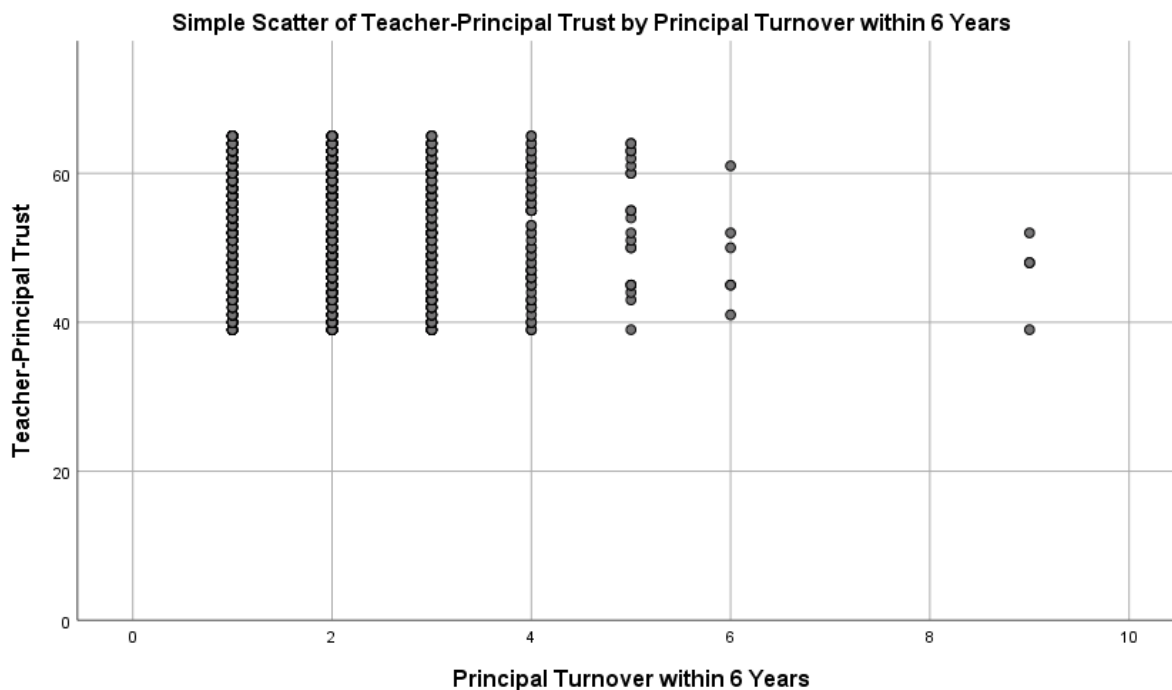


Figure 4. 31 Scatterplot displaying the analysis of the TPT measure scores and principal turnover rates for EL populations at or below the statewide average whose TPT measure was in the 25th to 75th quartile (as represented by TPT scores ranging from 35-64), 2013-2014 to 2018-2019. The monotonicity between the two variables is gradual for schools with one to four principals in six years, but demonstrates significantly fewer scores for schools with five or more principals in six years.

Table 4.44 provides the correlation coefficient (r_s), statistical significance (p -value) of the correlation coefficient, and number of paired observations (n) for paired observations (n) for the secondary analysis of paired observations of schools with EL populations at or below the statewide average with TPT measure scores in the 35-64 range. Similar to the initial analysis, the secondary analysis demonstrated a statistically significant negative correlation between TPT and principal turnover rates from the 2013-2014 to 2018-2019 school year ($r_s = -.084$, $p = .004$).

Table 4. 44 *Correlation and Statistical Significance: Schools with EL populations at or below the statewide average with TPT Measure Scores in the 25th to 75th Quartile, 2013-2014 to 2018-2019*

		Teacher-Principal Trust	Principal Turnover within 6 Years
Teacher-Principal Trust	Correlation Coefficient	1.000	-.084**
	Sig. (2-tailed)	.	.004
	N	1156	1156
Principal Turnover within 6 Years	Correlation Coefficient	-.084**	1.000
	Sig. (2-tailed)	.004	.
	N	1156	1156

** . Correlation is significant at the 0.01 level (2-tailed).

Hypothesis 4 Findings

The researcher's assertion that Illinois public schools (PK-12) with EL populations above the statewide average would have lower levels of TPT and higher levels of principal turnover than Illinois public schools (PK-12) with EL populations at or below the statewide average was inaccurate. Therefore, the researcher cannot reject the null hypothesis and cannot accept the alternative hypothesis. The relationship between schools with EL populations above the statewide average demonstrated statistical significance in the initial analysis ($p=.000$), but not in the secondary analysis ($p=.097$). In both the initial and secondary analysis of schools with EL populations at or below the statewide average, statistically significance was found: initial analysis ($p=.000$), secondary analysis ($p=.004$).

Additionally, the results of the initial analysis for schools with EL populations above the statewide average and schools with EL populations at or below the statewide average demonstrated declining rates of TPT as principal turnover increased, with the most significant decline occurring in schools with more than four principals in six years.

Hypothesis 5

The researcher postulated that Illinois public schools (PK-12) with a percentage of students possessing IEPs that exceeds the statewide average (15.5%) would have lower levels of TPT and higher levels of principal turnover as compared to Illinois public schools whose percentage of students with IEPs was at or below the statewide average.

Paired Observations Representing IEP Populations Exceeding the Statewide Average

A Spearman's rank-order correlation was run in order to determine the strength and relationship between TPT ratings and principal turnover. 1,691-paired observations represented schools with a percentage of students possessing IEPs that exceeded the statewide average. Preliminary analysis showed the relationship between the dependent and independent variable to be monotonic, as assessed by visual inspection of a scatterplot (Figure 4.32), which demonstrated decreasing TPT measure scores as principal turnover rates rose.

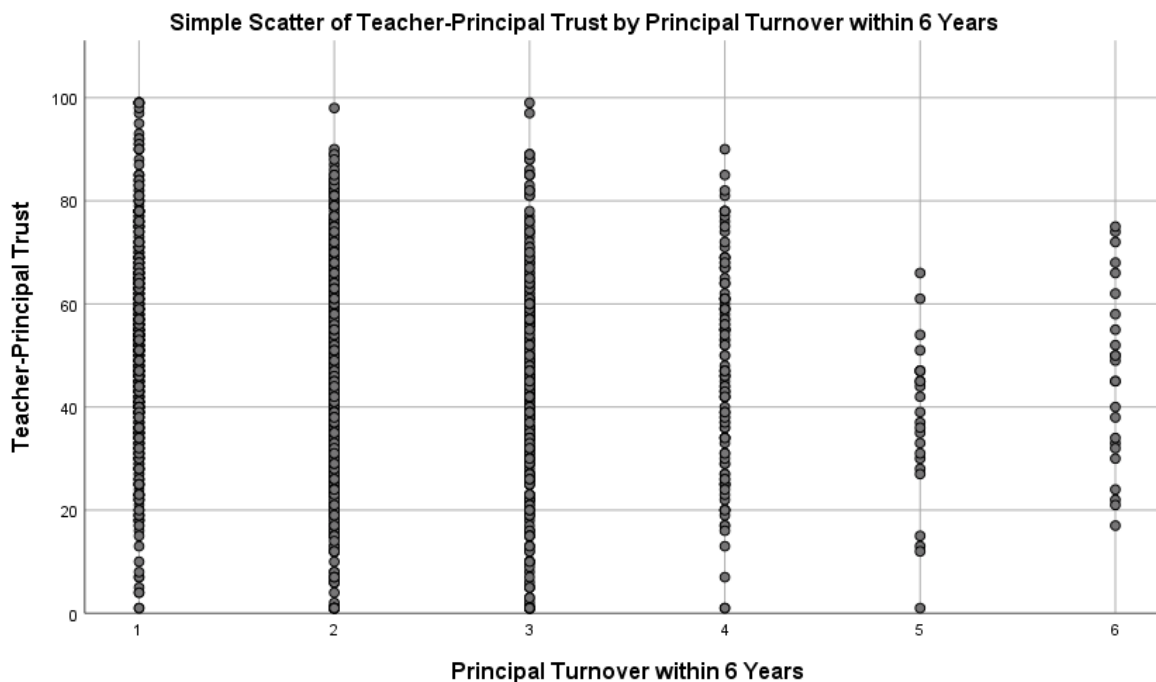


Figure 4. 32 Scatterplot displaying the analysis of the TPT measure scores and principal turnover rates for schools with a percentage of students possessing IEPs that exceeds the statewide average, 2013-2014 to 2018-2019. The monotonicity between the two variables can be seen as the number of principals in six years rise.

Table 4.45 provides the correlation coefficient (r_s), statistical significance (p -value) of the correlation coefficient, and number of paired observations (n) of schools with a percentage of students possessing IEPs that exceeded the statewide average. This analysis demonstrated a statistically significant, negative correlation between TPT and principal turnover rates from the 2013-2014 to the 2018-2019 school year ($r_s = -.143$, $p = .000$).

Table 4. 45 *Correlation and Statistical Significance: Schools with a percentage of students possessing IEPs that exceeded the statewide average, 2013-2014 to 2018-2019*

		Teacher-Principal Trust	Principal Turnover within 6 Years
Teacher-Principal Trust	Correlation Coefficient	1.000	-.143**
	Sig. (2-tailed)	.	.000
	N	1691	1691
Principal Turnover within 6 Years	Correlation Coefficient	-.143**	1.000
	Sig. (2-tailed)	.000	.
	N	1691	1691

** . Correlation is significant at the 0.01 level (2-tailed).

The researcher conducted a secondary analysis of paired observations of schools with a percentage of students possessing IEPs that exceeded the statewide average. This secondary analysis differed from the initial analysis in that the sample was comprised of the middle 50% of the TPT measure scores represented in the initial analysis. The decision to conduct this secondary analysis was because the range of scores representing the top and bottom 25% of the TPT measure scores for the sample population demonstrated variance far exceeding that of the inter-quartile range, specifically in schools with one to four principals of the six-year time span that the study represents.

Similar to the initial analysis, a Spearman's rank-order correlation was run to determine the strength and relationship between TPT ratings and principal turnover. 875-paired observations represented schools with a percentage of students possessing IEPs that exceeded the statewide average and a TPT measure score in the 36-62 range (representing the middle 50% of scores from the initial analysis). Preliminary analysis showed the relationship between the dependent and independent variable to be monotonic, as assessed by visual inspection of a scatterplot (Figure 4.33), which demonstrated decreasing TPT measure scores as principal turnover rates rose.

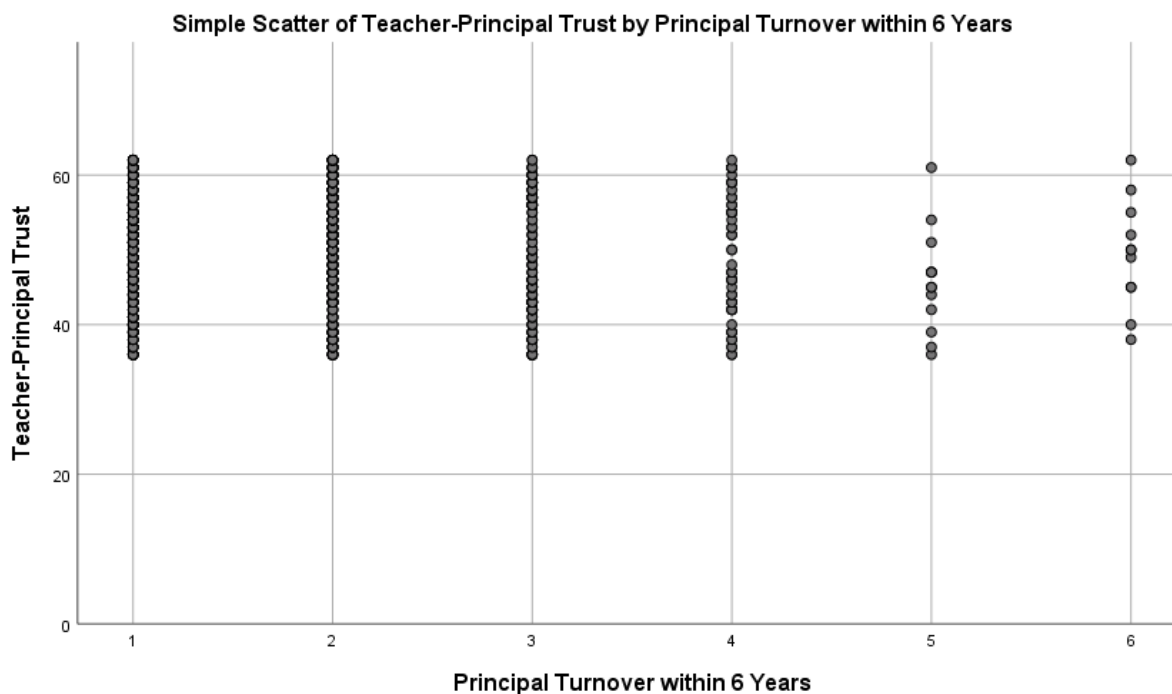


Figure 4. 33 Scatterplot displaying the analysis of the TPT measure scores and principal turnover rates for schools with a percentage of students possessing IEPs that exceeded the statewide average whose TPT measure was in the 25th to 75th quartile (as represented by TPT scores ranging from 35-64), 2013-2014 to 2018-2019. The monotonicity between the two variables is not as pronounced as in the initial analysis, but demonstrates significantly fewer scores for schools with five or more principals in six years.

Table 4.46 provides the correlation coefficient (r_s), statistical significance (p -value) of the correlation coefficient, and number of paired observations (n) for paired observations (n) for the secondary analysis of paired observations of schools with a percentage of students possessing IEPs that exceeds the statewide average, whose TPT measure score fell in the range of 36-62. Unlike to the initial analysis, the secondary analysis demonstrated no statistically significant relationship between TPT and principal turnover rates from the 2013-2014 to 2018-2019 school year ($r_s = -.027$, $p = .421$).

Table 4. 46 *Correlation and Statistical Significance: Schools with a Percentage of Students Possessing IEPs Exceeding the Statewide Average with TPT Measure Scores in the 25th to 75th Quartile, 2013-2014 to 2018-2019*

		Teacher-Principal Trust	Principal Turnover within 6 Years
Teacher-Principal Trust	Correlation Coefficient	1.000	-.027
	Sig. (2-tailed)	.	.421
	N	875	875
Principal Turnover within 6 Years	Correlation Coefficient	-.027	1.000
	Sig. (2-tailed)	.421	.
	N	875	875

Paired Observations Representing Schools with IEP Student Populations at or below the Statewide Average

A Spearman's rank-order correlation was run in order to determine the strength and relationship between TPT ratings and principal turnover. 2,485-paired observations represented schools with a percentage of students possessing IEPs at or below the statewide average. Preliminary analysis showed the relationship between the dependent and independent variable to be monotonic, as assessed by visual inspection of a scatterplot (Figure 4.34), which demonstrated decreasing TPT measure scores as principal turnover rates rose.

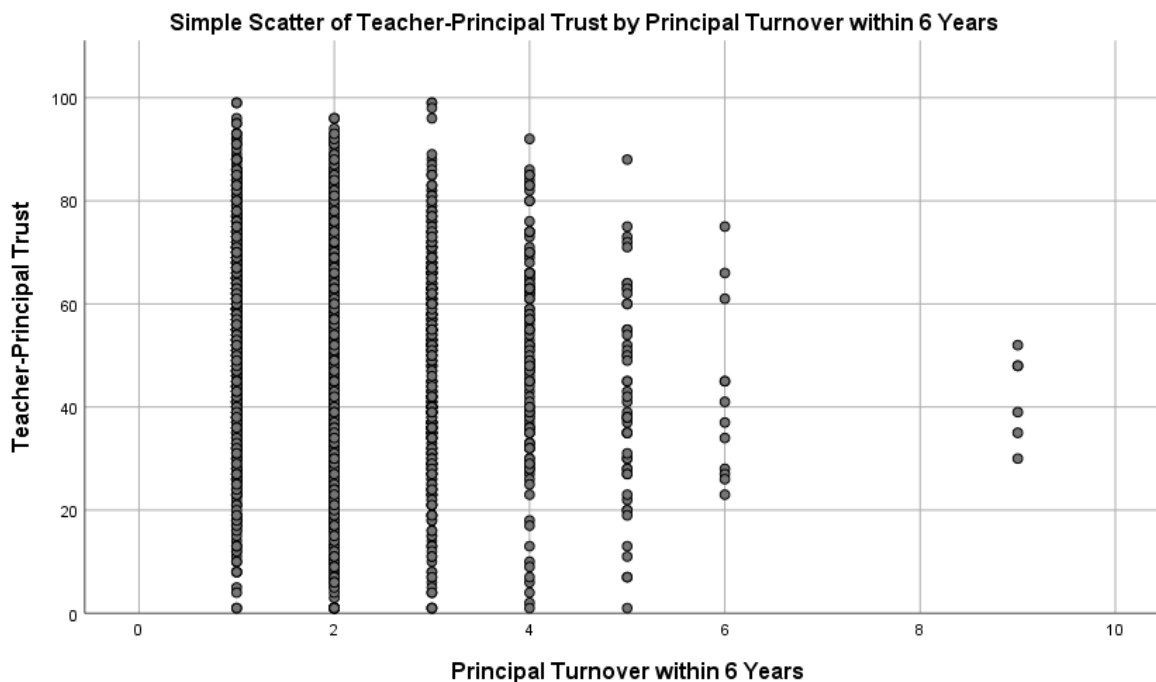


Figure 4. 34 Scatterplot displaying the analysis of the TPT measure scores and principal turnover rates for schools with a percentage of students possessing IEPs at or below the statewide average. The monotonicity between the two variables can be seen as the frequency of top TPT measure scores decline as the number of principals over six years increase.

Table 4.47 provides the correlation coefficient (r_s), statistical significance (p -value) of the correlation coefficient, and number of paired observations (n) of schools with a percentage of students possessing IEPs at or below the statewide average. This analysis demonstrated a statistically significant, negative correlation between TPT and principal turnover rates from the 2013-2014 to the 2018-2019 school year ($r_s = -.153$, $p = .000$).

Table 4. 47 *Correlation and Statistical Significance: Schools with a percentage of students possessing IEPs at or below the statewide average, 2013-2014 to 2018-2019*

		Teacher-Principal Trust	Principal Turnover within 6 Years
Teacher-Principal Trust	Correlation Coefficient	1.000	-.153**
	Sig. (2-tailed)	.	.000
	N	2485	2485
Principal Turnover within 6 Years	Correlation Coefficient	-.153**	1.000
	Sig. (2-tailed)	.000	.
	N	2485	2485

** . Correlation is significant at the 0.01 level (2-tailed).

The researcher conducted a secondary analysis of paired observations of schools with a percentage of students possessing IEPs at or below the statewide average. This secondary analysis differed from the initial analysis in that it the sample was comprise of the middle 50% of the TPT measure scores represented in the initial analysis. The decision to conduct this secondary analysis was because the range of scores representing the top and bottom 25% of the TPT measure scores for the sample population demonstrated variance far exceeding that of the inter-quartile range, specifically in schools with one to five principals of the six-year time span that the study represents.

Similar to the initial analysis, a Spearman's rank-order correlation was run to determine the strength and relationship between TPT ratings and principal turnover. 1,295-paired observations represented of schools with a percentage of students possessing IEPs at or below the statewide average with TPT measure scores in the 38-66 range (representing the middle 50% of scores from the initial analysis). Preliminary analysis showed the relationship between the dependent and independent variable to be monotonic, as assessed by visual inspection of a scatterplot (Figure 4.35), which demonstrated decreasing TPT measure scores as principal turnover rates rose.

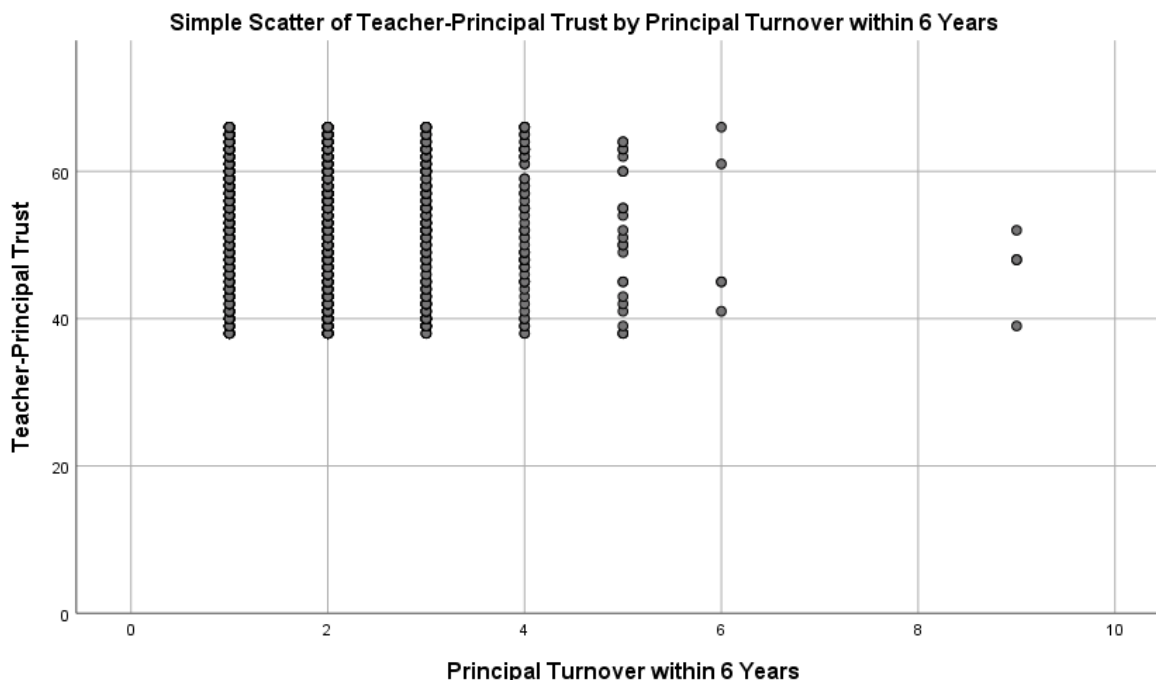


Figure 4. 35 Scatterplot displaying the analysis of the TPT measure scores and principal turnover rates for schools with a percentage of students possessing IEPs at or below the statewide average whose TPT measure was in the 25th to 75th quartile (as represented by TPT scores ranging from 35-64), 2013-2014 to 2018-2019. The monotonicity between the two variables is not as pronounced as in the initial analysis, but demonstrates significantly fewer scores for schools with five or more principals in six years.

Table 4.48 provides the correlation coefficient (r_s), statistical significance (p -value) of the correlation coefficient, and number of paired observations (n) for schools with a percentage of students possessing IEPs at or below the statewide average with TPT measure scores in in the 38-66 range. Similar to the initial analysis, the secondary analysis demonstrated a statistically significant, negative correlation between TPT and principal turnover rates from the 2013-2014 to 2018-2019 school year ($r_s = -.066$, $p = .018$).

Table 4. 48 *Correlation and Statistical Significance: Schools with a Percentage of Students Possessing IEPs was at or below the Statewide Average with TPT Measure Scores in the 25th to 75th Quartile, 2013-2014 to 2018-2019*

		Teacher-Principal Trust	Principal Turnover within 6 Years
Teacher-Principal Trust	Correlation Coefficient	1.000	-.066*
	Sig. (2-tailed)	.	.018
	N	1295	1295
Principal Turnover within 6 Years	Correlation Coefficient	-.066*	1.000
	Sig. (2-tailed)	.018	.
	N	1295	1295

*. Correlation is significant at the 0.05 level (2-tailed).

Hypothesis 5 Findings

The researcher's assertion that Illinois public schools (PK-12) with a percentage of students possessing IEPs that exceeded the statewide average would have lower levels of TPT and higher principal turnover than Illinois public schools whose percentage of students possessing IEPs was at or below the statewide average was inaccurate. Therefore, the researcher cannot reject the null hypothesis and cannot accept the alternative hypothesis. The relationship schools with a percentage of students possessing IEPs that exceeds the statewide average demonstrated statistical significance in the initial analysis ($p=.000$), but not in the secondary analysis ($p=.421$). In both the initial and secondary analysis of schools whose percentage of students possessing IEPs is at or below the statewide average, statistical significance was found: initial analysis ($p=.000$), secondary analysis ($p=.018$).

Additionally, the results of the initial analysis for schools with a percentage of students possessing IEPs that exceeds the statewide average demonstrated a declining median TPT in schools with one to three principals in six years and an increased TPT median in schools with four principals in six years. In schools whose percentage of students possessing IEPs was at or

below the statewide average, a decline in the median TPT existed in schools with one to six principals in six years. In all schools within the sample, a decline in the median TPT existed in schools with more than four principals in six years.

Hypothesis 6

The researcher postulated that Illinois public schools (PK-12) with a low-income student population that exceeds the Illinois statewide average (48.8%) have lower levels of TPT and higher levels of principal turnover as compared to Illinois public schools (PK-12) with a low-income student population that is at or below the statewide average

Paired Observations of Low-Income Student Populations Exceeding the Statewide Average

A Spearman's rank-order correlation was run in order to determine the strength and relationship between TPT ratings and principal turnover. 3,021-paired observations represented Illinois public schools with a low-income student population that exceeded the statewide average of 48.8%. Preliminary analysis showed the relationship between the dependent and independent variable to be monotonic, as assessed by visual inspection of a scatterplot (Figure 4.36), which demonstrated decreasing TPT measure scores as principal turnover rates rose.

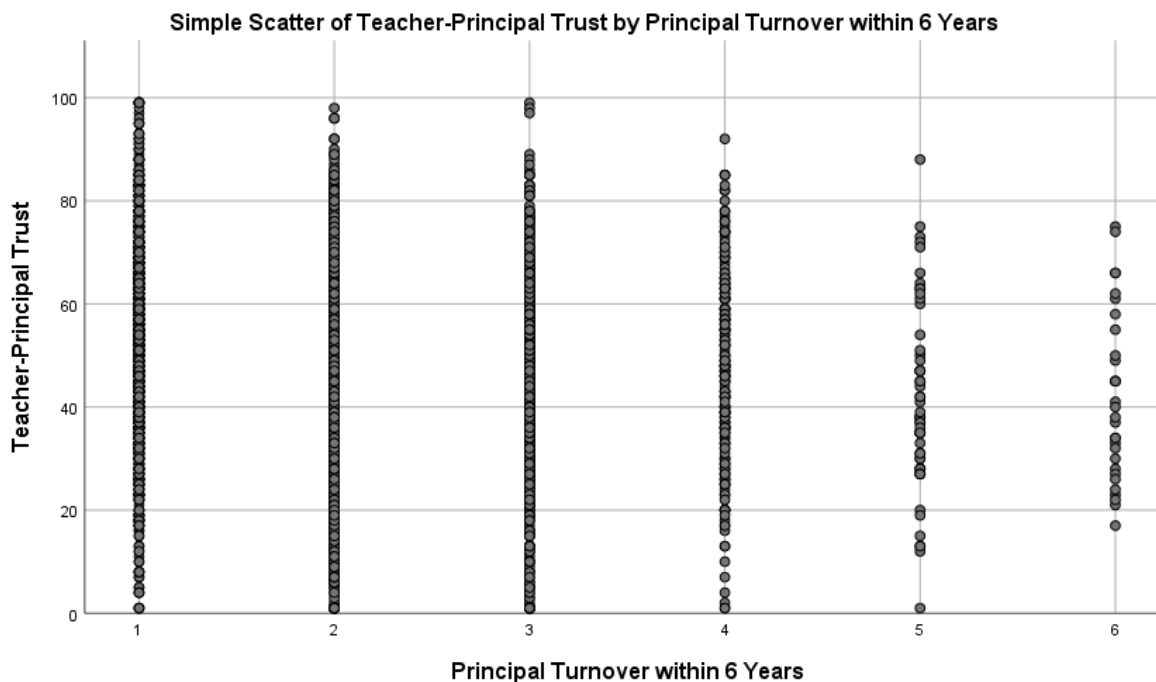


Figure 4. 36 Scatterplot displaying the analysis of the TPT measure scores and principal turnover rates for schools with a low-income student population that exceeds the statewide average. The monotonicity between the two variables is evident as the frequency of top TPT measure scores decline as the number of principals over six years increase.

Table 4.49 provides the correlation coefficient (r_s), statistical significance (p -value) of the correlation coefficient, and number of paired observations (n) of Illinois public schools (PK-12) with a low-income student population that exceeds the statewide average. This analysis demonstrated a statistically significant, negative correlation between TPT and principal turnover rates from the 2013-2014 to the 2018-2019 school year ($r_s = -.143$, $p = .000$).

Table 4. 49 *Correlation and Statistical Significance: Schools with a student population coming from low-income families that exceeds the statewide average, 2013-2014 to 2018-2019*

		Teacher-Principal Trust	Principal Turnover within 6 Years
Teacher-Principal Trust	Correlation Coefficient	1.000	-.143**
	Sig. (2-tailed)	.	.000
	N	3021	3021
Principal Turnover within 6 Years	Correlation Coefficient	-.143**	1.000
	Sig. (2-tailed)	.000	.
	N	3021	3021

** . Correlation is significant at the 0.01 level (2-tailed).

The researcher conducted a secondary analysis of paired observations of Illinois public schools (PK-12) with a low-income student population that exceeds the statewide average. This secondary analysis differed from the initial analysis in that it the sample was comprise of the middle 50% of the TPT measure scores represented in the initial analysis. The decision to conduct this secondary analysis was because the range of scores representing the top and bottom 25% of the TPT measure scores for the sample population demonstrated variance far exceeding that of the inter-quartile range, specifically in schools with one to four principals of the six-year time span that the study represents.

Similar to the initial analysis, a Spearman's rank-order correlation was run to determine the strength and relationship between TPT ratings and principal turnover. 1,570-paired observations represented Illinois public schools (PK-12) with a low-income student population that exceeded the statewide average whose TPT measure score was in the 36-63 range (representing the middle 50% of scores from the initial analysis). Preliminary analysis showed the relationship between the dependent and independent variable to be monotonic, as assessed by visual inspection of a scatterplot (Figure 4.37) which demonstrated decreasing TPT measure scores as principal turnover rates rose.

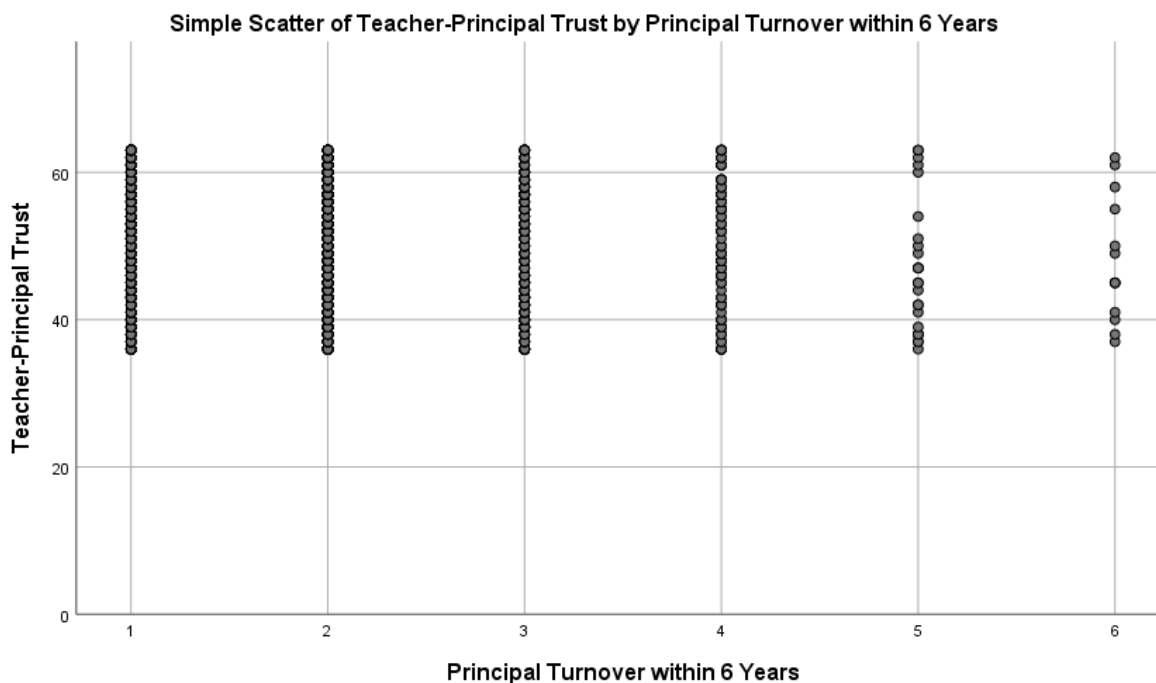


Figure 4. 37 Scatterplot displaying the analysis of the TPT measure scores and principal turnover rates for schools with a low-income student population that exceeds the statewide average whose TPT measure was in the 25th to 75th quartile (as represented by TPT scores ranging from 36-63), 2013-2014 to 2018-2019. The monotonicity between the two variables is not as pronounced as in the initial analysis, but demonstrates significantly fewer scores for schools with five or more principals in six years.

Table 4.50 provides the correlation coefficient (r_s), statistical significance (p -value) of the correlation coefficient, and number of paired observations (n) of Illinois public schools (PK-12) with a low-income student population that exceeded the statewide average with a TPT measure score in the range of 36-63. Unlike to the initial analysis, the secondary analysis demonstrated no statistically significant correlation between TPT and principal turnover rates from the 2013-2014 to 2018-2019 school years ($r_s = -.047$, $p = .062$).

Table 4. 50 *Correlation and Statistical Significance: Schools (PK-12) with a student population coming from low-income families that exceeds the statewide average with TPT Measure Scores in the 25th to 75th Quartile, 2013-2014 to 2018-2019*

		Teacher-Principal Trust	Principal Turnover within 6 Years
Teacher-Principal Trust	Correlation Coefficient	1.000	-.047
	Sig. (2-tailed)	.	.062
	N	1570	1570
Principal Turnover within 6 Years	Correlation Coefficient	-.047	1.000
	Sig. (2-tailed)	.062	.
	N	1570	1570

Paired Observations of Low-Income Student Populations at or below the Statewide Average

A Spearman's rank-order correlation was run in order to determine the strength and relationship between TPT ratings and principal turnover. 1,185-paired observations represented Illinois public schools (PK-12) with a low-income student population at or below the statewide average. (48.8%). Preliminary analysis showed the relationship between the dependent and independent variable to be monotonic, as assessed by visual inspection of a scatterplot (Figure 4.38), which demonstrated decreasing TPT measure scores as principal turnover rates rose.

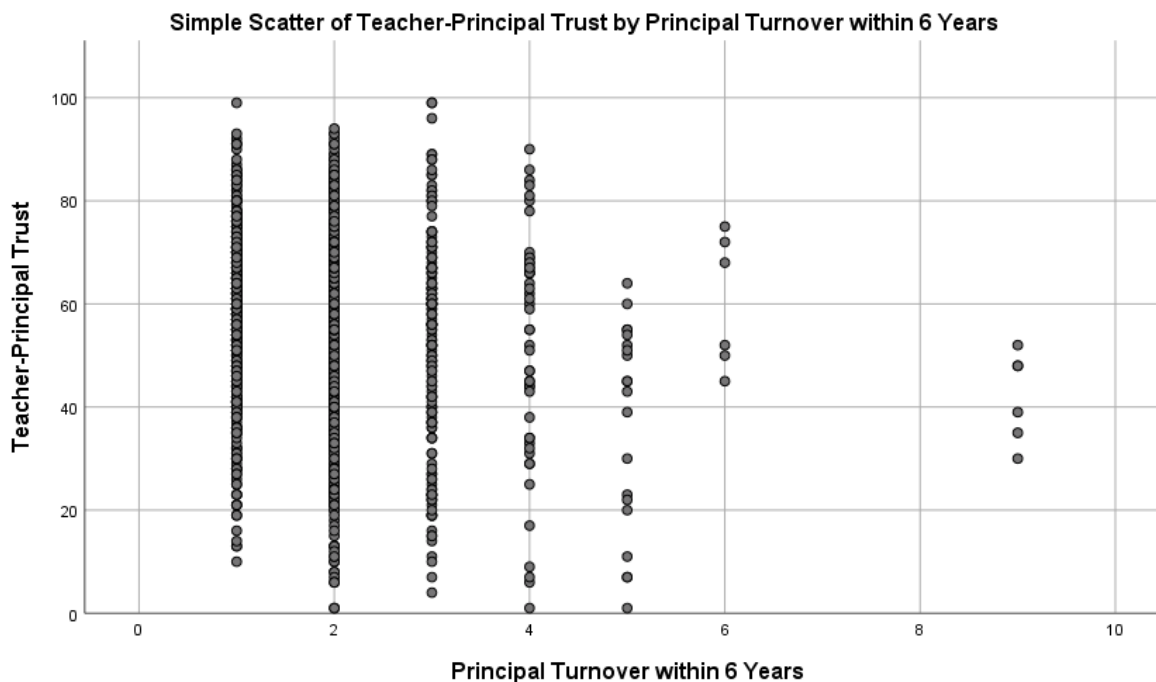


Figure 4. 38 Scatterplot displaying the analysis of the TPT measure scores and principal turnover rates for schools with a low-income student population at or below the statewide average. The monotonicity between the two variables is evident as the frequency of top TPT measure scores decline as the number of principals over six years increase.

Table 4.51 provides the correlation coefficient (r_s), statistical significance (p -value) of the correlation coefficient, and number of paired observations (n) of Illinois public schools (PK-12) with a low-income student population at or below the statewide average. This analysis demonstrated a statistically significant, negative correlation between TPT and principal turnover rates from the 2013-2014 to the 2018-2019 ($r_s = -.129$, $p = .000$).

Table 4. 51 *Correlation and Statistical Significance: Schools whose population of students student possessing IEPs was at or below the statewide average, 2013-2014 to 2018-2019*

		Teacher-Principal Trust	Principal Turnover within 6 Years
Teacher-Principal Trust	Correlation Coefficient	1.000	-.129**
	Sig. (2-tailed)	.	.000
	N	1155	1155
Principal Turnover within 6 Years	Correlation Coefficient	-.129**	1.000
	Sig. (2-tailed)	.000	.
	N	1155	1155
**. Correlation is significant at the 0.01 level (2-tailed).			

The researcher conducted a secondary analysis of paired observations of Illinois public schools (PK-12) with a low-income student population at or below the statewide average. This secondary analysis differed from the initial analysis in that it the sample was comprise of the middle 50% of the TPT measure scores represented in the initial analysis. The decision to conduct this secondary analysis was because the range of scores representing the top and bottom 25% of the TPT measure scores for the sample population demonstrated variance far exceeding that of the inter-quartile range, specifically in schools with one to four principals of the six-year time span that the study represents.

Similar to the initial analysis, a Spearman's rank-order correlation was run to determine the strength and relationship between TPT ratings and principal turnover. 601-paired observations represented Illinois public schools (PK-12) with a low-income student population at or below the statewide average whose measure TPT measure score was in the 43-69 range (representing the middle 50% of scores from the initial analysis). Preliminary analysis showed the relationship between the dependent and independent variable to be monotonic, as assessed by visual inspection of a scatterplot (Figure 4.39), which demonstrated decreasing TPT measure scores as principal turnover rates rose.

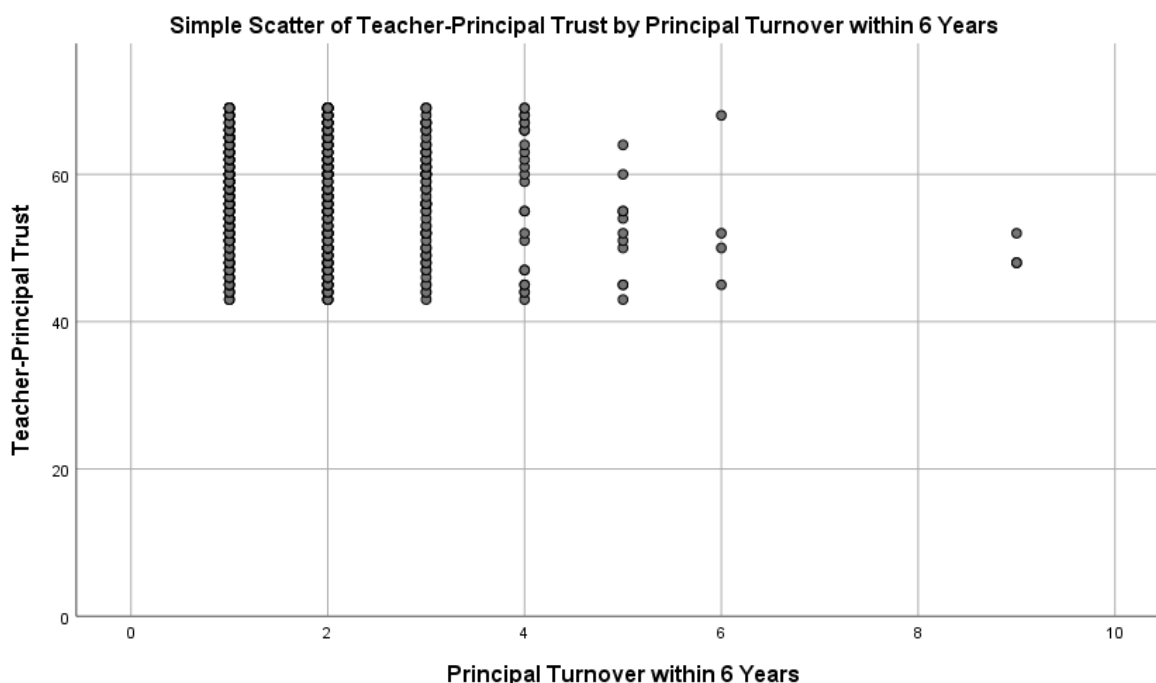


Figure 4. 39 Scatterplot displaying the analysis of the TPT measure scores and principal turnover rates for schools with a low-income student population at or below the statewide average whose TPT measure was in the 25th to 75th quartile (as represented by TPT scores ranging from 43-69), 2013-2014 to 2018-2019. The monotonicity between the two variables is not as pronounced as in the initial analysis, but demonstrates significantly fewer scores for schools with four or more principals in six years.

Table 4.52 provides the correlation coefficient (r_s), statistical significance (p -value) of the correlation coefficient, and number of paired observations (n) of Illinois public schools with a low-income student population at or below the statewide average with a TPT measure score in the 43-69 range. Unlike to the initial analysis, the secondary analysis demonstrated no statistically significant relationship between TPT and principal turnover rates from the 2013-2014 to 2018-2019 school years ($r_s = -.043$, $p = .308$).

Table 4. 52 *Correlation and Statistical Significance: Schools with a student population coming from low-income families at or below the statewide average with TPT Measure Scores in the 25th to 75th Quartile, 2013-2014 to 2018-2019*

		Teacher-Principal Trust	Principal Turnover within 6 Years
Teacher-Principal Trust	Correlation Coefficient	1.000	-.042
	Sig. (2-tailed)	.	.308
	N	601	601
Principal Turnover within 6 Years	Correlation Coefficient	-.042	1.000
	Sig. (2-tailed)	.308	.
	N	601	601

Hypothesis 6 Findings

The researcher's assertion that Illinois public schools (PK-12) with a low-income student population that exceeds the Illinois statewide average have lower levels of TPT and higher levels of principal turnover as compared to Illinois public schools (PK-12) with a low-income student population that is at or below the statewide average was inaccurate. Therefore, we cannot reject the null hypothesis and cannot accept the alternative hypothesis. The relationship schools with a low-income student population that exceeds the statewide average demonstrated statistical significance in the initial analysis ($p=.000$), but not in the secondary analysis ($p=.062$). The relationship schools with a low-income student population at or below the statewide average demonstrated statistical significance in the initial analysis ($p=.000$), but not in the secondary analysis ($p=.308$).

Additionally, the results of the initial analysis for schools with a low-income student population at or below the statewide average (Figure 13) demonstrated a declining median TPT in schools with one to three principals in six years and an increased TPT median in schools with four principals in six years. In schools whose percentage of students possessing IEPs was at or below the statewide average, a decline in the median TPT existed in schools with one to five

principals in six years. In all schools within the sample, a significant decline in the median TPT existed in schools with more than four principals in six years.

Six Hypotheses Revisited

Throughout this chapter, the researcher presented the findings of the six hypotheses related to principal turnover and the extent to which a relationship exists with TPT measure scores. Each hypothesis was examined through an initial and secondary analysis. As a review, the hypotheses that were examined were:

1. Illinois public schools (PK-12) with levels of TPT above the Illinois statewide average exhibit lower principal turnover.
2. PK-12 public schools in CPS exhibit lower levels of TPT and higher levels of principal turnover as compared to non-CPS PK-12 public schools.
3. Schools with minority-majority student populations that exceed the Illinois statewide average exhibit lower levels TPT and higher levels of principal turnover.
4. Schools with an English learner (EL) population above the Illinois statewide average exhibit lower levels of TPT and higher levels of principal turnover.
5. Schools whose percentage of students with IEPs exceed the Illinois statewide average exhibit lower levels of TPT and higher levels of principal turnover.
6. Schools with a student population coming from low-income families that exceeds the Illinois statewide average exhibit lower levels of TPT and higher levels of principal turnover.

Ultimately, of the six hypotheses postulated by the researcher, only hypothesis three led to the acceptance of the alternative hypotheses, as a statistically significant relationship existed

schools with a Hispanic/Latino ($p=.008$) majority minority student population where TPT measure score fell in the range of 35-64. The null hypothesis was accepted in all other hypotheses made by the researcher.

Chapter IV Summary

The findings presented in this chapter aimed to address the researcher's six hypotheses related to the research question of: What, if any, is the relationship between relational trust and principal turnover? The chapter consisted of a review of the research question and related hypotheses, descriptive statistics for each hypothesis, and a summary of findings for each hypothesis. The significance of the researcher's hypotheses and findings upon the current body of literature pertaining to principal turnover and future research will be discussed in the next and final chapter.

Chapter V

DISCUSSION AND FUTURE DIRECTIONS

Introduction

Relational trust exists between members of an organization when they understand and value the interdependent and mutually reliant roles that they play in working towards the organization's success. In the context of schools, the ability of a principal to establish relational trust with teachers is a critical attribute of building a positive school climate and a shared vision for teaching and learning.

Effective school leadership ranks only behind effective teaching as having the most profound impact on student achievement (Leithwood et al., 2004); yet concerns regarding double-digit annual principal turnover rates persist across the U.S. Research pertaining to the determining factors that lead to principal turnover are abundant, but research on the consequences of principal turnover is limited. The findings of this study led the researcher to discover that the greatest contributions this study makes to the body of literature on principal turnover is to recognize a principal's ability to develop relational trust as a principal or individual-level determinant of principal turnover. This chapter discusses how the researcher's study was conducted, the major findings and limitations, as well as the researcher's recommendations for future research.

Summary of Study and Findings

This study employed a quantitative methodology supported by secondary data sources. The sample population included 696 Illinois PK-12 public schools that administered the 5E in six consecutive years (2013-2014 to 2018-2019). Using TPT measure scores from the six administrations of the 5E by each school (the measurable indicator of relational trust); the researcher paired each TPT score with the principal turnover rate defined on each school's 2018-2019 Illinois report card. The ISBE defines principal turnover as "the number of principals at the same school over the past six years" (Illinois State Board of Education, n.d.). Thus, the principal turnover rate in this study is aligned to the years that the 696 schools in the study administered the 5E. Each school in the sample population represented six paired observations, one for each annual administration of the 5E (2013-2014 to 2018-2019). In total, 4,176-paired observations were represented in this study (696 schools multiplied across six administrations of the 5E)

The researcher offered six hypotheses contextualizing the following research question: What, if any, is the relationship between relational trust and principal turnover? The demographic indicators within the researchers' hypotheses were influenced by the work of Lenhoff and Pogodzinski (2018), whose work examined the relationship between 5E measure scores, demographic data and chronic absenteeism in Detroit Public and Charter Schools. The demographic data used by Lenhoff and Pogodzinski (2018) were adapted by the researcher to align to data points on Illinois school report cards. The demographic indicators included school-level percentages for Black or African American students, Hispanic or Latino students, EL students, students possessing an IEP, and students coming from low-income families.

For each hypothesis, the researcher conducted an initial and secondary analysis using a Spearman correlation coefficient test for each analysis to determine the strength and direction for the paired observations relevant to each hypothesis. The need for the secondary analysis came from the researcher's evaluation of a box plot relevant to each hypothesis (see the Descriptive Statistics section of Chapter 4 for details). The variance in TPT scores outside the inter-quartile range (the 25th to 75th quartiles) was pronounced enough for each hypothesis that the researcher evaluated the hypothesis based upon the data points available within the interquartile range.

Ultimately, this study produced three key findings that shed light on the correlation between relational trust and principal turnover: 1) Schools with relational trust issues demonstrate greater principal turnover 2) Principal turnover issues transcend urbanicity 3) school-level demographics largely do not impact principal turnover rates.

Finding 1

While the researcher hypothesized that Illinois public schools (PK-12) with levels of TPT exceeding the Illinois statewide average would exhibit lower principal turnover, no statistically significant relationship existed for schools with TPT measure scores exceeding the statewide average. However, the inverse of the researcher's hypotheses demonstrated was more accurate. Schools with TPT measure scores at or below the statewide average (a TPT measure score of 58) demonstrated a statistically significant relationship to higher rates of principal turnover.

Finding 2

The researcher hypothesized that PK-12 public schools in CPS would exhibit lower levels of TPT and higher levels of principal turnover as compared to non-CPS PK-12 public schools. The researcher found that a statistically significant relationship existed for all schools in the sample population, not just CPS. Hence, principal turnover transcends urbanicity.

Finding 3

Based on the findings from current body of literature, the researcher hypothesized that schools with minority-majority student populations, higher percentages of EL students, students possessing IEPs, and student from low-income families would exhibit lower TPT measure scores, and as a result, higher levels of principal turnover. Of all these demographic factors, the relationship between lower TPT measure scores and principal turnover was more impactful in schools with Hispanic or Latino majority student populations. Outside of this finding, the researcher discovered that like Finding 2, principal turnover transcends all other school demographics measured by the researcher.

Limitations

The researcher endorses the fidelity of the study's results; however, this study does exemplify limitations. These limitations are primarily focused on the use of the 5E survey data and the TPT measure score from the 5E to quantify relational trust.

First, the 696 schools represented in the sample population were selected because they administered the 5E in six consecutive years, though 5E administration was only required biannually. The inclusion of schools into this study who administered the 5E biannually would have increased the sample population and may have led to different results from what the researcher reports. The researcher did not include schools that administered the 5E biannually as it was critical for the years which principal turnover was being measured (2013-2014 to 2018-2019) to align the years that the 5E was administered.

Second, though the schools in the sample population represent a wide cross section schools with unique demographic backgrounds, they represent Illinois PK-12 public schools alone. Illinois is the only state where the 5E is mandated (though 19 Illinois school districts intend to

use an alternate survey in 2019-2020) and included in the state's ESSA plan, however the 5E is administered in 20 other states. Future research should replicate this study utilizing 5E data from other states.

Third, a 2012 American Institute of Research (AIR) report identified 13-school climate surveys deemed psychometrically sound and commonly used as part of the principal evaluation process (Clifford, Menon, Gangi, Condon, & Hornung, 2012). The 5E was one of the measures evaluated in this report, and like the 5E, the authors found that while all of the climate surveys aim to achieve the goal of measuring characteristics of school climate, they might produce or interpret results in different ways. This can be exemplified by noting the similar aims between the 5E's TPT measure and the Comprehensive School Climate Inventory's (CSCI) Social Support-Adults and Professional Relationships dimensions; however, the two climate surveys ask stakeholders questions about these similar areas in different ways. Hence, if the researcher's study was replicated using results from a different school climate survey such as the CSCI, results may differ.

Finally, secondary data as represented by TPT measure scores, principal turnover rates, and student demographic were the primary modes of data utilized in this study. Alternative methods of data collection, perhaps in the form of more qualitative methods, such as focus groups or interviews in schools where principal turnover is frequent or where a well-tenured principal with a track record of building relational trust could produce different results from what the researcher discovered.

Discussion

The most significant conclusion that this study established is that lower levels of relational trust (as measured by the 5E's TPT measure score) is significantly related to increased principal turnover, and largely transcends urbanicity and student demographic indicators. While previous studies directly link specific student demographics to increased principal turnover (Clotfelter et al., 2006; DeAngelis & White, 2001; Gates et al., 2006), this study determined that student demographics do not impact principal turnover as significantly as low TPT measure scores do.

Hence, it is the researcher's belief that the relationship between lower TPT measure scores and increased principal turnover is singularly focused on the establishment and facilitation of positive social exchanges and interactions between a school's principal and his or her teachers. This section aims to illustrate how the findings of this study contributes to the body of literature on principal turnover and explains how the study's findings might be used by district leaders, instructors of principal preparation programs, and policymakers to help principals build the capacity to develop relational trust with teachers. Ultimately, the hope is that these solutions offered by the researcher can play a role in mitigating principal turnover issues pervasive across the U.S.

Research Contribution

The intent of the researcher was to provide contributions to the body of literature pertaining to the determinants and consequences of principal turnover, namely by illustrating how school climate issues in schools relate to increased levels of principal turnover. The study's main finding that schools with lower levels of TPT result in higher levels of principal turnover

fills a more significant gap pertaining to the determinants of principal turnover rather than the consequences of principal turnover.

Among the studies addressing the relationship between school climate and principal turnover, the researcher was compelled by the work of Boyce and Bowers (2016). The authors' study sought to determine if there was a typology of 7,460 principals who exited their position after the 2007-2008 school year. One of the primary recommendations from this study was the need for research pertaining to the "different types of principals who exit their schools to allow for better understanding of how policy and individual-level principal turnover factors interact with one another" (p. 262). The principal-level factors referenced in Boyce and Bowers' (2016) study that contribute to principal turnover included gender, age, experience, education, and salary. Climate factors, another area examined by the authors included building relationships and establishing trust with all stakeholders (teachers, students, members of the community and the district office) effective discipline, and parent involvement. The authors recognized that "disaffected" principals were more likely to leave their position than "satisfied" principals. Among their findings, they discovered that principals with more school climate issues were likely to be deemed disaffected, and as a result, more likely to exit their position.

The researcher's findings provides needed perspective on the representation of relational trust as a measure that has a direct correlation to principal turnover rates and also provides insight on a new typology of principal more susceptible to vacating their position: principals who struggle to form relational trust with teachers. While it was the researcher's assumption that the relationship between schools with higher rates of TPT would reflect lower rates of principal turnover, no statistically significant relationship exists.

Instead, the researcher found the inverse of this assumption to be more accurate. Schools with lower levels of TPT exhibited a stronger relationship to principal turnover. Because of the relationship between lower TPT measure scores and higher principal turnover rates, researchers, practitioners, and policymakers should recognize that principals who struggle to build trust with teachers represent a new principal-level typology that may be more disposed to exiting their position (in a voluntary or forced manner).

Thus, the ability of a principal to develop relational trust can represent a new principal-level (or individual-level) typology that traditionally would have been represented as a school-level or climate factor closely aligned to the consequences of principal turnover. This notion of relational trust as a principal-level determinant of principal turnover similar to the way that gender, age, experience, education, and salary have been categorized challenges conventional understandings of this classification. However, it is important to shift our collective thinking about how relational trust is developed, namely by attributing the causality of a principal's ability to develop and sustain relationships with teachers for their success rather than the outcome of principal turnover.

To this point, the representation of a principal's ability to develop relational trust has never been perceived as a determinant of principal turnover because it has never been quantified as other principal-level determinants have in relation to principal turnover. While this study intended to determine the correlation between relational trust and principal turnover, the primary finding that lower levels of TPT is highly related to increased levels of principal turnover demonstrates the potential likelihood of a causal relationship between the two variables. Much in the same way that specific attributes related gender, age, experience, education, and salary are

quantified and causally related to principal turnover, the ability to utilize outcomes from climate surveys to quantify relational trust can now be used in a similar fashion.

Principal Preparation and Professional Development

The findings of this study also emphasize the significance of preparing the next generation of school leaders and to rethink professional development for acting principals to hone in on the importance of developing and maintaining positive relationships with teachers. One of the primary methods to achieve this goal is to structure principal preparation programs and ongoing learning for principals to standards that recognize the complexities of the principalship and the role that developing relational trust place in long-term organizational success.

The Illinois Performance Standards for School Leaders emphasize six areas of principal performance critical to leading a successful school, among them being Standard 4: Building and Maintaining Collaborative Relationships. A principal meeting the criteria for a “distinguished” rating in part of this standard requires a principal to develop “school-wide capacity to establish trusting relationships and supports positive relationships among and between all stakeholder groups” (Illinois Performance Standards for School Leaders, 2008).

In 2015, the Professional Standards for Educational Leaders (PSEL) were released, representing an updated version of the Interstate School Leaders Licensure Consortium standards (ISLLC), which the Illinois Performance Standards for School Leaders was based on. The PSEL expound upon the ISLLC standards using a forward-looking approach. Among the updates, one area emphasized is “the central importance of human relationships not only in leadership work but in teaching and student learning” (Professional Standards for Educational Leaders, 2015). Standard Seven of the PSEL, Professional Community for Teachers and Staff utilizes the word

trust three times, and in all cases reflects Bryk and Schneider's (2003) definition of relational trust in that social exchanges between a principal and his or her teachers to fulfill their responsibilities in order to promote student academic success and well-being.

The utilization of professional leadership standards for principals such as the Illinois Performance Standards for School Leaders, PSEL, or other research-based leadership standards, reflect the foundation on which principal preparation and professional development should be based upon. Having clear criteria for what make principals successful, with strong emphasis on developing trusting relationships, provides instructors and program directors of principal preparation programs and professional development providers an understanding of the skills, dispositions and abilities principals need to demonstrate in order to be successful.

Principal Mentorship

Illinois School Code (105 ILCS 5/2-3.53a) requires that all first-year principals participate in a mentoring program with an experienced principal so that the new principal receives the support needed to learn about the complexity of their role and develop their leadership competency throughout their first school year. While formal mentoring programs through organizations such as the Illinois Principal Association (IPA) exists, they are not required.

Instead, the Illinois School Code loosely outlines areas that the mentor and mentee should address over the course of the school year, and allow district leaders to coordinate principal mentorship programs as they see fit. The outline of professional growth for new principals includes, but is not limited to, the following areas: Analyzing data and applying it to practice, aligning professional development and instructional programs, building a professional learning

community, observing classroom practices and providing feedback, facilitating effective meetings, developing distributive leadership practices, and facilitating organizational change (New Principal Mentoring Program, 2007). Several of these areas reflect opportunities for the mentor and mentee to examine, discuss, and reflect upon school climate data such as TPT measure scores from the new principal's predecessor and identify areas for improvement. This practice can help the new principal better understand a key area related to the climate of their school and work towards establishing trust and positive relationships with teachers early in their tenure.

Additionally, while the Illinois School Code does provide opportunities for second-year principals to continue in a mentorship program, it is not required. For school districts who do support a principal desiring or in need of additional mentorship, it should be noted that these requests are subject to funding, availability of mentors, and the willingness of school districts to continue principal mentoring beyond a new leader's first year on the job. It is the researcher's recommendation that policymakers re-evaluate this practice, as the ability for the mentor and mentee principal to review 5E data (or comparable climate survey results) from the new principal's first year provides needed opportunities to evaluate their leadership practices and reflect upon opportunities for growth. While these recommendations are focused on Illinois, they can be applied across the nation based upon a state's requirements for principal mentorship.

Principal Evaluation

A principal serves as the instructional leader for the school they lead. As such, many of the areas that a principal is evaluated upon is focused on their ability to positively influence teaching and learning in their school. These areas of evaluation, among others, are addressed in

three categories for Illinois school administrators: professional practice, individual goals, and student growth. Professional practice allows a principal evaluator to appraise a principal's competencies of the Illinois Performance Standards for School Leaders, and individual goals should be aligned to these standards (or similar standards). Measures of student achievement growth can be addressed through a variety of means.

While mandating principals to include a specific individual goal focused on improving an area related to school climate may not be appropriate for all principals as the capacity to lead varies from leader to leader, it is imperative that principals and their evaluators more seriously consider school climate measures within annual individual goals. As just over 30% of all paired observations within the sample population saw principals with TPT measure scores in the “more” (61-80) or “most” (81-99) implementation ranges, a significant need to improve TPT exists. It is impossible to know if improving TPT was a goal for the principals of schools within the sample population; however, the merit to establish such a goal, given the connection between low TPT measure scores and principal turnover rates, exists. Thus, the research advocates for principal and principal evaluators to more seriously consider the improvement of school climate measures (such as TPT) as individual goals, specifically in targeted areas that fall beneath the level of “more” implementation.

Rethinking the Principal-District Office Relationship

Traditional organizational charts of school districts typically display leadership roles in a hierarchical manner, with the district's Board of Education and Superintendent at the top, assistant superintendents and district directors beneath, followed by school principals, then by

other building leaders, and finally, teachers. This hierarchy defines the power relationships and responsibilities of leaders within a district, akin to a feudal order.

However, school districts today need to strive for more innovative organizational models that emphasize the flexibility to address need for schools to prepare students for an ever-changing world. As stated in Chapter 2, “Today’s leading principals balance the demands of being institutional visionaries; providing instructional leadership, shaping a vision of academic success for all learners, developing and maintaining a culture of learning, and managing people, data, and processes” (The Wallace Foundation, 2013). Collectively, these responsibilities require principals to develop trust in their school and distribute leadership effectively in order to effectively operate as a learning organization. Just as principals need to develop trusting relationships to distribute leadership at the school level, similar structures at the district level need to be put in place to support principals. Unlike hierarchical organizational structures, responsive organizational thinking strives to distribute leadership to achieve a shared purpose (Kim & Gonzalez-Black, 2018, p. 46). As many district mission statements utilizes phrases alluding to “continuous learning” and “personal excellence”, they need to hold true for leaders of the schools just as much as they do for the school’s students.

5E measure scores tell the story of stakeholder perceptions of effective leadership, collaborative teachers, ambitious instruction, supportive environment, and involved families. Efforts to support principals in evaluating and improving upon climate measures, such as teachers’ perceptions of TPT, is critical for districts to live their mission statement by breaking down silos of traditional hierarchical organizational structures to aid all learners, from students to principals.

Recommendations for Future Research

The following are recommendations offered by the researcher as a means for researchers, practitioners, and policymakers to evaluate the findings of this study in the context of their area of influence and expertise. These recommendations build upon the commentary presented in the Discussion section, but offer more pointed direction to those who have the ability to affect change around the issue of relational trust and principal turnover.

For Research

Research utilizing the 5E measure scores and principal turnover data is limited to this study. Efforts to replicate this study using future administrations of the 5E would assist in validating this study's findings or present new findings. Additionally, efforts to replicate this study using TPT measure scores and principal turnover in states other than Illinois where the 5E is administered would provide needed insight about the extent to which the findings of this study could be corroborated or provide a comparative analysis across state lines.

ESSA requires states to report the outcome of school climate surveys on annual school report cards. Knowing that school climate measures are a mandated component of ESSA, future research should consider replicating this study using alternate school climate surveys that include measures related to TPT.

Lastly, qualitative researchers have the opportunity to utilize the secondary data from this study to conduct case studies of schools where TPT measure scores are in the "more" or "most" implementation ranges and have lower levels of principal turnover. Allowing principals and teachers of schools to tell their story of how relational trust and a positive school climate, was developed and sustained over time. This information could provide a blueprint for principal

preparation programs and administrator professional development to address the issues raised in this study.

For Practitioners

In an effort to improve the validity of school climate outcomes, principals and district leaders should work with stakeholders to clarify the purpose of school climate surveys, such as the 5E, but more importantly to clarify questions on these surveys to promote inter-rater reliability.

While the TPT measure clearly recognizes “the principal” as the person being evaluated in each of the eight questions for this measure, other measures such as instructional leadership, refers to “a member of the school leadership team” as the person being evaluated. Efforts to clarify the school leader being evaluated (principal, assistant principal, department chair, dean of students) would work towards creating a more consistent perception among stakeholders taking the survey of whom they are actually evaluating. Effective implementation of such practices would lead to results that are more valid, and hence more valuable for school improvement efforts.

For Policymakers

When referencing governance and policy, Bryk and Schneider (2002) stated, “we need to ask whether any new initiative is likely to promote relational trust within school communities or undermine it” (p. 144). Given the influx of federal and state mandates aimed to assess, evaluate, and improve student learning and school conditions, policymakers need to be cognizant that while efforts to hold schools and school leaders accountable are necessary, they also need to be purposeful. Bryk and Schneider (2002) indicate that initiatives handed down by state and federal

authorities can have a direct impact upon relational trust among stakeholders of a school community. It is impossible to know if government mandates influence relational trust between principals and teachers, however, the implication that there may be a relationship demonstrates the need for policymakers to collaborate with school and community leaders to understand the impact that handed down initiatives have upon schools, and more directly students.

Future Direction

The creation of school climate measures such as the 5E recognize that the success of schools as learning organizations can be measured using approaches beyond standardized test scores. Just as schools aim to develop the whole student, outcomes from school climate measures offer school leaders needed feedback in order to facilitate school improvement efforts aligned to both academic and organizational improvement. This study honed in on the TPT measure of the 5E and discovered a strong connection between schools with low TPT and principal turnover. Principal turnover has shown to be a pervasive issue in American education over the last 20 years. Research efforts to detail and contextualize the determinants and consequences of principal turnover are growing; however, this study stands alone in the effort to quantify relational trust as a determinant of principal turnover.

As the landscape of education is in a constant state of evolution and refinement, skilled principals are needed to serve as the instructional leaders, innovative thinkers, and relationship builders in order help teachers prepare students for their respective futures. This study presents a foundation for others to build upon to demonstrate the critical role that relational trust plays in building effective learning environments, distributed leadership, and maintaining quality school leaders.

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APPENDIX A
SECONDARY DATA

School	Year	Teacher-Principal Trust	Principal Turnover within 6 Years	% Student Enrollment - Black or African American	% Student Enrollment - Hispanic or Latino	% Student Enrollment - EL	% Student Enrollment - IEP	% Student Enrollment - Low Income
1	15-16	54	1	1.6	2.1	18.8	13.5	9.2
1	16-17	48	1	1.6	2.1	18.8	13.5	9.2
1	18-19	45	1	1.6	2.1	18.8	13.5	9.2
1	17-18	44	1	1.6	2.1	18.8	13.5	9.2
1	13-14	36	1	1.6	2.1	18.8	13.5	9.2
1	14-15	21	1	1.6	2.1	18.8	13.5	9.2
2	15-16	63	1	1.4	10.5	18.9	19.6	20
2	14-15	54	1	1.4	10.5	18.9	19.6	20
2	17-18	46	1	1.4	10.5	18.9	19.6	20
2	18-19	46	1	1.4	10.5	18.9	19.6	20
2	16-17	42	1	1.4	10.5	18.9	19.6	20
2	13-14	41	1	1.4	10.5	18.9	19.6	20
3	18-19	48	1	12.5	45.9	3.2	14.7	57.7
3	16-17	45	1	12.5	45.9	3.2	14.7	57.7
3	17-18	38	1	12.5	45.9	3.2	14.7	57.7
3	14-15	28	1	12.5	45.9	3.2	14.7	57.7
3	15-16	27	1	12.5	45.9	3.2	14.7	57.7
3	13-14	12	1	12.5	45.9	3.2	14.7	57.7
4	17-18	44	1	8.9	3.6	0.3	20	57.9
4	14-15	44	1	8.9	3.6	0.3	20	57.9
4	16-17	39	1	8.9	3.6	0.3	20	57.9
4	13-14	37	1	8.9	3.6	0.3	20	57.9
4	18-19	36	1	8.9	3.6	0.3	20	57.9
4	15-16	28	1	8.9	3.6	0.3	20	57.9
5	17-18	52	2	5	92.9	67.8	14.6	69.9
5	16-17	49	2	5	92.9	67.8	14.6	69.9
5	14-15	44	2	5	92.9	67.8	14.6	69.9
5	18-19	42	2	5	92.9	67.8	14.6	69.9
5	15-16	33	2	5	92.9	67.8	14.6	69.9
5	13-14	28	2	5	92.9	67.8	14.6	69.9
6	16-17	90	2	22.4	11.9	0.8	10.8	13.7
6	15-16	85	2	22.4	11.9	0.8	10.8	13.7
6	17-18	70	2	22.4	11.9	0.8	10.8	13.7
6	14-15	57	2	22.4	11.9	0.8	10.8	13.7
6	18-19	56	2	22.4	11.9	0.8	10.8	13.7
6	13-14	49	2	22.4	11.9	0.8	10.8	13.7

7	14-15	70	2	1.9	79.9	7.3	15.6	60.9
7	15-16	64	2	1.9	79.9	7.3	15.6	60.9
7	13-14	64	2	1.9	79.9	7.3	15.6	60.9
7	16-17	61	2	1.9	79.9	7.3	15.6	60.9
7	18-19	60	2	1.9	79.9	7.3	15.6	60.9
7	17-18	52	2	1.9	79.9	7.3	15.6	60.9
8	18-19	58	1	1.2	17.4	2	9.9	17.6
8	15-16	47	1	1.2	17.4	2	9.9	17.6
8	13-14	46	1	1.2	17.4	2	9.9	17.6
8	17-18	44	1	1.2	17.4	2	9.9	17.6
8	14-15	43	1	1.2	17.4	2	9.9	17.6
8	16-17	41	1	1.2	17.4	2	9.9	17.6
9	18-19	80	2	59.8	7.1	0.2	12.7	32.9
9	17-18	70	2	59.8	7.1	0.2	12.7	32.9
9	13-14	50	2	59.8	7.1	0.2	12.7	32.9
9	14-15	20	2	59.8	7.1	0.2	12.7	32.9
9	16-17	17	2	59.8	7.1	0.2	12.7	32.9
9	15-16	15	2	59.8	7.1	0.2	12.7	32.9
10	18-19	81	2	15.5	79.1	58.2	52.8	91.4
10	17-18	63	2	15.5	79.1	58.2	52.8	91.4
10	16-17	51	2	15.5	79.1	58.2	52.8	91.4
10	13-14	51	2	15.5	79.1	58.2	52.8	91.4
10	15-16	24	2	15.5	79.1	58.2	52.8	91.4
10	14-15	21	2	15.5	79.1	58.2	52.8	91.4
11	17-18	60	2	99.3	0.7	0.4	12.6	92.2
11	15-16	52	2	99.3	0.7	0.4	12.6	92.2
11	14-15	52	2	99.3	0.7	0.4	12.6	92.2
11	18-19	47	2	99.3	0.7	0.4	12.6	92.2
11	16-17	39	2	99.3	0.7	0.4	12.6	92.2
11	13-14	30	2	99.3	0.7	0.4	12.6	92.2
12	13-14	52	2	12.5	8.8	2.1	17.8	33.2
12	18-19	50	2	12.5	8.8	2.1	17.8	33.2
12	14-15	46	2	12.5	8.8	2.1	17.8	33.2
12	17-18	44	2	12.5	8.8	2.1	17.8	33.2
12	16-17	40	2	12.5	8.8	2.1	17.8	33.2
12	15-16	35	2	12.5	8.8	2.1	17.8	33.2
13	15-16	56	3	22.6	41	22	21.3	56.4
13	16-17	45	3	22.6	41	22	21.3	56.4
13	14-15	29	3	22.6	41	22	21.3	56.4
13	13-14	27	3	22.6	41	22	21.3	56.4
13	17-18	23	3	22.6	41	22	21.3	56.4

13	18-19	15	3	22.6	41	22	21.3	56.4
14	15-16	61	3	4.1	29.9	55.2	15.9	58.8
14	16-17	57	3	4.1	29.9	55.2	15.9	58.8
14	18-19	40	3	4.1	29.9	55.2	15.9	58.8
14	17-18	32	3	4.1	29.9	55.2	15.9	58.8
14	14-15	26	3	4.1	29.9	55.2	15.9	58.8
14	13-14	8	3	4.1	29.9	55.2	15.9	58.8
15	17-18	55	1	94.8	2.6	0.3	9.8	94.8
15	18-19	46	1	94.8	2.6	0.3	9.8	94.8
15	14-15	29	1	94.8	2.6	0.3	9.8	94.8
15	13-14	12	1	94.8	2.6	0.3	9.8	94.8
15	16-17	4	1	94.8	2.6	0.3	9.8	94.8
15	15-16	1	1	94.8	2.6	0.3	9.8	94.8
16	13-14	75	2	84.1	14.8	4.5	13.6	96.4
16	14-15	73	2	84.1	14.8	4.5	13.6	96.4
16	15-16	69	2	84.1	14.8	4.5	13.6	96.4
16	16-17	60	2	84.1	14.8	4.5	13.6	96.4
16	17-18	50	2	84.1	14.8	4.5	13.6	96.4
16	18-19	28	2	84.1	14.8	4.5	13.6	96.4
17	17-18	86	2	99.6	0	0	8.5	97.5
17	15-16	80	2	99.6	0	0	8.5	97.5
17	16-17	76	2	99.6	0	0	8.5	97.5
17	18-19	66	2	99.6	0	0	8.5	97.5
17	14-15	61	2	99.6	0	0	8.5	97.5
17	13-14	60	2	99.6	0	0	8.5	97.5
18	15-16	68	2	98	1.8	0.2	25.6	85.7
18	16-17	65	2	98	1.8	0.2	25.6	85.7
18	14-15	52	2	98	1.8	0.2	25.6	85.7
18	17-18	49	2	98	1.8	0.2	25.6	85.7
18	13-14	43	2	98	1.8	0.2	25.6	85.7
18	18-19	39	2	98	1.8	0.2	25.6	85.7
19	14-15	77	1	10.8	22.3	0.9	4.1	31
19	15-16	74	1	10.8	22.3	0.9	4.1	31
19	13-14	73	1	10.8	22.3	0.9	4.1	31
19	16-17	66	1	10.8	22.3	0.9	4.1	31
19	17-18	62	1	10.8	22.3	0.9	4.1	31
19	18-19	60	1	10.8	22.3	0.9	4.1	31
20	15-16	79	1	2.8	94.8	27.4	14.6	93.2
20	16-17	72	1	2.8	94.8	27.4	14.6	93.2
20	17-18	70	1	2.8	94.8	27.4	14.6	93.2
20	18-19	70	1	2.8	94.8	27.4	14.6	93.2

20	14-15	63	1	2.8	94.8	27.4	14.6	93.2
20	13-14	54	1	2.8	94.8	27.4	14.6	93.2
21	16-17	60	2	12.8	33.2	24.9	17.1	35.6
21	13-14	55	2	12.8	33.2	24.9	17.1	35.6
21	17-18	52	2	12.8	33.2	24.9	17.1	35.6
21	18-19	52	2	12.8	33.2	24.9	17.1	35.6
21	15-16	47	2	12.8	33.2	24.9	17.1	35.6
21	14-15	45	2	12.8	33.2	24.9	17.1	35.6
22	15-16	74	2	95.8	0.8	0	14	83.7
22	18-19	74	2	95.8	0.8	0	14	83.7
22	16-17	73	2	95.8	0.8	0	14	83.7
22	13-14	58	2	95.8	0.8	0	14	83.7
22	17-18	55	2	95.8	0.8	0	14	83.7
22	14-15	42	2	95.8	0.8	0	14	83.7
23	16-17	88	5	44.9	54.3	34.2	14.7	94.7
23	17-18	75	5	44.9	54.3	34.2	14.7	94.7
23	18-19	73	5	44.9	54.3	34.2	14.7	94.7
23	15-16	72	5	44.9	54.3	34.2	14.7	94.7
23	14-15	71	5	44.9	54.3	34.2	14.7	94.7
23	13-14	27	5	44.9	54.3	34.2	14.7	94.7
24	15-16	64	1	2.9	17.8	14.9	14.6	6.3
24	16-17	63	1	2.9	17.8	14.9	14.6	6.3
24	13-14	58	1	2.9	17.8	14.9	14.6	6.3
24	18-19	57	1	2.9	17.8	14.9	14.6	6.3
24	17-18	55	1	2.9	17.8	14.9	14.6	6.3
24	14-15	52	1	2.9	17.8	14.9	14.6	6.3
25	15-16	64	1	59.4	34.2	15.1	6.4	91.8
25	18-19	55	1	59.4	34.2	15.1	6.4	91.8
25	17-18	54	1	59.4	34.2	15.1	6.4	91.8
25	14-15	51	1	59.4	34.2	15.1	6.4	91.8
25	16-17	49	1	59.4	34.2	15.1	6.4	91.8
25	13-14	39	1	59.4	34.2	15.1	6.4	91.8
26	18-19	60	1	88.7	6.2	1	2.6	37.4
26	17-18	55	1	88.7	6.2	1	2.6	37.4
26	14-15	36	1	88.7	6.2	1	2.6	37.4
26	13-14	33	1	88.7	6.2	1	2.6	37.4
26	16-17	23	1	88.7	6.2	1	2.6	37.4
26	15-16	13	1	88.7	6.2	1	2.6	37.4
27	18-19	69	2	99.2	0.8	0.4	21.2	95.9
27	16-17	66	2	99.2	0.8	0.4	21.2	95.9
27	15-16	63	2	99.2	0.8	0.4	21.2	95.9

27	17-18	57	2	99.2	0.8	0.4	21.2	95.9
27	14-15	47	2	99.2	0.8	0.4	21.2	95.9
27	13-14	29	2	99.2	0.8	0.4	21.2	95.9
28	14-15	43	1	68.9	29.4	18.7	25.1	94
28	15-16	40	1	68.9	29.4	18.7	25.1	94
28	13-14	35	1	68.9	29.4	18.7	25.1	94
28	18-19	22	1	68.9	29.4	18.7	25.1	94
28	16-17	19	1	68.9	29.4	18.7	25.1	94
28	17-18	17	1	68.9	29.4	18.7	25.1	94
29	17-18	91	1	8.8	11.5	3.4	15.4	13.1
29	13-14	78	1	8.8	11.5	3.4	15.4	13.1
29	15-16	75	1	8.8	11.5	3.4	15.4	13.1
29	14-15	71	1	8.8	11.5	3.4	15.4	13.1
29	16-17	70	1	8.8	11.5	3.4	15.4	13.1
29	18-19	67	1	8.8	11.5	3.4	15.4	13.1
30	16-17	70	1	1.4	13	0.5	9.8	13.8
30	17-18	70	1	1.4	13	0.5	9.8	13.8
30	18-19	68	1	1.4	13	0.5	9.8	13.8
30	14-15	66	1	1.4	13	0.5	9.8	13.8
30	13-14	60	1	1.4	13	0.5	9.8	13.8
30	15-16	59	1	1.4	13	0.5	9.8	13.8
31	18-19	77	1	100	0	0	12.6	93
31	17-18	66	1	100	0	0	12.6	93
31	15-16	46	1	100	0	0	12.6	93
31	14-15	45	1	100	0	0	12.6	93
31	16-17	37	1	100	0	0	12.6	93
31	13-14	35	1	100	0	0	12.6	93
32	16-17	70	4	25.5	39.1	14.9	15.5	38.6
32	17-18	47	4	25.5	39.1	14.9	15.5	38.6
32	18-19	45	4	25.5	39.1	14.9	15.5	38.6
32	14-15	9	4	25.5	39.1	14.9	15.5	38.6
32	15-16	7	4	25.5	39.1	14.9	15.5	38.6
32	13-14	1	4	25.5	39.1	14.9	15.5	38.6
33	14-15	74	3	7.3	10.1	13.7	15.6	15.8
33	16-17	61	3	7.3	10.1	13.7	15.6	15.8
33	17-18	46	3	7.3	10.1	13.7	15.6	15.8
33	18-19	42	3	7.3	10.1	13.7	15.6	15.8
33	13-14	25	3	7.3	10.1	13.7	15.6	15.8
33	15-16	22	3	7.3	10.1	13.7	15.6	15.8
34	16-17	71	2	2.3	11.5	12.9	12.9	8.2
34	17-18	71	2	2.3	11.5	12.9	12.9	8.2

34	14-15	62	2	2.3	11.5	12.9	12.9	8.2
34	18-19	62	2	2.3	11.5	12.9	12.9	8.2
34	13-14	58	2	2.3	11.5	12.9	12.9	8.2
34	15-16	56	2	2.3	11.5	12.9	12.9	8.2
35	13-14	69	2	12.8	35.4	26.7	16.8	27.4
35	14-15	60	2	12.8	35.4	26.7	16.8	27.4
35	18-19	52	2	12.8	35.4	26.7	16.8	27.4
35	15-16	51	2	12.8	35.4	26.7	16.8	27.4
35	16-17	48	2	12.8	35.4	26.7	16.8	27.4
35	17-18	44	2	12.8	35.4	26.7	16.8	27.4
36	17-18	82	2	55	26.2	10	7.6	99.3
36	18-19	67	2	55	26.2	10	7.6	99.3
36	13-14	32	2	55	26.2	10	7.6	99.3
36	16-17	30	2	55	26.2	10	7.6	99.3
36	15-16	22	2	55	26.2	10	7.6	99.3
36	14-15	17	2	55	26.2	10	7.6	99.3
37	18-19	76	2	3.9	1.7	3.9	12.5	12.6
37	17-18	67	2	3.9	1.7	3.9	12.5	12.6
37	16-17	28	2	3.9	1.7	3.9	12.5	12.6
37	14-15	22	2	3.9	1.7	3.9	12.5	12.6
37	15-16	13	2	3.9	1.7	3.9	12.5	12.6
37	13-14	1	2	3.9	1.7	3.9	12.5	12.6
38	18-19	47	2	8.7	88.7	58.2	15.2	100
38	15-16	11	2	8.7	88.7	58.2	15.2	100
38	16-17	11	2	8.7	88.7	58.2	15.2	100
38	14-15	9	2	8.7	88.7	58.2	15.2	100
38	13-14	9	2	8.7	88.7	58.2	15.2	100
38	17-18	7	2	8.7	88.7	58.2	15.2	100
39	18-19	58	1	9.8	59.1	26.7	11.7	85.7
39	14-15	36	1	9.8	59.1	26.7	11.7	85.7
39	15-16	35	1	9.8	59.1	26.7	11.7	85.7
39	16-17	32	1	9.8	59.1	26.7	11.7	85.7
39	13-14	23	1	9.8	59.1	26.7	11.7	85.7
39	17-18	17	1	9.8	59.1	26.7	11.7	85.7
40	16-17	66	3	13.9	15.6	4.1	12.8	17.2
40	15-16	64	3	13.9	15.6	4.1	12.8	17.2
40	13-14	61	3	13.9	15.6	4.1	12.8	17.2
40	14-15	56	3	13.9	15.6	4.1	12.8	17.2
40	17-18	24	3	13.9	15.6	4.1	12.8	17.2
40	18-19	15	3	13.9	15.6	4.1	12.8	17.2
41	15-16	67	2	96.8	2.1	0.9	15.5	96.8

41	16-17	66	2	96.8	2.1	0.9	15.5	96.8
41	17-18	60	2	96.8	2.1	0.9	15.5	96.8
41	18-19	48	2	96.8	2.1	0.9	15.5	96.8
41	13-14	47	2	96.8	2.1	0.9	15.5	96.8
41	14-15	45	2	96.8	2.1	0.9	15.5	96.8
42	13-14	63	2	98.1	1.2	1.2	14.8	82.8
42	16-17	61	2	98.1	1.2	1.2	14.8	82.8
42	17-18	57	2	98.1	1.2	1.2	14.8	82.8
42	14-15	56	2	98.1	1.2	1.2	14.8	82.8
42	15-16	41	2	98.1	1.2	1.2	14.8	82.8
42	18-19	41	2	98.1	1.2	1.2	14.8	82.8
43	18-19	82	2	96.6	2	0.5	17.7	92.6
43	17-18	80	2	96.6	2	0.5	17.7	92.6
43	16-17	78	2	96.6	2	0.5	17.7	92.6
43	15-16	74	2	96.6	2	0.5	17.7	92.6
43	13-14	37	2	96.6	2	0.5	17.7	92.6
43	14-15	25	2	96.6	2	0.5	17.7	92.6
44	14-15	54	2	21.9	56.5	10	15.4	98.1
44	13-14	47	2	21.9	56.5	10	15.4	98.1
44	18-19	23	2	21.9	56.5	10	15.4	98.1
44	17-18	21	2	21.9	56.5	10	15.4	98.1
44	16-17	17	2	21.9	56.5	10	15.4	98.1
44	15-16	15	2	21.9	56.5	10	15.4	98.1
45	15-16	71	2	14.7	54.1	17.3	19.5	99.3
45	17-18	61	2	14.7	54.1	17.3	19.5	99.3
45	16-17	56	2	14.7	54.1	17.3	19.5	99.3
45	14-15	42	2	14.7	54.1	17.3	19.5	99.3
45	13-14	29	2	14.7	54.1	17.3	19.5	99.3
45	18-19	21	2	14.7	54.1	17.3	19.5	99.3
46	14-15	53	1	15.7	16.1	2.7	15.1	17.6
46	13-14	52	1	15.7	16.1	2.7	15.1	17.6
46	17-18	51	1	15.7	16.1	2.7	15.1	17.6
46	16-17	48	1	15.7	16.1	2.7	15.1	17.6
46	15-16	44	1	15.7	16.1	2.7	15.1	17.6
46	18-19	43	1	15.7	16.1	2.7	15.1	17.6
47	14-15	37	1	5.4	90.6	31.2	12.4	70.8
47	17-18	36	1	5.4	90.6	31.2	12.4	70.8
47	13-14	36	1	5.4	90.6	31.2	12.4	70.8
47	16-17	33	1	5.4	90.6	31.2	12.4	70.8
47	18-19	28	1	5.4	90.6	31.2	12.4	70.8
47	15-16	22	1	5.4	90.6	31.2	12.4	70.8

48	16-17	69	3	85.3	12.8	4.3	11.6	92.5
48	15-16	63	3	85.3	12.8	4.3	11.6	92.5
48	14-15	58	3	85.3	12.8	4.3	11.6	92.5
48	13-14	37	3	85.3	12.8	4.3	11.6	92.5
48	17-18	35	3	85.3	12.8	4.3	11.6	92.5
48	18-19	33	3	85.3	12.8	4.3	11.6	92.5
49	14-15	89	3	6.8	17.1	2.6	20.5	19.9
49	15-16	88	3	6.8	17.1	2.6	20.5	19.9
49	13-14	83	3	6.8	17.1	2.6	20.5	19.9
49	16-17	61	3	6.8	17.1	2.6	20.5	19.9
49	18-19	60	3	6.8	17.1	2.6	20.5	19.9
49	17-18	49	3	6.8	17.1	2.6	20.5	19.9
50	17-18	67	1	96.3	3.7	0.9	9.9	94.9
50	18-19	66	1	96.3	3.7	0.9	9.9	94.9
50	14-15	58	1	96.3	3.7	0.9	9.9	94.9
50	15-16	46	1	96.3	3.7	0.9	9.9	94.9
50	16-17	39	1	96.3	3.7	0.9	9.9	94.9
50	13-14	33	1	96.3	3.7	0.9	9.9	94.9
51	15-16	65	2	5.1	88.5	63.2	10.1	70.6
51	13-14	59	2	5.1	88.5	63.2	10.1	70.6
51	18-19	55	2	5.1	88.5	63.2	10.1	70.6
51	17-18	52	2	5.1	88.5	63.2	10.1	70.6
51	14-15	49	2	5.1	88.5	63.2	10.1	70.6
51	16-17	47	2	5.1	88.5	63.2	10.1	70.6
52	14-15	67	3	96.8	2.5	0.9	14	96.2
52	17-18	62	3	96.8	2.5	0.9	14	96.2
52	18-19	62	3	96.8	2.5	0.9	14	96.2
52	15-16	60	3	96.8	2.5	0.9	14	96.2
52	16-17	58	3	96.8	2.5	0.9	14	96.2
52	13-14	43	3	96.8	2.5	0.9	14	96.2
53	15-16	78	1	31.7	45	23.4	9.6	78.4
53	16-17	65	1	31.7	45	23.4	9.6	78.4
53	18-19	50	1	31.7	45	23.4	9.6	78.4
53	17-18	46	1	31.7	45	23.4	9.6	78.4
53	13-14	37	1	31.7	45	23.4	9.6	78.4
53	14-15	8	1	31.7	45	23.4	9.6	78.4
54	15-16	60	3	29.7	67.3	12.6	24.5	87.7
54	17-18	46	3	29.7	67.3	12.6	24.5	87.7
54	14-15	43	3	29.7	67.3	12.6	24.5	87.7
54	13-14	43	3	29.7	67.3	12.6	24.5	87.7
54	16-17	30	3	29.7	67.3	12.6	24.5	87.7

54	18-19	19	3	29.7	67.3	12.6	24.5	87.7
55	18-19	84	1	20.1	42	9.1	11	34.6
55	17-18	83	1	20.1	42	9.1	11	34.6
55	13-14	79	1	20.1	42	9.1	11	34.6
55	14-15	78	1	20.1	42	9.1	11	34.6
55	15-16	72	1	20.1	42	9.1	11	34.6
55	16-17	58	1	20.1	42	9.1	11	34.6
56	14-15	72	2	0.3	0	0	15.3	47.3
56	13-14	69	2	0.3	0	0	15.3	47.3
56	15-16	67	2	0.3	0	0	15.3	47.3
56	17-18	55	2	0.3	0	0	15.3	47.3
56	18-19	52	2	0.3	0	0	15.3	47.3
56	16-17	48	2	0.3	0	0	15.3	47.3
57	13-14	92	1	96.7	1.8	0	16	85.8
57	15-16	85	1	96.7	1.8	0	16	85.8
57	16-17	78	1	96.7	1.8	0	16	85.8
57	18-19	78	1	96.7	1.8	0	16	85.8
57	14-15	76	1	96.7	1.8	0	16	85.8
57	17-18	68	1	96.7	1.8	0	16	85.8
58	13-14	72	1	52.8	44.6	25.6	13.4	94.6
58	18-19	67	1	52.8	44.6	25.6	13.4	94.6
58	17-18	62	1	52.8	44.6	25.6	13.4	94.6
58	15-16	53	1	52.8	44.6	25.6	13.4	94.6
58	16-17	47	1	52.8	44.6	25.6	13.4	94.6
58	14-15	38	1	52.8	44.6	25.6	13.4	94.6
59	16-17	84	2	98.3	1.4	0.3	20.1	90.3
59	15-16	69	2	98.3	1.4	0.3	20.1	90.3
59	14-15	66	2	98.3	1.4	0.3	20.1	90.3
59	17-18	59	2	98.3	1.4	0.3	20.1	90.3
59	18-19	46	2	98.3	1.4	0.3	20.1	90.3
59	13-14	46	2	98.3	1.4	0.3	20.1	90.3
60	16-17	73	3	55.3	19.5	11.6	15.6	87.9
60	17-18	63	3	55.3	19.5	11.6	15.6	87.9
60	18-19	61	3	55.3	19.5	11.6	15.6	87.9
60	13-14	38	3	55.3	19.5	11.6	15.6	87.9
60	15-16	28	3	55.3	19.5	11.6	15.6	87.9
60	14-15	19	3	55.3	19.5	11.6	15.6	87.9
61	14-15	86	1	2.7	11.5	23.2	10.9	10
61	13-14	77	1	2.7	11.5	23.2	10.9	10
61	17-18	70	1	2.7	11.5	23.2	10.9	10
61	16-17	58	1	2.7	11.5	23.2	10.9	10

61	18-19	56	1	2.7	11.5	23.2	10.9	10
61	15-16	51	1	2.7	11.5	23.2	10.9	10
62	16-17	67	2	95.4	3.4	0.4	16.1	88.5
62	18-19	66	2	95.4	3.4	0.4	16.1	88.5
62	15-16	64	2	95.4	3.4	0.4	16.1	88.5
62	13-14	45	2	95.4	3.4	0.4	16.1	88.5
62	17-18	44	2	95.4	3.4	0.4	16.1	88.5
62	14-15	25	2	95.4	3.4	0.4	16.1	88.5
63	18-19	77	3	98.1	1.3	0	17.4	83.4
63	15-16	69	3	98.1	1.3	0	17.4	83.4
63	13-14	55	3	98.1	1.3	0	17.4	83.4
63	17-18	49	3	98.1	1.3	0	17.4	83.4
63	14-15	49	3	98.1	1.3	0	17.4	83.4
63	16-17	45	3	98.1	1.3	0	17.4	83.4
64	17-18	58	3	99.7	0.2	0.3	17.2	97.1
64	16-17	53	3	99.7	0.2	0.3	17.2	97.1
64	14-15	53	3	99.7	0.2	0.3	17.2	97.1
64	15-16	48	3	99.7	0.2	0.3	17.2	97.1
64	18-19	48	3	99.7	0.2	0.3	17.2	97.1
64	13-14	3	3	99.7	0.2	0.3	17.2	97.1
65	17-18	63	2	2.1	96.1	67.6	17.8	68.8
65	18-19	62	2	2.1	96.1	67.6	17.8	68.8
65	16-17	61	2	2.1	96.1	67.6	17.8	68.8
65	15-16	55	2	2.1	96.1	67.6	17.8	68.8
65	14-15	28	2	2.1	96.1	67.6	17.8	68.8
65	13-14	26	2	2.1	96.1	67.6	17.8	68.8
66	13-14	50	3	48.4	3.7	0.5	16.8	68.1
66	16-17	50	3	48.4	3.7	0.5	16.8	68.1
66	15-16	50	3	48.4	3.7	0.5	16.8	68.1
66	17-18	43	3	48.4	3.7	0.5	16.8	68.1
66	14-15	36	3	48.4	3.7	0.5	16.8	68.1
66	18-19	33	3	48.4	3.7	0.5	16.8	68.1
67	18-19	57	1	10.7	4.2	1.5	21.5	70.9
67	16-17	54	1	10.7	4.2	1.5	21.5	70.9
67	13-14	53	1	10.7	4.2	1.5	21.5	70.9
67	14-15	52	1	10.7	4.2	1.5	21.5	70.9
67	15-16	39	1	10.7	4.2	1.5	21.5	70.9
67	17-18	31	1	10.7	4.2	1.5	21.5	70.9
68	18-19	69	2	40.5	12.5	7.2	6.3	27.5
68	13-14	69	2	40.5	12.5	7.2	6.3	27.5
68	16-17	58	2	40.5	12.5	7.2	6.3	27.5

68	17-18	57	2	40.5	12.5	7.2	6.3	27.5
68	14-15	50	2	40.5	12.5	7.2	6.3	27.5
68	15-16	45	2	40.5	12.5	7.2	6.3	27.5
69	18-19	78	2	30	64.9	10.7	14	85.1
69	13-14	77	2	30	64.9	10.7	14	85.1
69	14-15	74	2	30	64.9	10.7	14	85.1
69	15-16	67	2	30	64.9	10.7	14	85.1
69	17-18	65	2	30	64.9	10.7	14	85.1
69	16-17	56	2	30	64.9	10.7	14	85.1
70	17-18	82	1	24.9	72.4	30.2	14.5	97.5
70	14-15	77	1	24.9	72.4	30.2	14.5	97.5
70	15-16	76	1	24.9	72.4	30.2	14.5	97.5
70	16-17	68	1	24.9	72.4	30.2	14.5	97.5
70	18-19	68	1	24.9	72.4	30.2	14.5	97.5
70	13-14	49	1	24.9	72.4	30.2	14.5	97.5
71	16-17	81	2	1.6	94.3	38.5	14.5	93.4
71	15-16	76	2	1.6	94.3	38.5	14.5	93.4
71	13-14	73	2	1.6	94.3	38.5	14.5	93.4
71	18-19	72	2	1.6	94.3	38.5	14.5	93.4
71	14-15	65	2	1.6	94.3	38.5	14.5	93.4
71	17-18	64	2	1.6	94.3	38.5	14.5	93.4
72	14-15	79	2	6.8	32.3	22.3	16.7	41
72	13-14	69	2	6.8	32.3	22.3	16.7	41
72	17-18	34	2	6.8	32.3	22.3	16.7	41
72	16-17	33	2	6.8	32.3	22.3	16.7	41
72	18-19	28	2	6.8	32.3	22.3	16.7	41
72	15-16	12	2	6.8	32.3	22.3	16.7	41
73	18-19	46	1	9.1	30.5	5.9	13.6	44.2
73	17-18	36	1	9.1	30.5	5.9	13.6	44.2
73	16-17	35	1	9.1	30.5	5.9	13.6	44.2
73	14-15	34	1	9.1	30.5	5.9	13.6	44.2
73	15-16	30	1	9.1	30.5	5.9	13.6	44.2
73	13-14	27	1	9.1	30.5	5.9	13.6	44.2
74	14-15	73	2	98.6	0.6	0.3	13.8	89.5
74	13-14	72	2	98.6	0.6	0.3	13.8	89.5
74	15-16	65	2	98.6	0.6	0.3	13.8	89.5
74	16-17	57	2	98.6	0.6	0.3	13.8	89.5
74	17-18	52	2	98.6	0.6	0.3	13.8	89.5
74	18-19	38	2	98.6	0.6	0.3	13.8	89.5
75	17-18	55	1	6.7	74.8	20.6	12.7	63.3
75	15-16	43	1	6.7	74.8	20.6	12.7	63.3

75	16-17	37	1	6.7	74.8	20.6	12.7	63.3
75	14-15	35	1	6.7	74.8	20.6	12.7	63.3
75	13-14	29	1	6.7	74.8	20.6	12.7	63.3
75	18-19	11	1	6.7	74.8	20.6	12.7	63.3
76	16-17	82	2	1.9	11.1	18.8	15.9	11.1
76	15-16	64	2	1.9	11.1	18.8	15.9	11.1
76	14-15	60	2	1.9	11.1	18.8	15.9	11.1
76	13-14	58	2	1.9	11.1	18.8	15.9	11.1
76	18-19	57	2	1.9	11.1	18.8	15.9	11.1
76	17-18	55	2	1.9	11.1	18.8	15.9	11.1
77	13-14	79	2	7.7	3.8	2.8	20.5	18.8
77	14-15	71	2	7.7	3.8	2.8	20.5	18.8
77	16-17	67	2	7.7	3.8	2.8	20.5	18.8
77	15-16	63	2	7.7	3.8	2.8	20.5	18.8
77	18-19	27	2	7.7	3.8	2.8	20.5	18.8
77	17-18	24	2	7.7	3.8	2.8	20.5	18.8
78	17-18	87	2	4.5	13.6	20.7	18	11.6
78	16-17	86	2	4.5	13.6	20.7	18	11.6
78	15-16	84	2	4.5	13.6	20.7	18	11.6
78	18-19	83	2	4.5	13.6	20.7	18	11.6
78	14-15	71	2	4.5	13.6	20.7	18	11.6
78	13-14	21	2	4.5	13.6	20.7	18	11.6
79	17-18	63	3	80.1	16.5	1.5	25.4	89.3
79	15-16	57	3	80.1	16.5	1.5	25.4	89.3
79	14-15	48	3	80.1	16.5	1.5	25.4	89.3
79	13-14	46	3	80.1	16.5	1.5	25.4	89.3
79	16-17	44	3	80.1	16.5	1.5	25.4	89.3
79	18-19	34	3	80.1	16.5	1.5	25.4	89.3
80	16-17	82	2	99.4	0.6	0.9	18.7	88.1
80	17-18	72	2	99.4	0.6	0.9	18.7	88.1
80	15-16	68	2	99.4	0.6	0.9	18.7	88.1
80	14-15	52	2	99.4	0.6	0.9	18.7	88.1
80	13-14	47	2	99.4	0.6	0.9	18.7	88.1
80	18-19	44	2	99.4	0.6	0.9	18.7	88.1
81	17-18	70	1	35.6	63	5.4	5.4	85
81	13-14	65	1	35.6	63	5.4	5.4	85
81	18-19	62	1	35.6	63	5.4	5.4	85
81	16-17	58	1	35.6	63	5.4	5.4	85
81	14-15	52	1	35.6	63	5.4	5.4	85
81	15-16	43	1	35.6	63	5.4	5.4	85
82	17-18	61	4	97.2	2.3	0	23.4	96.8

82	16-17	55	4	97.2	2.3	0	23.4	96.8
82	18-19	55	4	97.2	2.3	0	23.4	96.8
82	14-15	30	4	97.2	2.3	0	23.4	96.8
82	13-14	19	4	97.2	2.3	0	23.4	96.8
82	15-16	1	4	97.2	2.3	0	23.4	96.8
83	16-17	75	1	13.5	23.3	25.9	17.9	29.6
83	13-14	74	1	13.5	23.3	25.9	17.9	29.6
83	14-15	67	1	13.5	23.3	25.9	17.9	29.6
83	15-16	67	1	13.5	23.3	25.9	17.9	29.6
83	17-18	64	1	13.5	23.3	25.9	17.9	29.6
83	18-19	54	1	13.5	23.3	25.9	17.9	29.6
84	17-18	83	1	96.1	2.2	0	27.5	86.5
84	13-14	56	1	96.1	2.2	0	27.5	86.5
84	14-15	44	1	96.1	2.2	0	27.5	86.5
84	15-16	40	1	96.1	2.2	0	27.5	86.5
84	16-17	40	1	96.1	2.2	0	27.5	86.5
84	18-19	40	1	96.1	2.2	0	27.5	86.5
85	18-19	73	1	1	6.3	4.9	0	12.6
85	15-16	56	1	1	6.3	4.9	0	12.6
85	17-18	56	1	1	6.3	4.9	0	12.6
85	16-17	52	1	1	6.3	4.9	0	12.6
85	14-15	49	1	1	6.3	4.9	0	12.6
85	13-14	40	1	1	6.3	4.9	0	12.6
86	15-16	65	1	91	4	6.5	9.6	73.4
86	14-15	63	1	91	4	6.5	9.6	73.4
86	13-14	59	1	91	4	6.5	9.6	73.4
86	17-18	54	1	91	4	6.5	9.6	73.4
86	16-17	50	1	91	4	6.5	9.6	73.4
86	18-19	42	1	91	4	6.5	9.6	73.4
87	14-15	64	3	96.7	2.8	2.8	17.5	94.8
87	13-14	58	3	96.7	2.8	2.8	17.5	94.8
87	15-16	46	3	96.7	2.8	2.8	17.5	94.8
87	17-18	46	3	96.7	2.8	2.8	17.5	94.8
87	18-19	40	3	96.7	2.8	2.8	17.5	94.8
87	16-17	36	3	96.7	2.8	2.8	17.5	94.8
88	13-14	70	2	0.5	2.7	3.6	12.8	1.5
88	17-18	51	2	0.5	2.7	3.6	12.8	1.5
88	14-15	40	2	0.5	2.7	3.6	12.8	1.5
88	16-17	33	2	0.5	2.7	3.6	12.8	1.5
88	18-19	25	2	0.5	2.7	3.6	12.8	1.5
88	15-16	25	2	0.5	2.7	3.6	12.8	1.5

89	15-16	59	2	97.5	1.4	0.8	17.1	96.6
89	18-19	59	2	97.5	1.4	0.8	17.1	96.6
89	16-17	58	2	97.5	1.4	0.8	17.1	96.6
89	14-15	57	2	97.5	1.4	0.8	17.1	96.6
89	17-18	55	2	97.5	1.4	0.8	17.1	96.6
89	13-14	23	2	97.5	1.4	0.8	17.1	96.6
90	18-19	79	2	94.5	4.2	1.8	20.4	93.5
90	17-18	68	2	94.5	4.2	1.8	20.4	93.5
90	15-16	64	2	94.5	4.2	1.8	20.4	93.5
90	16-17	57	2	94.5	4.2	1.8	20.4	93.5
90	14-15	57	2	94.5	4.2	1.8	20.4	93.5
90	13-14	57	2	94.5	4.2	1.8	20.4	93.5
91	15-16	88	1	33.7	27	14.2	14.2	54.7
91	16-17	86	1	33.7	27	14.2	14.2	54.7
91	17-18	84	1	33.7	27	14.2	14.2	54.7
91	13-14	83	1	33.7	27	14.2	14.2	54.7
91	18-19	83	1	33.7	27	14.2	14.2	54.7
91	14-15	80	1	33.7	27	14.2	14.2	54.7
92	13-14	63	1	44.9	8.3	0.3	17.1	81.8
92	14-15	54	1	44.9	8.3	0.3	17.1	81.8
92	16-17	43	1	44.9	8.3	0.3	17.1	81.8
92	18-19	40	1	44.9	8.3	0.3	17.1	81.8
92	15-16	39	1	44.9	8.3	0.3	17.1	81.8
92	17-18	23	1	44.9	8.3	0.3	17.1	81.8
93	13-14	74	4	13.6	82.3	47.5	16.7	78.5
93	14-15	71	4	13.6	82.3	47.5	16.7	78.5
93	15-16	59	4	13.6	82.3	47.5	16.7	78.5
93	18-19	53	4	13.6	82.3	47.5	16.7	78.5
93	17-18	42	4	13.6	82.3	47.5	16.7	78.5
93	16-17	25	4	13.6	82.3	47.5	16.7	78.5
94	13-14	79	2	1	10.5	19.3	21.9	10.3
94	17-18	72	2	1	10.5	19.3	21.9	10.3
94	18-19	67	2	1	10.5	19.3	21.9	10.3
94	14-15	59	2	1	10.5	19.3	21.9	10.3
94	15-16	57	2	1	10.5	19.3	21.9	10.3
94	16-17	50	2	1	10.5	19.3	21.9	10.3
95	15-16	71	2	8.2	35.2	29.8	12.3	29
95	16-17	67	2	8.2	35.2	29.8	12.3	29
95	17-18	67	2	8.2	35.2	29.8	12.3	29
95	18-19	61	2	8.2	35.2	29.8	12.3	29
95	14-15	41	2	8.2	35.2	29.8	12.3	29

95	13-14	40	2	8.2	35.2	29.8	12.3	29
96	16-17	63	1	96.7	1.7	0.2	9.8	79.1
96	15-16	60	1	96.7	1.7	0.2	9.8	79.1
96	14-15	52	1	96.7	1.7	0.2	9.8	79.1
96	18-19	43	1	96.7	1.7	0.2	9.8	79.1
96	17-18	40	1	96.7	1.7	0.2	9.8	79.1
96	13-14	32	1	96.7	1.7	0.2	9.8	79.1
97	18-19	82	3	94.9	4	0	18.5	86.4
97	14-15	60	3	94.9	4	0	18.5	86.4
97	16-17	43	3	94.9	4	0	18.5	86.4
97	13-14	43	3	94.9	4	0	18.5	86.4
97	15-16	42	3	94.9	4	0	18.5	86.4
97	17-18	26	3	94.9	4	0	18.5	86.4
98	16-17	88	1	96.1	2.6	0.6	9.7	90.9
98	15-16	79	1	96.1	2.6	0.6	9.7	90.9
98	17-18	72	1	96.1	2.6	0.6	9.7	90.9
98	14-15	69	1	96.1	2.6	0.6	9.7	90.9
98	13-14	48	1	96.1	2.6	0.6	9.7	90.9
98	18-19	33	1	96.1	2.6	0.6	9.7	90.9
99	14-15	75	2	97.8	2	0.6	18.2	93.6
99	16-17	71	2	97.8	2	0.6	18.2	93.6
99	15-16	62	2	97.8	2	0.6	18.2	93.6
99	13-14	59	2	97.8	2	0.6	18.2	93.6
99	18-19	50	2	97.8	2	0.6	18.2	93.6
99	17-18	43	2	97.8	2	0.6	18.2	93.6
100	17-18	53	2	96.5	2.1	0.5	13	98.9
100	13-14	50	2	96.5	2.1	0.5	13	98.9
100	16-17	42	2	96.5	2.1	0.5	13	98.9
100	15-16	36	2	96.5	2.1	0.5	13	98.9
100	14-15	35	2	96.5	2.1	0.5	13	98.9
100	18-19	33	2	96.5	2.1	0.5	13	98.9
101	16-17	61	2	10.1	88.2	41.5	18	90.2
101	18-19	54	2	10.1	88.2	41.5	18	90.2
101	17-18	47	2	10.1	88.2	41.5	18	90.2
101	13-14	19	2	10.1	88.2	41.5	18	90.2
101	14-15	16	2	10.1	88.2	41.5	18	90.2
101	15-16	6	2	10.1	88.2	41.5	18	90.2
102	14-15	93	1	0.6	13	25.5	15.3	19.8
102	15-16	91	1	0.6	13	25.5	15.3	19.8
102	17-18	86	1	0.6	13	25.5	15.3	19.8
102	18-19	85	1	0.6	13	25.5	15.3	19.8

102	13-14	83	1	0.6	13	25.5	15.3	19.8
102	16-17	80	1	0.6	13	25.5	15.3	19.8
103	14-15	45	6	23.3	75.6	38.2	12.9	93.5
103	18-19	34	6	23.3	75.6	38.2	12.9	93.5
103	13-14	28	6	23.3	75.6	38.2	12.9	93.5
103	17-18	27	6	23.3	75.6	38.2	12.9	93.5
103	15-16	26	6	23.3	75.6	38.2	12.9	93.5
103	16-17	23	6	23.3	75.6	38.2	12.9	93.5
104	17-18	98	3	66.5	32	17.2	10.4	91.3
104	18-19	85	3	66.5	32	17.2	10.4	91.3
104	15-16	55	3	66.5	32	17.2	10.4	91.3
104	16-17	54	3	66.5	32	17.2	10.4	91.3
104	14-15	52	3	66.5	32	17.2	10.4	91.3
104	13-14	32	3	66.5	32	17.2	10.4	91.3
105	18-19	86	1	93.5	5.6	5.2	10.5	82.3
105	16-17	81	1	93.5	5.6	5.2	10.5	82.3
105	17-18	70	1	93.5	5.6	5.2	10.5	82.3
105	14-15	70	1	93.5	5.6	5.2	10.5	82.3
105	15-16	38	1	93.5	5.6	5.2	10.5	82.3
105	13-14	24	1	93.5	5.6	5.2	10.5	82.3
106	16-17	79	2	15.6	80.6	7.3	7	88.6
106	13-14	68	2	15.6	80.6	7.3	7	88.6
106	14-15	65	2	15.6	80.6	7.3	7	88.6
106	15-16	62	2	15.6	80.6	7.3	7	88.6
106	17-18	54	2	15.6	80.6	7.3	7	88.6
106	18-19	40	2	15.6	80.6	7.3	7	88.6
107	17-18	63	3	23.3	68.4	44.8	12.2	99.7
107	14-15	55	3	23.3	68.4	44.8	12.2	99.7
107	13-14	52	3	23.3	68.4	44.8	12.2	99.7
107	15-16	44	3	23.3	68.4	44.8	12.2	99.7
107	16-17	27	3	23.3	68.4	44.8	12.2	99.7
107	18-19	18	3	23.3	68.4	44.8	12.2	99.7
108	14-15	71	1	6.2	42.4	35	13.5	26.1
108	15-16	67	1	6.2	42.4	35	13.5	26.1
108	16-17	59	1	6.2	42.4	35	13.5	26.1
108	17-18	54	1	6.2	42.4	35	13.5	26.1
108	13-14	52	1	6.2	42.4	35	13.5	26.1
108	18-19	41	1	6.2	42.4	35	13.5	26.1
109	13-14	54	2	16.2	79.1	11.6	17.4	89.6
109	17-18	39	2	16.2	79.1	11.6	17.4	89.6
109	14-15	31	2	16.2	79.1	11.6	17.4	89.6

109	16-17	27	2	16.2	79.1	11.6	17.4	89.6
109	18-19	27	2	16.2	79.1	11.6	17.4	89.6
109	15-16	21	2	16.2	79.1	11.6	17.4	89.6
110	14-15	55	1	21.1	25.6	12.1	15.7	42.7
110	15-16	54	1	21.1	25.6	12.1	15.7	42.7
110	16-17	47	1	21.1	25.6	12.1	15.7	42.7
110	17-18	45	1	21.1	25.6	12.1	15.7	42.7
110	13-14	45	1	21.1	25.6	12.1	15.7	42.7
110	18-19	38	1	21.1	25.6	12.1	15.7	42.7
111	17-18	63	1	5.6	17.4	15	16.3	16.1
111	13-14	61	1	5.6	17.4	15	16.3	16.1
111	18-19	61	1	5.6	17.4	15	16.3	16.1
111	14-15	57	1	5.6	17.4	15	16.3	16.1
111	15-16	56	1	5.6	17.4	15	16.3	16.1
111	16-17	56	1	5.6	17.4	15	16.3	16.1
112	16-17	66	3	94.3	3.7	3	13.4	99.7
112	18-19	64	3	94.3	3.7	3	13.4	99.7
112	15-16	58	3	94.3	3.7	3	13.4	99.7
112	17-18	58	3	94.3	3.7	3	13.4	99.7
112	13-14	55	3	94.3	3.7	3	13.4	99.7
112	14-15	39	3	94.3	3.7	3	13.4	99.7
113	17-18	52	2	3.5	16.8	4.6	14.3	16.1
113	14-15	44	2	3.5	16.8	4.6	14.3	16.1
113	18-19	39	2	3.5	16.8	4.6	14.3	16.1
113	13-14	27	2	3.5	16.8	4.6	14.3	16.1
113	16-17	26	2	3.5	16.8	4.6	14.3	16.1
113	15-16	26	2	3.5	16.8	4.6	14.3	16.1
114	18-19	47	1	30	46.1	21.8	17.2	74.5
114	16-17	45	1	30	46.1	21.8	17.2	74.5
114	14-15	34	1	30	46.1	21.8	17.2	74.5
114	17-18	31	1	30	46.1	21.8	17.2	74.5
114	13-14	29	1	30	46.1	21.8	17.2	74.5
114	15-16	23	1	30	46.1	21.8	17.2	74.5
115	16-17	14	2	96.1	3	3.1	15.2	97.3
115	18-19	7	2	96.1	3	3.1	15.2	97.3
115	17-18	6	2	96.1	3	3.1	15.2	97.3
115	14-15	6	2	96.1	3	3.1	15.2	97.3
115	15-16	1	2	96.1	3	3.1	15.2	97.3
115	13-14	1	2	96.1	3	3.1	15.2	97.3
116	13-14	60	1	73.6	24.4	10.9	11.2	64.1
116	14-15	53	1	73.6	24.4	10.9	11.2	64.1

116	18-19	48	1	73.6	24.4	10.9	11.2	64.1
116	16-17	45	1	73.6	24.4	10.9	11.2	64.1
116	15-16	45	1	73.6	24.4	10.9	11.2	64.1
116	17-18	43	1	73.6	24.4	10.9	11.2	64.1
117	14-15	42	2	8.2	87	35.1	12.4	99.6
117	15-16	39	2	8.2	87	35.1	12.4	99.6
117	17-18	38	2	8.2	87	35.1	12.4	99.6
117	16-17	37	2	8.2	87	35.1	12.4	99.6
117	13-14	36	2	8.2	87	35.1	12.4	99.6
117	18-19	32	2	8.2	87	35.1	12.4	99.6
118	14-15	63	5	98.7	0.9	0.9	10	90.4
118	17-18	62	5	98.7	0.9	0.9	10	90.4
118	16-17	50	5	98.7	0.9	0.9	10	90.4
118	15-16	38	5	98.7	0.9	0.9	10	90.4
118	18-19	38	5	98.7	0.9	0.9	10	90.4
118	13-14	28	5	98.7	0.9	0.9	10	90.4
119	13-14	44	1	96.7	2.8	3.9	15	100
119	16-17	43	1	96.7	2.8	3.9	15	100
119	14-15	42	1	96.7	2.8	3.9	15	100
119	15-16	38	1	96.7	2.8	3.9	15	100
119	18-19	33	1	96.7	2.8	3.9	15	100
119	17-18	32	1	96.7	2.8	3.9	15	100
120	13-14	48	2	99.4	0	0.3	13	95.9
120	17-18	43	2	99.4	0	0.3	13	95.9
120	18-19	41	2	99.4	0	0.3	13	95.9
120	14-15	39	2	99.4	0	0.3	13	95.9
120	16-17	37	2	99.4	0	0.3	13	95.9
120	15-16	31	2	99.4	0	0.3	13	95.9
121	18-19	40	2	2.1	10.4	26.8	8.1	5.2
121	13-14	37	2	2.1	10.4	26.8	8.1	5.2
121	17-18	36	2	2.1	10.4	26.8	8.1	5.2
121	14-15	33	2	2.1	10.4	26.8	8.1	5.2
121	16-17	31	2	2.1	10.4	26.8	8.1	5.2
121	15-16	29	2	2.1	10.4	26.8	8.1	5.2
122	15-16	69	1	24.6	55.6	13.8	10.5	98.8
122	17-18	63	1	24.6	55.6	13.8	10.5	98.8
122	18-19	63	1	24.6	55.6	13.8	10.5	98.8
122	16-17	62	1	24.6	55.6	13.8	10.5	98.8
122	14-15	57	1	24.6	55.6	13.8	10.5	98.8
122	13-14	53	1	24.6	55.6	13.8	10.5	98.8
123	17-18	71	1	32.4	25.9	6.5	7.4	38.9

123	15-16	67	1	32.4	25.9	6.5	7.4	38.9
123	18-19	60	1	32.4	25.9	6.5	7.4	38.9
123	16-17	44	1	32.4	25.9	6.5	7.4	38.9
123	14-15	19	1	32.4	25.9	6.5	7.4	38.9
123	13-14	14	1	32.4	25.9	6.5	7.4	38.9
124	15-16	65	1	94.4	3.5	5.5	9.8	99.5
124	14-15	63	1	94.4	3.5	5.5	9.8	99.5
124	16-17	58	1	94.4	3.5	5.5	9.8	99.5
124	13-14	57	1	94.4	3.5	5.5	9.8	99.5
124	17-18	48	1	94.4	3.5	5.5	9.8	99.5
124	18-19	41	1	94.4	3.5	5.5	9.8	99.5
125	16-17	55	2	36.8	38.5	23.8	14.4	84.4
125	18-19	52	2	36.8	38.5	23.8	14.4	84.4
125	17-18	44	2	36.8	38.5	23.8	14.4	84.4
125	15-16	18	2	36.8	38.5	23.8	14.4	84.4
125	13-14	18	2	36.8	38.5	23.8	14.4	84.4
125	14-15	5	2	36.8	38.5	23.8	14.4	84.4
126	17-18	70	2	12.6	28.2	20.1	11.2	28.8
126	16-17	46	2	12.6	28.2	20.1	11.2	28.8
126	15-16	45	2	12.6	28.2	20.1	11.2	28.8
126	13-14	38	2	12.6	28.2	20.1	11.2	28.8
126	18-19	32	2	12.6	28.2	20.1	11.2	28.8
126	14-15	28	2	12.6	28.2	20.1	11.2	28.8
127	16-17	78	2	88.1	6.4	4.3	11.9	73.4
127	17-18	72	2	88.1	6.4	4.3	11.9	73.4
127	18-19	72	2	88.1	6.4	4.3	11.9	73.4
127	14-15	65	2	88.1	6.4	4.3	11.9	73.4
127	15-16	60	2	88.1	6.4	4.3	11.9	73.4
127	13-14	38	2	88.1	6.4	4.3	11.9	73.4
128	14-15	54	2	4.8	87.8	16.8	1.8	56.5
128	13-14	48	2	4.8	87.8	16.8	1.8	56.5
128	16-17	43	2	4.8	87.8	16.8	1.8	56.5
128	15-16	34	2	4.8	87.8	16.8	1.8	56.5
128	18-19	5	2	4.8	87.8	16.8	1.8	56.5
128	17-18	1	2	4.8	87.8	16.8	1.8	56.5
129	16-17	44	2	97.3	2.3	2.8	5	99.3
129	17-18	28	2	97.3	2.3	2.8	5	99.3
129	14-15	26	2	97.3	2.3	2.8	5	99.3
129	18-19	24	2	97.3	2.3	2.8	5	99.3
129	13-14	21	2	97.3	2.3	2.8	5	99.3
129	15-16	1	2	97.3	2.3	2.8	5	99.3

130	17-18	65	1	1.1	10.2	1.8	11.6	9.2
130	16-17	58	1	1.1	10.2	1.8	11.6	9.2
130	14-15	58	1	1.1	10.2	1.8	11.6	9.2
130	18-19	57	1	1.1	10.2	1.8	11.6	9.2
130	13-14	54	1	1.1	10.2	1.8	11.6	9.2
130	15-16	51	1	1.1	10.2	1.8	11.6	9.2
131	18-19	78	1	1	8.7	4.1	13.1	10.1
131	17-18	71	1	1	8.7	4.1	13.1	10.1
131	14-15	63	1	1	8.7	4.1	13.1	10.1
131	13-14	59	1	1	8.7	4.1	13.1	10.1
131	16-17	57	1	1	8.7	4.1	13.1	10.1
131	15-16	53	1	1	8.7	4.1	13.1	10.1
132	14-15	78	1	33.6	62	37	16.4	85.5
132	16-17	70	1	33.6	62	37	16.4	85.5
132	17-18	69	1	33.6	62	37	16.4	85.5
132	15-16	66	1	33.6	62	37	16.4	85.5
132	18-19	56	1	33.6	62	37	16.4	85.5
132	13-14	44	1	33.6	62	37	16.4	85.5
133	13-14	86	2	10.8	7.3	12.7	13.1	34.4
133	14-15	68	2	10.8	7.3	12.7	13.1	34.4
133	15-16	61	2	10.8	7.3	12.7	13.1	34.4
133	16-17	55	2	10.8	7.3	12.7	13.1	34.4
133	17-18	54	2	10.8	7.3	12.7	13.1	34.4
133	18-19	40	2	10.8	7.3	12.7	13.1	34.4
134	14-15	69	2	64.6	14.2	5.8	15.3	73
134	13-14	69	2	64.6	14.2	5.8	15.3	73
134	15-16	67	2	64.6	14.2	5.8	15.3	73
134	16-17	49	2	64.6	14.2	5.8	15.3	73
134	17-18	46	2	64.6	14.2	5.8	15.3	73
134	18-19	37	2	64.6	14.2	5.8	15.3	73
135	13-14	48	1	90.7	8.5	5.2	18.5	100
135	17-18	47	1	90.7	8.5	5.2	18.5	100
135	18-19	46	1	90.7	8.5	5.2	18.5	100
135	14-15	46	1	90.7	8.5	5.2	18.5	100
135	16-17	39	1	90.7	8.5	5.2	18.5	100
135	15-16	34	1	90.7	8.5	5.2	18.5	100
136	16-17	56	2	2	89.3	54	19.8	83.8
136	17-18	56	2	2	89.3	54	19.8	83.8
136	15-16	45	2	2	89.3	54	19.8	83.8
136	18-19	32	2	2	89.3	54	19.8	83.8
136	13-14	30	2	2	89.3	54	19.8	83.8

136	14-15	15	2	2	89.3	54	19.8	83.8
137	13-14	84	1	32.4	34	4.3	12.6	37.2
137	14-15	68	1	32.4	34	4.3	12.6	37.2
137	16-17	66	1	32.4	34	4.3	12.6	37.2
137	15-16	56	1	32.4	34	4.3	12.6	37.2
137	17-18	52	1	32.4	34	4.3	12.6	37.2
137	18-19	48	1	32.4	34	4.3	12.6	37.2
138	17-18	78	2	7.6	40.1	10.5	12.2	32.5
138	18-19	71	2	7.6	40.1	10.5	12.2	32.5
138	13-14	70	2	7.6	40.1	10.5	12.2	32.5
138	15-16	68	2	7.6	40.1	10.5	12.2	32.5
138	14-15	64	2	7.6	40.1	10.5	12.2	32.5
138	16-17	54	2	7.6	40.1	10.5	12.2	32.5
139	15-16	41	1	2.2	96.2	61.9	16.5	95
139	17-18	35	1	2.2	96.2	61.9	16.5	95
139	13-14	33	1	2.2	96.2	61.9	16.5	95
139	16-17	32	1	2.2	96.2	61.9	16.5	95
139	14-15	32	1	2.2	96.2	61.9	16.5	95
139	18-19	26	1	2.2	96.2	61.9	16.5	95
140	17-18	68	2	0.9	8.2	10.2	27.4	8.9
140	16-17	47	2	0.9	8.2	10.2	27.4	8.9
140	14-15	43	2	0.9	8.2	10.2	27.4	8.9
140	18-19	26	2	0.9	8.2	10.2	27.4	8.9
140	15-16	23	2	0.9	8.2	10.2	27.4	8.9
140	13-14	23	2	0.9	8.2	10.2	27.4	8.9
141	17-18	72	1	90.9	6.9	4.5	27.5	87.9
141	18-19	64	1	90.9	6.9	4.5	27.5	87.9
141	15-16	63	1	90.9	6.9	4.5	27.5	87.9
141	14-15	59	1	90.9	6.9	4.5	27.5	87.9
141	16-17	47	1	90.9	6.9	4.5	27.5	87.9
141	13-14	22	1	90.9	6.9	4.5	27.5	87.9
142	15-16	68	1	2.5	17.4	1.3	11.2	14.1
142	14-15	68	1	2.5	17.4	1.3	11.2	14.1
142	16-17	55	1	2.5	17.4	1.3	11.2	14.1
142	17-18	48	1	2.5	17.4	1.3	11.2	14.1
142	13-14	41	1	2.5	17.4	1.3	11.2	14.1
142	18-19	39	1	2.5	17.4	1.3	11.2	14.1
143	14-15	74	2	58.6	22.2	32.7	21.9	92.3
143	15-16	56	2	58.6	22.2	32.7	21.9	92.3
143	13-14	36	2	58.6	22.2	32.7	21.9	92.3
143	16-17	31	2	58.6	22.2	32.7	21.9	92.3

143	18-19	13	2	58.6	22.2	32.7	21.9	92.3
143	17-18	12	2	58.6	22.2	32.7	21.9	92.3
144	14-15	80	1	15.8	33.4	10	13.8	37.6
144	13-14	80	1	15.8	33.4	10	13.8	37.6
144	15-16	70	1	15.8	33.4	10	13.8	37.6
144	17-18	67	1	15.8	33.4	10	13.8	37.6
144	16-17	48	1	15.8	33.4	10	13.8	37.6
144	18-19	39	1	15.8	33.4	10	13.8	37.6
145	13-14	74	2	16	73.8	52.3	17.5	75.3
145	16-17	68	2	16	73.8	52.3	17.5	75.3
145	14-15	65	2	16	73.8	52.3	17.5	75.3
145	15-16	64	2	16	73.8	52.3	17.5	75.3
145	17-18	55	2	16	73.8	52.3	17.5	75.3
145	18-19	35	2	16	73.8	52.3	17.5	75.3
146	18-19	67	3	5.1	15.7	3.3	10.4	13
146	13-14	66	3	5.1	15.7	3.3	10.4	13
146	17-18	63	3	5.1	15.7	3.3	10.4	13
146	14-15	61	3	5.1	15.7	3.3	10.4	13
146	15-16	53	3	5.1	15.7	3.3	10.4	13
146	16-17	39	3	5.1	15.7	3.3	10.4	13
147	15-16	93	1	93.8	3.9	8.4	12	99.7
147	14-15	82	1	93.8	3.9	8.4	12	99.7
147	17-18	80	1	93.8	3.9	8.4	12	99.7
147	18-19	78	1	93.8	3.9	8.4	12	99.7
147	13-14	65	1	93.8	3.9	8.4	12	99.7
147	16-17	57	1	93.8	3.9	8.4	12	99.7
148	18-19	49	3	87	2.5	0.3	19.5	86.4
148	17-18	46	3	87	2.5	0.3	19.5	86.4
148	13-14	41	3	87	2.5	0.3	19.5	86.4
148	14-15	30	3	87	2.5	0.3	19.5	86.4
148	16-17	26	3	87	2.5	0.3	19.5	86.4
148	15-16	1	3	87	2.5	0.3	19.5	86.4
149	13-14	83	1	14.3	79.3	32.5	12.4	91.2
149	14-15	74	1	14.3	79.3	32.5	12.4	91.2
149	15-16	71	1	14.3	79.3	32.5	12.4	91.2
149	18-19	71	1	14.3	79.3	32.5	12.4	91.2
149	16-17	67	1	14.3	79.3	32.5	12.4	91.2
149	17-18	63	1	14.3	79.3	32.5	12.4	91.2
150	14-15	61	3	30.4	22.7	2.7	13.4	31.2
150	18-19	60	3	30.4	22.7	2.7	13.4	31.2
150	15-16	56	3	30.4	22.7	2.7	13.4	31.2

150	13-14	44	3	30.4	22.7	2.7	13.4	31.2
150	16-17	42	3	30.4	22.7	2.7	13.4	31.2
150	17-18	38	3	30.4	22.7	2.7	13.4	31.2
151	14-15	78	3	14.3	76.7	45.5	31.2	90.3
151	17-18	69	3	14.3	76.7	45.5	31.2	90.3
151	15-16	65	3	14.3	76.7	45.5	31.2	90.3
151	16-17	60	3	14.3	76.7	45.5	31.2	90.3
151	18-19	57	3	14.3	76.7	45.5	31.2	90.3
151	13-14	1	3	14.3	76.7	45.5	31.2	90.3
152	14-15	89	2	4.1	18.3	6.5	8.1	12
152	15-16	75	2	4.1	18.3	6.5	8.1	12
152	16-17	72	2	4.1	18.3	6.5	8.1	12
152	13-14	68	2	4.1	18.3	6.5	8.1	12
152	18-19	65	2	4.1	18.3	6.5	8.1	12
152	17-18	48	2	4.1	18.3	6.5	8.1	12
153	14-15	51	1	23.6	23.6	15.1	15.6	44.3
153	16-17	43	1	23.6	23.6	15.1	15.6	44.3
153	18-19	41	1	23.6	23.6	15.1	15.6	44.3
153	13-14	38	1	23.6	23.6	15.1	15.6	44.3
153	17-18	35	1	23.6	23.6	15.1	15.6	44.3
153	15-16	30	1	23.6	23.6	15.1	15.6	44.3
154	14-15	84	4	2.5	57.8	27.5	10.8	25
154	13-14	83	4	2.5	57.8	27.5	10.8	25
154	15-16	68	4	2.5	57.8	27.5	10.8	25
154	18-19	62	4	2.5	57.8	27.5	10.8	25
154	16-17	38	4	2.5	57.8	27.5	10.8	25
154	17-18	17	4	2.5	57.8	27.5	10.8	25
155	13-14	72	1	1.3	29	11.4	17.5	39.1
155	14-15	71	1	1.3	29	11.4	17.5	39.1
155	15-16	70	1	1.3	29	11.4	17.5	39.1
155	17-18	65	1	1.3	29	11.4	17.5	39.1
155	18-19	60	1	1.3	29	11.4	17.5	39.1
155	16-17	59	1	1.3	29	11.4	17.5	39.1
156	17-18	99	1	25.4	71.3	9.1	18.2	72.2
156	15-16	99	1	25.4	71.3	9.1	18.2	72.2
156	16-17	97	1	25.4	71.3	9.1	18.2	72.2
156	14-15	95	1	25.4	71.3	9.1	18.2	72.2
156	13-14	84	1	25.4	71.3	9.1	18.2	72.2
156	18-19	68	1	25.4	71.3	9.1	18.2	72.2
157	15-16	75	1	99.7	0.3	0	21.7	92.5
157	14-15	67	1	99.7	0.3	0	21.7	92.5

157	16-17	56	1	99.7	0.3	0	21.7	92.5
157	13-14	54	1	99.7	0.3	0	21.7	92.5
157	17-18	51	1	99.7	0.3	0	21.7	92.5
157	18-19	4	1	99.7	0.3	0	21.7	92.5
158	14-15	78	4	34.9	6.8	5.6	22.8	53.2
158	15-16	68	4	34.9	6.8	5.6	22.8	53.2
158	13-14	64	4	34.9	6.8	5.6	22.8	53.2
158	16-17	34	4	34.9	6.8	5.6	22.8	53.2
158	17-18	20	4	34.9	6.8	5.6	22.8	53.2
158	18-19	20	4	34.9	6.8	5.6	22.8	53.2
159	18-19	47	2	76.8	15.7	5.3	16.9	63.2
159	13-14	34	2	76.8	15.7	5.3	16.9	63.2
159	17-18	30	2	76.8	15.7	5.3	16.9	63.2
159	16-17	27	2	76.8	15.7	5.3	16.9	63.2
159	15-16	20	2	76.8	15.7	5.3	16.9	63.2
159	14-15	19	2	76.8	15.7	5.3	16.9	63.2
160	14-15	69	1	98	0.2	0	7.6	93.7
160	15-16	69	1	98	0.2	0	7.6	93.7
160	16-17	64	1	98	0.2	0	7.6	93.7
160	18-19	62	1	98	0.2	0	7.6	93.7
160	17-18	58	1	98	0.2	0	7.6	93.7
160	13-14	40	1	98	0.2	0	7.6	93.7
161	13-14	59	4	19	78.3	39.1	30.3	83.6
161	15-16	54	4	19	78.3	39.1	30.3	83.6
161	14-15	47	4	19	78.3	39.1	30.3	83.6
161	16-17	39	4	19	78.3	39.1	30.3	83.6
161	18-19	26	4	19	78.3	39.1	30.3	83.6
161	17-18	20	4	19	78.3	39.1	30.3	83.6
162	14-15	47	1	7.4	81.4	40.9	16.5	78.1
162	13-14	41	1	7.4	81.4	40.9	16.5	78.1
162	16-17	39	1	7.4	81.4	40.9	16.5	78.1
162	17-18	37	1	7.4	81.4	40.9	16.5	78.1
162	18-19	32	1	7.4	81.4	40.9	16.5	78.1
162	15-16	23	1	7.4	81.4	40.9	16.5	78.1
163	14-15	79	2	4.3	92.5	43	12.1	95.1
163	15-16	67	2	4.3	92.5	43	12.1	95.1
163	13-14	64	2	4.3	92.5	43	12.1	95.1
163	18-19	61	2	4.3	92.5	43	12.1	95.1
163	16-17	56	2	4.3	92.5	43	12.1	95.1
163	17-18	49	2	4.3	92.5	43	12.1	95.1
164	18-19	55	5	8	29.9	5.4	9.1	21.9

164	17-18	54	5	8	29.9	5.4	9.1	21.9
164	16-17	45	5	8	29.9	5.4	9.1	21.9
164	14-15	45	5	8	29.9	5.4	9.1	21.9
164	15-16	30	5	8	29.9	5.4	9.1	21.9
164	13-14	23	5	8	29.9	5.4	9.1	21.9
165	13-14	61	4	92.6	3.6	1.1	13.7	75.2
165	17-18	58	4	92.6	3.6	1.1	13.7	75.2
165	14-15	53	4	92.6	3.6	1.1	13.7	75.2
165	18-19	52	4	92.6	3.6	1.1	13.7	75.2
165	15-16	32	4	92.6	3.6	1.1	13.7	75.2
165	16-17	26	4	92.6	3.6	1.1	13.7	75.2
166	17-18	65	2	98.8	0.8	0.8	18	96.1
166	18-19	63	2	98.8	0.8	0.8	18	96.1
166	15-16	62	2	98.8	0.8	0.8	18	96.1
166	14-15	54	2	98.8	0.8	0.8	18	96.1
166	16-17	44	2	98.8	0.8	0.8	18	96.1
166	13-14	40	2	98.8	0.8	0.8	18	96.1
167	13-14	93	2	0.8	7.5	6.3	15.4	4.9
167	14-15	80	2	0.8	7.5	6.3	15.4	4.9
167	18-19	76	2	0.8	7.5	6.3	15.4	4.9
167	17-18	66	2	0.8	7.5	6.3	15.4	4.9
167	15-16	42	2	0.8	7.5	6.3	15.4	4.9
167	16-17	30	2	0.8	7.5	6.3	15.4	4.9
168	17-18	68	1	0.5	98	60.8	14.7	88.7
168	18-19	58	1	0.5	98	60.8	14.7	88.7
168	14-15	48	1	0.5	98	60.8	14.7	88.7
168	13-14	41	1	0.5	98	60.8	14.7	88.7
168	16-17	31	1	0.5	98	60.8	14.7	88.7
168	15-16	24	1	0.5	98	60.8	14.7	88.7
169	17-18	52	2	1.8	3.5	0.7	17.7	53
169	14-15	48	2	1.8	3.5	0.7	17.7	53
169	16-17	36	2	1.8	3.5	0.7	17.7	53
169	13-14	25	2	1.8	3.5	0.7	17.7	53
169	18-19	22	2	1.8	3.5	0.7	17.7	53
169	15-16	2	2	1.8	3.5	0.7	17.7	53
170	16-17	53	4	89.8	7.4	6.8	16	93.8
170	15-16	50	4	89.8	7.4	6.8	16	93.8
170	18-19	50	4	89.8	7.4	6.8	16	93.8
170	14-15	47	4	89.8	7.4	6.8	16	93.8
170	13-14	46	4	89.8	7.4	6.8	16	93.8
170	17-18	38	4	89.8	7.4	6.8	16	93.8

171	17-18	57	3	10.5	81.5	59.9	21.6	76.1
171	16-17	46	3	10.5	81.5	59.9	21.6	76.1
171	13-14	39	3	10.5	81.5	59.9	21.6	76.1
171	18-19	34	3	10.5	81.5	59.9	21.6	76.1
171	15-16	29	3	10.5	81.5	59.9	21.6	76.1
171	14-15	27	3	10.5	81.5	59.9	21.6	76.1
172	18-19	54	2	1.7	97.4	39.4	11.8	94.1
172	15-16	53	2	1.7	97.4	39.4	11.8	94.1
172	16-17	38	2	1.7	97.4	39.4	11.8	94.1
172	17-18	28	2	1.7	97.4	39.4	11.8	94.1
172	14-15	27	2	1.7	97.4	39.4	11.8	94.1
172	13-14	8	2	1.7	97.4	39.4	11.8	94.1
173	16-17	83	2	40.5	29.7	12.2	19.8	69.4
173	13-14	57	2	40.5	29.7	12.2	19.8	69.4
173	14-15	53	2	40.5	29.7	12.2	19.8	69.4
173	15-16	52	2	40.5	29.7	12.2	19.8	69.4
173	18-19	36	2	40.5	29.7	12.2	19.8	69.4
173	17-18	34	2	40.5	29.7	12.2	19.8	69.4
174	14-15	71	2	21.7	35	27.4	11.3	33.8
174	13-14	61	2	21.7	35	27.4	11.3	33.8
174	16-17	59	2	21.7	35	27.4	11.3	33.8
174	15-16	53	2	21.7	35	27.4	11.3	33.8
174	17-18	47	2	21.7	35	27.4	11.3	33.8
174	18-19	40	2	21.7	35	27.4	11.3	33.8
175	18-19	74	2	66.7	13.2	8.5	14.1	90.6
175	16-17	60	2	66.7	13.2	8.5	14.1	90.6
175	14-15	57	2	66.7	13.2	8.5	14.1	90.6
175	13-14	49	2	66.7	13.2	8.5	14.1	90.6
175	17-18	45	2	66.7	13.2	8.5	14.1	90.6
175	15-16	41	2	66.7	13.2	8.5	14.1	90.6
176	14-15	60	2	6	13.5	4.5	18.6	26.4
176	17-18	57	2	6	13.5	4.5	18.6	26.4
176	16-17	54	2	6	13.5	4.5	18.6	26.4
176	13-14	54	2	6	13.5	4.5	18.6	26.4
176	15-16	52	2	6	13.5	4.5	18.6	26.4
176	18-19	47	2	6	13.5	4.5	18.6	26.4
177	14-15	57	3	28	5.2	7.6	34.4	56.5
177	13-14	47	3	28	5.2	7.6	34.4	56.5
177	18-19	42	3	28	5.2	7.6	34.4	56.5
177	15-16	37	3	28	5.2	7.6	34.4	56.5
177	17-18	20	3	28	5.2	7.6	34.4	56.5

177	16-17	13	3	28	5.2	7.6	34.4	56.5
178	13-14	52	2	14.6	71.4	57.2	18.3	86.3
178	14-15	47	2	14.6	71.4	57.2	18.3	86.3
178	16-17	38	2	14.6	71.4	57.2	18.3	86.3
178	15-16	37	2	14.6	71.4	57.2	18.3	86.3
178	17-18	23	2	14.6	71.4	57.2	18.3	86.3
178	18-19	15	2	14.6	71.4	57.2	18.3	86.3
179	17-18	52	3	3.8	10.7	11	13	6.1
179	18-19	40	3	3.8	10.7	11	13	6.1
179	14-15	37	3	3.8	10.7	11	13	6.1
179	16-17	23	3	3.8	10.7	11	13	6.1
179	13-14	22	3	3.8	10.7	11	13	6.1
179	15-16	21	3	3.8	10.7	11	13	6.1
180	16-17	61	2	2	5.1	2.4	0	19
180	18-19	52	2	2	5.1	2.4	0	19
180	17-18	48	2	2	5.1	2.4	0	19
180	14-15	23	2	2	5.1	2.4	0	19
180	13-14	13	2	2	5.1	2.4	0	19
180	15-16	8	2	2	5.1	2.4	0	19
181	14-15	74	1	10.5	88.6	21	14.6	84.9
181	18-19	71	1	10.5	88.6	21	14.6	84.9
181	17-18	62	1	10.5	88.6	21	14.6	84.9
181	16-17	53	1	10.5	88.6	21	14.6	84.9
181	15-16	53	1	10.5	88.6	21	14.6	84.9
181	13-14	10	1	10.5	88.6	21	14.6	84.9
182	17-18	52	3	77.1	13.5	6.3	17.6	88.4
182	18-19	44	3	77.1	13.5	6.3	17.6	88.4
182	15-16	13	3	77.1	13.5	6.3	17.6	88.4
182	14-15	10	3	77.1	13.5	6.3	17.6	88.4
182	16-17	10	3	77.1	13.5	6.3	17.6	88.4
182	13-14	1	3	77.1	13.5	6.3	17.6	88.4
183	15-16	66	2	7.3	90.8	51.3	18.7	95.5
183	13-14	43	2	7.3	90.8	51.3	18.7	95.5
183	16-17	38	2	7.3	90.8	51.3	18.7	95.5
183	14-15	37	2	7.3	90.8	51.3	18.7	95.5
183	18-19	29	2	7.3	90.8	51.3	18.7	95.5
183	17-18	26	2	7.3	90.8	51.3	18.7	95.5
184	18-19	81	3	9.1	85.9	36.2	22.8	77.2
184	13-14	39	3	9.1	85.9	36.2	22.8	77.2
184	17-18	30	3	9.1	85.9	36.2	22.8	77.2
184	16-17	25	3	9.1	85.9	36.2	22.8	77.2

184	14-15	21	3	9.1	85.9	36.2	22.8	77.2
184	15-16	1	3	9.1	85.9	36.2	22.8	77.2
185	15-16	84	1	4.2	86.5	45.1	25.2	87
185	16-17	80	1	4.2	86.5	45.1	25.2	87
185	17-18	80	1	4.2	86.5	45.1	25.2	87
185	18-19	78	1	4.2	86.5	45.1	25.2	87
185	13-14	74	1	4.2	86.5	45.1	25.2	87
185	14-15	59	1	4.2	86.5	45.1	25.2	87
186	14-15	58	3	23.3	60.1	12.2	12.9	99.3
186	13-14	54	3	23.3	60.1	12.2	12.9	99.3
186	17-18	35	3	23.3	60.1	12.2	12.9	99.3
186	15-16	25	3	23.3	60.1	12.2	12.9	99.3
186	18-19	21	3	23.3	60.1	12.2	12.9	99.3
186	16-17	18	3	23.3	60.1	12.2	12.9	99.3
187	15-16	95	1	5.1	92	49.8	13.5	93.3
187	14-15	91	1	5.1	92	49.8	13.5	93.3
187	16-17	86	1	5.1	92	49.8	13.5	93.3
187	17-18	86	1	5.1	92	49.8	13.5	93.3
187	18-19	83	1	5.1	92	49.8	13.5	93.3
187	13-14	83	1	5.1	92	49.8	13.5	93.3
188	14-15	58	2	31.3	67.1	9.6	16.1	90.1
188	13-14	53	2	31.3	67.1	9.6	16.1	90.1
188	15-16	51	2	31.3	67.1	9.6	16.1	90.1
188	16-17	49	2	31.3	67.1	9.6	16.1	90.1
188	17-18	41	2	31.3	67.1	9.6	16.1	90.1
188	18-19	39	2	31.3	67.1	9.6	16.1	90.1
189	14-15	91	1	1.4	3.2	0.4	16.2	11.9
189	15-16	78	1	1.4	3.2	0.4	16.2	11.9
189	16-17	71	1	1.4	3.2	0.4	16.2	11.9
189	13-14	70	1	1.4	3.2	0.4	16.2	11.9
189	17-18	51	1	1.4	3.2	0.4	16.2	11.9
189	18-19	51	1	1.4	3.2	0.4	16.2	11.9
190	17-18	48	2	30	49.3	16.7	22.6	99.3
190	16-17	43	2	30	49.3	16.7	22.6	99.3
190	14-15	39	2	30	49.3	16.7	22.6	99.3
190	15-16	36	2	30	49.3	16.7	22.6	99.3
190	13-14	14	2	30	49.3	16.7	22.6	99.3
190	18-19	1	2	30	49.3	16.7	22.6	99.3
191	16-17	67	3	97	2.3	1.9	24.5	92.6
191	18-19	61	3	97	2.3	1.9	24.5	92.6
191	15-16	60	3	97	2.3	1.9	24.5	92.6

191	17-18	56	3	97	2.3	1.9	24.5	92.6
191	14-15	56	3	97	2.3	1.9	24.5	92.6
191	13-14	42	3	97	2.3	1.9	24.5	92.6
192	16-17	47	1	2	96.7	66.8	11.3	94.7
192	15-16	46	1	2	96.7	66.8	11.3	94.7
192	18-19	43	1	2	96.7	66.8	11.3	94.7
192	13-14	37	1	2	96.7	66.8	11.3	94.7
192	14-15	36	1	2	96.7	66.8	11.3	94.7
192	17-18	32	1	2	96.7	66.8	11.3	94.7
193	13-14	78	1	20.6	29.4	1.9	6.2	37.8
193	15-16	68	1	20.6	29.4	1.9	6.2	37.8
193	14-15	68	1	20.6	29.4	1.9	6.2	37.8
193	17-18	64	1	20.6	29.4	1.9	6.2	37.8
193	16-17	60	1	20.6	29.4	1.9	6.2	37.8
193	18-19	47	1	20.6	29.4	1.9	6.2	37.8
194	17-18	72	2	26.9	42.9	40.1	11.3	89.6
194	18-19	70	2	26.9	42.9	40.1	11.3	89.6
194	15-16	63	2	26.9	42.9	40.1	11.3	89.6
194	14-15	61	2	26.9	42.9	40.1	11.3	89.6
194	16-17	57	2	26.9	42.9	40.1	11.3	89.6
194	13-14	55	2	26.9	42.9	40.1	11.3	89.6
195	13-14	81	2	3.2	91	11.6	7.4	92.9
195	14-15	57	2	3.2	91	11.6	7.4	92.9
195	15-16	51	2	3.2	91	11.6	7.4	92.9
195	16-17	43	2	3.2	91	11.6	7.4	92.9
195	17-18	38	2	3.2	91	11.6	7.4	92.9
195	18-19	36	2	3.2	91	11.6	7.4	92.9
196	18-19	62	1	1.3	19.9	4.2	17.8	36.4
196	17-18	58	1	1.3	19.9	4.2	17.8	36.4
196	16-17	48	1	1.3	19.9	4.2	17.8	36.4
196	14-15	44	1	1.3	19.9	4.2	17.8	36.4
196	15-16	41	1	1.3	19.9	4.2	17.8	36.4
196	13-14	29	1	1.3	19.9	4.2	17.8	36.4
197	18-19	88	2	1.6	95.7	53.5	14.4	95.6
197	13-14	76	2	1.6	95.7	53.5	14.4	95.6
197	16-17	74	2	1.6	95.7	53.5	14.4	95.6
197	17-18	72	2	1.6	95.7	53.5	14.4	95.6
197	14-15	63	2	1.6	95.7	53.5	14.4	95.6
197	15-16	62	2	1.6	95.7	53.5	14.4	95.6
198	15-16	69	2	87.7	11.3	2.4	17.5	97.2
198	16-17	66	2	87.7	11.3	2.4	17.5	97.2

198	17-18	63	2	87.7	11.3	2.4	17.5	97.2
198	14-15	59	2	87.7	11.3	2.4	17.5	97.2
198	18-19	50	2	87.7	11.3	2.4	17.5	97.2
198	13-14	46	2	87.7	11.3	2.4	17.5	97.2
199	15-16	46	2	2.3	63.6	10.5	12.5	53.8
199	13-14	39	2	2.3	63.6	10.5	12.5	53.8
199	17-18	37	2	2.3	63.6	10.5	12.5	53.8
199	16-17	34	2	2.3	63.6	10.5	12.5	53.8
199	18-19	34	2	2.3	63.6	10.5	12.5	53.8
199	14-15	33	2	2.3	63.6	10.5	12.5	53.8
200	17-18	70	1	6	54	22.5	15.4	63.9
200	16-17	67	1	6	54	22.5	15.4	63.9
200	15-16	58	1	6	54	22.5	15.4	63.9
200	18-19	57	1	6	54	22.5	15.4	63.9
200	14-15	44	1	6	54	22.5	15.4	63.9
200	13-14	37	1	6	54	22.5	15.4	63.9
201	13-14	83	4	95.7	3.3	0.6	12.7	97.3
201	17-18	65	4	95.7	3.3	0.6	12.7	97.3
201	14-15	62	4	95.7	3.3	0.6	12.7	97.3
201	18-19	56	4	95.7	3.3	0.6	12.7	97.3
201	16-17	40	4	95.7	3.3	0.6	12.7	97.3
201	15-16	29	4	95.7	3.3	0.6	12.7	97.3
202	14-15	61	4	19.2	77.8	7.7	12.8	89.1
202	15-16	57	4	19.2	77.8	7.7	12.8	89.1
202	13-14	47	4	19.2	77.8	7.7	12.8	89.1
202	16-17	39	4	19.2	77.8	7.7	12.8	89.1
202	18-19	36	4	19.2	77.8	7.7	12.8	89.1
202	17-18	35	4	19.2	77.8	7.7	12.8	89.1
203	15-16	40	2	3.5	93.5	45.6	12.7	98.2
203	14-15	40	2	3.5	93.5	45.6	12.7	98.2
203	16-17	18	2	3.5	93.5	45.6	12.7	98.2
203	17-18	16	2	3.5	93.5	45.6	12.7	98.2
203	13-14	16	2	3.5	93.5	45.6	12.7	98.2
203	18-19	11	2	3.5	93.5	45.6	12.7	98.2
204	15-16	28	3	77.9	12.4	3.9	14.6	56.7
204	16-17	26	3	77.9	12.4	3.9	14.6	56.7
204	13-14	21	3	77.9	12.4	3.9	14.6	56.7
204	17-18	16	3	77.9	12.4	3.9	14.6	56.7
204	18-19	11	3	77.9	12.4	3.9	14.6	56.7
204	14-15	8	3	77.9	12.4	3.9	14.6	56.7
205	15-16	53	1	19.8	76	21.1	11.1	81.1

205	14-15	53	1	19.8	76	21.1	11.1	81.1
205	18-19	47	1	19.8	76	21.1	11.1	81.1
205	16-17	46	1	19.8	76	21.1	11.1	81.1
205	13-14	44	1	19.8	76	21.1	11.1	81.1
205	17-18	39	1	19.8	76	21.1	11.1	81.1
206	15-16	76	3	94.4	4.9	0.7	13.2	97.7
206	17-18	58	3	94.4	4.9	0.7	13.2	97.7
206	14-15	55	3	94.4	4.9	0.7	13.2	97.7
206	16-17	52	3	94.4	4.9	0.7	13.2	97.7
206	18-19	52	3	94.4	4.9	0.7	13.2	97.7
206	13-14	46	3	94.4	4.9	0.7	13.2	97.7
207	16-17	71	2	1	70.3	15.7	9.5	56.9
207	17-18	59	2	1	70.3	15.7	9.5	56.9
207	13-14	42	2	1	70.3	15.7	9.5	56.9
207	18-19	33	2	1	70.3	15.7	9.5	56.9
207	14-15	33	2	1	70.3	15.7	9.5	56.9
207	15-16	32	2	1	70.3	15.7	9.5	56.9
208	15-16	73	1	2.8	96	44.8	20	89.2
208	13-14	63	1	2.8	96	44.8	20	89.2
208	18-19	54	1	2.8	96	44.8	20	89.2
208	14-15	53	1	2.8	96	44.8	20	89.2
208	16-17	46	1	2.8	96	44.8	20	89.2
208	17-18	40	1	2.8	96	44.8	20	89.2
209	14-15	76	1	0.9	98.2	48.2	10.1	96.5
209	15-16	71	1	0.9	98.2	48.2	10.1	96.5
209	16-17	65	1	0.9	98.2	48.2	10.1	96.5
209	13-14	38	1	0.9	98.2	48.2	10.1	96.5
209	18-19	35	1	0.9	98.2	48.2	10.1	96.5
209	17-18	30	1	0.9	98.2	48.2	10.1	96.5
210	16-17	96	3	13.6	46.2	12.6	10.2	45.2
210	14-15	86	3	13.6	46.2	12.6	10.2	45.2
210	15-16	80	3	13.6	46.2	12.6	10.2	45.2
210	17-18	79	3	13.6	46.2	12.6	10.2	45.2
210	13-14	52	3	13.6	46.2	12.6	10.2	45.2
210	18-19	23	3	13.6	46.2	12.6	10.2	45.2
211	15-16	85	1	13.3	79.7	19.2	12.1	75.1
211	13-14	82	1	13.3	79.7	19.2	12.1	75.1
211	17-18	74	1	13.3	79.7	19.2	12.1	75.1
211	16-17	66	1	13.3	79.7	19.2	12.1	75.1
211	14-15	66	1	13.3	79.7	19.2	12.1	75.1
211	18-19	50	1	13.3	79.7	19.2	12.1	75.1

212	16-17	85	2	4.2	71.8	22.7	13.1	42.9
212	14-15	85	2	4.2	71.8	22.7	13.1	42.9
212	15-16	83	2	4.2	71.8	22.7	13.1	42.9
212	13-14	83	2	4.2	71.8	22.7	13.1	42.9
212	17-18	80	2	4.2	71.8	22.7	13.1	42.9
212	18-19	77	2	4.2	71.8	22.7	13.1	42.9
213	16-17	82	2	2	19	3.3	12.6	12.3
213	13-14	71	2	2	19	3.3	12.6	12.3
213	17-18	68	2	2	19	3.3	12.6	12.3
213	15-16	65	2	2	19	3.3	12.6	12.3
213	14-15	50	2	2	19	3.3	12.6	12.3
213	18-19	50	2	2	19	3.3	12.6	12.3
214	16-17	50	2	43.8	19.6	3.3	9.4	40.8
214	14-15	46	2	43.8	19.6	3.3	9.4	40.8
214	18-19	38	2	43.8	19.6	3.3	9.4	40.8
214	17-18	28	2	43.8	19.6	3.3	9.4	40.8
214	15-16	16	2	43.8	19.6	3.3	9.4	40.8
214	13-14	11	2	43.8	19.6	3.3	9.4	40.8
215	17-18	82	2	51.2	35.1	26.1	17.9	90.4
215	18-19	73	2	51.2	35.1	26.1	17.9	90.4
215	16-17	53	2	51.2	35.1	26.1	17.9	90.4
215	14-15	46	2	51.2	35.1	26.1	17.9	90.4
215	15-16	38	2	51.2	35.1	26.1	17.9	90.4
215	13-14	38	2	51.2	35.1	26.1	17.9	90.4
216	14-15	66	2	46.9	31.7	11.4	13.1	81.6
216	15-16	62	2	46.9	31.7	11.4	13.1	81.6
216	15-16	57	2	46.9	31.7	11.4	13.1	81.6
216	13-14	52	2	46.9	31.7	11.4	13.1	81.6
216	18-19	27	2	46.9	31.7	11.4	13.1	81.6
216	15-16	10	2	46.9	31.7	11.4	13.1	81.6
217	16-17	81	2	2.6	82.5	53.1	15.6	65.3
217	17-18	77	2	2.6	82.5	53.1	15.6	65.3
217	18-19	59	2	2.6	82.5	53.1	15.6	65.3
217	13-14	34	2	2.6	82.5	53.1	15.6	65.3
217	14-15	33	2	2.6	82.5	53.1	15.6	65.3
217	15-16	26	2	2.6	82.5	53.1	15.6	65.3
218	16-17	59	1	17.4	12	3.5	17.7	19.1
218	18-19	55	1	17.4	12	3.5	17.7	19.1
218	17-18	42	1	17.4	12	3.5	17.7	19.1
218	13-14	41	1	17.4	12	3.5	17.7	19.1
218	15-16	35	1	17.4	12	3.5	17.7	19.1

218	14-15	28	1	17.4	12	3.5	17.7	19.1
219	13-14	83	2	23.9	10.1	1.8	9.8	31
219	14-15	78	2	23.9	10.1	1.8	9.8	31
219	17-18	78	2	23.9	10.1	1.8	9.8	31
219	15-16	75	2	23.9	10.1	1.8	9.8	31
219	16-17	73	2	23.9	10.1	1.8	9.8	31
219	18-19	69	2	23.9	10.1	1.8	9.8	31
220	14-15	68	2	82.4	15.4	9.3	21.7	95.4
220	16-17	67	2	82.4	15.4	9.3	21.7	95.4
220	17-18	64	2	82.4	15.4	9.3	21.7	95.4
220	13-14	57	2	82.4	15.4	9.3	21.7	95.4
220	15-16	51	2	82.4	15.4	9.3	21.7	95.4
220	18-19	49	2	82.4	15.4	9.3	21.7	95.4
221	16-17	77	1	2.5	94.6	44.1	17.6	97.1
221	17-18	72	1	2.5	94.6	44.1	17.6	97.1
221	18-19	66	1	2.5	94.6	44.1	17.6	97.1
221	15-16	64	1	2.5	94.6	44.1	17.6	97.1
221	14-15	39	1	2.5	94.6	44.1	17.6	97.1
221	13-14	24	1	2.5	94.6	44.1	17.6	97.1
222	17-18	66	5	97.4	1	0.5	30.3	93.8
222	13-14	37	5	97.4	1	0.5	30.3	93.8
222	16-17	36	5	97.4	1	0.5	30.3	93.8
222	14-15	30	5	97.4	1	0.5	30.3	93.8
222	18-19	27	5	97.4	1	0.5	30.3	93.8
222	15-16	15	5	97.4	1	0.5	30.3	93.8
223	13-14	61	4	69	9.5	1.5	15.8	75.8
223	18-19	57	4	69	9.5	1.5	15.8	75.8
223	17-18	48	4	69	9.5	1.5	15.8	75.8
223	16-17	46	4	69	9.5	1.5	15.8	75.8
223	15-16	43	4	69	9.5	1.5	15.8	75.8
223	14-15	37	4	69	9.5	1.5	15.8	75.8
224	17-18	38	4	14.3	80	44.8	23.2	95.9
224	18-19	24	4	14.3	80	44.8	23.2	95.9
224	14-15	20	4	14.3	80	44.8	23.2	95.9
224	15-16	16	4	14.3	80	44.8	23.2	95.9
224	16-17	13	4	14.3	80	44.8	23.2	95.9
224	13-14	1	4	14.3	80	44.8	23.2	95.9
225	14-15	40	3	12.9	86.2	28.4	23.5	97.4
225	18-19	39	3	12.9	86.2	28.4	23.5	97.4
225	16-17	38	3	12.9	86.2	28.4	23.5	97.4
225	17-18	38	3	12.9	86.2	28.4	23.5	97.4

225	13-14	36	3	12.9	86.2	28.4	23.5	97.4
225	15-16	26	3	12.9	86.2	28.4	23.5	97.4
226	17-18	88	1	26.8	47.6	19.3	12.9	91.5
226	15-16	85	1	26.8	47.6	19.3	12.9	91.5
226	14-15	78	1	26.8	47.6	19.3	12.9	91.5
226	16-17	72	1	26.8	47.6	19.3	12.9	91.5
226	13-14	70	1	26.8	47.6	19.3	12.9	91.5
226	18-19	61	1	26.8	47.6	19.3	12.9	91.5
227	15-16	81	4	64.4	8.4	1.6	17.9	37.7
227	16-17	59	4	64.4	8.4	1.6	17.9	37.7
227	13-14	44	4	64.4	8.4	1.6	17.9	37.7
227	18-19	43	4	64.4	8.4	1.6	17.9	37.7
227	17-18	34	4	64.4	8.4	1.6	17.9	37.7
227	14-15	34	4	64.4	8.4	1.6	17.9	37.7
228	15-16	90	1	0.6	4.2	6.4	12.7	1.6
228	13-14	86	1	0.6	4.2	6.4	12.7	1.6
228	14-15	85	1	0.6	4.2	6.4	12.7	1.6
228	16-17	84	1	0.6	4.2	6.4	12.7	1.6
228	18-19	82	1	0.6	4.2	6.4	12.7	1.6
228	17-18	80	1	0.6	4.2	6.4	12.7	1.6
229	13-14	48	1	18.1	76.8	55.6	19.1	75.1
229	16-17	39	1	18.1	76.8	55.6	19.1	75.1
229	17-18	31	1	18.1	76.8	55.6	19.1	75.1
229	14-15	26	1	18.1	76.8	55.6	19.1	75.1
229	15-16	25	1	18.1	76.8	55.6	19.1	75.1
229	18-19	18	1	18.1	76.8	55.6	19.1	75.1
230	15-16	67	1	97.3	1.1	0.4	16	99.2
230	16-17	55	1	97.3	1.1	0.4	16	99.2
230	13-14	49	1	97.3	1.1	0.4	16	99.2
230	17-18	47	1	97.3	1.1	0.4	16	99.2
230	18-19	44	1	97.3	1.1	0.4	16	99.2
230	14-15	41	1	97.3	1.1	0.4	16	99.2
231	15-16	75	2	19.1	34.9	13.7	25.1	35.9
231	18-19	65	2	19.1	34.9	13.7	25.1	35.9
231	17-18	55	2	19.1	34.9	13.7	25.1	35.9
231	16-17	53	2	19.1	34.9	13.7	25.1	35.9
231	14-15	24	2	19.1	34.9	13.7	25.1	35.9
231	13-14	7	2	19.1	34.9	13.7	25.1	35.9
232	16-17	60	1	0	96.1	43.3	28.3	92.9
232	14-15	55	1	0	96.1	43.3	28.3	92.9
232	13-14	55	1	0	96.1	43.3	28.3	92.9

232	18-19	49	1	0	96.1	43.3	28.3	92.9
232	17-18	44	1	0	96.1	43.3	28.3	92.9
232	15-16	43	1	0	96.1	43.3	28.3	92.9
233	15-16	79	3	0.5	96.1	35.8	12.2	92.9
233	18-19	78	3	0.5	96.1	35.8	12.2	92.9
233	17-18	76	3	0.5	96.1	35.8	12.2	92.9
233	14-15	64	3	0.5	96.1	35.8	12.2	92.9
233	16-17	53	3	0.5	96.1	35.8	12.2	92.9
233	13-14	50	3	0.5	96.1	35.8	12.2	92.9
234	13-14	70	1	15.9	15.9	5.5	10.3	26.8
234	15-16	63	1	15.9	15.9	5.5	10.3	26.8
234	14-15	61	1	15.9	15.9	5.5	10.3	26.8
234	16-17	52	1	15.9	15.9	5.5	10.3	26.8
234	17-18	51	1	15.9	15.9	5.5	10.3	26.8
234	18-19	40	1	15.9	15.9	5.5	10.3	26.8
235	16-17	76	2	1.7	1.7	18	18	1.3
235	13-14	76	2	1.7	1.7	18	18	1.3
235	14-15	72	2	1.7	1.7	18	18	1.3
235	17-18	72	2	1.7	1.7	18	18	1.3
235	15-16	69	2	1.7	1.7	18	18	1.3
235	18-19	62	2	1.7	1.7	18	18	1.3
236	13-14	64	1	95.8	3.6	1.9	18.4	97.9
236	17-18	62	1	95.8	3.6	1.9	18.4	97.9
236	14-15	62	1	95.8	3.6	1.9	18.4	97.9
236	15-16	60	1	95.8	3.6	1.9	18.4	97.9
236	16-17	59	1	95.8	3.6	1.9	18.4	97.9
236	18-19	51	1	95.8	3.6	1.9	18.4	97.9
237	14-15	76	2	98.2	1.5	0.8	17.9	94.4
237	17-18	64	2	98.2	1.5	0.8	17.9	94.4
237	18-19	58	2	98.2	1.5	0.8	17.9	94.4
237	16-17	50	2	98.2	1.5	0.8	17.9	94.4
237	15-16	49	2	98.2	1.5	0.8	17.9	94.4
237	13-14	37	2	98.2	1.5	0.8	17.9	94.4
238	15-16	64	1	97.2	2.8	0.3	20.2	99.7
238	14-15	60	1	97.2	2.8	0.3	20.2	99.7
238	18-19	57	1	97.2	2.8	0.3	20.2	99.7
238	17-18	51	1	97.2	2.8	0.3	20.2	99.7
238	13-14	47	1	97.2	2.8	0.3	20.2	99.7
238	16-17	45	1	97.2	2.8	0.3	20.2	99.7
239	16-17	60	2	23.9	67.1	37	26.2	95.1
239	13-14	55	2	23.9	67.1	37	26.2	95.1

239	17-18	54	2	23.9	67.1	37	26.2	95.1
239	15-16	48	2	23.9	67.1	37	26.2	95.1
239	14-15	46	2	23.9	67.1	37	26.2	95.1
239	18-19	42	2	23.9	67.1	37	26.2	95.1
240	16-17	64	5	80.1	18.2	0.3	4.8	67.6
240	18-19	63	5	80.1	18.2	0.3	4.8	67.6
240	17-18	60	5	80.1	18.2	0.3	4.8	67.6
240	15-16	37	5	80.1	18.2	0.3	4.8	67.6
240	14-15	30	5	80.1	18.2	0.3	4.8	67.6
240	13-14	28	5	80.1	18.2	0.3	4.8	67.6
241	15-16	63	4	7.9	40.4	1	4.3	43.6
241	17-18	51	4	7.9	40.4	1	4.3	43.6
241	16-17	47	4	7.9	40.4	1	4.3	43.6
241	18-19	45	4	7.9	40.4	1	4.3	43.6
241	13-14	32	4	7.9	40.4	1	4.3	43.6
241	14-15	29	4	7.9	40.4	1	4.3	43.6
242	16-17	73	2	1.5	88.3	40.6	16.3	81.5
242	18-19	71	2	1.5	88.3	40.6	16.3	81.5
242	15-16	34	2	1.5	88.3	40.6	16.3	81.5
242	14-15	29	2	1.5	88.3	40.6	16.3	81.5
242	13-14	21	2	1.5	88.3	40.6	16.3	81.5
242	17-18	1	2	1.5	88.3	40.6	16.3	81.5
243	18-19	54	1	14.4	83.9	49.1	14.4	93.6
243	13-14	54	1	14.4	83.9	49.1	14.4	93.6
243	15-16	50	1	14.4	83.9	49.1	14.4	93.6
243	16-17	44	1	14.4	83.9	49.1	14.4	93.6
243	14-15	43	1	14.4	83.9	49.1	14.4	93.6
243	17-18	32	1	14.4	83.9	49.1	14.4	93.6
244	17-18	72	2	17.6	41.8	27	41.8	52.4
244	18-19	56	2	17.6	41.8	27	41.8	52.4
244	14-15	55	2	17.6	41.8	27	41.8	52.4
244	13-14	47	2	17.6	41.8	27	41.8	52.4
244	16-17	46	2	17.6	41.8	27	41.8	52.4
244	15-16	35	2	17.6	41.8	27	41.8	52.4
245	14-15	65	1	98.3	1.7	0.5	15.7	80.2
245	17-18	56	1	98.3	1.7	0.5	15.7	80.2
245	13-14	56	1	98.3	1.7	0.5	15.7	80.2
245	15-16	52	1	98.3	1.7	0.5	15.7	80.2
245	16-17	49	1	98.3	1.7	0.5	15.7	80.2
245	18-19	37	1	98.3	1.7	0.5	15.7	80.2
246	17-18	59	1	1.1	83	17.7	13.7	64.3

246	14-15	56	1	1.1	83	17.7	13.7	64.3
246	16-17	55	1	1.1	83	17.7	13.7	64.3
246	18-19	55	1	1.1	83	17.7	13.7	64.3
246	13-14	49	1	1.1	83	17.7	13.7	64.3
246	15-16	47	1	1.1	83	17.7	13.7	64.3
247	13-14	51	2	13.9	4.8	3	25.1	44.1
247	18-19	45	2	13.9	4.8	3	25.1	44.1
247	17-18	43	2	13.9	4.8	3	25.1	44.1
247	14-15	37	2	13.9	4.8	3	25.1	44.1
247	16-17	32	2	13.9	4.8	3	25.1	44.1
247	15-16	27	2	13.9	4.8	3	25.1	44.1
248	18-19	82	1	3.4	2.4	8.6	18.1	7.6
248	16-17	70	1	3.4	2.4	8.6	18.1	7.6
248	17-18	66	1	3.4	2.4	8.6	18.1	7.6
248	15-16	62	1	3.4	2.4	8.6	18.1	7.6
248	14-15	55	1	3.4	2.4	8.6	18.1	7.6
248	13-14	37	1	3.4	2.4	8.6	18.1	7.6
249	16-17	72	2	1	97.8	46.2	9.3	97.7
249	15-16	70	2	1	97.8	46.2	9.3	97.7
249	18-19	59	2	1	97.8	46.2	9.3	97.7
249	17-18	54	2	1	97.8	46.2	9.3	97.7
249	14-15	47	2	1	97.8	46.2	9.3	97.7
249	13-14	31	2	1	97.8	46.2	9.3	97.7
250	17-18	58	3	1.1	17	19.3	24.7	44.9
250	15-16	56	3	1.1	17	19.3	24.7	44.9
250	18-19	56	3	1.1	17	19.3	24.7	44.9
250	16-17	45	3	1.1	17	19.3	24.7	44.9
250	14-15	39	3	1.1	17	19.3	24.7	44.9
250	13-14	20	3	1.1	17	19.3	24.7	44.9
251	18-19	84	1	0.4	99.2	56	11.5	96.8
251	17-18	81	1	0.4	99.2	56	11.5	96.8
251	16-17	71	1	0.4	99.2	56	11.5	96.8
251	14-15	66	1	0.4	99.2	56	11.5	96.8
251	13-14	61	1	0.4	99.2	56	11.5	96.8
251	15-16	58	1	0.4	99.2	56	11.5	96.8
252	15-16	63	1	2	37.1	31.9	18.3	36.4
252	16-17	57	1	2	37.1	31.9	18.3	36.4
252	13-14	54	1	2	37.1	31.9	18.3	36.4
252	18-19	54	1	2	37.1	31.9	18.3	36.4
252	14-15	52	1	2	37.1	31.9	18.3	36.4
252	17-18	49	1	2	37.1	31.9	18.3	36.4

253	16-17	50	1	8.2	22.8	16.6	11.6	25
253	15-16	49	1	8.2	22.8	16.6	11.6	25
253	17-18	48	1	8.2	22.8	16.6	11.6	25
253	18-19	41	1	8.2	22.8	16.6	11.6	25
253	14-15	40	1	8.2	22.8	16.6	11.6	25
253	13-14	40	1	8.2	22.8	16.6	11.6	25
254	16-17	89	1	13.7	9.9	42.2	7.6	81.3
254	17-18	82	1	13.7	9.9	42.2	7.6	81.3
254	13-14	74	1	13.7	9.9	42.2	7.6	81.3
254	14-15	72	1	13.7	9.9	42.2	7.6	81.3
254	15-16	64	1	13.7	9.9	42.2	7.6	81.3
254	18-19	54	1	13.7	9.9	42.2	7.6	81.3
255	18-19	46	2	4.9	43.9	45.5	8.8	79.8
255	15-16	43	2	4.9	43.9	45.5	8.8	79.8
255	17-18	39	2	4.9	43.9	45.5	8.8	79.8
255	14-15	23	2	4.9	43.9	45.5	8.8	79.8
255	13-14	22	2	4.9	43.9	45.5	8.8	79.8
255	16-17	17	2	4.9	43.9	45.5	8.8	79.8
256	17-18	67	1	68.4	7.4	3.4	17.4	78.6
256	18-19	66	1	68.4	7.4	3.4	17.4	78.6
256	16-17	35	1	68.4	7.4	3.4	17.4	78.6
256	14-15	26	1	68.4	7.4	3.4	17.4	78.6
256	13-14	18	1	68.4	7.4	3.4	17.4	78.6
256	15-16	10	1	68.4	7.4	3.4	17.4	78.6
257	18-19	65	3	80	18.4	10.4	28.4	86
257	14-15	64	3	80	18.4	10.4	28.4	86
257	16-17	60	3	80	18.4	10.4	28.4	86
257	17-18	57	3	80	18.4	10.4	28.4	86
257	13-14	45	3	80	18.4	10.4	28.4	86
257	15-16	42	3	80	18.4	10.4	28.4	86
258	18-19	62	1	10.7	4.2	1.5	21.5	70.9
258	15-16	57	1	10.7	4.2	1.5	21.5	70.9
258	14-15	54	1	10.7	4.2	1.5	21.5	70.9
258	16-17	47	1	10.7	4.2	1.5	21.5	70.9
258	13-14	43	1	10.7	4.2	1.5	21.5	70.9
258	17-18	36	1	10.7	4.2	1.5	21.5	70.9
259	18-19	67	3	0	99.5	54.8	11.3	89.5
259	17-18	63	3	0	99.5	54.8	11.3	89.5
259	15-16	40	3	0	99.5	54.8	11.3	89.5
259	16-17	40	3	0	99.5	54.8	11.3	89.5
259	14-15	39	3	0	99.5	54.8	11.3	89.5

259	13-14	36	3	0	99.5	54.8	11.3	89.5
260	15-16	70	4	4.5	64.5	13.7	11.1	59
260	16-17	65	4	4.5	64.5	13.7	11.1	59
260	17-18	62	4	4.5	64.5	13.7	11.1	59
260	14-15	59	4	4.5	64.5	13.7	11.1	59
260	18-19	52	4	4.5	64.5	13.7	11.1	59
260	13-14	37	4	4.5	64.5	13.7	11.1	59
261	13-14	78	2	1.2	95	61.9	13.3	91.3
261	15-16	56	2	1.2	95	61.9	13.3	91.3
261	14-15	53	2	1.2	95	61.9	13.3	91.3
261	18-19	47	2	1.2	95	61.9	13.3	91.3
261	16-17	43	2	1.2	95	61.9	13.3	91.3
261	17-18	32	2	1.2	95	61.9	13.3	91.3
262	18-19	51	2	65.6	20.2	18.6	16.7	80.6
262	17-18	43	2	65.6	20.2	18.6	16.7	80.6
262	16-17	26	2	65.6	20.2	18.6	16.7	80.6
262	13-14	17	2	65.6	20.2	18.6	16.7	80.6
262	14-15	16	2	65.6	20.2	18.6	16.7	80.6
262	15-16	7	2	65.6	20.2	18.6	16.7	80.6
263	16-17	65	1	0.1	99.4	55.4	16	95.4
263	17-18	65	1	0.1	99.4	55.4	16	95.4
263	14-15	59	1	0.1	99.4	55.4	16	95.4
263	18-19	53	1	0.1	99.4	55.4	16	95.4
263	15-16	50	1	0.1	99.4	55.4	16	95.4
263	13-14	40	1	0.1	99.4	55.4	16	95.4
264	17-18	35	2	94.8	3.6	2.1	14.5	98.2
264	16-17	18	2	94.8	3.6	2.1	14.5	98.2
264	15-16	10	2	94.8	3.6	2.1	14.5	98.2
264	18-19	7	2	94.8	3.6	2.1	14.5	98.2
264	14-15	7	2	94.8	3.6	2.1	14.5	98.2
264	13-14	1	2	94.8	3.6	2.1	14.5	98.2
265	13-14	50	1	8.7	34.3	31	17.1	73.6
265	18-19	50	1	8.7	34.3	31	17.1	73.6
265	14-15	42	1	8.7	34.3	31	17.1	73.6
265	17-18	36	1	8.7	34.3	31	17.1	73.6
265	15-16	32	1	8.7	34.3	31	17.1	73.6
265	16-17	25	1	8.7	34.3	31	17.1	73.6
266	14-15	70	2	7.3	90.6	53	19.2	96.1
266	16-17	60	2	7.3	90.6	53	19.2	96.1
266	18-19	59	2	7.3	90.6	53	19.2	96.1
266	15-16	55	2	7.3	90.6	53	19.2	96.1

266	17-18	50	2	7.3	90.6	53	19.2	96.1
266	13-14	49	2	7.3	90.6	53	19.2	96.1
267	18-19	65	2	2.9	93.8	54.2	14.9	87.6
267	16-17	64	2	2.9	93.8	54.2	14.9	87.6
267	17-18	63	2	2.9	93.8	54.2	14.9	87.6
267	14-15	63	2	2.9	93.8	54.2	14.9	87.6
267	15-16	56	2	2.9	93.8	54.2	14.9	87.6
267	13-14	56	2	2.9	93.8	54.2	14.9	87.6
268	17-18	66	4	2.3	83.5	39.2	15.5	91.5
268	15-16	58	4	2.3	83.5	39.2	15.5	91.5
268	14-15	57	4	2.3	83.5	39.2	15.5	91.5
268	18-19	55	4	2.3	83.5	39.2	15.5	91.5
268	13-14	49	4	2.3	83.5	39.2	15.5	91.5
268	16-17	48	4	2.3	83.5	39.2	15.5	91.5
269	14-15	99	1	3.3	93.5	66.9	20.7	88.4
269	15-16	90	1	3.3	93.5	66.9	20.7	88.4
269	17-18	90	1	3.3	93.5	66.9	20.7	88.4
269	16-17	87	1	3.3	93.5	66.9	20.7	88.4
269	13-14	80	1	3.3	93.5	66.9	20.7	88.4
269	18-19	78	1	3.3	93.5	66.9	20.7	88.4
270	13-14	86	2	40.1	40.1	28.3	13.2	99.8
270	14-15	75	2	40.1	40.1	28.3	13.2	99.8
270	15-16	62	2	40.1	40.1	28.3	13.2	99.8
270	16-17	48	2	40.1	40.1	28.3	13.2	99.8
270	18-19	45	2	40.1	40.1	28.3	13.2	99.8
270	17-18	38	2	40.1	40.1	28.3	13.2	99.8
271	16-17	58	2	1.7	97.2	45.7	12.5	94.5
271	18-19	43	2	1.7	97.2	45.7	12.5	94.5
271	17-18	38	2	1.7	97.2	45.7	12.5	94.5
271	14-15	31	2	1.7	97.2	45.7	12.5	94.5
271	15-16	18	2	1.7	97.2	45.7	12.5	94.5
271	13-14	10	2	1.7	97.2	45.7	12.5	94.5
272	15-16	82	3	19.8	29.4	6.4	17.2	34
272	16-17	74	3	19.8	29.4	6.4	17.2	34
272	17-18	72	3	19.8	29.4	6.4	17.2	34
272	13-14	64	3	19.8	29.4	6.4	17.2	34
272	18-19	58	3	19.8	29.4	6.4	17.2	34
272	14-15	56	3	19.8	29.4	6.4	17.2	34
273	16-17	88	2	1	18.3	4.1	15.5	7.9
273	17-18	84	2	1	18.3	4.1	15.5	7.9
273	14-15	82	2	1	18.3	4.1	15.5	7.9

273	18-19	81	2	1	18.3	4.1	15.5	7.9
273	15-16	74	2	1	18.3	4.1	15.5	7.9
273	13-14	72	2	1	18.3	4.1	15.5	7.9
274	14-15	81	3	7.8	12.5	2.9	13.2	33
274	16-17	80	3	7.8	12.5	2.9	13.2	33
274	15-16	67	3	7.8	12.5	2.9	13.2	33
274	18-19	60	3	7.8	12.5	2.9	13.2	33
274	17-18	57	3	7.8	12.5	2.9	13.2	33
274	13-14	47	3	7.8	12.5	2.9	13.2	33
275	14-15	61	1	94.6	2.7	2.2	17.7	91.8
275	15-16	56	1	94.6	2.7	2.2	17.7	91.8
275	18-19	53	1	94.6	2.7	2.2	17.7	91.8
275	17-18	45	1	94.6	2.7	2.2	17.7	91.8
275	13-14	41	1	94.6	2.7	2.2	17.7	91.8
275	16-17	30	1	94.6	2.7	2.2	17.7	91.8
276	18-19	58	2	97.5	1.3	0	36.3	85
276	17-18	50	2	97.5	1.3	0	36.3	85
276	13-14	47	2	97.5	1.3	0	36.3	85
276	16-17	35	2	97.5	1.3	0	36.3	85
276	15-16	33	2	97.5	1.3	0	36.3	85
276	14-15	7	2	97.5	1.3	0	36.3	85
277	18-19	83	1	1.5	90.3	37.7	11.8	92.6
277	16-17	74	1	1.5	90.3	37.7	11.8	92.6
277	17-18	68	1	1.5	90.3	37.7	11.8	92.6
277	13-14	64	1	1.5	90.3	37.7	11.8	92.6
277	15-16	61	1	1.5	90.3	37.7	11.8	92.6
277	14-15	59	1	1.5	90.3	37.7	11.8	92.6
278	13-14	49	2	1.4	7.3	1.6	12.5	10.7
278	16-17	41	2	1.4	7.3	1.6	12.5	10.7
278	14-15	40	2	1.4	7.3	1.6	12.5	10.7
278	15-16	35	2	1.4	7.3	1.6	12.5	10.7
278	17-18	29	2	1.4	7.3	1.6	12.5	10.7
278	18-19	23	2	1.4	7.3	1.6	12.5	10.7
279	14-15	51	2	1.2	0.9	0.9	29.1	69.9
279	17-18	51	2	1.2	0.9	0.9	29.1	69.9
279	18-19	51	2	1.2	0.9	0.9	29.1	69.9
279	15-16	43	2	1.2	0.9	0.9	29.1	69.9
279	16-17	29	2	1.2	0.9	0.9	29.1	69.9
279	13-14	22	2	1.2	0.9	0.9	29.1	69.9
280	14-15	36	1	1.2	35.8	26.1	17.5	46.4
280	16-17	35	1	1.2	35.8	26.1	17.5	46.4

280	13-14	31	1	1.2	35.8	26.1	17.5	46.4
280	15-16	30	1	1.2	35.8	26.1	17.5	46.4
280	18-19	30	1	1.2	35.8	26.1	17.5	46.4
280	17-18	27	1	1.2	35.8	26.1	17.5	46.4
281	15-16	57	2	12.6	6.2	5.6	15.5	27
281	14-15	52	2	12.6	6.2	5.6	15.5	27
281	13-14	49	2	12.6	6.2	5.6	15.5	27
281	16-17	45	2	12.6	6.2	5.6	15.5	27
281	18-19	35	2	12.6	6.2	5.6	15.5	27
281	17-18	34	2	12.6	6.2	5.6	15.5	27
282	17-18	50	1	1.5	89	41.7	14.7	85.2
282	16-17	47	1	1.5	89	41.7	14.7	85.2
282	18-19	45	1	1.5	89	41.7	14.7	85.2
282	15-16	32	1	1.5	89	41.7	14.7	85.2
282	13-14	32	1	1.5	89	41.7	14.7	85.2
282	14-15	27	1	1.5	89	41.7	14.7	85.2
283	15-16	70	2	95.2	4.2	3.2	29.5	95.8
283	14-15	70	2	95.2	4.2	3.2	29.5	95.8
283	16-17	62	2	95.2	4.2	3.2	29.5	95.8
283	17-18	61	2	95.2	4.2	3.2	29.5	95.8
283	18-19	44	2	95.2	4.2	3.2	29.5	95.8
283	13-14	44	2	95.2	4.2	3.2	29.5	95.8
284	16-17	60	1	1.2	97.7	53.8	15.4	95.8
284	18-19	56	1	1.2	97.7	53.8	15.4	95.8
284	17-18	54	1	1.2	97.7	53.8	15.4	95.8
284	15-16	53	1	1.2	97.7	53.8	15.4	95.8
284	14-15	31	1	1.2	97.7	53.8	15.4	95.8
284	13-14	29	1	1.2	97.7	53.8	15.4	95.8
285	17-18	41	2	2	7.1	5.6	1.1	15.2
285	15-16	40	2	2	7.1	5.6	1.1	15.2
285	18-19	40	2	2	7.1	5.6	1.1	15.2
285	13-14	38	2	2	7.1	5.6	1.1	15.2
285	16-17	36	2	2	7.1	5.6	1.1	15.2
285	14-15	35	2	2	7.1	5.6	1.1	15.2
286	18-19	65	1	7.8	50	17.7	20.4	74.7
286	14-15	53	1	7.8	50	17.7	20.4	74.7
286	17-18	52	1	7.8	50	17.7	20.4	74.7
286	13-14	51	1	7.8	50	17.7	20.4	74.7
286	15-16	46	1	7.8	50	17.7	20.4	74.7
286	16-17	46	1	7.8	50	17.7	20.4	74.7
287	16-17	83	3	1.1	19.4	24.8	3.9	82.3

287	17-18	72	3	1.1	19.4	24.8	3.9	82.3
287	15-16	66	3	1.1	19.4	24.8	3.9	82.3
287	18-19	65	3	1.1	19.4	24.8	3.9	82.3
287	14-15	58	3	1.1	19.4	24.8	3.9	82.3
287	13-14	52	3	1.1	19.4	24.8	3.9	82.3
288	15-16	74	2	2.3	93.9	52.6	14.2	99.5
288	16-17	67	2	2.3	93.9	52.6	14.2	99.5
288	14-15	57	2	2.3	93.9	52.6	14.2	99.5
288	17-18	49	2	2.3	93.9	52.6	14.2	99.5
288	18-19	45	2	2.3	93.9	52.6	14.2	99.5
288	13-14	39	2	2.3	93.9	52.6	14.2	99.5
289	15-16	99	3	36	11.1	4	0.9	24
289	18-19	99	3	36	11.1	4	0.9	24
289	16-17	88	3	36	11.1	4	0.9	24
289	17-18	77	3	36	11.1	4	0.9	24
289	13-14	72	3	36	11.1	4	0.9	24
289	14-15	71	3	36	11.1	4	0.9	24
290	13-14	60	3	14	4.5	0.5	12.6	28.6
290	18-19	59	3	14	4.5	0.5	12.6	28.6
290	14-15	24	3	14	4.5	0.5	12.6	28.6
290	15-16	19	3	14	4.5	0.5	12.6	28.6
290	16-17	10	3	14	4.5	0.5	12.6	28.6
290	17-18	4	3	14	4.5	0.5	12.6	28.6
291	14-15	55	1	97.3	2.2	0.5	12.9	99.2
291	15-16	47	1	97.3	2.2	0.5	12.9	99.2
291	17-18	43	1	97.3	2.2	0.5	12.9	99.2
291	18-19	38	1	97.3	2.2	0.5	12.9	99.2
291	16-17	37	1	97.3	2.2	0.5	12.9	99.2
291	13-14	15	1	97.3	2.2	0.5	12.9	99.2
292	17-18	85	3	14.8	3.1	11.3	13.7	38.7
292	16-17	55	3	14.8	3.1	11.3	13.7	38.7
292	14-15	52	3	14.8	3.1	11.3	13.7	38.7
292	13-14	52	3	14.8	3.1	11.3	13.7	38.7
292	18-19	52	3	14.8	3.1	11.3	13.7	38.7
292	15-16	37	3	14.8	3.1	11.3	13.7	38.7
293	14-15	76	1	1.6	14.1	4.3	11.2	9.5
293	13-14	74	1	1.6	14.1	4.3	11.2	9.5
293	15-16	59	1	1.6	14.1	4.3	11.2	9.5
293	18-19	55	1	1.6	14.1	4.3	11.2	9.5
293	17-18	54	1	1.6	14.1	4.3	11.2	9.5
293	16-17	46	1	1.6	14.1	4.3	11.2	9.5

294	15-16	80	3	2.7	13.6	9.7	5	7.5
294	14-15	74	3	2.7	13.6	9.7	5	7.5
294	16-17	65	3	2.7	13.6	9.7	5	7.5
294	13-14	60	3	2.7	13.6	9.7	5	7.5
294	17-18	36	3	2.7	13.6	9.7	5	7.5
294	18-19	31	3	2.7	13.6	9.7	5	7.5
295	13-14	51	2	7.1	84.5	48.8	15.3	90.1
295	17-18	48	2	7.1	84.5	48.8	15.3	90.1
295	15-16	45	2	7.1	84.5	48.8	15.3	90.1
295	18-19	43	2	7.1	84.5	48.8	15.3	90.1
295	16-17	36	2	7.1	84.5	48.8	15.3	90.1
295	14-15	33	2	7.1	84.5	48.8	15.3	90.1
296	18-19	76	1	4.1	77.5	40.3	28.4	81.1
296	16-17	66	1	4.1	77.5	40.3	28.4	81.1
296	17-18	65	1	4.1	77.5	40.3	28.4	81.1
296	14-15	64	1	4.1	77.5	40.3	28.4	81.1
296	15-16	61	1	4.1	77.5	40.3	28.4	81.1
296	13-14	54	1	4.1	77.5	40.3	28.4	81.1
297	14-15	69	2	10.8	56.3	20.9	20.6	50.9
297	15-16	67	2	10.8	56.3	20.9	20.6	50.9
297	16-17	53	2	10.8	56.3	20.9	20.6	50.9
297	17-18	35	2	10.8	56.3	20.9	20.6	50.9
297	18-19	23	2	10.8	56.3	20.9	20.6	50.9
297	13-14	20	2	10.8	56.3	20.9	20.6	50.9
298	14-15	65	2	3.1	15.5	19.2	6	12
298	15-16	58	2	3.1	15.5	19.2	6	12
298	16-17	56	2	3.1	15.5	19.2	6	12
298	18-19	48	2	3.1	15.5	19.2	6	12
298	13-14	46	2	3.1	15.5	19.2	6	12
298	17-18	22	2	3.1	15.5	19.2	6	12
299	15-16	71	3	3	69.8	9.5	5.6	12.5
299	16-17	70	3	3	69.8	9.5	5.6	12.5
299	13-14	67	3	3	69.8	9.5	5.6	12.5
299	17-18	50	3	3	69.8	9.5	5.6	12.5
299	18-19	49	3	3	69.8	9.5	5.6	12.5
299	14-15	48	3	3	69.8	9.5	5.6	12.5
300	13-14	77	3	94.2	5.8	0.5	10.4	93.2
300	14-15	71	3	94.2	5.8	0.5	10.4	93.2
300	18-19	57	3	94.2	5.8	0.5	10.4	93.2
300	15-16	56	3	94.2	5.8	0.5	10.4	93.2
300	17-18	51	3	94.2	5.8	0.5	10.4	93.2

300	16-17	27	3	94.2	5.8	0.5	10.4	93.2
301	14-15	45	3	14.8	80.1	60.7	10.4	98.7
301	13-14	37	3	14.8	80.1	60.7	10.4	98.7
301	15-16	36	3	14.8	80.1	60.7	10.4	98.7
301	16-17	7	3	14.8	80.1	60.7	10.4	98.7
301	18-19	4	3	14.8	80.1	60.7	10.4	98.7
301	17-18	1	3	14.8	80.1	60.7	10.4	98.7
302	17-18	76	3	95.6	4	1.6	10.2	95.6
302	18-19	53	3	95.6	4	1.6	10.2	95.6
302	14-15	43	3	95.6	4	1.6	10.2	95.6
302	15-16	41	3	95.6	4	1.6	10.2	95.6
302	13-14	39	3	95.6	4	1.6	10.2	95.6
302	16-17	31	3	95.6	4	1.6	10.2	95.6
303	13-14	73	1	6.1	22.6	4.9	10.4	15.3
303	15-16	65	1	6.1	22.6	4.9	10.4	15.3
303	14-15	63	1	6.1	22.6	4.9	10.4	15.3
303	16-17	63	1	6.1	22.6	4.9	10.4	15.3
303	18-19	62	1	6.1	22.6	4.9	10.4	15.3
303	17-18	59	1	6.1	22.6	4.9	10.4	15.3
304	13-14	22	5	33.7	35.2	0.8	5.7	37
304	14-15	7	5	33.7	35.2	0.8	5.7	37
304	17-18	45	1	94.8	2.6	2.6	9.9	78.3
304	18-19	43	1	94.8	2.6	2.6	9.9	78.3
304	15-16	38	1	94.8	2.6	2.6	9.9	78.3
304	16-17	18	1	94.8	2.6	2.6	9.9	78.3
305	16-17	89	2	0	99.7	27.7	16.2	96.9
305	13-14	84	2	0	99.7	27.7	16.2	96.9
305	15-16	79	2	0	99.7	27.7	16.2	96.9
305	14-15	74	2	0	99.7	27.7	16.2	96.9
305	17-18	72	2	0	99.7	27.7	16.2	96.9
305	18-19	71	2	0	99.7	27.7	16.2	96.9
306	13-14	76	1	3.5	83.4	30.7	15.1	80.2
306	15-16	75	1	3.5	83.4	30.7	15.1	80.2
306	14-15	74	1	3.5	83.4	30.7	15.1	80.2
306	18-19	69	1	3.5	83.4	30.7	15.1	80.2
306	17-18	65	1	3.5	83.4	30.7	15.1	80.2
306	16-17	64	1	3.5	83.4	30.7	15.1	80.2
307	15-16	73	2	1.1	93	46.9	16.7	90.8
307	16-17	61	2	1.1	93	46.9	16.7	90.8
307	17-18	49	2	1.1	93	46.9	16.7	90.8
307	14-15	45	2	1.1	93	46.9	16.7	90.8

307	13-14	37	2	1.1	93	46.9	16.7	90.8
307	18-19	15	2	1.1	93	46.9	16.7	90.8
308	15-16	76	3	21.5	75.1	32.6	20.2	94.5
308	13-14	75	3	21.5	75.1	32.6	20.2	94.5
308	14-15	70	3	21.5	75.1	32.6	20.2	94.5
308	16-17	16	3	21.5	75.1	32.6	20.2	94.5
308	17-18	12	3	21.5	75.1	32.6	20.2	94.5
308	18-19	10	3	21.5	75.1	32.6	20.2	94.5
309	17-18	53	3	20.4	12.8	1.2	13.7	16.4
309	16-17	40	3	20.4	12.8	1.2	13.7	16.4
309	15-16	39	3	20.4	12.8	1.2	13.7	16.4
309	18-19	29	3	20.4	12.8	1.2	13.7	16.4
309	13-14	28	3	20.4	12.8	1.2	13.7	16.4
309	14-15	23	3	20.4	12.8	1.2	13.7	16.4
310	14-15	57	4	98.8	1.2	0.4	27.1	96.8
310	17-18	56	4	98.8	1.2	0.4	27.1	96.8
310	18-19	56	4	98.8	1.2	0.4	27.1	96.8
310	16-17	47	4	98.8	1.2	0.4	27.1	96.8
310	15-16	31	4	98.8	1.2	0.4	27.1	96.8
310	13-14	26	4	98.8	1.2	0.4	27.1	96.8
311	17-18	74	4	99.6	0	0	15.2	99.6
311	15-16	71	4	99.6	0	0	15.2	99.6
311	16-17	64	4	99.6	0	0	15.2	99.6
311	18-19	63	4	99.6	0	0	15.2	99.6
311	13-14	46	4	99.6	0	0	15.2	99.6
311	14-15	29	4	99.6	0	0	15.2	99.6
312	15-16	93	2	10.9	15.2	11.7	8.9	21.5
312	16-17	66	2	10.9	15.2	11.7	8.9	21.5
312	18-19	63	2	10.9	15.2	11.7	8.9	21.5
312	13-14	63	2	10.9	15.2	11.7	8.9	21.5
312	14-15	56	2	10.9	15.2	11.7	8.9	21.5
312	17-18	55	2	10.9	15.2	11.7	8.9	21.5
313	18-19	66	1	95.7	3.3	0	17.1	97.2
313	16-17	65	1	95.7	3.3	0	17.1	97.2
313	14-15	65	1	95.7	3.3	0	17.1	97.2
313	17-18	58	1	95.7	3.3	0	17.1	97.2
313	15-16	56	1	95.7	3.3	0	17.1	97.2
313	13-14	54	1	95.7	3.3	0	17.1	97.2
314	15-16	99	1	28.7	58.5	1.8	6.4	72.5
314	14-15	96	1	28.7	58.5	1.8	6.4	72.5
314	13-14	93	1	28.7	58.5	1.8	6.4	72.5

314	16-17	92	1	28.7	58.5	1.8	6.4	72.5
314	17-18	76	1	28.7	58.5	1.8	6.4	72.5
314	18-19	49	1	28.7	58.5	1.8	6.4	72.5
315	18-19	64	5	7.8	21.6	2.8	8.5	18.9
315	17-18	55	5	7.8	21.6	2.8	8.5	18.9
315	15-16	52	5	7.8	21.6	2.8	8.5	18.9
315	16-17	50	5	7.8	21.6	2.8	8.5	18.9
315	14-15	43	5	7.8	21.6	2.8	8.5	18.9
315	13-14	39	5	7.8	21.6	2.8	8.5	18.9
316	17-18	62	2	6.7	3.5	0.2	16.4	48.7
316	14-15	56	2	6.7	3.5	0.2	16.4	48.7
316	15-16	55	2	6.7	3.5	0.2	16.4	48.7
316	18-19	55	2	6.7	3.5	0.2	16.4	48.7
316	13-14	52	2	6.7	3.5	0.2	16.4	48.7
316	16-17	50	2	6.7	3.5	0.2	16.4	48.7
317	15-16	41	5	21.9	77.3	33.3	12.4	91.7
317	17-18	38	5	21.9	77.3	33.3	12.4	91.7
317	16-17	35	5	21.9	77.3	33.3	12.4	91.7
317	18-19	35	5	21.9	77.3	33.3	12.4	91.7
317	13-14	20	5	21.9	77.3	33.3	12.4	91.7
317	14-15	19	5	21.9	77.3	33.3	12.4	91.7
318	14-15	75	1	1.3	51.5	15.3	10	53.8
318	13-14	71	1	1.3	51.5	15.3	10	53.8
318	15-16	63	1	1.3	51.5	15.3	10	53.8
318	16-17	61	1	1.3	51.5	15.3	10	53.8
318	18-19	50	1	1.3	51.5	15.3	10	53.8
318	17-18	49	1	1.3	51.5	15.3	10	53.8
319	14-15	72	1	2.7	96	40.9	10.8	94.6
319	16-17	66	1	2.7	96	40.9	10.8	94.6
319	15-16	63	1	2.7	96	40.9	10.8	94.6
319	13-14	59	1	2.7	96	40.9	10.8	94.6
319	17-18	55	1	2.7	96	40.9	10.8	94.6
319	18-19	44	1	2.7	96	40.9	10.8	94.6
320	18-19	77	2	5.3	86.2	55.9	25.7	90.8
320	15-16	49	2	5.3	86.2	55.9	25.7	90.8
320	16-17	44	2	5.3	86.2	55.9	25.7	90.8
320	17-18	44	2	5.3	86.2	55.9	25.7	90.8
320	14-15	39	2	5.3	86.2	55.9	25.7	90.8
320	13-14	39	2	5.3	86.2	55.9	25.7	90.8
321	13-14	70	2	1.2	95	61.9	13.3	91.3
321	15-16	69	1	95.9	3.2	0.9	18.3	83.1

321	18-19	59	1	95.9	3.2	0.9	18.3	83.1
321	16-17	57	1	95.9	3.2	0.9	18.3	83.1
321	14-15	54	1	95.9	3.2	0.9	18.3	83.1
321	17-18	34	1	95.9	3.2	0.9	18.3	83.1
322	15-16	49	1	2.2	74.6	42.3	20.3	81
322	13-14	49	1	2.2	74.6	42.3	20.3	81
322	16-17	48	1	2.2	74.6	42.3	20.3	81
322	18-19	46	1	2.2	74.6	42.3	20.3	81
322	14-15	46	1	2.2	74.6	42.3	20.3	81
322	17-18	41	1	2.2	74.6	42.3	20.3	81
323	18-19	51	1	43.8	53.9	25.7	18.6	91.6
323	16-17	44	1	43.8	53.9	25.7	18.6	91.6
323	17-18	43	1	43.8	53.9	25.7	18.6	91.6
323	15-16	40	1	43.8	53.9	25.7	18.6	91.6
323	14-15	33	1	43.8	53.9	25.7	18.6	91.6
323	13-14	25	1	43.8	53.9	25.7	18.6	91.6
324	17-18	87	2	1.5	52.2	31.2	12	55.7
324	16-17	81	2	1.5	52.2	31.2	12	55.7
324	15-16	78	2	1.5	52.2	31.2	12	55.7
324	18-19	74	2	1.5	52.2	31.2	12	55.7
324	14-15	57	2	1.5	52.2	31.2	12	55.7
324	13-14	53	2	1.5	52.2	31.2	12	55.7
325	17-18	59	3	12.8	70.4	34.1	20.3	94.1
325	18-19	59	3	12.8	70.4	34.1	20.3	94.1
325	14-15	42	3	12.8	70.4	34.1	20.3	94.1
325	16-17	34	3	12.8	70.4	34.1	20.3	94.1
325	15-16	27	3	12.8	70.4	34.1	20.3	94.1
325	13-14	22	3	12.8	70.4	34.1	20.3	94.1
326	14-15	52	2	6.8	91.3	40.9	15.6	95.9
326	13-14	48	2	6.8	91.3	40.9	15.6	95.9
326	15-16	43	2	6.8	91.3	40.9	15.6	95.9
326	16-17	41	2	6.8	91.3	40.9	15.6	95.9
326	17-18	34	2	6.8	91.3	40.9	15.6	95.9
326	18-19	30	2	6.8	91.3	40.9	15.6	95.9
327	16-17	72	1	4.4	40.9	27.1	5.9	26.6
327	17-18	60	1	4.4	40.9	27.1	5.9	26.6
327	18-19	58	1	4.4	40.9	27.1	5.9	26.6
327	13-14	53	1	4.4	40.9	27.1	5.9	26.6
327	14-15	49	1	4.4	40.9	27.1	5.9	26.6
327	15-16	42	1	4.4	40.9	27.1	5.9	26.6
328	18-19	65	2	8.8	26.1	25.3	12	22

328	17-18	62	2	8.8	26.1	25.3	12	22
328	16-17	57	2	8.8	26.1	25.3	12	22
328	14-15	46	2	8.8	26.1	25.3	12	22
328	15-16	41	2	8.8	26.1	25.3	12	22
328	13-14	37	2	8.8	26.1	25.3	12	22
329	15-16	70	2	1	97.3	59.7	12.7	89.4
329	13-14	70	2	1	97.3	59.7	12.7	89.4
329	14-15	66	2	1	97.3	59.7	12.7	89.4
329	16-17	62	2	1	97.3	59.7	12.7	89.4
329	17-18	52	2	1	97.3	59.7	12.7	89.4
329	18-19	3	2	1	97.3	59.7	12.7	89.4
330	17-18	32	2	64.4	31.3	14.9	12.3	99.3
330	14-15	31	2	64.4	31.3	14.9	12.3	99.3
330	16-17	31	2	64.4	31.3	14.9	12.3	99.3
330	18-19	30	2	64.4	31.3	14.9	12.3	99.3
330	15-16	20	2	64.4	31.3	14.9	12.3	99.3
330	13-14	18	2	64.4	31.3	14.9	12.3	99.3
331	16-17	63	1	2.1	13.9	9	15.5	9.9
331	14-15	62	1	2.1	13.9	9	15.5	9.9
331	15-16	60	1	2.1	13.9	9	15.5	9.9
331	18-19	60	1	2.1	13.9	9	15.5	9.9
331	17-18	52	1	2.1	13.9	9	15.5	9.9
331	13-14	45	1	2.1	13.9	9	15.5	9.9
332	16-17	40	2	2.1	22.8	5.1	7.9	15.4
332	17-18	38	2	2.1	22.8	5.1	7.9	15.4
332	14-15	27	2	2.1	22.8	5.1	7.9	15.4
332	18-19	22	2	2.1	22.8	5.1	7.9	15.4
332	15-16	13	2	2.1	22.8	5.1	7.9	15.4
332	13-14	8	2	2.1	22.8	5.1	7.9	15.4
333	18-19	51	2	98.7	1.3	0	16.5	99.6
333	17-18	33	2	98.7	1.3	0	16.5	99.6
333	15-16	28	2	98.7	1.3	0	16.5	99.6
333	13-14	19	2	98.7	1.3	0	16.5	99.6
333	16-17	15	2	98.7	1.3	0	16.5	99.6
333	14-15	10	2	98.7	1.3	0	16.5	99.6
334	16-17	81	3	45.7	52.6	19.8	10.7	96
334	14-15	55	3	45.7	52.6	19.8	10.7	96
334	13-14	55	3	45.7	52.6	19.8	10.7	96
334	18-19	49	3	45.7	52.6	19.8	10.7	96
334	17-18	43	3	45.7	52.6	19.8	10.7	96
334	15-16	41	3	45.7	52.6	19.8	10.7	96

335	14-15	57	3	2	96.4	27.3	11.7	96.8
335	15-16	45	3	2	96.4	27.3	11.7	96.8
335	16-17	40	3	2	96.4	27.3	11.7	96.8
335	13-14	30	3	2	96.4	27.3	11.7	96.8
335	18-19	27	3	2	96.4	27.3	11.7	96.8
335	17-18	12	3	2	96.4	27.3	11.7	96.8
336	18-19	72	2	62.9	34.8	6.4	9	73.9
336	17-18	56	2	62.9	34.8	6.4	9	73.9
336	14-15	39	2	62.9	34.8	6.4	9	73.9
336	16-17	38	2	62.9	34.8	6.4	9	73.9
336	15-16	30	2	62.9	34.8	6.4	9	73.9
336	13-14	28	2	62.9	34.8	6.4	9	73.9
337	17-18	82	3	2.7	88.9	50.1	9.9	94.9
337	18-19	82	3	2.7	88.9	50.1	9.9	94.9
337	13-14	53	3	2.7	88.9	50.1	9.9	94.9
337	14-15	41	3	2.7	88.9	50.1	9.9	94.9
337	15-16	24	3	2.7	88.9	50.1	9.9	94.9
337	16-17	13	3	2.7	88.9	50.1	9.9	94.9
338	14-15	79	2	44.7	32	16.3	22.8	87
338	13-14	62	2	44.7	32	16.3	22.8	87
338	17-18	59	2	44.7	32	16.3	22.8	87
338	16-17	55	2	44.7	32	16.3	22.8	87
338	18-19	55	2	44.7	32	16.3	22.8	87
338	15-16	53	2	44.7	32	16.3	22.8	87
339	16-17	92	1	3.6	87.6	24.8	16.3	93.8
339	17-18	88	1	3.6	87.6	24.8	16.3	93.8
339	15-16	85	1	3.6	87.6	24.8	16.3	93.8
339	18-19	79	1	3.6	87.6	24.8	16.3	93.8
339	14-15	78	1	3.6	87.6	24.8	16.3	93.8
339	13-14	77	1	3.6	87.6	24.8	16.3	93.8
340	13-14	68	2	3.1	73.1	34.4	14.9	70.9
340	18-19	53	2	3.1	73.1	34.4	14.9	70.9
340	16-17	46	2	3.1	73.1	34.4	14.9	70.9
340	14-15	45	2	3.1	73.1	34.4	14.9	70.9
340	15-16	42	2	3.1	73.1	34.4	14.9	70.9
340	17-18	32	2	3.1	73.1	34.4	14.9	70.9
341	15-16	95	1	2.5	93.7	38.9	12.8	90.1
341	14-15	88	1	2.5	93.7	38.9	12.8	90.1
341	16-17	85	1	2.5	93.7	38.9	12.8	90.1
341	17-18	80	1	2.5	93.7	38.9	12.8	90.1
341	13-14	65	1	2.5	93.7	38.9	12.8	90.1

341	18-19	61	1	2.5	93.7	38.9	12.8	90.1
342	17-18	55	2	92.1	6.1	3.8	28.9	93.9
342	16-17	41	2	92.1	6.1	3.8	28.9	93.9
342	15-16	34	2	92.1	6.1	3.8	28.9	93.9
342	13-14	34	2	92.1	6.1	3.8	28.9	93.9
342	14-15	29	2	92.1	6.1	3.8	28.9	93.9
342	18-19	26	2	92.1	6.1	3.8	28.9	93.9
343	14-15	59	2	6.4	20.8	21.2	16.6	36.4
343	15-16	40	2	6.4	20.8	21.2	16.6	36.4
343	17-18	35	2	6.4	20.8	21.2	16.6	36.4
343	16-17	32	2	6.4	20.8	21.2	16.6	36.4
343	18-19	31	2	6.4	20.8	21.2	16.6	36.4
343	13-14	6	2	6.4	20.8	21.2	16.6	36.4
344	16-17	54	2	27.7	15	24.6	9.6	42
344	13-14	52	2	27.7	15	24.6	9.6	42
344	14-15	49	2	27.7	15	24.6	9.6	42
344	15-16	41	2	27.7	15	24.6	9.6	42
344	17-18	23	2	27.7	15	24.6	9.6	42
344	18-19	11	2	27.7	15	24.6	9.6	42
345	17-18	49	3	9.9	81.8	22.8	21	88.6
345	15-16	40	3	9.9	81.8	22.8	21	88.6
345	14-15	40	3	9.9	81.8	22.8	21	88.6
345	13-14	35	3	9.9	81.8	22.8	21	88.6
345	18-19	34	3	9.9	81.8	22.8	21	88.6
345	16-17	26	3	9.9	81.8	22.8	21	88.6
346	15-16	85	2	1.3	91.1	14.6	10.8	70.4
346	17-18	58	2	1.3	91.1	14.6	10.8	70.4
346	16-17	56	2	1.3	91.1	14.6	10.8	70.4
346	14-15	55	2	1.3	91.1	14.6	10.8	70.4
346	13-14	41	2	1.3	91.1	14.6	10.8	70.4
346	18-19	39	2	1.3	91.1	14.6	10.8	70.4
347	14-15	69	1	0.4	5.9	1.7	12.1	10.9
347	17-18	62	1	0.4	5.9	1.7	12.1	10.9
347	13-14	62	1	0.4	5.9	1.7	12.1	10.9
347	15-16	61	1	0.4	5.9	1.7	12.1	10.9
347	16-17	61	1	0.4	5.9	1.7	12.1	10.9
347	18-19	56	1	0.4	5.9	1.7	12.1	10.9
348	18-19	69	2	97.7	1	0	14.3	98
348	14-15	64	2	97.7	1	0	14.3	98
348	17-18	62	2	97.7	1	0	14.3	98
348	15-16	47	2	97.7	1	0	14.3	98

348	16-17	43	2	97.7	1	0	14.3	98
348	13-14	63	3	6.8	17.1	2.6	20.5	19.9
349	17-18	49	3	41.5	46.7	6.7	12.8	87.2
349	18-19	41	3	41.5	46.7	6.7	12.8	87.2
349	15-16	40	3	41.5	46.7	6.7	12.8	87.2
349	14-15	35	3	41.5	46.7	6.7	12.8	87.2
349	13-14	33	3	41.5	46.7	6.7	12.8	87.2
349	16-17	31	3	41.5	46.7	6.7	12.8	87.2
350	18-19	62	1	79	19	8.1	25.7	95.3
350	17-18	53	1	79	19	8.1	25.7	95.3
350	16-17	41	1	79	19	8.1	25.7	95.3
350	13-14	36	1	79	19	8.1	25.7	95.3
350	15-16	29	1	79	19	8.1	25.7	95.3
350	14-15	4	1	79	19	8.1	25.7	95.3
351	16-17	45	4	26.2	41.5	7.4	13.9	58.5
351	17-18	36	4	26.2	41.5	7.4	13.9	58.5
351	18-19	28	4	26.2	41.5	7.4	13.9	58.5
351	13-14	10	4	26.2	41.5	7.4	13.9	58.5
351	15-16	4	4	26.2	41.5	7.4	13.9	58.5
351	14-15	2	4	26.2	41.5	7.4	13.9	58.5
352	14-15	46	3	0.5	94.3	45.2	15.4	86.5
352	15-16	44	3	0.5	94.3	45.2	15.4	86.5
352	16-17	42	3	0.5	94.3	45.2	15.4	86.5
352	13-14	28	3	0.5	94.3	45.2	15.4	86.5
352	17-18	27	3	0.5	94.3	45.2	15.4	86.5
352	18-19	24	3	0.5	94.3	45.2	15.4	86.5
353	14-15	64	4	2.1	94.9	35.7	15.5	95.5
353	15-16	63	4	2.1	94.9	35.7	15.5	95.5
353	17-18	63	4	2.1	94.9	35.7	15.5	95.5
353	18-19	63	4	2.1	94.9	35.7	15.5	95.5
353	13-14	57	4	2.1	94.9	35.7	15.5	95.5
353	16-17	55	4	2.1	94.9	35.7	15.5	95.5
354	14-15	89	2	2.6	16.1	11	14.1	10.6
354	16-17	85	2	2.6	16.1	11	14.1	10.6
354	17-18	82	2	2.6	16.1	11	14.1	10.6
354	15-16	73	2	2.6	16.1	11	14.1	10.6
354	13-14	60	2	2.6	16.1	11	14.1	10.6
354	18-19	29	2	2.6	16.1	11	14.1	10.6
355	17-18	61	1	97	2	0.9	15.5	97
355	16-17	50	1	97	2	0.9	15.5	97
355	15-16	49	1	97	2	0.9	15.5	97

355	18-19	43	1	97	2	0.9	15.5	97
355	14-15	38	1	97	2	0.9	15.5	97
355	13-14	25	1	97	2	0.9	15.5	97
356	16-17	75	2	0.9	24	14.4	21.9	43.6
356	17-18	75	2	0.9	24	14.4	21.9	43.6
356	18-19	66	2	0.9	24	14.4	21.9	43.6
356	15-16	61	2	0.9	24	14.4	21.9	43.6
356	14-15	57	2	0.9	24	14.4	21.9	43.6
356	13-14	55	2	0.9	24	14.4	21.9	43.6
357	17-18	65	1	3.3	90.5	34	17	95.4
357	13-14	61	1	3.3	90.5	34	17	95.4
357	14-15	47	1	3.3	90.5	34	17	95.4
357	15-16	43	1	3.3	90.5	34	17	95.4
357	18-19	43	1	3.3	90.5	34	17	95.4
357	16-17	41	1	3.3	90.5	34	17	95.4
358	17-18	68	3	2.3	86	31.8	13.4	85.1
358	15-16	65	3	2.3	86	31.8	13.4	85.1
358	18-19	63	3	2.3	86	31.8	13.4	85.1
358	13-14	55	3	2.3	86	31.8	13.4	85.1
358	16-17	53	3	2.3	86	31.8	13.4	85.1
358	14-15	42	3	2.3	86	31.8	13.4	85.1
359	17-18	73	3	2.2	17.4	5.6	10.9	12.2
359	16-17	68	3	2.2	17.4	5.6	10.9	12.2
359	18-19	51	3	2.2	17.4	5.6	10.9	12.2
359	13-14	49	3	2.2	17.4	5.6	10.9	12.2
359	14-15	45	3	2.2	17.4	5.6	10.9	12.2
359	15-16	34	3	2.2	17.4	5.6	10.9	12.2
360	13-14	67	3	1.9	90.4	46.9	17.3	74.8
360	14-15	57	3	1.9	90.4	46.9	17.3	74.8
360	15-16	53	3	1.9	90.4	46.9	17.3	74.8
360	16-17	35	3	1.9	90.4	46.9	17.3	74.8
360	17-18	22	3	1.9	90.4	46.9	17.3	74.8
360	18-19	6	3	1.9	90.4	46.9	17.3	74.8
361	13-14	56	2	2.6	41.1	20.3	11.7	48.1
361	14-15	55	2	2.6	41.1	20.3	11.7	48.1
361	15-16	43	2	2.6	41.1	20.3	11.7	48.1
361	18-19	40	2	2.6	41.1	20.3	11.7	48.1
361	16-17	33	2	2.6	41.1	20.3	11.7	48.1
361	17-18	33	2	2.6	41.1	20.3	11.7	48.1
362	15-16	53	2	0.3	98.4	49	14.1	95.5
362	16-17	34	2	0.3	98.4	49	14.1	95.5

362	17-18	34	2	0.3	98.4	49	14.1	95.5
362	18-19	32	2	0.3	98.4	49	14.1	95.5
362	14-15	31	2	0.3	98.4	49	14.1	95.5
362	13-14	29	2	0.3	98.4	49	14.1	95.5
363	18-19	39	1	1.3	15.6	24.9	8.2	8
363	15-16	38	1	1.3	15.6	24.9	8.2	8
363	14-15	36	1	1.3	15.6	24.9	8.2	8
363	17-18	32	1	1.3	15.6	24.9	8.2	8
363	16-17	28	1	1.3	15.6	24.9	8.2	8
363	13-14	21	1	1.3	15.6	24.9	8.2	8
364	18-19	64	2	58.2	20.1	7.7	11.9	64.2
364	14-15	58	2	58.2	20.1	7.7	11.9	64.2
364	13-14	57	2	58.2	20.1	7.7	11.9	64.2
364	15-16	51	2	58.2	20.1	7.7	11.9	64.2
364	17-18	49	2	58.2	20.1	7.7	11.9	64.2
364	16-17	31	2	58.2	20.1	7.7	11.9	64.2
365	14-15	58	1	1.8	52.6	29.6	12.5	64.9
365	16-17	54	1	1.8	52.6	29.6	12.5	64.9
365	13-14	52	1	1.8	52.6	29.6	12.5	64.9
365	15-16	42	1	1.8	52.6	29.6	12.5	64.9
365	17-18	42	1	1.8	52.6	29.6	12.5	64.9
365	18-19	23	1	1.8	52.6	29.6	12.5	64.9
366	16-17	77	2	1.3	94	50.5	11.3	96.5
366	14-15	73	2	1.3	94	50.5	11.3	96.5
366	15-16	68	2	1.3	94	50.5	11.3	96.5
366	17-18	67	2	1.3	94	50.5	11.3	96.5
366	18-19	67	2	1.3	94	50.5	11.3	96.5
366	13-14	45	2	1.3	94	50.5	11.3	96.5
367	16-17	72	1	1.5	96.9	58.4	10.2	94.7
367	17-18	68	1	1.5	96.9	58.4	10.2	94.7
367	15-16	63	1	1.5	96.9	58.4	10.2	94.7
367	18-19	63	1	1.5	96.9	58.4	10.2	94.7
367	13-14	52	1	1.5	96.9	58.4	10.2	94.7
367	14-15	48	1	1.5	96.9	58.4	10.2	94.7
368	13-14	50	1	0.6	98.5	38.4	11.3	89.3
368	16-17	43	1	0.6	98.5	38.4	11.3	89.3
368	17-18	43	1	0.6	98.5	38.4	11.3	89.3
368	15-16	37	1	0.6	98.5	38.4	11.3	89.3
368	18-19	34	1	0.6	98.5	38.4	11.3	89.3
368	14-15	34	1	0.6	98.5	38.4	11.3	89.3
369	18-19	78	4	43.8	17.6	1.7	19.2	39.8

369	13-14	69	4	43.8	17.6	1.7	19.2	39.8
369	15-16	68	4	43.8	17.6	1.7	19.2	39.8
369	17-18	67	4	43.8	17.6	1.7	19.2	39.8
369	16-17	61	4	43.8	17.6	1.7	19.2	39.8
369	14-15	55	4	43.8	17.6	1.7	19.2	39.8
370	18-19	69	3	11	8.6	3.7	10.8	25
370	16-17	67	3	11	8.6	3.7	10.8	25
370	14-15	67	3	11	8.6	3.7	10.8	25
370	15-16	63	3	11	8.6	3.7	10.8	25
370	17-18	62	3	11	8.6	3.7	10.8	25
370	13-14	60	3	11	8.6	3.7	10.8	25
371	16-17	99	1	6.5	56.2	16.2	22.3	77.2
371	18-19	99	1	6.5	56.2	16.2	22.3	77.2
371	17-18	98	1	6.5	56.2	16.2	22.3	77.2
371	14-15	75	1	6.5	56.2	16.2	22.3	77.2
371	15-16	71	1	6.5	56.2	16.2	22.3	77.2
371	13-14	68	2	5	15.8	38.1	20	53.1
372	18-19	71	3	23.6	8.5	2.5	24.3	62.7
372	14-15	53	3	23.6	8.5	2.5	24.3	62.7
372	16-17	44	3	23.6	8.5	2.5	24.3	62.7
372	15-16	43	3	23.6	8.5	2.5	24.3	62.7
372	13-14	43	3	23.6	8.5	2.5	24.3	62.7
372	17-18	34	3	23.6	8.5	2.5	24.3	62.7
373	15-16	69	3	3.5	2.3	29	15.2	10.3
373	16-17	69	3	3.5	2.3	29	15.2	10.3
373	13-14	63	3	3.5	2.3	29	15.2	10.3
373	14-15	54	3	3.5	2.3	29	15.2	10.3
373	17-18	16	3	3.5	2.3	29	15.2	10.3
373	18-19	11	3	3.5	2.3	29	15.2	10.3
374	15-16	41	1	60.7	38.4	12.3	23.3	90
374	16-17	39	1	60.7	38.4	12.3	23.3	90
374	17-18	38	1	60.7	38.4	12.3	23.3	90
374	18-19	35	1	60.7	38.4	12.3	23.3	90
374	14-15	26	1	60.7	38.4	12.3	23.3	90
374	13-14	23	1	60.7	38.4	12.3	23.3	90
375	15-16	99	1	2.1	94.8	34.1	25.9	94.5
375	16-17	81	1	2.1	94.8	34.1	25.9	94.5
375	18-19	64	1	2.1	94.8	34.1	25.9	94.5
375	17-18	46	1	2.1	94.8	34.1	25.9	94.5
375	14-15	34	1	2.1	94.8	34.1	25.9	94.5
375	13-14	1	1	2.1	94.8	34.1	25.9	94.5

376	17-18	69	2	52.7	38.7	18.3	12.2	98.2
376	18-19	54	2	52.7	38.7	18.3	12.2	98.2
376	16-17	42	2	52.7	38.7	18.3	12.2	98.2
376	14-15	25	2	52.7	38.7	18.3	12.2	98.2
376	13-14	21	2	52.7	38.7	18.3	12.2	98.2
376	15-16	1	2	52.7	38.7	18.3	12.2	98.2
377	14-15	61	5	10.3	70.4	10	16.9	72.3
377	16-17	45	5	10.3	70.4	10	16.9	72.3
377	18-19	44	5	10.3	70.4	10	16.9	72.3
377	15-16	35	5	10.3	70.4	10	16.9	72.3
377	17-18	33	5	10.3	70.4	10	16.9	72.3
377	13-14	28	5	10.3	70.4	10	16.9	72.3
378	14-15	37	3	32.3	56.4	8.3	11.2	98.5
378	13-14	37	3	32.3	56.4	8.3	11.2	98.5
378	16-17	36	3	32.3	56.4	8.3	11.2	98.5
378	15-16	29	3	32.3	56.4	8.3	11.2	98.5
378	18-19	8	3	32.3	56.4	8.3	11.2	98.5
378	17-18	4	3	32.3	56.4	8.3	11.2	98.5
379	14-15	80	2	98	1.5	0.5	10.9	88.6
379	16-17	50	2	98	1.5	0.5	10.9	88.6
379	17-18	43	2	98	1.5	0.5	10.9	88.6
379	18-19	35	2	98	1.5	0.5	10.9	88.6
379	15-16	19	2	98	1.5	0.5	10.9	88.6
379	13-14	1	2	98	1.5	0.5	10.9	88.6
380	14-15	80	2	13.4	6.7	12.2	20.1	62.1
380	15-16	74	2	13.4	6.7	12.2	20.1	62.1
380	16-17	73	2	13.4	6.7	12.2	20.1	62.1
380	13-14	54	2	13.4	6.7	12.2	20.1	62.1
380	18-19	47	2	13.4	6.7	12.2	20.1	62.1
380	17-18	41	2	13.4	6.7	12.2	20.1	62.1
381	17-18	71	3	1.8	93.9	0.6	2.2	81.7
381	18-19	69	3	1.8	93.9	0.6	2.2	81.7
381	15-16	66	3	1.8	93.9	0.6	2.2	81.7
381	14-15	60	3	1.8	93.9	0.6	2.2	81.7
381	16-17	53	3	1.8	93.9	0.6	2.2	81.7
381	13-14	36	3	1.8	93.9	0.6	2.2	81.7
382	17-18	73	1	1.9	20.6	4.9	11.1	14.5
382	14-15	66	1	1.9	20.6	4.9	11.1	14.5
382	15-16	65	1	1.9	20.6	4.9	11.1	14.5
382	16-17	64	1	1.9	20.6	4.9	11.1	14.5
382	18-19	64	1	1.9	20.6	4.9	11.1	14.5

382	13-14	56	1	1.9	20.6	4.9	11.1	14.5
383	18-19	67	2	98.9	0.4	0	8	82.9
383	14-15	61	2	98.9	0.4	0	8	82.9
383	17-18	55	2	98.9	0.4	0	8	82.9
383	16-17	50	2	98.9	0.4	0	8	82.9
383	15-16	48	2	98.9	0.4	0	8	82.9
383	13-14	43	2	98.9	0.4	0	8	82.9
384	16-17	85	1	18.2	38.4	3.7	4.5	99.2
384	17-18	84	1	18.2	38.4	3.7	4.5	99.2
384	15-16	74	1	18.2	38.4	3.7	4.5	99.2
384	13-14	70	1	18.2	38.4	3.7	4.5	99.2
384	14-15	67	1	18.2	38.4	3.7	4.5	99.2
384	18-19	54	1	18.2	38.4	3.7	4.5	99.2
385	16-17	85	1	2.4	10.6	14	7.6	7.9
385	15-16	80	1	2.4	10.6	14	7.6	7.9
385	17-18	76	1	2.4	10.6	14	7.6	7.9
385	13-14	71	1	2.4	10.6	14	7.6	7.9
385	18-19	71	1	2.4	10.6	14	7.6	7.9
385	14-15	63	1	2.4	10.6	14	7.6	7.9
386	14-15	64	1	96.7	3	0.8	18.8	95.5
386	13-14	63	1	96.7	3	0.8	18.8	95.5
386	16-17	58	1	96.7	3	0.8	18.8	95.5
386	18-19	55	1	96.7	3	0.8	18.8	95.5
386	17-18	52	1	96.7	3	0.8	18.8	95.5
386	15-16	48	1	96.7	3	0.8	18.8	95.5
387	13-14	45	3	32.5	3.7	2.1	23.9	86
387	14-15	33	3	32.5	3.7	2.1	23.9	86
387	15-16	32	3	32.5	3.7	2.1	23.9	86
387	17-18	29	3	32.5	3.7	2.1	23.9	86
387	16-17	26	3	32.5	3.7	2.1	23.9	86
387	18-19	23	3	32.5	3.7	2.1	23.9	86
388	14-15	84	2	0.6	5.6	0.6	10.6	19.3
388	13-14	79	2	0.6	5.6	0.6	10.6	19.3
388	18-19	79	2	0.6	5.6	0.6	10.6	19.3
388	17-18	71	2	0.6	5.6	0.6	10.6	19.3
388	16-17	69	2	0.6	5.6	0.6	10.6	19.3
388	15-16	61	2	0.6	5.6	0.6	10.6	19.3
389	17-18	60	2	3.8	94.7	14.6	10.6	95.7
389	18-19	32	2	3.8	94.7	14.6	10.6	95.7
389	16-17	29	2	3.8	94.7	14.6	10.6	95.7
389	15-16	27	2	3.8	94.7	14.6	10.6	95.7

389	13-14	25	2	3.8	94.7	14.6	10.6	95.7
389	14-15	20	2	3.8	94.7	14.6	10.6	95.7
390	17-18	54	5	4.1	79.6	29.6	17.6	94.1
390	15-16	47	5	4.1	79.6	29.6	17.6	94.1
390	18-19	47	5	4.1	79.6	29.6	17.6	94.1
390	16-17	45	5	4.1	79.6	29.6	17.6	94.1
390	14-15	42	5	4.1	79.6	29.6	17.6	94.1
390	13-14	39	5	4.1	79.6	29.6	17.6	94.1
391	17-18	28	1	44.4	21.8	13	8.5	61.1
391	18-19	26	1	44.4	21.8	13	8.5	61.1
391	15-16	24	1	44.4	21.8	13	8.5	61.1
391	16-17	24	1	44.4	21.8	13	8.5	61.1
391	14-15	5	1	44.4	21.8	13	8.5	61.1
391	13-14	1	1	44.4	21.8	13	8.5	61.1
392	17-18	66	1	1.3	15.6	24.9	8.2	8
392	15-16	59	1	1.3	15.6	24.9	8.2	8
392	13-14	47	1	1.3	15.6	24.9	8.2	8
392	16-17	46	1	1.3	15.6	24.9	8.2	8
392	14-15	21	1	1.3	15.6	24.9	8.2	8
392	18-19	10	1	1.3	15.6	24.9	8.2	8
393	17-18	57	3	1.6	89.8	43.7	11.3	92.9
393	13-14	57	3	1.6	89.8	43.7	11.3	92.9
393	16-17	51	3	1.6	89.8	43.7	11.3	92.9
393	18-19	48	3	1.6	89.8	43.7	11.3	92.9
393	14-15	44	3	1.6	89.8	43.7	11.3	92.9
393	15-16	27	3	1.6	89.8	43.7	11.3	92.9
394	18-19	59	2	99.2	0.5	0.5	12.4	95.4
394	16-17	58	2	99.2	0.5	0.5	12.4	95.4
394	17-18	51	2	99.2	0.5	0.5	12.4	95.4
394	14-15	42	2	99.2	0.5	0.5	12.4	95.4
394	15-16	40	2	99.2	0.5	0.5	12.4	95.4
394	13-14	40	2	99.2	0.5	0.5	12.4	95.4
395	14-15	81	2	2.5	79.6	33.3	13.1	77.9
395	15-16	71	2	2.5	79.6	33.3	13.1	77.9
395	16-17	63	2	2.5	79.6	33.3	13.1	77.9
395	17-18	59	2	2.5	79.6	33.3	13.1	77.9
395	18-19	59	2	2.5	79.6	33.3	13.1	77.9
395	13-14	22	2	2.5	79.6	33.3	13.1	77.9
396	15-16	67	1	3.7	84.2	52.8	16.6	93.1
396	16-17	65	1	3.7	84.2	52.8	16.6	93.1
396	13-14	59	1	3.7	84.2	52.8	16.6	93.1

396	17-18	55	1	3.7	84.2	52.8	16.6	93.1
396	18-19	51	1	3.7	84.2	52.8	16.6	93.1
396	14-15	40	1	3.7	84.2	52.8	16.6	93.1
397	17-18	68	3	62	23.2	32.7	22	77.2
397	18-19	59	3	62	23.2	32.7	22	77.2
397	16-17	50	3	62	23.2	32.7	22	77.2
397	15-16	45	3	62	23.2	32.7	22	77.2
397	14-15	30	3	62	23.2	32.7	22	77.2
397	13-14	15	3	62	23.2	32.7	22	77.2
398	17-18	73	1	5	41.7	26.3	15.1	57.1
398	16-17	63	1	5	41.7	26.3	15.1	57.1
398	15-16	59	1	5	41.7	26.3	15.1	57.1
398	18-19	59	1	5	41.7	26.3	15.1	57.1
398	13-14	53	1	5	41.7	26.3	15.1	57.1
398	14-15	45	1	5	41.7	26.3	15.1	57.1
399	14-15	51	1	1	2.5	15.6	32.8	10.2
399	16-17	40	1	1	2.5	15.6	32.8	10.2
399	18-19	39	1	1	2.5	15.6	32.8	10.2
399	17-18	30	1	1	2.5	15.6	32.8	10.2
399	15-16	28	1	1	2.5	15.6	32.8	10.2
399	13-14	23	1	1	2.5	15.6	32.8	10.2
400	16-17	57	3	85.3	3.7	4.5	17.8	63.8
400	15-16	45	3	85.3	3.7	4.5	17.8	63.8
400	17-18	36	3	85.3	3.7	4.5	17.8	63.8
400	14-15	35	3	85.3	3.7	4.5	17.8	63.8
400	13-14	32	3	85.3	3.7	4.5	17.8	63.8
400	18-19	1	3	85.3	3.7	4.5	17.8	63.8
401	16-17	55	1	88.8	9.8	4	16.3	97.8
401	17-18	53	1	88.8	9.8	4	16.3	97.8
401	15-16	47	1	88.8	9.8	4	16.3	97.8
401	13-14	45	1	88.8	9.8	4	16.3	97.8
401	18-19	44	1	88.8	9.8	4	16.3	97.8
401	14-15	17	1	88.8	9.8	4	16.3	97.8
402	15-16	69	1	1.7	62.4	22.8	10.5	67.3
402	16-17	68	1	1.7	62.4	22.8	10.5	67.3
402	14-15	68	1	1.7	62.4	22.8	10.5	67.3
402	18-19	65	1	1.7	62.4	22.8	10.5	67.3
402	17-18	62	1	1.7	62.4	22.8	10.5	67.3
402	13-14	62	1	1.7	62.4	22.8	10.5	67.3
403	18-19	85	2	90.7	6.8	2.5	32.9	97
403	15-16	68	2	90.7	6.8	2.5	32.9	97

403	13-14	64	2	90.7	6.8	2.5	32.9	97
403	14-15	58	2	90.7	6.8	2.5	32.9	97
403	16-17	57	2	90.7	6.8	2.5	32.9	97
403	17-18	54	2	90.7	6.8	2.5	32.9	97
404	16-17	81	2	9.7	35.6	12.4	11	35.3
404	15-16	78	2	9.7	35.6	12.4	11	35.3
404	17-18	76	2	9.7	35.6	12.4	11	35.3
404	13-14	72	2	9.7	35.6	12.4	11	35.3
404	18-19	69	2	9.7	35.6	12.4	11	35.3
404	14-15	69	2	9.7	35.6	12.4	11	35.3
405	16-17	99	3	17.1	80.9	26.7	20.9	88.6
405	17-18	88	3	17.1	80.9	26.7	20.9	88.6
405	15-16	86	3	17.1	80.9	26.7	20.9	88.6
405	18-19	85	3	17.1	80.9	26.7	20.9	88.6
405	14-15	66	3	17.1	80.9	26.7	20.9	88.6
405	13-14	51	3	17.1	80.9	26.7	20.9	88.6
406	15-16	68	3	5.7	91.1	33.3	21.2	97
406	14-15	66	3	5.7	91.1	33.3	21.2	97
406	16-17	59	3	5.7	91.1	33.3	21.2	97
406	17-18	30	3	5.7	91.1	33.3	21.2	97
406	18-19	19	3	5.7	91.1	33.3	21.2	97
406	13-14	1	3	5.7	91.1	33.3	21.2	97
407	18-19	62	2	0.5	6.3	2.4	14.3	8.7
407	17-18	48	2	0.5	6.3	2.4	14.3	8.7
407	15-16	42	2	0.5	6.3	2.4	14.3	8.7
407	16-17	36	2	0.5	6.3	2.4	14.3	8.7
407	14-15	35	2	0.5	6.3	2.4	14.3	8.7
407	13-14	35	2	0.5	6.3	2.4	14.3	8.7
408	18-19	49	3	37.9	31.7	26.7	17.1	66.9
408	15-16	16	3	37.9	31.7	26.7	17.1	66.9
408	16-17	13	3	37.9	31.7	26.7	17.1	66.9
408	14-15	12	3	37.9	31.7	26.7	17.1	66.9
408	17-18	5	3	37.9	31.7	26.7	17.1	66.9
408	13-14	1	3	37.9	31.7	26.7	17.1	66.9
409	14-15	69	1	10.7	4.2	1.5	21.5	70.9
409	15-16	68	1	10.7	4.2	1.5	21.5	70.9
409	16-17	68	1	10.7	4.2	1.5	21.5	70.9
409	17-18	65	1	10.7	4.2	1.5	21.5	70.9
409	13-14	65	1	10.7	4.2	1.5	21.5	70.9
409	18-19	46	1	10.7	4.2	1.5	21.5	70.9
410	15-16	75	2	96.9	2.8	0	11.8	97.5

410	16-17	66	2	96.9	2.8	0	11.8	97.5
410	17-18	59	2	96.9	2.8	0	11.8	97.5
410	13-14	57	2	96.9	2.8	0	11.8	97.5
410	14-15	56	2	96.9	2.8	0	11.8	97.5
410	18-19	51	2	96.9	2.8	0	11.8	97.5
411	16-17	45	2	9.3	85.2	24.9	13.3	69.3
411	14-15	36	2	9.3	85.2	24.9	13.3	69.3
411	17-18	33	2	9.3	85.2	24.9	13.3	69.3
411	15-16	28	2	9.3	85.2	24.9	13.3	69.3
411	13-14	26	2	9.3	85.2	24.9	13.3	69.3
411	18-19	10	2	9.3	85.2	24.9	13.3	69.3
412	18-19	63	1	96.1	3.6	0.9	21.7	83.1
412	14-15	54	1	96.1	3.6	0.9	21.7	83.1
412	16-17	52	1	96.1	3.6	0.9	21.7	83.1
412	17-18	42	1	96.1	3.6	0.9	21.7	83.1
412	15-16	34	1	96.1	3.6	0.9	21.7	83.1
412	13-14	5	1	96.1	3.6	0.9	21.7	83.1
413	18-19	52	3	98.9	0	0.4	10	97.8
413	13-14	34	3	98.9	0	0.4	10	97.8
413	17-18	29	3	98.9	0	0.4	10	97.8
413	15-16	28	3	98.9	0	0.4	10	97.8
413	14-15	26	3	98.9	0	0.4	10	97.8
413	16-17	24	3	98.9	0	0.4	10	97.8
414	17-18	78	4	1.3	86.6	56.4	22.5	86.6
414	15-16	69	4	1.3	86.6	56.4	22.5	86.6
414	16-17	65	4	1.3	86.6	56.4	22.5	86.6
414	18-19	64	4	1.3	86.6	56.4	22.5	86.6
414	13-14	39	4	1.3	86.6	56.4	22.5	86.6
414	14-15	27	4	1.3	86.6	56.4	22.5	86.6
415	17-18	47	1	43.3	38.6	24.4	29	73.4
415	16-17	44	1	43.3	38.6	24.4	29	73.4
415	15-16	40	1	43.3	38.6	24.4	29	73.4
415	18-19	40	1	43.3	38.6	24.4	29	73.4
415	14-15	19	1	43.3	38.6	24.4	29	73.4
415	13-14	8	1	43.3	38.6	24.4	29	73.4
416	16-17	52	2	3	89.8	41.2	10.8	88.4
416	17-18	47	2	3	89.8	41.2	10.8	88.4
416	15-16	45	2	3	89.8	41.2	10.8	88.4
416	14-15	42	2	3	89.8	41.2	10.8	88.4
416	18-19	35	2	3	89.8	41.2	10.8	88.4
416	13-14	13	2	3	89.8	41.2	10.8	88.4

417	15-16	85	4	0.5	98	39.2	11.5	93.9
417	16-17	74	4	0.5	98	39.2	11.5	93.9
417	17-18	70	4	0.5	98	39.2	11.5	93.9
417	14-15	63	4	0.5	98	39.2	11.5	93.9
417	18-19	52	4	0.5	98	39.2	11.5	93.9
417	13-14	42	4	0.5	98	39.2	11.5	93.9
418	15-16	77	1	3	32.1	11.1	10	29
418	17-18	71	1	3	32.1	11.1	10	29
418	14-15	69	1	3	32.1	11.1	10	29
418	16-17	65	1	3	32.1	11.1	10	29
418	13-14	52	1	3	32.1	11.1	10	29
418	18-19	47	1	3	32.1	11.1	10	29
419	15-16	57	1	3.9	84.3	63.7	13.1	95.7
419	16-17	51	1	3.9	84.3	63.7	13.1	95.7
419	14-15	47	1	3.9	84.3	63.7	13.1	95.7
419	17-18	46	1	3.9	84.3	63.7	13.1	95.7
419	18-19	41	1	3.9	84.3	63.7	13.1	95.7
419	13-14	27	1	3.9	84.3	63.7	13.1	95.7
420	18-19	59	1	0.5	97.9	48.8	11.2	99.8
420	16-17	40	1	0.5	97.9	48.8	11.2	99.8
420	13-14	38	1	0.5	97.9	48.8	11.2	99.8
420	17-18	32	1	0.5	97.9	48.8	11.2	99.8
420	14-15	31	1	0.5	97.9	48.8	11.2	99.8
420	15-16	30	1	0.5	97.9	48.8	11.2	99.8
421	13-14	68	2	56.9	10	8.1	18.3	68.2
421	14-15	44	2	56.9	10	8.1	18.3	68.2
421	18-19	40	2	56.9	10	8.1	18.3	68.2
421	15-16	39	2	56.9	10	8.1	18.3	68.2
421	16-17	38	2	56.9	10	8.1	18.3	68.2
421	17-18	34	2	56.9	10	8.1	18.3	68.2
422	16-17	74	1	4.2	94.6	52.1	14.7	96.3
422	17-18	69	1	4.2	94.6	52.1	14.7	96.3
422	18-19	68	1	4.2	94.6	52.1	14.7	96.3
422	15-16	49	1	4.2	94.6	52.1	14.7	96.3
422	14-15	41	1	4.2	94.6	52.1	14.7	96.3
422	13-14	18	1	4.2	94.6	52.1	14.7	96.3
423	18-19	53	2	1.7	45.2	32.5	12.2	68.7
423	16-17	47	2	1.7	45.2	32.5	12.2	68.7
423	15-16	44	2	1.7	45.2	32.5	12.2	68.7
423	17-18	40	2	1.7	45.2	32.5	12.2	68.7
423	14-15	24	2	1.7	45.2	32.5	12.2	68.7

423	13-14	17	2	1.7	45.2	32.5	12.2	68.7
424	18-19	34	2	0.6	97	32.6	10.8	84.4
424	17-18	28	2	0.6	97	32.6	10.8	84.4
424	15-16	25	2	0.6	97	32.6	10.8	84.4
424	16-17	22	2	0.6	97	32.6	10.8	84.4
424	13-14	19	2	0.6	97	32.6	10.8	84.4
424	14-15	12	2	0.6	97	32.6	10.8	84.4
425	17-18	70	2	5.9	74.2	29.8	22.6	72.4
425	16-17	62	2	5.9	74.2	29.8	22.6	72.4
425	14-15	61	2	5.9	74.2	29.8	22.6	72.4
425	15-16	60	2	5.9	74.2	29.8	22.6	72.4
425	18-19	60	2	5.9	74.2	29.8	22.6	72.4
425	13-14	51	2	5.9	74.2	29.8	22.6	72.4
426	14-15	42	2	5.7	91.9	64	16.5	92.1
426	18-19	39	2	5.7	91.9	64	16.5	92.1
426	13-14	26	2	5.7	91.9	64	16.5	92.1
426	17-18	25	2	5.7	91.9	64	16.5	92.1
426	15-16	21	2	5.7	91.9	64	16.5	92.1
426	16-17	17	2	5.7	91.9	64	16.5	92.1
427	14-15	87	3	2	96.9	45.5	8.9	98.6
427	15-16	85	3	2	96.9	45.5	8.9	98.6
427	13-14	78	3	2	96.9	45.5	8.9	98.6
427	18-19	71	3	2	96.9	45.5	8.9	98.6
427	16-17	66	3	2	96.9	45.5	8.9	98.6
427	17-18	63	3	2	96.9	45.5	8.9	98.6
428	16-17	85	3	49.1	39.3	14.5	33.2	93.5
428	17-18	74	3	49.1	39.3	14.5	33.2	93.5
428	15-16	70	3	49.1	39.3	14.5	33.2	93.5
428	13-14	60	3	49.1	39.3	14.5	33.2	93.5
428	14-15	57	3	49.1	39.3	14.5	33.2	93.5
428	18-19	55	3	49.1	39.3	14.5	33.2	93.5
429	15-16	50	6	1.8	96.7	66.9	15.6	96.1
429	16-17	45	6	1.8	96.7	66.9	15.6	96.1
429	14-15	38	6	1.8	96.7	66.9	15.6	96.1
429	17-18	33	6	1.8	96.7	66.9	15.6	96.1
429	13-14	24	6	1.8	96.7	66.9	15.6	96.1
429	18-19	22	6	1.8	96.7	66.9	15.6	96.1
430	15-16	76	3	79.9	17.5	10	26.5	99
430	14-15	59	3	79.9	17.5	10	26.5	99
430	17-18	58	3	79.9	17.5	10	26.5	99
430	16-17	54	3	79.9	17.5	10	26.5	99

430	13-14	47	3	79.9	17.5	10	26.5	99
430	18-19	39	3	79.9	17.5	10	26.5	99
431	14-15	64	2	95.4	2.9	0	11.6	95.4
431	16-17	63	2	95.4	2.9	0	11.6	95.4
431	15-16	62	2	95.4	2.9	0	11.6	95.4
431	13-14	57	2	95.4	2.9	0	11.6	95.4
431	17-18	50	2	95.4	2.9	0	11.6	95.4
431	18-19	50	2	95.4	2.9	0	11.6	95.4
432	14-15	39	3	98.1	0.6	0.3	15.2	97.2
432	13-14	36	3	98.1	0.6	0.3	15.2	97.2
432	18-19	30	3	98.1	0.6	0.3	15.2	97.2
432	15-16	29	3	98.1	0.6	0.3	15.2	97.2
432	16-17	25	3	98.1	0.6	0.3	15.2	97.2
432	17-18	7	3	98.1	0.6	0.3	15.2	97.2
433	17-18	71	2	1.9	69	66.5	9.8	90
433	14-15	46	2	1.9	69	66.5	9.8	90
433	16-17	41	2	1.9	69	66.5	9.8	90
433	15-16	38	2	1.9	69	66.5	9.8	90
433	13-14	37	2	1.9	69	66.5	9.8	90
433	18-19	29	2	1.9	69	66.5	9.8	90
434	15-16	83	2	1.3	10.5	23.9	16.3	23.1
434	16-17	64	2	1.3	10.5	23.9	16.3	23.1
434	13-14	61	2	1.3	10.5	23.9	16.3	23.1
434	17-18	53	2	1.3	10.5	23.9	16.3	23.1
434	18-19	51	2	1.3	10.5	23.9	16.3	23.1
434	14-15	36	2	1.3	10.5	23.9	16.3	23.1
435	17-18	40	1	5.4	60.5	20.8	15.4	60.3
435	18-19	39	1	5.4	60.5	20.8	15.4	60.3
435	16-17	36	1	5.4	60.5	20.8	15.4	60.3
435	14-15	19	1	5.4	60.5	20.8	15.4	60.3
435	15-16	13	1	5.4	60.5	20.8	15.4	60.3
435	13-14	13	1	5.4	60.5	20.8	15.4	60.3
436	14-15	99	1	3.7	10.2	4.9	5.4	5.4
436	16-17	92	1	3.7	10.2	4.9	5.4	5.4
436	17-18	87	1	3.7	10.2	4.9	5.4	5.4
436	15-16	85	1	3.7	10.2	4.9	5.4	5.4
436	13-14	85	1	3.7	10.2	4.9	5.4	5.4
436	18-19	77	1	3.7	10.2	4.9	5.4	5.4
437	13-14	61	3	20.6	40.4	26.1	10.6	59.3
437	15-16	58	3	20.6	40.4	26.1	10.6	59.3
437	17-18	53	3	20.6	40.4	26.1	10.6	59.3

437	16-17	52	3	20.6	40.4	26.1	10.6	59.3
437	14-15	42	3	20.6	40.4	26.1	10.6	59.3
437	18-19	42	3	20.6	40.4	26.1	10.6	59.3
438	15-16	73	2	7.7	78	46.3	10.3	99.8
438	16-17	72	2	7.7	78	46.3	10.3	99.8
438	14-15	64	2	7.7	78	46.3	10.3	99.8
438	17-18	57	2	7.7	78	46.3	10.3	99.8
438	18-19	56	2	7.7	78	46.3	10.3	99.8
438	13-14	51	2	7.7	78	46.3	10.3	99.8
439	17-18	69	1	0	3.7	0	8.4	33.3
439	14-15	63	1	0	3.7	0	8.4	33.3
439	16-17	62	1	0	3.7	0	8.4	33.3
439	18-19	56	1	0	3.7	0	8.4	33.3
439	15-16	54	1	0	3.7	0	8.4	33.3
439	13-14	53	1	0	3.7	0	8.4	33.3
440	16-17	64	4	4	7.9	87.4	18.5	12.3
440	17-18	55	4	4	7.9	87.4	18.5	12.3
440	18-19	44	4	4	7.9	87.4	18.5	12.3
440	13-14	33	4	4	7.9	87.4	18.5	12.3
440	14-15	31	4	4	7.9	87.4	18.5	12.3
440	15-16	29	4	4	7.9	87.4	18.5	12.3
441	18-19	85	4	41	57.6	33.2	20.7	99.1
441	17-18	72	4	41	57.6	33.2	20.7	99.1
441	14-15	43	4	41	57.6	33.2	20.7	99.1
441	13-14	39	4	41	57.6	33.2	20.7	99.1
441	15-16	25	4	41	57.6	33.2	20.7	99.1
441	16-17	17	4	41	57.6	33.2	20.7	99.1
442	17-18	83	2	98.7	0	0	12.3	57.3
442	13-14	78	2	98.7	0	0	12.3	57.3
442	18-19	53	2	98.7	0	0	12.3	57.3
442	16-17	48	2	98.7	0	0	12.3	57.3
442	14-15	46	2	98.7	0	0	12.3	57.3
442	15-16	27	2	98.7	0	0	12.3	57.3
443	13-14	46	2	11.8	8.4	0.7	15.2	32
443	18-19	43	2	11.8	8.4	0.7	15.2	32
443	16-17	41	2	11.8	8.4	0.7	15.2	32
443	17-18	38	2	11.8	8.4	0.7	15.2	32
443	14-15	33	2	11.8	8.4	0.7	15.2	32
443	15-16	31	2	11.8	8.4	0.7	15.2	32
444	15-16	78	2	84.4	4.7	1.4	5.5	57.1
444	16-17	71	2	84.4	4.7	1.4	5.5	57.1

444	14-15	70	2	84.4	4.7	1.4	5.5	57.1
444	17-18	69	2	84.4	4.7	1.4	5.5	57.1
444	18-19	57	2	84.4	4.7	1.4	5.5	57.1
444	13-14	57	2	84.4	4.7	1.4	5.5	57.1
445	17-18	88	1	0	0	0	8.5	39.2
445	13-14	77	1	0	0	0	8.5	39.2
445	16-17	73	1	0	0	0	8.5	39.2
445	15-16	72	1	0	0	0	8.5	39.2
445	14-15	68	1	0	0	0	8.5	39.2
445	18-19	59	1	0	0	0	8.5	39.2
446	16-17	69	3	9.3	90.2	52.8	11.9	99.6
446	13-14	56	3	9.3	90.2	52.8	11.9	99.6
446	15-16	51	3	9.3	90.2	52.8	11.9	99.6
446	14-15	42	3	9.3	90.2	52.8	11.9	99.6
446	18-19	36	3	9.3	90.2	52.8	11.9	99.6
446	17-18	32	3	9.3	90.2	52.8	11.9	99.6
447	15-16	80	1	1.7	35.9	15.7	10.5	43.6
447	16-17	71	1	1.7	35.9	15.7	10.5	43.6
447	18-19	70	1	1.7	35.9	15.7	10.5	43.6
447	13-14	69	1	1.7	35.9	15.7	10.5	43.6
447	14-15	65	1	1.7	35.9	15.7	10.5	43.6
447	17-18	60	1	1.7	35.9	15.7	10.5	43.6
448	14-15	75	6	9.8	57.6	2.8	5.8	66.3
448	15-16	66	6	9.8	57.6	2.8	5.8	66.3
448	16-17	61	6	9.8	57.6	2.8	5.8	66.3
448	13-14	45	6	9.8	57.6	2.8	5.8	66.3
448	18-19	41	6	9.8	57.6	2.8	5.8	66.3
448	17-18	37	6	9.8	57.6	2.8	5.8	66.3
449	13-14	54	4	0.9	47.4	39.4	14.2	76.6
449	15-16	51	4	0.9	47.4	39.4	14.2	76.6
449	16-17	48	4	0.9	47.4	39.4	14.2	76.6
449	14-15	48	4	0.9	47.4	39.4	14.2	76.6
449	17-18	44	4	0.9	47.4	39.4	14.2	76.6
449	18-19	28	4	0.9	47.4	39.4	14.2	76.6
450	14-15	60	3	16.1	11.4	5.8	9.5	19.4
450	13-14	42	3	16.1	11.4	5.8	9.5	19.4
450	18-19	26	3	16.1	11.4	5.8	9.5	19.4
450	16-17	23	3	16.1	11.4	5.8	9.5	19.4
450	15-16	19	3	16.1	11.4	5.8	9.5	19.4
450	17-18	19	3	16.1	11.4	5.8	9.5	19.4
451	16-17	63	3	96.7	3.1	1.6	14.5	76.4

451	18-19	52	3	96.7	3.1	1.6	14.5	76.4
451	17-18	51	3	96.7	3.1	1.6	14.5	76.4
451	15-16	45	3	96.7	3.1	1.6	14.5	76.4
451	14-15	36	3	96.7	3.1	1.6	14.5	76.4
451	13-14	34	3	96.7	3.1	1.6	14.5	76.4
452	15-16	56	1	11.2	58.7	10.1	14.5	75.3
452	18-19	56	1	11.2	58.7	10.1	14.5	75.3
452	16-17	55	1	11.2	58.7	10.1	14.5	75.3
452	13-14	49	1	11.2	58.7	10.1	14.5	75.3
452	17-18	44	1	11.2	58.7	10.1	14.5	75.3
452	14-15	40	1	11.2	58.7	10.1	14.5	75.3
453	13-14	83	3	1.3	85.7	22.7	9.9	79.6
453	18-19	78	3	1.3	85.7	22.7	9.9	79.6
453	14-15	76	3	1.3	85.7	22.7	9.9	79.6
453	15-16	68	3	1.3	85.7	22.7	9.9	79.6
453	16-17	63	3	1.3	85.7	22.7	9.9	79.6
453	17-18	58	3	1.3	85.7	22.7	9.9	79.6
454	18-19	69	1	9	75.7	62.8	16.2	79.5
454	16-17	52	1	9	75.7	62.8	16.2	79.5
454	17-18	47	1	9	75.7	62.8	16.2	79.5
454	13-14	46	1	9	75.7	62.8	16.2	79.5
454	15-16	33	1	9	75.7	62.8	16.2	79.5
454	14-15	28	1	9	75.7	62.8	16.2	79.5
455	14-15	61	2	20.6	68.4	64.7	11.8	96.3
455	13-14	54	2	20.6	68.4	64.7	11.8	96.3
455	15-16	51	2	20.6	68.4	64.7	11.8	96.3
455	16-17	29	2	20.6	68.4	64.7	11.8	96.3
455	18-19	26	2	20.6	68.4	64.7	11.8	96.3
455	17-18	24	2	20.6	68.4	64.7	11.8	96.3
456	13-14	94	2	0.8	29.8	21.4	11.1	36
456	14-15	91	2	0.8	29.8	21.4	11.1	36
456	15-16	85	2	0.8	29.8	21.4	11.1	36
456	16-17	84	2	0.8	29.8	21.4	11.1	36
456	17-18	55	2	0.8	29.8	21.4	11.1	36
456	18-19	44	2	0.8	29.8	21.4	11.1	36
457	16-17	93	1	2.1	94.5	35.3	15.7	83.2
457	18-19	84	1	2.1	94.5	35.3	15.7	83.2
457	15-16	72	1	2.1	94.5	35.3	15.7	83.2
457	14-15	52	1	2.1	94.5	35.3	15.7	83.2
457	17-18	42	1	2.1	94.5	35.3	15.7	83.2
457	13-14	36	4	95.2	3.6	1.5	17.1	88.9

458	15-16	33	1	0.3	98.2	38.5	9.3	95.8
458	18-19	28	1	0.3	98.2	38.5	9.3	95.8
458	17-18	27	1	0.3	98.2	38.5	9.3	95.8
458	14-15	19	1	0.3	98.2	38.5	9.3	95.8
458	16-17	18	1	0.3	98.2	38.5	9.3	95.8
458	13-14	8	1	0.3	98.2	38.5	9.3	95.8
459	14-15	70	2	26.6	68.7	39	27	81.4
459	13-14	66	2	26.6	68.7	39	27	81.4
459	15-16	48	2	26.6	68.7	39	27	81.4
459	18-19	28	2	26.6	68.7	39	27	81.4
459	16-17	19	2	26.6	68.7	39	27	81.4
459	17-18	17	2	26.6	68.7	39	27	81.4
460	18-19	63	2	0.9	98.3	48.9	16.1	73.9
460	17-18	59	2	0.9	98.3	48.9	16.1	73.9
460	16-17	58	2	0.9	98.3	48.9	16.1	73.9
460	13-14	58	2	0.9	98.3	48.9	16.1	73.9
460	14-15	54	2	0.9	98.3	48.9	16.1	73.9
460	15-16	51	2	0.9	98.3	48.9	16.1	73.9
461	17-18	57	2	4.8	92.1	32	16.2	95
461	16-17	53	2	4.8	92.1	32	16.2	95
461	18-19	52	2	4.8	92.1	32	16.2	95
461	13-14	16	2	4.8	92.1	32	16.2	95
461	15-16	13	2	4.8	92.1	32	16.2	95
461	14-15	1	2	4.8	92.1	32	16.2	95
462	18-19	75	3	38.3	59.3	39.1	14.6	96
462	16-17	74	3	38.3	59.3	39.1	14.6	96
462	17-18	60	3	38.3	59.3	39.1	14.6	96
462	15-16	55	3	38.3	59.3	39.1	14.6	96
462	13-14	39	3	38.3	59.3	39.1	14.6	96
462	14-15	34	3	38.3	59.3	39.1	14.6	96
463	16-17	50	2	72.7	26.2	19.5	19.2	89.2
463	18-19	45	2	72.7	26.2	19.5	19.2	89.2
463	13-14	38	2	72.7	26.2	19.5	19.2	89.2
463	15-16	28	2	72.7	26.2	19.5	19.2	89.2
463	14-15	27	2	72.7	26.2	19.5	19.2	89.2
463	17-18	26	2	72.7	26.2	19.5	19.2	89.2
464	15-16	73	3	1.9	65.9	12.5	15.3	53
464	16-17	62	3	1.9	65.9	12.5	15.3	53
464	13-14	55	3	1.9	65.9	12.5	15.3	53
464	17-18	50	3	1.9	65.9	12.5	15.3	53
464	14-15	43	3	1.9	65.9	12.5	15.3	53

464	18-19	34	3	1.9	65.9	12.5	15.3	53
465	17-18	44	1	1.9	79.6	39.1	13.3	58.9
465	16-17	40	1	1.9	79.6	39.1	13.3	58.9
465	14-15	33	1	1.9	79.6	39.1	13.3	58.9
465	15-16	30	1	1.9	79.6	39.1	13.3	58.9
465	13-14	27	1	1.9	79.6	39.1	13.3	58.9
465	18-19	16	1	1.9	79.6	39.1	13.3	58.9
466	15-16	77	1	17.4	21.8	5.9	6.1	47.4
466	16-17	73	1	17.4	21.8	5.9	6.1	47.4
466	13-14	72	1	17.4	21.8	5.9	6.1	47.4
466	18-19	71	1	17.4	21.8	5.9	6.1	47.4
466	14-15	64	1	17.4	21.8	5.9	6.1	47.4
466	17-18	60	1	17.4	21.8	5.9	6.1	47.4
467	16-17	65	1	2.6	62.6	17.3	14	71.2
467	15-16	59	1	2.6	62.6	17.3	14	71.2
467	17-18	57	1	2.6	62.6	17.3	14	71.2
467	18-19	55	1	2.6	62.6	17.3	14	71.2
467	13-14	44	1	2.6	62.6	17.3	14	71.2
467	14-15	40	1	2.6	62.6	17.3	14	71.2
468	18-19	38	1	90.8	2.4	3.7	11.6	62.1
468	17-18	30	1	90.8	2.4	3.7	11.6	62.1
468	14-15	27	1	90.8	2.4	3.7	11.6	62.1
468	15-16	26	1	90.8	2.4	3.7	11.6	62.1
468	13-14	26	1	90.8	2.4	3.7	11.6	62.1
468	16-17	18	1	90.8	2.4	3.7	11.6	62.1
469	14-15	61	3	97.6	1.6	0.8	11.5	98.8
469	13-14	55	3	97.6	1.6	0.8	11.5	98.8
469	18-19	54	3	97.6	1.6	0.8	11.5	98.8
469	16-17	23	3	97.6	1.6	0.8	11.5	98.8
469	15-16	21	3	97.6	1.6	0.8	11.5	98.8
469	17-18	13	3	97.6	1.6	0.8	11.5	98.8
470	15-16	50	3	97.3	1.7	1.5	15	77.7
470	17-18	40	3	97.3	1.7	1.5	15	77.7
470	16-17	39	3	97.3	1.7	1.5	15	77.7
470	18-19	36	3	97.3	1.7	1.5	15	77.7
470	14-15	29	3	97.3	1.7	1.5	15	77.7
470	13-14	25	3	97.3	1.7	1.5	15	77.7
471	16-17	58	2	89.8	7.6	5.8	32.4	80
471	13-14	48	2	89.8	7.6	5.8	32.4	80
471	14-15	47	2	89.8	7.6	5.8	32.4	80
471	18-19	44	2	89.8	7.6	5.8	32.4	80

471	17-18	38	2	89.8	7.6	5.8	32.4	80
471	15-16	37	2	89.8	7.6	5.8	32.4	80
472	16-17	77	2	4.2	94.3	13.5	10.6	93.2
472	17-18	77	2	4.2	94.3	13.5	10.6	93.2
472	14-15	75	2	4.2	94.3	13.5	10.6	93.2
472	13-14	70	2	4.2	94.3	13.5	10.6	93.2
472	18-19	69	2	4.2	94.3	13.5	10.6	93.2
472	15-16	66	2	4.2	94.3	13.5	10.6	93.2
473	18-19	56	1	1.7	95.8	44.9	16.1	93.3
473	13-14	54	1	1.7	95.8	44.9	16.1	93.3
473	14-15	51	1	1.7	95.8	44.9	16.1	93.3
473	15-16	50	1	1.7	95.8	44.9	16.1	93.3
473	16-17	50	1	1.7	95.8	44.9	16.1	93.3
473	17-18	49	1	1.7	95.8	44.9	16.1	93.3
474	16-17	71	2	93.7	6	3.3	9	96.7
474	13-14	69	2	93.7	6	3.3	9	96.7
474	15-16	64	2	93.7	6	3.3	9	96.7
474	14-15	64	2	93.7	6	3.3	9	96.7
474	17-18	63	2	93.7	6	3.3	9	96.7
474	18-19	58	2	93.7	6	3.3	9	96.7
475	18-19	75	1	1.9	22.4	8.5	9.2	24.7
475	17-18	73	1	1.9	22.4	8.5	9.2	24.7
475	13-14	70	1	1.9	22.4	8.5	9.2	24.7
475	15-16	69	1	1.9	22.4	8.5	9.2	24.7
475	16-17	56	1	1.9	22.4	8.5	9.2	24.7
475	14-15	55	1	1.9	22.4	8.5	9.2	24.7
476	15-16	51	2	95.1	4.9	1.6	23	85.2
476	14-15	49	2	95.1	4.9	1.6	23	85.2
476	13-14	48	2	95.1	4.9	1.6	23	85.2
476	18-19	41	2	95.1	4.9	1.6	23	85.2
476	16-17	36	2	95.1	4.9	1.6	23	85.2
476	17-18	35	2	95.1	4.9	1.6	23	85.2
477	17-18	64	1	2.7	88.5	33.3	13.8	79.6
477	15-16	62	1	2.7	88.5	33.3	13.8	79.6
477	16-17	61	1	2.7	88.5	33.3	13.8	79.6
477	18-19	57	1	2.7	88.5	33.3	13.8	79.6
477	14-15	55	1	2.7	88.5	33.3	13.8	79.6
477	13-14	35	1	2.7	88.5	33.3	13.8	79.6
478	17-18	76	2	75.5	6.9	4.1	9.1	70.6
478	15-16	66	2	75.5	6.9	4.1	9.1	70.6
478	18-19	65	2	75.5	6.9	4.1	9.1	70.6

478	14-15	63	2	75.5	6.9	4.1	9.1	70.6
478	16-17	52	2	75.5	6.9	4.1	9.1	70.6
478	13-14	37	2	75.5	6.9	4.1	9.1	70.6
479	13-14	52	1	3.9	93.4	69.3	9.6	79.6
479	17-18	30	1	3.9	93.4	69.3	9.6	79.6
479	14-15	28	1	3.9	93.4	69.3	9.6	79.6
479	18-19	28	1	3.9	93.4	69.3	9.6	79.6
479	16-17	26	1	3.9	93.4	69.3	9.6	79.6
479	15-16	17	1	3.9	93.4	69.3	9.6	79.6
480	17-18	63	2	6.1	37.5	34.8	12.7	69
480	16-17	61	2	6.1	37.5	34.8	12.7	69
480	15-16	60	2	6.1	37.5	34.8	12.7	69
480	18-19	56	2	6.1	37.5	34.8	12.7	69
480	14-15	53	2	6.1	37.5	34.8	12.7	69
480	13-14	12	2	6.1	37.5	34.8	12.7	69
481	13-14	46	4	96	2.5	1.2	17.2	99.2
481	16-17	42	4	96	2.5	1.2	17.2	99.2
481	17-18	36	4	96	2.5	1.2	17.2	99.2
481	18-19	27	4	96	2.5	1.2	17.2	99.2
481	14-15	22	4	96	2.5	1.2	17.2	99.2
481	15-16	7	4	96	2.5	1.2	17.2	99.2
482	17-18	42	3	1.6	96.3	58.5	8.4	96
482	18-19	41	3	1.6	96.3	58.5	8.4	96
482	15-16	37	3	1.6	96.3	58.5	8.4	96
482	13-14	36	3	1.6	96.3	58.5	8.4	96
482	14-15	32	3	1.6	96.3	58.5	8.4	96
482	16-17	24	3	1.6	96.3	58.5	8.4	96
483	16-17	67	3	97.8	0	0	6.7	88.9
483	15-16	61	3	97.8	0	0	6.7	88.9
483	14-15	55	3	97.8	0	0	6.7	88.9
483	17-18	51	3	97.8	0	0	6.7	88.9
483	18-19	45	3	97.8	0	0	6.7	88.9
483	13-14	28	3	97.8	0	0	6.7	88.9
484	15-16	42	1	2.8	8	13.8	18.2	18.5
484	14-15	32	1	2.8	8	13.8	18.2	18.5
484	18-19	25	1	2.8	8	13.8	18.2	18.5
484	17-18	23	1	2.8	8	13.8	18.2	18.5
484	13-14	19	1	2.8	8	13.8	18.2	18.5
484	16-17	13	1	2.8	8	13.8	18.2	18.5
485	16-17	48	3	98.3	0.5	0	10	95
485	17-18	40	3	98.3	0.5	0	10	95

485	14-15	39	3	98.3	0.5	0	10	95
485	15-16	35	3	98.3	0.5	0	10	95
485	13-14	31	3	98.3	0.5	0	10	95
485	18-19	29	3	98.3	0.5	0	10	95
486	15-16	82	1	41.1	11	1.1	23.6	55.6
486	14-15	78	1	41.1	11	1.1	23.6	55.6
486	17-18	77	1	41.1	11	1.1	23.6	55.6
486	16-17	65	1	41.1	11	1.1	23.6	55.6
486	18-19	65	1	41.1	11	1.1	23.6	55.6
486	13-14	64	1	41.1	11	1.1	23.6	55.6
487	16-17	73	2	1.1	45.5	20.7	14.7	54.1
487	13-14	68	2	1.1	45.5	20.7	14.7	54.1
487	14-15	65	2	1.1	45.5	20.7	14.7	54.1
487	15-16	62	2	1.1	45.5	20.7	14.7	54.1
487	18-19	55	2	1.1	45.5	20.7	14.7	54.1
487	17-18	44	2	1.1	45.5	20.7	14.7	54.1
488	16-17	75	1	4.5	70.4	15.7	20.8	56.7
488	18-19	63	1	4.5	70.4	15.7	20.8	56.7
488	17-18	61	1	4.5	70.4	15.7	20.8	56.7
488	13-14	57	1	4.5	70.4	15.7	20.8	56.7
488	15-16	50	1	4.5	70.4	15.7	20.8	56.7
488	14-15	48	1	4.5	70.4	15.7	20.8	56.7
489	16-17	55	6	37.7	61.1	28.4	24.9	97.1
489	15-16	40	6	37.7	61.1	28.4	24.9	97.1
489	14-15	34	6	37.7	61.1	28.4	24.9	97.1
489	17-18	32	6	37.7	61.1	28.4	24.9	97.1
489	13-14	30	6	37.7	61.1	28.4	24.9	97.1
489	18-19	17	6	37.7	61.1	28.4	24.9	97.1
490	14-15	75	2	60.8	9.1	10	11.5	41.9
490	15-16	74	2	60.8	9.1	10	11.5	41.9
490	16-17	65	2	60.8	9.1	10	11.5	41.9
490	17-18	65	2	60.8	9.1	10	11.5	41.9
490	18-19	59	2	60.8	9.1	10	11.5	41.9
490	13-14	20	2	60.8	9.1	10	11.5	41.9
491	18-19	71	1	7.1	35.3	29.3	14.1	69.4
491	15-16	70	1	7.1	35.3	29.3	14.1	69.4
491	14-15	70	1	7.1	35.3	29.3	14.1	69.4
491	16-17	69	1	7.1	35.3	29.3	14.1	69.4
491	17-18	63	1	7.1	35.3	29.3	14.1	69.4
491	13-14	32	1	7.1	35.3	29.3	14.1	69.4
492	14-15	92	4	98.3	1.7	0	10.3	95.2

492	16-17	85	4	98.3	1.7	0	10.3	95.2
492	13-14	82	4	98.3	1.7	0	10.3	95.2
492	15-16	76	4	98.3	1.7	0	10.3	95.2
492	17-18	74	4	98.3	1.7	0	10.3	95.2
492	18-19	18	4	98.3	1.7	0	10.3	95.2
493	15-16	42	1	1.7	94.9	39.7	11.1	90.8
493	16-17	41	1	1.7	94.9	39.7	11.1	90.8
493	18-19	34	1	1.7	94.9	39.7	11.1	90.8
493	14-15	31	1	1.7	94.9	39.7	11.1	90.8
493	13-14	26	1	1.7	94.9	39.7	11.1	90.8
493	17-18	25	1	1.7	94.9	39.7	11.1	90.8
494	18-19	65	1	0.5	97.6	42.6	11.6	91
494	14-15	53	1	0.5	97.6	42.6	11.6	91
494	13-14	52	1	0.5	97.6	42.6	11.6	91
494	15-16	51	1	0.5	97.6	42.6	11.6	91
494	16-17	51	1	0.5	97.6	42.6	11.6	91
494	17-18	50	1	0.5	97.6	42.6	11.6	91
495	18-19	34	1	14.3	46.6	5.5	14.1	58
495	17-18	30	1	14.3	46.6	5.5	14.1	58
495	14-15	26	1	14.3	46.6	5.5	14.1	58
495	16-17	25	1	14.3	46.6	5.5	14.1	58
495	15-16	23	1	14.3	46.6	5.5	14.1	58
495	13-14	23	1	14.3	46.6	5.5	14.1	58
496	16-17	73	2	0.7	33.1	8.8	10.4	15.4
496	15-16	64	2	0.7	33.1	8.8	10.4	15.4
496	17-18	63	2	0.7	33.1	8.8	10.4	15.4
496	18-19	60	2	0.7	33.1	8.8	10.4	15.4
496	14-15	42	2	0.7	33.1	8.8	10.4	15.4
496	13-14	25	2	0.7	33.1	8.8	10.4	15.4
497	15-16	58	2	26.7	27.7	44.5	16.8	49
497	17-18	46	2	26.7	27.7	44.5	16.8	49
497	14-15	43	2	26.7	27.7	44.5	16.8	49
497	13-14	43	2	26.7	27.7	44.5	16.8	49
497	18-19	39	2	26.7	27.7	44.5	16.8	49
497	16-17	37	2	26.7	27.7	44.5	16.8	49
498	15-16	83	1	1.7	9.6	8.3	16.6	14.4
498	17-18	81	1	1.7	9.6	8.3	16.6	14.4
498	18-19	78	1	1.7	9.6	8.3	16.6	14.4
498	16-17	66	1	1.7	9.6	8.3	16.6	14.4
498	14-15	58	1	1.7	9.6	8.3	16.6	14.4
498	13-14	54	1	1.7	9.6	8.3	16.6	14.4

499	13-14	57	2	2.1	97.3	76.5	10.1	82.1
499	14-15	32	2	2.1	97.3	76.5	10.1	82.1
499	18-19	28	2	2.1	97.3	76.5	10.1	82.1
499	15-16	17	2	2.1	97.3	76.5	10.1	82.1
499	16-17	13	2	2.1	97.3	76.5	10.1	82.1
499	17-18	13	2	2.1	97.3	76.5	10.1	82.1
500	16-17	55	1	55.6	8.7	2.4	23.2	61.4
500	17-18	54	1	55.6	8.7	2.4	23.2	61.4
500	13-14	51	1	55.6	8.7	2.4	23.2	61.4
500	18-19	49	1	55.6	8.7	2.4	23.2	61.4
500	15-16	48	1	55.6	8.7	2.4	23.2	61.4
500	14-15	36	1	55.6	8.7	2.4	23.2	61.4
501	14-15	81	1	6.6	1.6	6.4	8.5	7.5
501	16-17	69	1	6.6	1.6	6.4	8.5	7.5
501	15-16	65	1	6.6	1.6	6.4	8.5	7.5
501	17-18	63	1	6.6	1.6	6.4	8.5	7.5
501	18-19	62	1	6.6	1.6	6.4	8.5	7.5
501	13-14	54	1	6.6	1.6	6.4	8.5	7.5
502	18-19	74	3	96.1	3.5	1.1	14	96.9
502	15-16	72	3	96.1	3.5	1.1	14	96.9
502	16-17	50	3	96.1	3.5	1.1	14	96.9
502	13-14	38	3	96.1	3.5	1.1	14	96.9
502	14-15	30	3	96.1	3.5	1.1	14	96.9
502	17-18	1	3	96.1	3.5	1.1	14	96.9
503	18-19	73	2	35.7	4.5	11.5	22.9	67.5
503	13-14	52	2	35.7	4.5	11.5	22.9	67.5
503	14-15	51	2	35.7	4.5	11.5	22.9	67.5
503	16-17	49	2	35.7	4.5	11.5	22.9	67.5
503	17-18	45	2	35.7	4.5	11.5	22.9	67.5
503	15-16	37	2	35.7	4.5	11.5	22.9	67.5
504	15-16	60	2	0	4.5	0	15.8	43.9
504	16-17	58	2	0	4.5	0	15.8	43.9
504	18-19	56	2	0	4.5	0	15.8	43.9
504	17-18	48	2	0	4.5	0	15.8	43.9
504	13-14	38	2	0	4.5	0	15.8	43.9
504	14-15	35	2	0	4.5	0	15.8	43.9
505	18-19	67	2	94.9	4.6	0.4	9.7	97
505	15-16	46	2	94.9	4.6	0.4	9.7	97
505	16-17	40	2	94.9	4.6	0.4	9.7	97
505	14-15	38	2	94.9	4.6	0.4	9.7	97
505	17-18	29	2	94.9	4.6	0.4	9.7	97

505	13-14	21	2	94.9	4.6	0.4	9.7	97
506	15-16	66	3	36.5	62.5	40.1	10.5	97
506	14-15	51	3	36.5	62.5	40.1	10.5	97
506	13-14	40	3	36.5	62.5	40.1	10.5	97
506	16-17	34	3	36.5	62.5	40.1	10.5	97
506	18-19	21	3	36.5	62.5	40.1	10.5	97
506	17-18	1	3	36.5	62.5	40.1	10.5	97
507	16-17	44	2	8.9	50.5	9.8	15.2	45.6
507	18-19	40	2	8.9	50.5	9.8	15.2	45.6
507	17-18	34	2	8.9	50.5	9.8	15.2	45.6
507	13-14	30	2	8.9	50.5	9.8	15.2	45.6
507	14-15	24	2	8.9	50.5	9.8	15.2	45.6
507	15-16	21	2	8.9	50.5	9.8	15.2	45.6
508	16-17	83	2	2.1	21.9	15.2	8.8	24.2
508	18-19	82	2	2.1	21.9	15.2	8.8	24.2
508	17-18	71	2	2.1	21.9	15.2	8.8	24.2
508	14-15	64	2	2.1	21.9	15.2	8.8	24.2
508	15-16	60	2	2.1	21.9	15.2	8.8	24.2
508	13-14	58	2	2.1	21.9	15.2	8.8	24.2
509	16-17	69	2	3.7	68.8	13.6	16.1	49.1
509	17-18	65	2	3.7	68.8	13.6	16.1	49.1
509	15-16	53	2	3.7	68.8	13.6	16.1	49.1
509	14-15	45	2	3.7	68.8	13.6	16.1	49.1
509	13-14	36	2	3.7	68.8	13.6	16.1	49.1
509	18-19	35	2	3.7	68.8	13.6	16.1	49.1
510	17-18	70	3	12.8	29.9	56.4	7.2	92.9
510	16-17	62	3	12.8	29.9	56.4	7.2	92.9
510	18-19	53	3	12.8	29.9	56.4	7.2	92.9
510	15-16	39	3	12.8	29.9	56.4	7.2	92.9
510	13-14	35	3	12.8	29.9	56.4	7.2	92.9
510	14-15	31	3	12.8	29.9	56.4	7.2	92.9
511	14-15	73	4	71	24.4	1.9	4.9	63.9
511	15-16	69	4	71	24.4	1.9	4.9	63.9
511	13-14	66	4	71	24.4	1.9	4.9	63.9
511	16-17	65	4	71	24.4	1.9	4.9	63.9
511	17-18	49	4	71	24.4	1.9	4.9	63.9
511	18-19	43	4	71	24.4	1.9	4.9	63.9
512	14-15	69	1	1.7	74.4	19.6	13.3	68.1
512	15-16	64	1	1.7	74.4	19.6	13.3	68.1
512	17-18	61	1	1.7	74.4	19.6	13.3	68.1
512	13-14	59	1	1.7	74.4	19.6	13.3	68.1

512	16-17	55	1	1.7	74.4	19.6	13.3	68.1
512	18-19	32	1	1.7	74.4	19.6	13.3	68.1
513	14-15	78	2	3.2	45	34.7	8.9	35.7
513	15-16	69	2	3.2	45	34.7	8.9	35.7
513	16-17	67	2	3.2	45	34.7	8.9	35.7
513	18-19	60	2	3.2	45	34.7	8.9	35.7
513	17-18	53	2	3.2	45	34.7	8.9	35.7
513	13-14	49	2	3.2	45	34.7	8.9	35.7
514	17-18	72	2	11	34.8	16.7	21.3	51.8
514	18-19	69	2	11	34.8	16.7	21.3	51.8
514	14-15	38	2	11	34.8	16.7	21.3	51.8
514	13-14	28	2	11	34.8	16.7	21.3	51.8
514	15-16	17	2	11	34.8	16.7	21.3	51.8
514	16-17	12	2	11	34.8	16.7	21.3	51.8
515	14-15	65	1	6.5	24.3	20.9	14.6	22.1
515	13-14	65	1	6.5	24.3	20.9	14.6	22.1
515	18-19	63	1	6.5	24.3	20.9	14.6	22.1
515	17-18	61	1	6.5	24.3	20.9	14.6	22.1
515	15-16	59	1	6.5	24.3	20.9	14.6	22.1
515	16-17	58	1	6.5	24.3	20.9	14.6	22.1
516	16-17	81	1	89.7	8.2	1.6	16.2	88.1
516	15-16	74	1	89.7	8.2	1.6	16.2	88.1
516	18-19	72	1	89.7	8.2	1.6	16.2	88.1
516	17-18	68	1	89.7	8.2	1.6	16.2	88.1
516	14-15	55	1	89.7	8.2	1.6	16.2	88.1
516	13-14	48	1	89.7	8.2	1.6	16.2	88.1
517	14-15	77	3	6.5	90.8	18.9	14.5	95.5
517	15-16	73	3	6.5	90.8	18.9	14.5	95.5
517	16-17	72	3	6.5	90.8	18.9	14.5	95.5
517	13-14	68	3	6.5	90.8	18.9	14.5	95.5
517	17-18	67	3	6.5	90.8	18.9	14.5	95.5
517	18-19	59	3	6.5	90.8	18.9	14.5	95.5
518	13-14	49	4	24.1	75	48.1	11.4	97.5
518	14-15	40	4	24.1	75	48.1	11.4	97.5
518	16-17	36	4	24.1	75	48.1	11.4	97.5
518	15-16	33	4	24.1	75	48.1	11.4	97.5
518	18-19	33	4	24.1	75	48.1	11.4	97.5
518	17-18	28	4	24.1	75	48.1	11.4	97.5
519	15-16	71	2	5	15.8	38.1	20	53.1
519	14-15	66	2	5	15.8	38.1	20	53.1
519	16-17	64	2	5	15.8	38.1	20	53.1

519	13-14	63	2	5	15.8	38.1	20	53.1
519	18-19	43	2	5	15.8	38.1	20	53.1
519	17-18	39	2	5	15.8	38.1	20	53.1
520	16-17	74	3	1.4	8.9	24.8	5.4	4.6
520	17-18	72	3	1.4	8.9	24.8	5.4	4.6
520	18-19	71	3	1.4	8.9	24.8	5.4	4.6
520	14-15	66	3	1.4	8.9	24.8	5.4	4.6
520	15-16	64	3	1.4	8.9	24.8	5.4	4.6
520	13-14	19	3	1.4	8.9	24.8	5.4	4.6
521	15-16	90	4	1.3	20.2	7.9	16.1	15.8
521	13-14	69	4	1.3	20.2	7.9	16.1	15.8
521	17-18	67	4	1.3	20.2	7.9	16.1	15.8
521	14-15	60	4	1.3	20.2	7.9	16.1	15.8
521	18-19	52	4	1.3	20.2	7.9	16.1	15.8
521	16-17	25	4	1.3	20.2	7.9	16.1	15.8
522	18-19	57	2	20.2	16.5	17	9	50.9
522	16-17	55	2	20.2	16.5	17	9	50.9
522	13-14	48	2	20.2	16.5	17	9	50.9
522	14-15	44	2	20.2	16.5	17	9	50.9
522	17-18	36	2	20.2	16.5	17	9	50.9
522	15-16	35	2	20.2	16.5	17	9	50.9
523	17-18	54	3	97	2.1	0	11.3	90.2
523	15-16	41	3	97	2.1	0	11.3	90.2
523	13-14	37	3	97	2.1	0	11.3	90.2
523	16-17	35	3	97	2.1	0	11.3	90.2
523	18-19	35	3	97	2.1	0	11.3	90.2
523	14-15	35	3	97	2.1	0	11.3	90.2
524	14-15	78	1	6.5	20.7	40.1	11.6	87.1
524	13-14	72	1	6.5	20.7	40.1	11.6	87.1
524	15-16	66	1	6.5	20.7	40.1	11.6	87.1
524	18-19	59	1	6.5	20.7	40.1	11.6	87.1
524	17-18	51	1	6.5	20.7	40.1	11.6	87.1
524	16-17	47	1	6.5	20.7	40.1	11.6	87.1
525	14-15	36	1	91.1	8.5	4.7	19.1	94.9
525	17-18	30	1	91.1	8.5	4.7	19.1	94.9
525	18-19	30	1	91.1	8.5	4.7	19.1	94.9
525	13-14	27	1	91.1	8.5	4.7	19.1	94.9
525	15-16	18	1	91.1	8.5	4.7	19.1	94.9
525	16-17	18	1	91.1	8.5	4.7	19.1	94.9
526	18-19	84	1	28.7	10.3	5.7	6	17.7
526	16-17	73	1	28.7	10.3	5.7	6	17.7

526	17-18	57	1	28.7	10.3	5.7	6	17.7
526	15-16	53	1	28.7	10.3	5.7	6	17.7
526	13-14	41	1	28.7	10.3	5.7	6	17.7
526	14-15	40	1	28.7	10.3	5.7	6	17.7
527	14-15	76	1	21.8	7	5.3	16.5	46.5
527	17-18	65	1	21.8	7	5.3	16.5	46.5
527	18-19	64	1	21.8	7	5.3	16.5	46.5
527	15-16	61	1	21.8	7	5.3	16.5	46.5
527	13-14	60	1	21.8	7	5.3	16.5	46.5
527	16-17	56	1	21.8	7	5.3	16.5	46.5
528	17-18	56	1	97.2	2.6	0.6	9.5	89.1
528	13-14	50	1	97.2	2.6	0.6	9.5	89.1
528	16-17	45	1	97.2	2.6	0.6	9.5	89.1
528	15-16	41	1	97.2	2.6	0.6	9.5	89.1
528	18-19	36	1	97.2	2.6	0.6	9.5	89.1
528	14-15	36	1	97.2	2.6	0.6	9.5	89.1
529	16-17	56	3	2.4	6.6	22.6	16.3	19.7
529	13-14	41	3	2.4	6.6	22.6	16.3	19.7
529	14-15	36	3	2.4	6.6	22.6	16.3	19.7
529	15-16	34	3	2.4	6.6	22.6	16.3	19.7
529	17-18	23	3	2.4	6.6	22.6	16.3	19.7
529	18-19	22	3	2.4	6.6	22.6	16.3	19.7
530	14-15	86	4	2.5	8	3.7	10.1	18.9
530	15-16	80	4	2.5	8	3.7	10.1	18.9
530	16-17	66	4	2.5	8	3.7	10.1	18.9
530	17-18	66	4	2.5	8	3.7	10.1	18.9
530	18-19	66	4	2.5	8	3.7	10.1	18.9
530	13-14	6	4	2.5	8	3.7	10.1	18.9
531	15-16	65	1	97.9	0.4	3.4	12.9	91.4
531	18-19	56	1	97.9	0.4	3.4	12.9	91.4
531	16-17	55	1	97.9	0.4	3.4	12.9	91.4
531	17-18	51	1	97.9	0.4	3.4	12.9	91.4
531	14-15	46	1	97.9	0.4	3.4	12.9	91.4
531	13-14	39	1	97.9	0.4	3.4	12.9	91.4
532	15-16	63	1	98.5	1.1	0.4	9.6	96.3
532	14-15	63	1	98.5	1.1	0.4	9.6	96.3
532	17-18	57	1	98.5	1.1	0.4	9.6	96.3
532	16-17	55	1	98.5	1.1	0.4	9.6	96.3
532	18-19	49	1	98.5	1.1	0.4	9.6	96.3
532	13-14	37	1	98.5	1.1	0.4	9.6	96.3
533	15-16	58	1	1.4	20.4	13.5	19.5	34.6

533	17-18	57	1	1.4	20.4	13.5	19.5	34.6
533	14-15	53	1	1.4	20.4	13.5	19.5	34.6
533	13-14	51	1	1.4	20.4	13.5	19.5	34.6
533	18-19	50	1	1.4	20.4	13.5	19.5	34.6
533	16-17	49	1	1.4	20.4	13.5	19.5	34.6
534	14-15	56	2	20.6	67.9	45.3	10.8	71.1
534	16-17	41	2	20.6	67.9	45.3	10.8	71.1
534	15-16	38	2	20.6	67.9	45.3	10.8	71.1
534	13-14	37	2	20.6	67.9	45.3	10.8	71.1
534	18-19	30	2	20.6	67.9	45.3	10.8	71.1
534	17-18	29	2	20.6	67.9	45.3	10.8	71.1
535	13-14	52	9	2.2	39.8	8.8	11.9	46.6
535	15-16	48	9	2.2	39.8	8.8	11.9	46.6
535	16-17	48	9	2.2	39.8	8.8	11.9	46.6
535	17-18	39	9	2.2	39.8	8.8	11.9	46.6
535	14-15	35	9	2.2	39.8	8.8	11.9	46.6
535	18-19	30	9	2.2	39.8	8.8	11.9	46.6
536	15-16	65	1	55	25.6	6.3	14.6	62.5
536	16-17	57	1	55	25.6	6.3	14.6	62.5
536	13-14	48	1	55	25.6	6.3	14.6	62.5
536	17-18	47	1	55	25.6	6.3	14.6	62.5
536	14-15	39	1	55	25.6	6.3	14.6	62.5
536	18-19	23	1	55	25.6	6.3	14.6	62.5
537	18-19	49	2	26.3	66.4	29.8	14.8	99.2
537	15-16	42	2	26.3	66.4	29.8	14.8	99.2
537	17-18	41	2	26.3	66.4	29.8	14.8	99.2
537	13-14	34	2	26.3	66.4	29.8	14.8	99.2
537	16-17	33	2	26.3	66.4	29.8	14.8	99.2
537	14-15	21	2	26.3	66.4	29.8	14.8	99.2
538	16-17	86	2	4.3	11.6	16.4	7.6	10.5
538	13-14	81	2	4.3	11.6	16.4	7.6	10.5
538	17-18	74	2	4.3	11.6	16.4	7.6	10.5
538	18-19	67	2	4.3	11.6	16.4	7.6	10.5
538	14-15	66	2	4.3	11.6	16.4	7.6	10.5
538	15-16	61	2	4.3	11.6	16.4	7.6	10.5
539	17-18	71	1	72.9	24.4	12.4	21.3	96.7
539	18-19	68	1	72.9	24.4	12.4	21.3	96.7
539	15-16	66	1	72.9	24.4	12.4	21.3	96.7
539	16-17	54	1	72.9	24.4	12.4	21.3	96.7
539	14-15	52	1	72.9	24.4	12.4	21.3	96.7
539	13-14	51	1	72.9	24.4	12.4	21.3	96.7

540	13-14	87	2	2	26.3	12.1	14.2	30.6
540	14-15	68	2	2	26.3	12.1	14.2	30.6
540	15-16	62	2	2	26.3	12.1	14.2	30.6
540	18-19	60	2	2	26.3	12.1	14.2	30.6
540	16-17	50	2	2	26.3	12.1	14.2	30.6
540	17-18	37	2	2	26.3	12.1	14.2	30.6
541	13-14	53	2	28.6	47.1	55.5	21.4	93.5
541	16-17	52	2	28.6	47.1	55.5	21.4	93.5
541	18-19	51	2	28.6	47.1	55.5	21.4	93.5
541	17-18	46	2	28.6	47.1	55.5	21.4	93.5
541	15-16	44	2	28.6	47.1	55.5	21.4	93.5
541	14-15	40	2	28.6	47.1	55.5	21.4	93.5
542	18-19	92	2	4.2	14.8	0	3.5	15.5
542	17-18	68	2	4.2	14.8	0	3.5	15.5
542	14-15	45	2	4.2	14.8	0	3.5	15.5
542	13-14	39	2	4.2	14.8	0	3.5	15.5
542	15-16	30	2	4.2	14.8	0	3.5	15.5
542	16-17	10	2	4.2	14.8	0	3.5	15.5
543	18-19	85	2	97.5	0.8	0.4	10.9	100
543	16-17	74	2	97.5	0.8	0.4	10.9	100
543	14-15	71	2	97.5	0.8	0.4	10.9	100
543	17-18	70	2	97.5	0.8	0.4	10.9	100
543	15-16	68	2	97.5	0.8	0.4	10.9	100
543	13-14	62	2	97.5	0.8	0.4	10.9	100
544	14-15	59	1	16.8	14.4	2.4	17.6	19.1
544	15-16	55	1	16.8	14.4	2.4	17.6	19.1
544	16-17	53	1	16.8	14.4	2.4	17.6	19.1
544	17-18	40	1	16.8	14.4	2.4	17.6	19.1
544	13-14	32	1	16.8	14.4	2.4	17.6	19.1
544	18-19	31	1	16.8	14.4	2.4	17.6	19.1
545	13-14	75	6	19.4	12.1	2.9	25.9	20.3
545	17-18	72	6	19.4	12.1	2.9	25.9	20.3
545	14-15	68	6	19.4	12.1	2.9	25.9	20.3
545	15-16	52	6	19.4	12.1	2.9	25.9	20.3
545	18-19	50	6	19.4	12.1	2.9	25.9	20.3
545	16-17	45	6	19.4	12.1	2.9	25.9	20.3
546	15-16	59	2	95.1	4.7	0.7	17.9	95.8
546	18-19	47	2	95.1	4.7	0.7	17.9	95.8
546	17-18	32	2	95.1	4.7	0.7	17.9	95.8
546	16-17	23	2	95.1	4.7	0.7	17.9	95.8
546	13-14	20	2	95.1	4.7	0.7	17.9	95.8

546	14-15	12	2	95.1	4.7	0.7	17.9	95.8
547	18-19	66	1	14.9	45.5	5.7	15.1	63
547	16-17	61	1	14.9	45.5	5.7	15.1	63
547	17-18	58	1	14.9	45.5	5.7	15.1	63
547	13-14	58	1	14.9	45.5	5.7	15.1	63
547	14-15	54	1	14.9	45.5	5.7	15.1	63
547	15-16	39	1	14.9	45.5	5.7	15.1	63
548	16-17	79	2	83.9	13.9	4.5	24.7	92.8
548	18-19	63	2	83.9	13.9	4.5	24.7	92.8
548	17-18	62	2	83.9	13.9	4.5	24.7	92.8
548	14-15	56	2	83.9	13.9	4.5	24.7	92.8
548	15-16	50	2	83.9	13.9	4.5	24.7	92.8
548	13-14	50	2	83.9	13.9	4.5	24.7	92.8
549	16-17	82	2	91.4	8.2	3.8	10.2	97
549	14-15	64	2	91.4	8.2	3.8	10.2	97
549	15-16	62	2	91.4	8.2	3.8	10.2	97
549	18-19	47	2	91.4	8.2	3.8	10.2	97
549	17-18	39	2	91.4	8.2	3.8	10.2	97
549	13-14	39	2	91.4	8.2	3.8	10.2	97
550	16-17	96	2	16.7	38.3	35.7	14.5	72
550	17-18	89	2	16.7	38.3	35.7	14.5	72
550	14-15	83	2	16.7	38.3	35.7	14.5	72
550	18-19	82	2	16.7	38.3	35.7	14.5	72
550	15-16	77	2	16.7	38.3	35.7	14.5	72
550	13-14	74	2	16.7	38.3	35.7	14.5	72
551	15-16	65	1	97.5	1.9	2.2	20.7	97.5
551	16-17	63	1	97.5	1.9	2.2	20.7	97.5
551	17-18	58	1	97.5	1.9	2.2	20.7	97.5
551	18-19	54	1	97.5	1.9	2.2	20.7	97.5
551	14-15	51	1	97.5	1.9	2.2	20.7	97.5
551	13-14	39	1	97.5	1.9	2.2	20.7	97.5
552	16-17	77	1	0.7	13.1	5.7	13.7	13.2
552	17-18	74	1	0.7	13.1	5.7	13.7	13.2
552	13-14	66	1	0.7	13.1	5.7	13.7	13.2
552	15-16	65	1	0.7	13.1	5.7	13.7	13.2
552	14-15	59	1	0.7	13.1	5.7	13.7	13.2
552	18-19	57	1	0.7	13.1	5.7	13.7	13.2
553	17-18	78	3	98.2	0.5	1.5	12.5	96.1
553	16-17	77	3	98.2	0.5	1.5	12.5	96.1
553	14-15	74	3	98.2	0.5	1.5	12.5	96.1
553	15-16	66	3	98.2	0.5	1.5	12.5	96.1

553	18-19	65	3	98.2	0.5	1.5	12.5	96.1
553	13-14	64	3	98.2	0.5	1.5	12.5	96.1
554	18-19	49	5	26.6	59.1	53	15.4	93.9
554	14-15	42	5	26.6	59.1	53	15.4	93.9
554	17-18	35	5	26.6	59.1	53	15.4	93.9
554	15-16	31	5	26.6	59.1	53	15.4	93.9
554	16-17	27	5	26.6	59.1	53	15.4	93.9
554	13-14	13	5	26.6	59.1	53	15.4	93.9
555	18-19	81	3	96.4	3.6	2.5	10.2	98
555	14-15	68	3	96.4	3.6	2.5	10.2	98
555	15-16	63	3	96.4	3.6	2.5	10.2	98
555	17-18	55	3	96.4	3.6	2.5	10.2	98
555	16-17	40	3	96.4	3.6	2.5	10.2	98
555	13-14	40	3	96.4	3.6	2.5	10.2	98
556	16-17	69	1	99.1	0.6	0.3	16.9	96.4
556	15-16	52	1	99.1	0.6	0.3	16.9	96.4
556	18-19	52	1	99.1	0.6	0.3	16.9	96.4
556	17-18	44	1	99.1	0.6	0.3	16.9	96.4
556	13-14	28	1	99.1	0.6	0.3	16.9	96.4
556	14-15	22	1	99.1	0.6	0.3	16.9	96.4
557	15-16	57	2	77.5	19.2	4.9	17.6	90.2
557	14-15	57	2	77.5	19.2	4.9	17.6	90.2
557	16-17	51	2	77.5	19.2	4.9	17.6	90.2
557	13-14	45	2	77.5	19.2	4.9	17.6	90.2
557	18-19	41	2	77.5	19.2	4.9	17.6	90.2
557	17-18	38	2	77.5	19.2	4.9	17.6	90.2
558	18-19	78	1	0.5	20.5	13.2	44.5	17.7
558	13-14	61	1	0.5	20.5	13.2	44.5	17.7
558	14-15	59	1	0.5	20.5	13.2	44.5	17.7
558	15-16	57	1	0.5	20.5	13.2	44.5	17.7
558	17-18	54	1	0.5	20.5	13.2	44.5	17.7
558	16-17	53	1	0.5	20.5	13.2	44.5	17.7
559	13-14	60	2	98.9	0.8	0	15.3	96.2
559	17-18	59	2	98.9	0.8	0	15.3	96.2
559	15-16	56	2	98.9	0.8	0	15.3	96.2
559	16-17	51	2	98.9	0.8	0	15.3	96.2
559	14-15	45	2	98.9	0.8	0	15.3	96.2
559	18-19	36	2	98.9	0.8	0	15.3	96.2
560	13-14	75	1	3	8.4	10.4	16.6	8.8
560	15-16	75	1	3	8.4	10.4	16.6	8.8
560	16-17	69	1	3	8.4	10.4	16.6	8.8

560	17-18	69	1	3	8.4	10.4	16.6	8.8
560	18-19	66	1	3	8.4	10.4	16.6	8.8
560	14-15	65	1	3	8.4	10.4	16.6	8.8
561	18-19	52	2	95.5	4	0.5	21.6	92.3
561	17-18	47	2	95.5	4	0.5	21.6	92.3
561	13-14	40	2	95.5	4	0.5	21.6	92.3
561	14-15	36	2	95.5	4	0.5	21.6	92.3
561	15-16	31	2	95.5	4	0.5	21.6	92.3
561	16-17	31	2	95.5	4	0.5	21.6	92.3
562	18-19	52	3	45.5	52.5	9.9	16.2	85.8
562	15-16	44	3	45.5	52.5	9.9	16.2	85.8
562	13-14	41	3	45.5	52.5	9.9	16.2	85.8
562	17-18	38	3	45.5	52.5	9.9	16.2	85.8
562	16-17	32	3	45.5	52.5	9.9	16.2	85.8
562	14-15	3	3	45.5	52.5	9.9	16.2	85.8
563	16-17	52	2	98.7	0	0.3	13.5	92.1
563	15-16	46	2	98.7	0	0.3	13.5	92.1
563	14-15	38	2	98.7	0	0.3	13.5	92.1
563	13-14	34	2	98.7	0	0.3	13.5	92.1
563	17-18	6	2	98.7	0	0.3	13.5	92.1
563	18-19	1	2	98.7	0	0.3	13.5	92.1
564	18-19	80	4	98.6	0.6	1	14.6	98.4
564	16-17	48	4	98.6	0.6	1	14.6	98.4
564	15-16	45	4	98.6	0.6	1	14.6	98.4
564	17-18	40	4	98.6	0.6	1	14.6	98.4
564	14-15	25	4	98.6	0.6	1	14.6	98.4
564	13-14	23	4	98.6	0.6	1	14.6	98.4
565	16-17	91	1	20.5	55.4	9	17.5	72.3
565	15-16	85	1	20.5	55.4	9	17.5	72.3
565	14-15	83	1	20.5	55.4	9	17.5	72.3
565	13-14	78	1	20.5	55.4	9	17.5	72.3
565	17-18	76	1	20.5	55.4	9	17.5	72.3
565	18-19	64	1	20.5	55.4	9	17.5	72.3
566	17-18	51	1	97.8	0.7	0.2	10	82.3
566	14-15	51	1	97.8	0.7	0.2	10	82.3
566	16-17	38	1	97.8	0.7	0.2	10	82.3
566	15-16	36	1	97.8	0.7	0.2	10	82.3
566	13-14	27	1	97.8	0.7	0.2	10	82.3
566	18-19	26	1	97.8	0.7	0.2	10	82.3
567	18-19	80	1	97.7	1.2	0	15.9	95.6
567	14-15	76	1	97.7	1.2	0	15.9	95.6

567	17-18	73	1	97.7	1.2	0	15.9	95.6
567	16-17	71	1	97.7	1.2	0	15.9	95.6
567	15-16	69	1	97.7	1.2	0	15.9	95.6
567	13-14	40	1	97.7	1.2	0	15.9	95.6
568	14-15	66	1	5.4	8.4	4.3	12.2	12.4
568	16-17	60	1	5.4	8.4	4.3	12.2	12.4
568	15-16	58	1	5.4	8.4	4.3	12.2	12.4
568	17-18	55	1	5.4	8.4	4.3	12.2	12.4
568	13-14	51	1	5.4	8.4	4.3	12.2	12.4
568	18-19	42	1	5.4	8.4	4.3	12.2	12.4
569	18-19	36	2	4.4	93.8	70.2	14.5	70
569	14-15	26	2	4.4	93.8	70.2	14.5	70
569	17-18	25	2	4.4	93.8	70.2	14.5	70
569	15-16	19	2	4.4	93.8	70.2	14.5	70
569	16-17	18	2	4.4	93.8	70.2	14.5	70
569	13-14	17	2	4.4	93.8	70.2	14.5	70
570	15-16	71	2	18.2	17.4	6.2	12.2	29.9
570	17-18	60	2	18.2	17.4	6.2	12.2	29.9
570	16-17	57	2	18.2	17.4	6.2	12.2	29.9
570	18-19	56	2	18.2	17.4	6.2	12.2	29.9
570	14-15	49	2	18.2	17.4	6.2	12.2	29.9
570	13-14	45	2	18.2	17.4	6.2	12.2	29.9
571	14-15	71	3	12.1	31.7	7.4	7.1	25.5
571	15-16	62	3	12.1	31.7	7.4	7.1	25.5
571	18-19	58	3	12.1	31.7	7.4	7.1	25.5
571	13-14	55	3	12.1	31.7	7.4	7.1	25.5
571	17-18	48	3	12.1	31.7	7.4	7.1	25.5
571	16-17	43	3	12.1	31.7	7.4	7.1	25.5
572	17-18	57	1	61.5	10.8	8.5	34.3	87.6
572	18-19	53	1	61.5	10.8	8.5	34.3	87.6
572	13-14	38	1	61.5	10.8	8.5	34.3	87.6
572	16-17	34	1	61.5	10.8	8.5	34.3	87.6
572	15-16	32	1	61.5	10.8	8.5	34.3	87.6
572	14-15	25	1	61.5	10.8	8.5	34.3	87.6
573	15-16	69	2	5.8	89.4	41.3	17	88.2
573	17-18	68	2	5.8	89.4	41.3	17	88.2
573	18-19	59	2	5.8	89.4	41.3	17	88.2
573	14-15	53	2	5.8	89.4	41.3	17	88.2
573	13-14	50	2	5.8	89.4	41.3	17	88.2
573	16-17	47	2	5.8	89.4	41.3	17	88.2
574	14-15	64	2	98.5	0	0.4	9.5	95.5

574	15-16	57	2	98.5	0	0.4	9.5	95.5
574	18-19	47	2	98.5	0	0.4	9.5	95.5
574	17-18	33	2	98.5	0	0.4	9.5	95.5
574	16-17	32	2	98.5	0	0.4	9.5	95.5
574	13-14	31	2	98.5	0	0.4	9.5	95.5
575	18-19	79	2	96.4	3	0.9	12.4	93.3
575	17-18	78	2	96.4	3	0.9	12.4	93.3
575	15-16	56	2	96.4	3	0.9	12.4	93.3
575	16-17	48	2	96.4	3	0.9	12.4	93.3
575	14-15	25	2	96.4	3	0.9	12.4	93.3
575	13-14	16	2	96.4	3	0.9	12.4	93.3
576	14-15	59	3	3	67	17.8	6.9	17.8
576	15-16	50	3	3	67	17.8	6.9	17.8
576	18-19	48	3	3	67	17.8	6.9	17.8
576	17-18	44	3	3	67	17.8	6.9	17.8
576	16-17	37	3	3	67	17.8	6.9	17.8
576	13-14	14	3	3	67	17.8	6.9	17.8
577	18-19	88	1	93.9	3.2	1.3	9.1	87.7
577	17-18	67	1	93.9	3.2	1.3	9.1	87.7
577	14-15	61	1	93.9	3.2	1.3	9.1	87.7
577	16-17	52	1	93.9	3.2	1.3	9.1	87.7
577	15-16	19	1	93.9	3.2	1.3	9.1	87.7
577	13-14	37	1	98.2	1.4	0.7	12.4	85.5
578	14-15	90	1	97.5	1.5	0.2	18.7	92.4
578	15-16	68	1	97.5	1.5	0.2	18.7	92.4
578	16-17	60	1	97.5	1.5	0.2	18.7	92.4
578	17-18	59	1	97.5	1.5	0.2	18.7	92.4
578	18-19	58	1	97.5	1.5	0.2	18.7	92.4
578	13-14	54	1	97.5	1.5	0.2	18.7	92.4
579	15-16	48	3	97.1	1.7	0.3	16.2	72.8
579	16-17	20	3	97.1	1.7	0.3	16.2	72.8
579	18-19	10	3	97.1	1.7	0.3	16.2	72.8
579	14-15	5	3	97.1	1.7	0.3	16.2	72.8
579	13-14	2	3	97.1	1.7	0.3	16.2	72.8
579	17-18	1	3	97.1	1.7	0.3	16.2	72.8
580	17-18	64	2	4.3	30.3	10.9	8.7	20.5
580	18-19	62	2	4.3	30.3	10.9	8.7	20.5
580	14-15	57	2	4.3	30.3	10.9	8.7	20.5
580	13-14	53	2	4.3	30.3	10.9	8.7	20.5
580	16-17	51	2	4.3	30.3	10.9	8.7	20.5
580	15-16	45	2	4.3	30.3	10.9	8.7	20.5

581	18-19	74	3	24.5	60.5	17.4	11.5	51.4
581	13-14	66	3	24.5	60.5	17.4	11.5	51.4
581	17-18	62	3	24.5	60.5	17.4	11.5	51.4
581	14-15	29	3	24.5	60.5	17.4	11.5	51.4
581	15-16	6	3	24.5	60.5	17.4	11.5	51.4
581	16-17	5	3	24.5	60.5	17.4	11.5	51.4
582	18-19	64	3	97.4	1.5	1.5	27.9	91.2
582	17-18	59	3	97.4	1.5	1.5	27.9	91.2
582	15-16	47	3	97.4	1.5	1.5	27.9	91.2
582	13-14	42	3	97.4	1.5	1.5	27.9	91.2
582	14-15	33	3	97.4	1.5	1.5	27.9	91.2
582	16-17	32	3	97.4	1.5	1.5	27.9	91.2
583	17-18	55	1	62.9	35.6	14.5	21.3	96.3
583	16-17	47	1	62.9	35.6	14.5	21.3	96.3
583	14-15	39	1	62.9	35.6	14.5	21.3	96.3
583	18-19	35	1	62.9	35.6	14.5	21.3	96.3
583	15-16	20	1	62.9	35.6	14.5	21.3	96.3
583	13-14	43	2	90	9.2	4.4	14.4	91.9
584	15-16	72	2	86.4	11.6	5.8	16	82.2
584	18-19	62	2	86.4	11.6	5.8	16	82.2
584	17-18	61	2	86.4	11.6	5.8	16	82.2
584	13-14	60	2	86.4	11.6	5.8	16	82.2
584	16-17	51	2	86.4	11.6	5.8	16	82.2
584	14-15	47	2	86.4	11.6	5.8	16	82.2
585	15-16	58	2	19.2	66.3	26.4	9.9	81.3
585	17-18	53	2	19.2	66.3	26.4	9.9	81.3
585	13-14	50	2	19.2	66.3	26.4	9.9	81.3
585	14-15	43	2	19.2	66.3	26.4	9.9	81.3
585	16-17	36	2	19.2	66.3	26.4	9.9	81.3
585	18-19	31	2	19.2	66.3	26.4	9.9	81.3
586	18-19	69	1	98.3	1.7	0	19.9	92.4
586	17-18	67	1	98.3	1.7	0	19.9	92.4
586	15-16	59	1	98.3	1.7	0	19.9	92.4
586	13-14	53	1	98.3	1.7	0	19.9	92.4
586	14-15	47	1	98.3	1.7	0	19.9	92.4
586	16-17	42	1	98.3	1.7	0	19.9	92.4
587	16-17	82	2	98.4	0	4	17.4	89.3
587	15-16	72	2	98.4	0	4	17.4	89.3
587	17-18	69	2	98.4	0	4	17.4	89.3
587	14-15	65	2	98.4	0	4	17.4	89.3
587	18-19	59	2	98.4	0	4	17.4	89.3

587	13-14	27	2	98.4	0	4	17.4	89.3
588	14-15	83	3	87.7	11.1	9.9	9.6	93.1
588	15-16	68	3	87.7	11.1	9.9	9.6	93.1
588	17-18	60	3	87.7	11.1	9.9	9.6	93.1
588	18-19	56	3	87.7	11.1	9.9	9.6	93.1
588	16-17	40	3	87.7	11.1	9.9	9.6	93.1
588	13-14	15	3	87.7	11.1	9.9	9.6	93.1
589	15-16	66	2	99	0.8	1	11.7	93.5
589	14-15	61	2	99	0.8	1	11.7	93.5
589	16-17	53	2	99	0.8	1	11.7	93.5
589	13-14	50	2	99	0.8	1	11.7	93.5
589	17-18	46	2	99	0.8	1	11.7	93.5
589	18-19	41	2	99	0.8	1	11.7	93.5
590	16-17	83	1	13.2	81.2	35.7	13.9	82.7
590	18-19	81	1	13.2	81.2	35.7	13.9	82.7
590	14-15	81	1	13.2	81.2	35.7	13.9	82.7
590	17-18	80	1	13.2	81.2	35.7	13.9	82.7
590	15-16	71	1	13.2	81.2	35.7	13.9	82.7
590	13-14	69	1	13.2	81.2	35.7	13.9	82.7
591	13-14	50	2	1.7	84.8	30.6	8.7	52.5
591	16-17	48	2	1.7	84.8	30.6	8.7	52.5
591	15-16	34	2	1.7	84.8	30.6	8.7	52.5
591	18-19	34	2	1.7	84.8	30.6	8.7	52.5
591	14-15	32	2	1.7	84.8	30.6	8.7	52.5
591	17-18	28	2	1.7	84.8	30.6	8.7	52.5
592	14-15	58	2	96	3.1	0.6	23.9	85.2
592	16-17	55	2	96	3.1	0.6	23.9	85.2
592	15-16	53	2	96	3.1	0.6	23.9	85.2
592	17-18	52	2	96	3.1	0.6	23.9	85.2
592	13-14	46	2	96	3.1	0.6	23.9	85.2
592	18-19	32	2	96	3.1	0.6	23.9	85.2
593	18-19	83	1	98.1	0.8	0.4	11	84.4
593	14-15	83	1	98.1	0.8	0.4	11	84.4
593	15-16	75	1	98.1	0.8	0.4	11	84.4
593	17-18	59	1	98.1	0.8	0.4	11	84.4
593	16-17	57	1	98.1	0.8	0.4	11	84.4
593	13-14	50	1	98.1	0.8	0.4	11	84.4
594	17-18	38	2	97.9	1.7	5.9	41.1	90.2
594	18-19	32	2	97.9	1.7	5.9	41.1	90.2
594	16-17	31	2	97.9	1.7	5.9	41.1	90.2
594	15-16	23	2	97.9	1.7	5.9	41.1	90.2

594	13-14	4	2	97.9	1.7	5.9	41.1	90.2
594	14-15	1	2	97.9	1.7	5.9	41.1	90.2
595	18-19	68	3	1	0	0	19	67.6
595	13-14	43	3	1	0	0	19	67.6
595	14-15	34	3	1	0	0	19	67.6
595	17-18	25	3	1	0	0	19	67.6
595	16-17	17	3	1	0	0	19	67.6
595	15-16	9	3	1	0	0	19	67.6
596	15-16	64	1	99	0.3	0.5	26.3	86.1
596	17-18	61	1	99	0.3	0.5	26.3	86.1
596	16-17	57	1	99	0.3	0.5	26.3	86.1
596	14-15	57	1	99	0.3	0.5	26.3	86.1
596	18-19	53	1	99	0.3	0.5	26.3	86.1
596	13-14	25	1	99	0.3	0.5	26.3	86.1
597	13-14	85	2	1.3	97.7	82.1	15.3	93.4
597	14-15	39	2	1.3	97.7	82.1	15.3	93.4
597	18-19	27	2	1.3	97.7	82.1	15.3	93.4
597	16-17	22	2	1.3	97.7	82.1	15.3	93.4
597	17-18	20	2	1.3	97.7	82.1	15.3	93.4
597	15-16	9	2	1.3	97.7	82.1	15.3	93.4
598	15-16	78	2	5	17.4	5.8	10.8	19.1
598	16-17	73	2	5	17.4	5.8	10.8	19.1
598	18-19	68	2	5	17.4	5.8	10.8	19.1
598	17-18	66	2	5	17.4	5.8	10.8	19.1
598	13-14	35	2	5	17.4	5.8	10.8	19.1
598	14-15	10	2	5	17.4	5.8	10.8	19.1
599	15-16	47	3	3	10.8	19.7	14	11
599	18-19	42	3	3	10.8	19.7	14	11
599	16-17	40	3	3	10.8	19.7	14	11
599	14-15	34	3	3	10.8	19.7	14	11
599	17-18	27	3	3	10.8	19.7	14	11
599	13-14	27	3	3	10.8	19.7	14	11
600	18-19	80	1	3	19.4	19.3	3.7	8
600	17-18	78	1	3	19.4	19.3	3.7	8
600	16-17	76	1	3	19.4	19.3	3.7	8
600	14-15	75	1	3	19.4	19.3	3.7	8
600	15-16	71	1	3	19.4	19.3	3.7	8
600	13-14	60	1	3	19.4	19.3	3.7	8
601	15-16	51	5	74.4	15.6	13.1	39.4	90.6
601	18-19	47	5	74.4	15.6	13.1	39.4	90.6
601	14-15	31	5	74.4	15.6	13.1	39.4	90.6

601	13-14	13	5	74.4	15.6	13.1	39.4	90.6
601	16-17	12	5	74.4	15.6	13.1	39.4	90.6
601	17-18	1	5	74.4	15.6	13.1	39.4	90.6
602	14-15	71	1	6.9	22.8	44.2	9.7	57.2
602	13-14	71	1	6.9	22.8	44.2	9.7	57.2
602	16-17	59	1	6.9	22.8	44.2	9.7	57.2
602	18-19	52	1	6.9	22.8	44.2	9.7	57.2
602	15-16	46	1	6.9	22.8	44.2	9.7	57.2
602	17-18	40	1	6.9	22.8	44.2	9.7	57.2
603	18-19	52	3	48.8	49.2	30.7	12.9	97.1
603	15-16	34	3	48.8	49.2	30.7	12.9	97.1
603	17-18	32	3	48.8	49.2	30.7	12.9	97.1
603	14-15	31	3	48.8	49.2	30.7	12.9	97.1
603	16-17	29	3	48.8	49.2	30.7	12.9	97.1
603	13-14	29	3	48.8	49.2	30.7	12.9	97.1
604	18-19	37	3	98	1	0	10	98.5
604	13-14	36	3	98	1	0	10	98.5
604	14-15	35	3	98	1	0	10	98.5
604	15-16	32	3	98	1	0	10	98.5
604	16-17	13	3	98	1	0	10	98.5
604	17-18	1	3	98	1	0	10	98.5
605	14-15	50	4	97.4	1.7	0.9	14.2	99.7
605	18-19	49	4	97.4	1.7	0.9	14.2	99.7
605	17-18	41	4	97.4	1.7	0.9	14.2	99.7
605	15-16	39	4	97.4	1.7	0.9	14.2	99.7
605	16-17	35	4	97.4	1.7	0.9	14.2	99.7
605	13-14	32	4	97.4	1.7	0.9	14.2	99.7
606	17-18	68	1	18.3	38.3	35.8	13.9	71.1
606	18-19	66	1	18.3	38.3	35.8	13.9	71.1
606	14-15	60	1	18.3	38.3	35.8	13.9	71.1
606	15-16	60	1	18.3	38.3	35.8	13.9	71.1
606	16-17	59	1	18.3	38.3	35.8	13.9	71.1
606	13-14	45	1	18.3	38.3	35.8	13.9	71.1
607	16-17	79	2	27.8	38.7	4.2	15.9	53.9
607	15-16	71	2	27.8	38.7	4.2	15.9	53.9
607	17-18	64	2	27.8	38.7	4.2	15.9	53.9
607	18-19	62	2	27.8	38.7	4.2	15.9	53.9
607	14-15	57	2	27.8	38.7	4.2	15.9	53.9
607	13-14	54	2	27.8	38.7	4.2	15.9	53.9
608	14-15	76	1	7.7	20	3.6	14.5	31
608	16-17	71	1	7.7	20	3.6	14.5	31

608	18-19	70	1	7.7	20	3.6	14.5	31
608	13-14	68	1	7.7	20	3.6	14.5	31
608	17-18	65	1	7.7	20	3.6	14.5	31
608	15-16	50	1	7.7	20	3.6	14.5	31
609	17-18	54	3	32.5	3.7	2.1	23.9	86
609	15-16	46	3	32.5	3.7	2.1	23.9	86
609	18-19	43	3	32.5	3.7	2.1	23.9	86
609	16-17	32	3	32.5	3.7	2.1	23.9	86
609	13-14	21	3	32.5	3.7	2.1	23.9	86
609	14-15	20	3	32.5	3.7	2.1	23.9	86
610	18-19	96	2	97.9	1.9	1.7	7.3	77.8
610	17-18	67	2	97.9	1.9	1.7	7.3	77.8
610	16-17	66	2	97.9	1.9	1.7	7.3	77.8
610	13-14	63	2	97.9	1.9	1.7	7.3	77.8
610	14-15	56	2	97.9	1.9	1.7	7.3	77.8
610	15-16	33	2	97.9	1.9	1.7	7.3	77.8
611	16-17	69	3	98.9	0.8	0	17.1	81.6
611	15-16	51	3	98.9	0.8	0	17.1	81.6
611	13-14	46	3	98.9	0.8	0	17.1	81.6
611	17-18	36	3	98.9	0.8	0	17.1	81.6
611	18-19	36	3	98.9	0.8	0	17.1	81.6
611	14-15	16	3	98.9	0.8	0	17.1	81.6
612	18-19	91	2	6.9	7.8	2.4	13.3	5.7
612	14-15	88	2	6.9	7.8	2.4	13.3	5.7
612	15-16	86	2	6.9	7.8	2.4	13.3	5.7
612	17-18	84	2	6.9	7.8	2.4	13.3	5.7
612	16-17	77	2	6.9	7.8	2.4	13.3	5.7
612	13-14	50	2	6.9	7.8	2.4	13.3	5.7
613	14-15	75	2	99.1	0.5	1.9	13.6	92.1
613	18-19	71	2	99.1	0.5	1.9	13.6	92.1
613	17-18	48	2	99.1	0.5	1.9	13.6	92.1
613	13-14	46	2	99.1	0.5	1.9	13.6	92.1
613	15-16	45	2	99.1	0.5	1.9	13.6	92.1
613	16-17	40	2	99.1	0.5	1.9	13.6	92.1
614	16-17	76	2	84.8	3	0.4	16.4	36.1
614	15-16	72	2	84.8	3	0.4	16.4	36.1
614	17-18	66	2	84.8	3	0.4	16.4	36.1
614	13-14	65	2	84.8	3	0.4	16.4	36.1
614	14-15	62	2	84.8	3	0.4	16.4	36.1
614	18-19	60	2	84.8	3	0.4	16.4	36.1
615	18-19	76	1	99.1	0.9	0	16	71.7

615	17-18	62	1	99.1	0.9	0	16	71.7
615	16-17	60	1	99.1	0.9	0	16	71.7
615	13-14	43	1	99.1	0.9	0	16	71.7
615	15-16	38	1	99.1	0.9	0	16	71.7
615	14-15	33	1	99.1	0.9	0	16	71.7
616	17-18	49	2	98.1	1.3	0.9	15.8	81.2
616	18-19	40	2	98.1	1.3	0.9	15.8	81.2
616	16-17	28	2	98.1	1.3	0.9	15.8	81.2
616	13-14	25	2	98.1	1.3	0.9	15.8	81.2
616	14-15	23	2	98.1	1.3	0.9	15.8	81.2
616	15-16	18	2	98.1	1.3	0.9	15.8	81.2
617	14-15	75	2	90	9.2	4.4	14.4	91.9
617	16-17	74	2	90	9.2	4.4	14.4	91.9
617	17-18	73	2	90	9.2	4.4	14.4	91.9
617	18-19	72	2	90	9.2	4.4	14.4	91.9
617	15-16	67	2	90	9.2	4.4	14.4	91.9
617	13-14	53	2	90	9.2	4.4	14.4	91.9
618	18-19	64	1	97.2	2.1	0.3	13.6	82.9
618	15-16	59	1	97.2	2.1	0.3	13.6	82.9
618	16-17	52	1	97.2	2.1	0.3	13.6	82.9
618	17-18	44	1	97.2	2.1	0.3	13.6	82.9
618	13-14	30	1	97.2	2.1	0.3	13.6	82.9
618	14-15	25	1	97.2	2.1	0.3	13.6	82.9
619	17-18	60	2	93.8	3.1	2.3	10.1	74.3
619	18-19	55	2	93.8	3.1	2.3	10.1	74.3
619	13-14	45	2	93.8	3.1	2.3	10.1	74.3
619	14-15	43	2	93.8	3.1	2.3	10.1	74.3
619	16-17	32	2	93.8	3.1	2.3	10.1	74.3
619	15-16	20	2	93.8	3.1	2.3	10.1	74.3
620	14-15	74	6	47.8	44.7	14.5	25.7	89.7
620	15-16	66	6	47.8	44.7	14.5	25.7	89.7
620	13-14	62	6	47.8	44.7	14.5	25.7	89.7
620	16-17	58	6	47.8	44.7	14.5	25.7	89.7
620	18-19	49	6	47.8	44.7	14.5	25.7	89.7
620	17-18	21	6	47.8	44.7	14.5	25.7	89.7
621	13-14	81	3	1	16.4	40.9	20.8	37
621	18-19	37	3	1	16.4	40.9	20.8	37
621	16-17	31	3	1	16.4	40.9	20.8	37
621	14-15	26	3	1	16.4	40.9	20.8	37
621	17-18	15	3	1	16.4	40.9	20.8	37
621	15-16	7	3	1	16.4	40.9	20.8	37

622	16-17	53	1	1.1	88.5	76.9	18.7	59.2
622	17-18	33	1	1.1	88.5	76.9	18.7	59.2
622	18-19	33	1	1.1	88.5	76.9	18.7	59.2
622	13-14	23	1	1.1	88.5	76.9	18.7	59.2
622	14-15	7	1	1.1	88.5	76.9	18.7	59.2
622	15-16	1	1	1.1	88.5	76.9	18.7	59.2
623	14-15	89	3	10.5	11.6	13.9	24.4	16.5
623	15-16	85	3	10.5	11.6	13.9	24.4	16.5
623	13-14	82	3	10.5	11.6	13.9	24.4	16.5
623	16-17	62	3	10.5	11.6	13.9	24.4	16.5
623	17-18	56	3	10.5	11.6	13.9	24.4	16.5
623	18-19	50	3	10.5	11.6	13.9	24.4	16.5
624	16-17	78	1	7	24.2	8.1	19	35.9
624	18-19	76	1	7	24.2	8.1	19	35.9
624	17-18	74	1	7	24.2	8.1	19	35.9
624	14-15	65	1	7	24.2	8.1	19	35.9
624	15-16	51	1	7	24.2	8.1	19	35.9
624	13-14	45	1	7	24.2	8.1	19	35.9
625	15-16	69	2	1.3	8.4	2.3	12.9	15
625	14-15	66	2	1.3	8.4	2.3	12.9	15
625	17-18	64	2	1.3	8.4	2.3	12.9	15
625	18-19	64	2	1.3	8.4	2.3	12.9	15
625	16-17	55	2	1.3	8.4	2.3	12.9	15
625	13-14	48	2	1.3	8.4	2.3	12.9	15
626	16-17	64	2	6.3	91	68.8	15.6	81
626	18-19	61	2	6.3	91	68.8	15.6	81
626	15-16	59	2	6.3	91	68.8	15.6	81
626	17-18	47	2	6.3	91	68.8	15.6	81
626	14-15	39	2	6.3	91	68.8	15.6	81
626	13-14	39	2	6.3	91	68.8	15.6	81
627	16-17	89	3	4.9	79.6	32.8	13.6	78.9
627	15-16	75	3	4.9	79.6	32.8	13.6	78.9
627	17-18	47	3	4.9	79.6	32.8	13.6	78.9
627	13-14	39	3	4.9	79.6	32.8	13.6	78.9
627	14-15	30	3	4.9	79.6	32.8	13.6	78.9
627	18-19	19	3	4.9	79.6	32.8	13.6	78.9
628	18-19	59	4	98.4	0.8	0.4	11.4	65
628	15-16	55	4	98.4	0.8	0.4	11.4	65
628	16-17	39	4	98.4	0.8	0.4	11.4	65
628	14-15	38	4	98.4	0.8	0.4	11.4	65
628	17-18	27	4	98.4	0.8	0.4	11.4	65

628	13-14	13	4	98.4	0.8	0.4	11.4	65
629	17-18	61	1	99.8	0.2	0	8.8	90.7
629	16-17	50	1	99.8	0.2	0	8.8	90.7
629	14-15	50	1	99.8	0.2	0	8.8	90.7
629	18-19	47	1	99.8	0.2	0	8.8	90.7
629	13-14	42	1	99.8	0.2	0	8.8	90.7
629	15-16	36	1	99.8	0.2	0	8.8	90.7
630	16-17	53	1	0.6	97.2	75.3	19.7	73.6
630	17-18	48	1	0.6	97.2	75.3	19.7	73.6
630	18-19	45	1	0.6	97.2	75.3	19.7	73.6
630	13-14	39	1	0.6	97.2	75.3	19.7	73.6
630	15-16	34	1	0.6	97.2	75.3	19.7	73.6
630	14-15	21	1	0.6	97.2	75.3	19.7	73.6
631	18-19	46	2	95.4	4.6	4.6	13.7	96.2
631	17-18	43	2	95.4	4.6	4.6	13.7	96.2
631	14-15	28	2	95.4	4.6	4.6	13.7	96.2
631	13-14	24	2	95.4	4.6	4.6	13.7	96.2
631	15-16	19	2	95.4	4.6	4.6	13.7	96.2
631	16-17	14	2	95.4	4.6	4.6	13.7	96.2
632	14-15	46	4	97.6	1.8	0	22.3	94.8
632	13-14	42	4	97.6	1.8	0	22.3	94.8
632	16-17	40	4	97.6	1.8	0	22.3	94.8
632	18-19	37	4	97.6	1.8	0	22.3	94.8
632	15-16	23	4	97.6	1.8	0	22.3	94.8
632	17-18	17	4	97.6	1.8	0	22.3	94.8
633	17-18	69	1	98.2	1.4	0.7	12.4	85.5
633	13-14	68	1	98.2	1.4	0.7	12.4	85.5
633	15-16	66	1	98.2	1.4	0.7	12.4	85.5
633	16-17	64	1	98.2	1.4	0.7	12.4	85.5
633	18-19	64	1	98.2	1.4	0.7	12.4	85.5
633	14-15	52	1	98.2	1.4	0.7	12.4	85.5
634	15-16	62	1	0.6	89.3	56.8	14.1	64.6
634	14-15	60	1	0.6	89.3	56.8	14.1	64.6
634	16-17	54	1	0.6	89.3	56.8	14.1	64.6
634	18-19	54	1	0.6	89.3	56.8	14.1	64.6
634	17-18	53	1	0.6	89.3	56.8	14.1	64.6
634	13-14	52	1	0.6	89.3	56.8	14.1	64.6
635	16-17	35	2	6.7	89.2	44.5	22	96.7
635	15-16	1	2	6.7	89.2	44.5	22	96.7
635	17-18	1	2	6.7	89.2	44.5	22	96.7
635	18-19	1	2	6.7	89.2	44.5	22	96.7

635	14-15	1	2	6.7	89.2	44.5	22	96.7
635	13-14	1	2	6.7	89.2	44.5	22	96.7
636	18-19	88	2	3.9	22.2	24.3	23.5	21.4
636	14-15	76	2	3.9	22.2	24.3	23.5	21.4
636	15-16	73	2	3.9	22.2	24.3	23.5	21.4
636	16-17	67	2	3.9	22.2	24.3	23.5	21.4
636	17-18	66	2	3.9	22.2	24.3	23.5	21.4
636	13-14	62	2	3.9	22.2	24.3	23.5	21.4
637	14-15	71	3	0	2.8	0	24.2	53.5
637	13-14	60	3	0	2.8	0	24.2	53.5
637	15-16	59	3	0	2.8	0	24.2	53.5
637	16-17	49	3	0	2.8	0	24.2	53.5
637	18-19	43	3	0	2.8	0	24.2	53.5
637	17-18	35	3	0	2.8	0	24.2	53.5
638	18-19	73	2	1.2	15	15.3	15.2	11.5
638	16-17	63	2	1.2	15	15.3	15.2	11.5
638	17-18	47	2	1.2	15	15.3	15.2	11.5
638	15-16	39	2	1.2	15	15.3	15.2	11.5
638	14-15	33	2	1.2	15	15.3	15.2	11.5
638	13-14	21	2	1.2	15	15.3	15.2	11.5
639	17-18	65	2	7.6	0.9	0.2	26.9	53.2
639	14-15	64	2	7.6	0.9	0.2	26.9	53.2
639	16-17	60	2	7.6	0.9	0.2	26.9	53.2
639	15-16	53	2	7.6	0.9	0.2	26.9	53.2
639	18-19	53	2	7.6	0.9	0.2	26.9	53.2
639	13-14	39	2	7.6	0.9	0.2	26.9	53.2
640	13-14	82	4	3.1	1.2	0	20.1	57.7
640	14-15	77	4	3.1	1.2	0	20.1	57.7
640	17-18	61	4	3.1	1.2	0	20.1	57.7
640	18-19	59	4	3.1	1.2	0	20.1	57.7
640	15-16	55	4	3.1	1.2	0	20.1	57.7
640	16-17	29	4	3.1	1.2	0	20.1	57.7
641	17-18	81	2	2.5	1.2	0	15.6	48.1
641	16-17	70	2	2.5	1.2	0	15.6	48.1
641	18-19	67	2	2.5	1.2	0	15.6	48.1
641	14-15	61	2	2.5	1.2	0	15.6	48.1
641	13-14	60	2	2.5	1.2	0	15.6	48.1
641	15-16	58	2	2.5	1.2	0	15.6	48.1
642	18-19	36	2	0	0	0	16.5	42.2
642	16-17	24	2	0	0	0	16.5	42.2
642	17-18	24	2	0	0	0	16.5	42.2

642	13-14	19	2	0	0	0	16.5	42.2
642	14-15	6	2	0	0	0	16.5	42.2
642	15-16	1	2	0	0	0	16.5	42.2
643	18-19	98	2	97.3	1.1	1.1	18.4	99.5
643	17-18	90	2	97.3	1.1	1.1	18.4	99.5
643	14-15	89	2	97.3	1.1	1.1	18.4	99.5
643	15-16	85	2	97.3	1.1	1.1	18.4	99.5
643	13-14	76	2	97.3	1.1	1.1	18.4	99.5
643	16-17	62	2	97.3	1.1	1.1	18.4	99.5
644	15-16	97	3	97.9	2.1	0.5	16.5	99.5
644	14-15	65	3	97.9	2.1	0.5	16.5	99.5
644	13-14	62	3	97.9	2.1	0.5	16.5	99.5
644	18-19	56	3	97.9	2.1	0.5	16.5	99.5
644	16-17	55	3	97.9	2.1	0.5	16.5	99.5
644	17-18	43	3	97.9	2.1	0.5	16.5	99.5
645	14-15	71	1	5	79.8	26.2	17.7	92.9
645	13-14	66	1	5	79.8	26.2	17.7	92.9
645	15-16	54	1	5	79.8	26.2	17.7	92.9
645	17-18	38	1	5	79.8	26.2	17.7	92.9
645	18-19	37	1	5	79.8	26.2	17.7	92.9
645	16-17	19	1	5	79.8	26.2	17.7	92.9
646	17-18	57	1	3.1	94.2	21.3	16.1	71.9
646	18-19	50	1	3.1	94.2	21.3	16.1	71.9
646	16-17	45	1	3.1	94.2	21.3	16.1	71.9
646	15-16	28	1	3.1	94.2	21.3	16.1	71.9
646	13-14	28	1	3.1	94.2	21.3	16.1	71.9
646	14-15	20	1	3.1	94.2	21.3	16.1	71.9
647	13-14	35	1	97.2	2.3	1.9	18.1	71.8
647	14-15	34	1	97.2	2.3	1.9	18.1	71.8
647	17-18	22	1	97.2	2.3	1.9	18.1	71.8
647	18-19	16	1	97.2	2.3	1.9	18.1	71.8
647	15-16	15	1	97.2	2.3	1.9	18.1	71.8
647	16-17	7	1	97.2	2.3	1.9	18.1	71.8
648	16-17	79	2	29.7	27.5	4.1	14.7	43.7
648	17-18	79	2	29.7	27.5	4.1	14.7	43.7
648	15-16	76	2	29.7	27.5	4.1	14.7	43.7
648	14-15	70	2	29.7	27.5	4.1	14.7	43.7
648	18-19	67	2	29.7	27.5	4.1	14.7	43.7
648	13-14	60	2	29.7	27.5	4.1	14.7	43.7
649	18-19	54	2	2.8	70.7	33.1	15	73.1
649	17-18	51	2	2.8	70.7	33.1	15	73.1

649	15-16	42	2	2.8	70.7	33.1	15	73.1
649	16-17	39	2	2.8	70.7	33.1	15	73.1
649	13-14	38	2	2.8	70.7	33.1	15	73.1
649	14-15	36	2	2.8	70.7	33.1	15	73.1
650	18-19	59	3	10.2	63.9	13.8	19.9	80
650	16-17	57	3	10.2	63.9	13.8	19.9	80
650	17-18	56	3	10.2	63.9	13.8	19.9	80
650	13-14	36	3	10.2	63.9	13.8	19.9	80
650	14-15	29	3	10.2	63.9	13.8	19.9	80
650	15-16	1	3	10.2	63.9	13.8	19.9	80
651	15-16	92	2	97.2	2.3	0.6	15.3	94.4
651	17-18	73	2	97.2	2.3	0.6	15.3	94.4
651	18-19	67	2	97.2	2.3	0.6	15.3	94.4
651	16-17	59	2	97.2	2.3	0.6	15.3	94.4
651	14-15	49	2	97.2	2.3	0.6	15.3	94.4
651	13-14	24	2	97.2	2.3	0.6	15.3	94.4
652	18-19	67	4	30.4	35.2	32.5	17.3	58.8
652	16-17	61	4	30.4	35.2	32.5	17.3	58.8
652	13-14	52	4	30.4	35.2	32.5	17.3	58.8
652	14-15	45	4	30.4	35.2	32.5	17.3	58.8
652	17-18	34	4	30.4	35.2	32.5	17.3	58.8
652	15-16	25	4	30.4	35.2	32.5	17.3	58.8
653	14-15	60	5	40.7	24.8	8.9	8.5	45.2
653	18-19	51	5	40.7	24.8	8.9	8.5	45.2
653	16-17	20	5	40.7	24.8	8.9	8.5	45.2
653	17-18	11	5	40.7	24.8	8.9	8.5	45.2
653	13-14	7	5	40.7	24.8	8.9	8.5	45.2
653	15-16	1	5	40.7	24.8	8.9	8.5	45.2
654	17-18	84	2	96.5	3.2	0	17.8	94.9
654	15-16	68	2	96.5	3.2	0	17.8	94.9
654	18-19	63	2	96.5	3.2	0	17.8	94.9
654	16-17	54	2	96.5	3.2	0	17.8	94.9
654	14-15	47	2	96.5	3.2	0	17.8	94.9
654	13-14	39	2	96.5	3.2	0	17.8	94.9
655	14-15	60	1	69.8	15.4	14.2	14.1	82.2
655	16-17	55	1	69.8	15.4	14.2	14.1	82.2
655	17-18	55	1	69.8	15.4	14.2	14.1	82.2
655	15-16	52	1	69.8	15.4	14.2	14.1	82.2
655	18-19	51	1	69.8	15.4	14.2	14.1	82.2
655	13-14	44	1	69.8	15.4	14.2	14.1	82.2
656	13-14	72	1	25	38.4	29.6	20	69.3

656	14-15	66	1	25	38.4	29.6	20	69.3
656	18-19	61	1	25	38.4	29.6	20	69.3
656	15-16	59	1	25	38.4	29.6	20	69.3
656	16-17	56	1	25	38.4	29.6	20	69.3
656	17-18	53	1	25	38.4	29.6	20	69.3
657	15-16	52	3	0.5	0.5	0	25.8	51.2
657	18-19	52	3	0.5	0.5	0	25.8	51.2
657	16-17	47	3	0.5	0.5	0	25.8	51.2
657	13-14	42	3	0.5	0.5	0	25.8	51.2
657	14-15	38	3	0.5	0.5	0	25.8	51.2
657	17-18	34	3	0.5	0.5	0	25.8	51.2
658	18-19	71	2	7.6	76.9	5.9	11.6	86.5
658	14-15	57	2	7.6	76.9	5.9	11.6	86.5
658	17-18	47	2	7.6	76.9	5.9	11.6	86.5
658	15-16	46	2	7.6	76.9	5.9	11.6	86.5
658	16-17	43	2	7.6	76.9	5.9	11.6	86.5
658	13-14	38	2	7.6	76.9	5.9	11.6	86.5
659	16-17	37	2	24.1	55.4	38.2	14.6	74.8
659	15-16	29	2	24.1	55.4	38.2	14.6	74.8
659	17-18	26	2	24.1	55.4	38.2	14.6	74.8
659	13-14	21	2	24.1	55.4	38.2	14.6	74.8
659	18-19	20	2	24.1	55.4	38.2	14.6	74.8
659	14-15	19	2	24.1	55.4	38.2	14.6	74.8
660	15-16	72	2	0.7	98.8	15	14.3	95.8
660	18-19	65	2	0.7	98.8	15	14.3	95.8
660	16-17	62	2	0.7	98.8	15	14.3	95.8
660	14-15	54	2	0.7	98.8	15	14.3	95.8
660	17-18	52	2	0.7	98.8	15	14.3	95.8
660	13-14	17	2	0.7	98.8	15	14.3	95.8
661	14-15	92	2	96.8	2.2	0.2	11.1	89.6
661	16-17	77	2	96.8	2.2	0.2	11.1	89.6
661	15-16	55	2	96.8	2.2	0.2	11.1	89.6
661	18-19	52	2	96.8	2.2	0.2	11.1	89.6
661	17-18	50	2	96.8	2.2	0.2	11.1	89.6
661	13-14	44	2	96.8	2.2	0.2	11.1	89.6
662	15-16	76	4	95.2	3.6	1.5	17.1	88.9
662	18-19	75	4	95.2	3.6	1.5	17.1	88.9
662	17-18	69	4	95.2	3.6	1.5	17.1	88.9
662	13-14	62	4	95.2	3.6	1.5	17.1	88.9
662	16-17	58	4	95.2	3.6	1.5	17.1	88.9
662	14-15	42	4	95.2	3.6	1.5	17.1	88.9

663	15-16	67	2	98.3	1.3	1.3	3.6	96.7
663	14-15	50	2	98.3	1.3	1.3	3.6	96.7
663	13-14	46	2	98.3	1.3	1.3	3.6	96.7
663	17-18	39	2	98.3	1.3	1.3	3.6	96.7
663	18-19	38	2	98.3	1.3	1.3	3.6	96.7
663	16-17	24	2	98.3	1.3	1.3	3.6	96.7
664	17-18	83	2	7	88.3	30.8	14.3	77
664	18-19	70	2	7	88.3	30.8	14.3	77
664	13-14	53	2	7	88.3	30.8	14.3	77
664	14-15	35	2	7	88.3	30.8	14.3	77
664	16-17	21	2	7	88.3	30.8	14.3	77
664	15-16	4	2	7	88.3	30.8	14.3	77
665	17-18	61	3	29.3	53	24.4	13.9	59.2
665	18-19	55	3	29.3	53	24.4	13.9	59.2
665	16-17	49	3	29.3	53	24.4	13.9	59.2
665	15-16	43	3	29.3	53	24.4	13.9	59.2
665	13-14	42	3	29.3	53	24.4	13.9	59.2
665	14-15	22	3	29.3	53	24.4	13.9	59.2
666	15-16	74	1	96.6	3	0.4	13.2	89.8
666	13-14	67	1	96.6	3	0.4	13.2	89.8
666	14-15	55	1	96.6	3	0.4	13.2	89.8
666	18-19	52	1	96.6	3	0.4	13.2	89.8
666	17-18	52	1	96.6	3	0.4	13.2	89.8
666	16-17	38	1	96.6	3	0.4	13.2	89.8
667	13-14	74	2	15.5	83.6	36.8	32.7	95.5
667	18-19	61	2	15.5	83.6	36.8	32.7	95.5
667	15-16	56	2	15.5	83.6	36.8	32.7	95.5
667	16-17	56	2	15.5	83.6	36.8	32.7	95.5
667	17-18	48	2	15.5	83.6	36.8	32.7	95.5
667	14-15	43	2	15.5	83.6	36.8	32.7	95.5
668	15-16	48	4	25.4	42	18.3	13.3	79.6
668	18-19	36	4	25.4	42	18.3	13.3	79.6
668	14-15	35	4	25.4	42	18.3	13.3	79.6
668	13-14	33	4	25.4	42	18.3	13.3	79.6
668	16-17	30	4	25.4	42	18.3	13.3	79.6
668	17-18	30	4	25.4	42	18.3	13.3	79.6
669	15-16	77	1	4.8	92.9	31.2	14.4	96.6
669	13-14	73	1	4.8	92.9	31.2	14.4	96.6
669	16-17	68	1	4.8	92.9	31.2	14.4	96.6
669	14-15	59	1	4.8	92.9	31.2	14.4	96.6
669	17-18	52	1	4.8	92.9	31.2	14.4	96.6

669	18-19	38	1	4.8	92.9	31.2	14.4	96.6
670	13-14	82	2	0	0.5	0	13.6	40.8
670	15-16	50	2	0	0.5	0	13.6	40.8
670	18-19	50	2	0	0.5	0	13.6	40.8
670	14-15	47	2	0	0.5	0	13.6	40.8
670	17-18	46	2	0	0.5	0	13.6	40.8
670	16-17	44	2	0	0.5	0	13.6	40.8
671	17-18	63	2	12.2	4	12.4	11.4	16.1
671	18-19	61	2	12.2	4	12.4	11.4	16.1
671	16-17	35	2	12.2	4	12.4	11.4	16.1
671	15-16	32	2	12.2	4	12.4	11.4	16.1
671	13-14	21	2	12.2	4	12.4	11.4	16.1
671	14-15	18	2	12.2	4	12.4	11.4	16.1
672	15-16	56	1	12.8	78.6	47.6	34.2	90.9
672	18-19	49	1	12.8	78.6	47.6	34.2	90.9
672	16-17	36	1	12.8	78.6	47.6	34.2	90.9
672	17-18	36	1	12.8	78.6	47.6	34.2	90.9
672	13-14	31	1	12.8	78.6	47.6	34.2	90.9
672	14-15	20	1	12.8	78.6	47.6	34.2	90.9
673	16-17	57	2	9.6	59.2	44	14.1	67
673	15-16	52	2	9.6	59.2	44	14.1	67
673	14-15	51	2	9.6	59.2	44	14.1	67
673	13-14	46	2	9.6	59.2	44	14.1	67
673	18-19	40	2	9.6	59.2	44	14.1	67
673	17-18	38	2	9.6	59.2	44	14.1	67
674	15-16	58	1	1.9	0.8	0.2	13	36.3
674	14-15	57	1	1.9	0.8	0.2	13	36.3
674	17-18	51	1	1.9	0.8	0.2	13	36.3
674	13-14	48	1	1.9	0.8	0.2	13	36.3
674	18-19	48	1	1.9	0.8	0.2	13	36.3
674	16-17	38	1	1.9	0.8	0.2	13	36.3
675	14-15	40	1	1.9	0.9	0	10.3	42.3
675	15-16	39	1	1.9	0.9	0	10.3	42.3
675	13-14	28	1	1.9	0.9	0	10.3	42.3
675	17-18	26	1	1.9	0.9	0	10.3	42.3
675	16-17	25	1	1.9	0.9	0	10.3	42.3
675	18-19	16	1	1.9	0.9	0	10.3	42.3
676	17-18	68	2	4.2	8	0	3.8	8.3
676	16-17	58	2	4.2	8	0	3.8	8.3
676	18-19	47	2	4.2	8	0	3.8	8.3
676	14-15	43	2	4.2	8	0	3.8	8.3

676	13-14	42	2	4.2	8	0	3.8	8.3
676	15-16	41	2	4.2	8	0	3.8	8.3
677	15-16	78	2	97.6	1.1	0.2	14.8	78.5
677	14-15	73	2	97.6	1.1	0.2	14.8	78.5
677	18-19	48	2	97.6	1.1	0.2	14.8	78.5
677	13-14	40	2	97.6	1.1	0.2	14.8	78.5
677	16-17	35	2	97.6	1.1	0.2	14.8	78.5
677	17-18	25	2	97.6	1.1	0.2	14.8	78.5
678	18-19	74	2	57.9	11.2	7.1	21.9	72.9
678	17-18	71	2	57.9	11.2	7.1	21.9	72.9
678	13-14	46	2	57.9	11.2	7.1	21.9	72.9
678	16-17	33	2	57.9	11.2	7.1	21.9	72.9
678	15-16	30	2	57.9	11.2	7.1	21.9	72.9
678	14-15	18	2	57.9	11.2	7.1	21.9	72.9
679	18-19	81	2	10.1	70.6	31.2	71.6	62.4
679	17-18	77	2	10.1	70.6	31.2	71.6	62.4
679	14-15	49	2	10.1	70.6	31.2	71.6	62.4
679	16-17	45	2	10.1	70.6	31.2	71.6	62.4
679	15-16	44	2	10.1	70.6	31.2	71.6	62.4
679	13-14	42	2	10.1	70.6	31.2	71.6	62.4
680	15-16	44	3	3.1	74.5	9.8	17.5	66.2
680	14-15	43	3	3.1	74.5	9.8	17.5	66.2
680	13-14	38	3	3.1	74.5	9.8	17.5	66.2
680	16-17	34	3	3.1	74.5	9.8	17.5	66.2
680	17-18	27	3	3.1	74.5	9.8	17.5	66.2
680	18-19	27	3	3.1	74.5	9.8	17.5	66.2
681	18-19	65	2	97.6	1.5	0	7.3	86.5
681	14-15	57	2	97.6	1.5	0	7.3	86.5
681	17-18	43	2	97.6	1.5	0	7.3	86.5
681	15-16	36	2	97.6	1.5	0	7.3	86.5
681	16-17	33	2	97.6	1.5	0	7.3	86.5
681	13-14	20	2	97.6	1.5	0	7.3	86.5
682	16-17	76	1	76.6	22.4	14.2	15	95.5
682	15-16	74	1	76.6	22.4	14.2	15	95.5
682	14-15	74	1	76.6	22.4	14.2	15	95.5
682	17-18	72	1	76.6	22.4	14.2	15	95.5
682	18-19	63	1	76.6	22.4	14.2	15	95.5
682	13-14	60	1	76.6	22.4	14.2	15	95.5
683	16-17	76	2	97.4	1.8	0.7	16.2	88.2
683	18-19	69	2	97.4	1.8	0.7	16.2	88.2
683	15-16	62	2	97.4	1.8	0.7	16.2	88.2

683	14-15	61	2	97.4	1.8	0.7	16.2	88.2
683	13-14	60	2	97.4	1.8	0.7	16.2	88.2
683	17-18	55	2	97.4	1.8	0.7	16.2	88.2
684	16-17	75	1	0.7	96.9	25.7	13.8	91.9
684	17-18	75	1	0.7	96.9	25.7	13.8	91.9
684	15-16	67	1	0.7	96.9	25.7	13.8	91.9
684	18-19	66	1	0.7	96.9	25.7	13.8	91.9
684	14-15	59	1	0.7	96.9	25.7	13.8	91.9
684	13-14	43	1	0.7	96.9	25.7	13.8	91.9
685	16-17	75	2	5.4	41.4	51.4	52.3	61.7
685	17-18	74	2	5.4	41.4	51.4	52.3	61.7
685	15-16	63	2	5.4	41.4	51.4	52.3	61.7
685	18-19	55	2	5.4	41.4	51.4	52.3	61.7
685	14-15	52	2	5.4	41.4	51.4	52.3	61.7
685	13-14	45	2	5.4	41.4	51.4	52.3	61.7
686	16-17	51	1	95.6	3.8	3.3	13.7	99.5
686	15-16	41	1	95.6	3.8	3.3	13.7	99.5
686	18-19	38	1	95.6	3.8	3.3	13.7	99.5
686	17-18	20	1	95.6	3.8	3.3	13.7	99.5
686	13-14	17	1	95.6	3.8	3.3	13.7	99.5
686	14-15	8	1	95.6	3.8	3.3	13.7	99.5
687	18-19	82	2	83.8	15	7.4	8.8	90.3
687	15-16	74	2	83.8	15	7.4	8.8	90.3
687	16-17	69	2	83.8	15	7.4	8.8	90.3
687	13-14	61	2	83.8	15	7.4	8.8	90.3
687	17-18	45	2	83.8	15	7.4	8.8	90.3
687	14-15	45	2	83.8	15	7.4	8.8	90.3
688	17-18	59	3	37.6	51.6	45.2	16.6	70.7
688	14-15	48	3	37.6	51.6	45.2	16.6	70.7
688	15-16	39	3	37.6	51.6	45.2	16.6	70.7
688	13-14	31	3	37.6	51.6	45.2	16.6	70.7
688	16-17	23	3	37.6	51.6	45.2	16.6	70.7
688	18-19	18	3	37.6	51.6	45.2	16.6	70.7
689	15-16	62	1	3.7	12.9	3.7	7.3	15.7
689	14-15	55	1	3.7	12.9	3.7	7.3	15.7
689	13-14	53	1	3.7	12.9	3.7	7.3	15.7
689	17-18	52	1	3.7	12.9	3.7	7.3	15.7
689	16-17	50	1	3.7	12.9	3.7	7.3	15.7
689	18-19	41	1	3.7	12.9	3.7	7.3	15.7
690	14-15	58	2	2	16.6	5.7	10.5	13.8
690	15-16	50	2	2	16.6	5.7	10.5	13.8

690	17-18	49	2	2	16.6	5.7	10.5	13.8
690	13-14	48	2	2	16.6	5.7	10.5	13.8
690	18-19	45	2	2	16.6	5.7	10.5	13.8
690	16-17	42	2	2	16.6	5.7	10.5	13.8
691	16-17	38	3	45.4	41.5	17.2	18.6	99.4
691	17-18	31	3	45.4	41.5	17.2	18.6	99.4
691	13-14	22	3	45.4	41.5	17.2	18.6	99.4
691	15-16	15	3	45.4	41.5	17.2	18.6	99.4
691	14-15	10	3	45.4	41.5	17.2	18.6	99.4
691	18-19	5	3	45.4	41.5	17.2	18.6	99.4
692	16-17	63	3	31.7	66.7	38.9	11.4	96.1
692	15-16	62	3	31.7	66.7	38.9	11.4	96.1
692	14-15	57	3	31.7	66.7	38.9	11.4	96.1
692	18-19	45	3	31.7	66.7	38.9	11.4	96.1
692	13-14	39	3	31.7	66.7	38.9	11.4	96.1
692	17-18	38	3	31.7	66.7	38.9	11.4	96.1
693	18-19	70	2	97.3	2.4	0	16.5	97.9
693	16-17	63	2	97.3	2.4	0	16.5	97.9
693	17-18	48	2	97.3	2.4	0	16.5	97.9
693	15-16	40	2	97.3	2.4	0	16.5	97.9
693	14-15	8	2	97.3	2.4	0	16.5	97.9
693	13-14	8	2	97.3	2.4	0	16.5	97.9
694	16-17	75	1	8.1	21.9	4	10	17.1
694	14-15	63	1	8.1	21.9	4	10	17.1
694	18-19	60	1	8.1	21.9	4	10	17.1
694	15-16	59	1	8.1	21.9	4	10	17.1
694	13-14	59	1	8.1	21.9	4	10	17.1
694	17-18	58	1	8.1	21.9	4	10	17.1
695	14-15	91	2	2	16.6	5.7	10.5	13.8
695	16-17	79	2	2	16.6	5.7	10.5	13.8
695	17-18	73	2	2	16.6	5.7	10.5	13.8
695	15-16	71	2	2	16.6	5.7	10.5	13.8
695	13-14	64	2	2	16.6	5.7	10.5	13.8
695	18-19	60	2	2	16.6	5.7	10.5	13.8
696	14-15	75	2	4.4	9	7.6	15.8	11.4
696	15-16	75	2	4.4	9	7.6	15.8	11.4
696	16-17	69	2	4.4	9	7.6	15.8	11.4
696	17-18	61	2	4.4	9	7.6	15.8	11.4
696	18-19	50	2	4.4	9	7.6	15.8	11.4
696	13-14	44	2	4.4	9	7.6	15.8	11.4

APPENDIX B
OUTCOME OF STATISTICAL TESTS

Hypothesis	Initial Analysis	Secondary Analysis	Outcome
Illinois public schools (PK-12) with levels of TPT exceeding the Illinois statewide average exhibit lower principal turnover.	Schools exceeding: not statistically significant Schools at/below: statistically significant	Schools exceeding: not statistically significant Schools at/below: statistically significant	Accept null hypothesis
PK-12 public schools in CPS exhibit lower levels of TPT and higher levels of principal turnover as compared to non-CPS PK-12 public schools.	CPS: statistically significant Non CPS: statistically significant	CPS: statistically significant Non CPS: statistically significant	Accept null hypothesis
Schools with minority-majority student populations that exceed the Illinois statewide average exhibit lower levels TPT and higher levels of principal turnover.	African American: statistically significant Hispanic: statistically significant No minority-majority: statistically significant	African American: not statistically significant Hispanic: statistically significant No minority-majority: not statistically significant	Reject the null hypothesis
Schools with an English learner (EL) population above the Illinois statewide average exhibit lower levels of TPT and higher levels of principal turnover.	EL population exceeding: statistically significant EL population at/below: statistically significant	EL population exceeding: not statistically significant EL population at/below: statistically significant	Accept null hypothesis
Schools whose percentage of students with IEPs exceed the Illinois statewide average exhibit lower levels of TPT and higher levels of principal turnover.	IEP population exceeding: statistically significant IEP population at/below: statistically significant	IEP population exceeding: not statistically significant IEP population at/below: statistically significant	Accept null hypothesis
Schools with a student population coming from low-income families that exceeds the Illinois statewide average exhibit lower levels of TPT and higher levels of principal turnover.	Low-income exceeding: statistically significant Low-income at/below: statistically significant	Low-income exceeding: not statistically significant Low-income at/below: not statistically significant	Accept null hypothesis