The Effect of the Number of Involuntary School-to-School Transitions on Student Performance on the Kansas State Reading and Mathematics Assessments

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Abstract

The purpose of this quantitative study was to determine if the number of involuntary school-to-school transitions students experienced had an effect on their academic performance on the annual Kansas State Reading Assessment (KRA) and the Kansas State Mathematics Assessment (KMA) at the high school level for the school years 2010-2011, 2011-2012, and 2012-2013. An additional purpose of the study was to determine if the involuntary transitions experienced had a different effect on students' assessment performance based on students' economic status, Individualized Education Program (IEP) status, English Language Learner (ELL) status, and gender. The percentage of students scoring proficient or higher on the KRA and KMA for each district in Kansas was collected. Grade configurations of each district, therefore the number of involuntary transitions experienced by their students, were determined and placed into six categories. One-way ANOVAs were conducted for each of the ten research questions. For the first five research questions, which focused on the KRA, the one-way ANOVAs found involuntary school-to-school transitions did have a significant impact all students, economically disadvantaged students, ELL students, and females' scores but did not impact students identified with an Individualized Education Program (IEP) and males. The last five research questions focused on the KMA. The results of the one-way ANOVAs found involuntary school-to-school transitions did not impact student scores. Understanding the impact of involuntary transitions students experience will help educators make well-informed decisions regarding transition programs, curriculum, and grade configurations, which provide the most conducive learning environment for their students. Additional research must be conducted to provide a more

complete knowledge base on the impact involuntary transitions have on student academic achievement.

Dedication

This dissertation is dedicated to my wife and son, Glenna and Riley. To my wife, who encouraged and at times gently pushed me to complete the work. She has been my cheerleader in not only this endeavor, but in everything I have striven to do. To my son, while I tried to maintain some balance of normalcy, you missed out on dad time during this process. To him much of this was "data shmata". In the future, I hope you will see why this was so important. I thank you both for your support, but more importantly, I love you both very much.

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Chapter One

Introduction

The number of involuntary school-to-school transitions students experience varies based on the school district they attend. The grade level configuration of a district determines the number of school-to-school transitions a student undergoes. These involuntary transitions may impact the academic success of students. The importance of understanding how involuntary school-to-school transitions affect student academic achievement became greater with the advent of the No Child Left Behind (NCLB) Act of 2001. NCLB brought about an era of high accountability for student performance. As a result of NCLB, classroom teachers and administrators at all levels had to account for all student assessment scores and ensure all students scored at a proficient level by 2014 (Kansas State Department of Education [KSDE], 2011a).

NCLB required the measurement of progress of all students attending public schools through the use of statewide assessments (U.S. Department of Education, 2002). Scores had to be disaggregated into the following subgroups: all students, economically disadvantaged students, racial and ethnic groups, students with disabilities as defined by section 9101(5) of the Elementary and Secondary Education Act (ESEA), and limited English proficiency as defined by section 9101(25) of the ESEA (U.S. Department of Education, 2002). NCLB was designed to close the achievement gap between the subgroups (Anderson, Medrich, & Fowler, 2007). The rationale for the attention on these subgroups was to "bring public and educator attention to students that are not meeting defined standards and to encourage state, district, and school focus on educational strategies and instruction to raise these students' learning and achievement" (Blank,

2011, p. 2). NCLB eliminated the practice of states, districts, and schools averaging student scores, which previously had resulted in an inadequate representation of student performance (U.S. Department of Education, n.d.).

Provided in this chapter is an overview of the changes in education regarding grade configuration and the reasoning for such changes. Following the overview is a detailed description of the numbers of grade configurations in Kansas. The chapter continues with the statement of the problem, the purpose statement, the significance of the study, delimitations, assumptions, research questions, definition of terms, an overview of the methodology, and organization of the study.

Background

Kampschroeder (1967) provides a well-documented history of the development of school districts in Kansas. In 1859, a year after the creation of the office of county superintendent, authority was given by the Territorial Legislature to the county superintendent to organize school districts. Five years after Kansas gained statehood, 9,284 districts had been formed. These districts were typically located two miles apart and consisted of one-room schoolhouses. By 1895 fewer than 390 districts existed. Because of increased enrollment at the high school level, county high school districts were first authorized and created in 1886. These high school districts operated independently and did not exist as part of a K-12 district. An attempt was made in 1945 to reorganize elementary districts. This attempt, which eventually was declared unconstitutional, was made to address the issue of limited enrollment. By 1961 the district system faced many problems due to increased urbanization. For example, small one-room school districts had a very limited number of students with no teacher or a

teacher with no students (Kampschroeder, 1967). With passage of a unification law in 1963, districts were organized and required to operate kindergartens and provide instruction from grades one to grades twelve. Martinez and Snider (2001) drew attention to the fact that while the unification law reduced the number of school districts, too many small schools continued to exist in Kansas. Laws passed in 1967 and 1969 were written addressing the disorganization of school districts (Martinez & Snider, 2001). The disorganization was due to previous laws, which had attempted to create unified districts, being ruled unconstitutional by the Kansas State Supreme Court (Kampschroeder, 1967). These laws also sought to address consolidation of school districts (Martinez & Snider, 2001). Urbanization had led to declining enrollments in rural districts. As a result, these districts had to close buildings, and in some cases, consolidate with other small districts. All of these factors affected grade span configurations, and thus the number of school-to-school transitions students encounter in their academic career.

Public schools in Kansas include 352 high schools, 28 junior high schools, 180 middle schools, and 771 elementary schools (KSDE, 2014). There were 288 districts in 2010-2011 (KSDE, 2011d), and 285 for the school years 2011-2012 and 2012-2013 (KSDE, 2012c, KSDE, 2012d). Different grade configurations are utilized in the state of Kansas. According to KSDE (2013), the senior high level consists of configurations spanning from K-12 to 10-12. Middle and junior high schools configure as 4-8, 5-6, 5-7, 5-8, 6-8, 7-8, and 7-9. Elementary schools vary in configuration from two grade levels per building to K-8 in single buildings. The various grade span configurations are shown in Table 1.

Table 1

Kansas Public Schools by Grade Span 2011-2012

Grade Configuration	Number of Schools
Prekindergarten, Kindergarten, or 1st Grade to Grades 3 or 4	99
Prekindergarten, Kindergarten, or 1st Grade to Grades 5	336
Prekindergarten, Kindergarten, or 1st Grade to Grade 6	177
Prekindergarten, Kindergarten, or 1st Grade to Grade 8	66
Grade 4, 5, or 6 to 6, 7 , or 8	199
Other Grade Spans Elementary Level	72
Grades 7 to 8 and 7 to 9	42
Grades 7 to 12	84
Grades 8 to 12	3
Grades 9 to 12	231
Grades 10 to 12	1
Other Grade Spans Ending with Grade 12	2
Other Grade Span Secondary Level	2

Note. National Center for Education Statistics (NCES) (2012a & 2012b). Adapted from "Public Elementary Schools, by Grade Span, Average School Enrollment, and State or Jurisdiction: 2011-12" [ElSi tableGenerator]. Retrieved from https://nces.ed.gov/programs/digest/d13/tables/xls/tabn216.75.xls and http://nces.ed.gov/programs/digest/d13/tables/dt13_216.80.asp

Table 1 shows a standardized grade configuration has not been implemented in Kansas. As a result, students in Kansas encounter a various number of involuntary transitions, the independent variable for this study, during their educational career. These

involuntary transitions are shown in Table 2. The number of transitions is the number of school-to-school transitions students make in a particular district. Districts that show a single number are districts that did not change their grade configuration during the years data were collected. Districts showing two or more transition numbers are districts that at some point during the years of data collection changed grade-configuration, resulting in more than one transition. For example, a district may have had a K/12 grade configuration resulting in no transitions. At some point during the data collection this district reconfigured their grade spans resulting in a K/8 – 9/12 configuration, resulting in the number of transitions being 0,1. The time span for the data encompasses the school years 1998-1999 through 2012-2013.

Table 2

Number of Transitions and Districts Per Transition Type

Number of Transitions	0	0,1	0,2	0,1,2	1	1,2	1,3	1,2,3	1,2,6	2	2,3	2,4	3	3,4	4
Total Districts	2	1	1	1	89	37	6	2	1	92	24	2	20	3	2

Note. Adapted from Kansas Department of Education (2012c). *Selected school statistics by district* [Data file]. Retrieved from http://www.ksde.org/Portals/0/School%20Finance/SelectedStats/2012-2013SelSchStatsdist.xlsx and

[ElSi tableGenerator]. Retrieved from http://nces.ed.gov/ccd/elsi/tableGenerator.aspx

The number of transitions was determined by the grade-span configuration of each district. Multiple numbers of transitions reflect either a district change of grade-span configuration, a district with multiple towns each having its own school system, districts which merged with another district, or a district that absorbed a closing district.

Subgroups in Kansas were disaggregated following the requirements of NCLB. These subgroups count towards Annual Yearly Progress (AYP) if there are 30 students in a particular group when all assessed grades in the school are combined (KSDE, 2011a). AYP is achieved when every student group meets or exceeds annual targets on the state reading and mathematics assessments (KSDE, 2011a).

Statement of the Problem

With the various grade span configurations, students experience multiple involuntary school-to-school transitions in most districts. Each involuntary transition represents a change in a student's life. How the student reacts to change may affect his or her academic performance. Educators need to understand how these transitions, or changes, in student lives impact their academic performance to better assist the students during the transition. Educators will also be able to make more informed decisions when determining grade configurations which determine the number of involuntary transitions students will encounter during the course of their academic career.

Research has been conducted on the social and psychological effects of school-to-school transitions on students. However, most of the research that has been conducted has focused on academic performance. Brown (2004) concluded that multiple transitions resulted in a decline of academic achievement. Alspaugh (1998a), as well as Rockoff and Lockwood (2010), documented that students transitioning to the middle school experienced a decline in academic achievement. This was particularly true for students who transitioned to a middle school into which multiple elementary school populations were funneled. Alspaugh (1998a) documented that students who entered from only one building into a singular middle school experienced smaller declines in academic

achievement. In contrast to Alspaugh (1998a) and Rockoff and Lockwood (2010), Dove, Pearson, and Hooper (2010) did not find a link between grade configuration and sixth grade middle school achievement scores. Their results seemed to implicate other factors such as newly implemented teaching practices as impacting academic achievement. DelViscio (2013), in his study of New York State public schools, determined once variables such as average class size, total district enrollment, student-teacher ratio, and social economic status were controlled, the number of transitions negatively affected academic achievement.

Research that specifically focused on the middle school level has shown that various factors influence academic achievement. However, limited research has been conducted on how academic achievement is impacted by the number of involuntary transitions a student experiences throughout their K-12 career. Renchler (2000) addressed the limited empirical research that had been conducted stating, most research had not addressed the impact of grade configurations on student academic achievement, but rather most of the studies focused on the positive and negative attributes of differing grade-span configurations. Seller (2004) warned of a need for understanding the various grade configurations and their impact. Several researchers (Coladarci & Hancock, 2002; Howley, 2002; Malaspina & Rimm-Kaufman, 2008) support the need for additional studies on the impact of grade-level transitions. Dove et al. (2010) indicated there was little empirical information showing a relationship between grade-span configuration and the effect on student academic achievement.

Teachers and administrators need a comprehensive collection of data to best meet student academic needs as related to involuntary school-to-school transitions.

Understanding the implications of the research will enable sound decisions to be made when changes in grade-configurations are made, or in establishing programs and procedures to best help students through involuntary school-to-school transitions.

Purpose Statement

The purpose of this quantitative study was to determine if the number of involuntary school-to-school transitions students experienced had an effect on their academic performance on the annual Kansas State Reading Assessment (KRA) and the Kansas State Mathematics Assessment (KMA) at the high school level for the school years 2010-2011, 2011-2012, and 2012-2013. High school scores were utilized because that is where the final standardized assessment is administered to the students and would provide the best data to analyze the effect involuntary transitions may have on academic achievement. An additional purpose of the study was to determine if the involuntary transitions experienced had a different effect on students' assessment performance based on students' economic status, Individualized Education Program (IEP) status, English Language Learner (ELL) status, and gender.

Significance of the Study

This study was significant in that it provided data on the impact involuntary school-to-school transitions had on students' academic performance as measured by their scores on the KRA and KMA. State and district leaders need an extensive and quality collection of research regarding the effect the number of involuntary school-to-school transitions a student experiences has on student academic achievement. The current study will contribute to existing research and provide district leaders much needed specific and applicable data. In addition, the current study will enable leaders to compare

their student demographics with the data provided and determine the best course of action for their districts. The knowledge could provide decision-makers with an understanding of the impact the number of involuntary transitions has on particular subgroups of students, enabling them to implement plans that best meet the needs of these particular students. State and district leadership could use the data when reconfiguring districts as well. District and state education leaders may make different decisions regarding grade configuration if assessment scores are directly impacted by the number of involuntary school-to-school transitions students make.

Delimitations

Lunenburg and Irby (2008) define delimitations as "self-imposed boundaries set by the researcher on the purpose and scope of the study" (p. 134). This study included the following delimitations:

- This study was limited to the state of Kansas during the school years 2010-2011, 2011-2012, and 2012-2013.
- Only involuntary transitions which occurred due to grade-span configuration were used in the current study. Voluntary transitions, such as family moves or transfer decisions, were not a focus of the study.
- Only KRA and KMA assessment scores were used as measures of student achievement.

Assumptions

Assumptions are "postulates, premises, and propositions that are accepted as operational for purposes of the research" (Lunenburg & Irby, 2008, p. 135). This study included the following assumptions:

- All grade-span configurations were accurately reported to KSDE.
- All grade-span configurations were accurately collected by the National Center for Educational Statistics.
- All assessments were conducted within the testing guidelines required by KSDE.
- All scores provided to KSDE by districts were accurate.
- All scores obtained from KSDE were accurate.

Research Questions

The focus of this study was to determine the effect of the number of involuntary school-to-school transitions on student KRA and KMA scores. The research questions were:

RQ1. To what extent did student achievement, as measured by the KRA as administered to high school students by the end of their 11th grade cohort year, differ based on the number of involuntary building transitions experienced by all students?

RQ2. To what extent did student achievement, as measured by the KRA as administered to high school students by the end of their 11th grade cohort year, differ based on the number of involuntary building transitions experienced by economically disadvantaged students?

RQ3. To what extent did student achievement, as measured by the KRA as administered to high school students by the end of their 11th grade cohort year, differ based on the number of involuntary building transitions experienced by students with learning disabilities?

RQ4. To what extent did student achievement, as measured by the KRA as administered to high school students by the end of their 11th grade cohort year, differ based on the number of involuntary building transitions experienced by ELL students?

RQ5. To what extent did student achievement, as measured by the KRA as administered to high school students by the end of their 11th grade cohort year, differ based on the number of involuntary building transitions experienced by male and female students?

RQ6. To what extent did student achievement, as measured by the KMA as administered to high school students by the end of their 11th grade cohort year, differ based on the number of involuntary building transitions experienced by all students?

RQ7. To what extent did student achievement, as measured by the KMA as administered to high school students by the end of their 11th grade cohort year, differ based on the number of involuntary building transitions experienced by economically disadvantaged students?

RQ8. To what extent did student achievement, as measured by the KMA as administered to high school students by the end of their 11th grade cohort year, differ based on the number of involuntary building transitions experienced by students with learning disabilities?

RQ9. To what extent did student achievement, as measured by the KMA as administered to high school students by the end of their 11th grade cohort year, differ based on the number of involuntary building transitions experienced by ELL students?

RQ10. To what extent did student achievement, as measured by the KMA as administered to high school students by the end of their 11th grade cohort year, differ

based on the number of involuntary building transitions experienced by male and female students?

Definition of Terms

Key terms used in this study are defined as follows:

Achievement gap. An achievement gap is the difference in assessment scores at the state or national level between various subgroups (Anderson, Medrich, & Fowler, 2007).

Adequate yearly progress (AYP). The amount of improvement on a yearly basis, as determined by individual states, that Title I schools and districts must achieve to ensure low-achieving students meet high levels of academic performance (U.S. Department of Education, 2009).

Cut scores. Cut scores are selected points on the score scale of a test used to determine test score sufficiency (Zieky & Perie, 2006).

Economically disadvantaged. Economically disadvantaged in Kansas is a designation determined by the state and is based on students who qualify for free and reduced lunch (Hoffman, 2012).

English language learner. ELL refers to students whose first language is not English and receive support services through general education (Peregoy & Boyle, 2005).

Grade-span configuration. Grade-span configuration consists of the number of grade levels and the range in a particular school setting (District Administration (DA), 2005).

Individualized Education Program (IEP). A unique plan designed to meet the specific need(s) of students identified with exceptionalities and to ensure that a Free

Appropriate Public Education (FAPE) is provided is known as an Individualized Education Program (KSDE, 2011c). For this study, the IEP status of students included only students with learning disabilities, not gifted, who took the regular state assessment.

Learning disability. Students with learning disabilities are those who have "difficulties in specific cognitive processes and academic achievement with otherwise normal levels of intellectual functioning" (Büttner & Hasselhorn, 2011, p. 75).

Second opportunity to learn. The opportunity to assess high school students on the KRA and KMA a second time, in a later year, if they do not score proficient or higher is known as the Second Opportunity to Learn (KSDE, 2012b).

Special education (SPED). Special education is instruction or services specifically designed and implemented to meet the needs of students with exceptionalities (KSDE, 2011c).

Overview of the Methodology

This study utilized a quantitative non-experimental research design using archival data of high school-level scores on the KRA and KMA. The data were collected at the district level for the school years 2010-2011, 2011-2012, and 2012-2013. Data on all students, as well as the subgroups consisting of economically disadvantaged students, students with learning disabilities, ELL, and gender were collected for the study. One-way Analysis of Variance (ANOVA) was conducted using JASP Version 0.7.1.12. JASP Version 0.7.1.12 was piloted with this study to assist in determining future use in the Baker University doctoral program. The data were confirmed with the SPSS® Statistics Faculty Pack 23 for Windows.

Organization of the Study

The study consists of five chapters. Chapter one was organized into the following sections: background, statement of the problem, the purpose statement, the significance of the study, delimitations, assumptions, research questions, definition of terms, overview of the methodology, and organization of the study. A review of the literature related to the study is provided in chapter two. Literature on change, transitions, grade span history, NCLB, and subgroups is examined in chapter two. Chapter three contains the research design, population and sample, sampling procedures, instrumentation, measurement, validity and reliability, data collection procedures, data analysis and hypothesis testing, and limitations. Chapter four includes the descriptive statistics and hypothesis testing. A review of the study is found in chapter five. It contains major findings, findings related to the literature, and conclusions. Implications for action, recommendations for future research, and concluding remarks are detailed in the concluding portion of the chapter.

Chapter Two

Review of the Literature

The purpose of this study was to determine if the number of involuntary school-to-school transitions students experienced had an effect on their academic performance on the annual Kansas State Reading Assessment (KRA) and the Kansas State Mathematics Assessment (KMA) at the high school level for the school years 2010-2011, 2011-2012, and 2012-2013. The literature review will provide a historical background and context for studying the effects of involuntary school-to-school transitions on student academic achievement. The first section of the chapter provides a discussion on how change, i.e. school-to-school transitions, may impact academic performance. In the second section, an examination of the literature as it relates to transition effects will be detailed. A historical look at grade configuration is presented in the third section. The background of NCLB and its impact on public schools is discussed in the fourth section. The fifth and final section reviews the literature regarding subgroups. The chapter concludes with a summary and its relevance to this study.

Change

Each involuntary transition experienced by a student involves change and stress that may accompany that change. Hess and Richards (1999) define stress as, "the very real, often uncomfortable psychological and physiological response or sensation that people may have when an event occurs and they perceive it with anxiety" (p. 149). Stress is not necessarily the result of a single particular life event. Pearlin, Menaghan, Lieberman, and Mullan (1981) discuss how stress caused by life events and stress which is chronic, join together creating an unfortunate situation in which old problems become

anew and viewed with a new perspective. Pearlin et al. (1981) found, "life events may create new strains or intensify preexisting strains and it is these new strains or intensified strains, in turn, that eventuate in stress" (p. 339). It is prudent to examine how students may or may not cope with stress as it may give insight into why students may be affected by involuntary school-to-school transitions. Compas, Connor-Smith, Saltzman, Thomsen, and Wadsworth (2001) acknowledge the research on childhood and adolescent coping did not really begin to grow and develop until the 1980s.

Bovey and Hede (2001) point out when change has significant impact, and the individual has little control, resistance is high. Oreg (2003) lists several reasons why people resist change: they feel they are losing control over the situation, those who are close-minded are less willing to change, individuals may lack the resiliency to cope with change, and change may involve too much stimulation for others.

So how do people, specifically children, cope with change? Skinner and Zimmer-Gembeck (2007) explain that preschool age children cope through direct action. Direct action is described by Ritchie, Caty, and Ellerton (1988) as ways preschoolers involve themselves actively to control, prevent, or delay an event to help reduce stress. Those in the middle-childhood age cope by cognitive means, while adolescents cope through meta-cognitive means. Prout and Cowan (2006) point out students who are prone to have difficulty with school transition are those who have problems with normal school day transitions, special needs students, ELL students, and students encountering multiple stressors. Students who are stressed may act out at school or withdraw from others, while at home they may have difficulty sleeping, be angry and uncooperative, or suffer from anxiety (Prout & Cowan, 2006).

Involuntary school-to-school transitions are changes that can cause stress. This stress may have a direct impact on how a student performs academically. With an understanding of how an individual reacts to stress, we must examine the literature regarding specific involuntary school-to-school transitions.

Transitions

Literature on involuntary transitions, for the most part, focuses on the academic impact of transitions rather than how students cope with the transition. Much of the literature focuses on the transition from elementary to junior high or middle school. This is typically the first school-to-school transition students encounter, which explains the greater focus in this area. Unfortunately, the research is not extensive on high school transitions. Barber and Olsen (2004) find this unfortunate because comparisons of transitions at the two levels would be beneficial given the similarities of issues students encounter during those transitions. In writing on transition programs and reviewing research, Cauley and Jovanovich (2006) argue the risks associated with the transition to high school are often more significant than that of the middle school transition. Conversely, Benner and Graham (2009) described the transition to high school as a normal and predictable experience. However, this does not imply the transition is less important to understand.

K-8. The K-8 configuration consists of students who do not experience an involuntary transition from kindergarten through the eighth grade. The literature on K-8 configurations is limited and as research is conducted to determine the effectiveness of such configurations, researchers are becoming aware of factors needing additional attention. Howley (2002) points out research conducted in a particular state or region

may vary with regard to their results from research conducted in other states or regions. Howley recommends studies should be replicated in order to have conclusive evidence of the success or failure of the K-8 configuration. George (2005), one of the most noted scholars on middle school research, points out changing to a K-8 configuration is not a guarantee of academic success and identifies factors needing additional attention by researchers, such as school size, teacher qualifications, school setting (urban, rural, suburban), poverty, and ethnic diversity. With regard to poverty, George found results could be skewed due to the fact that in some large cities, K-8 schools were servicing more affluent student populations, making it difficult to compare to schools with less affluent student populations.

The majority of school districts in Kansas are classified as rural districts. Like Kansas, Maine is primarily a rural state. Using data from the Maine Educational Assessment (MEA) and comparing it with the eighth grade placement in four grade organizations (elementary, middle, junior high, and junior/senior high), Wihry, Coladarci, and Meadow (1992) determined eighth grade should be within the elementary setting. Results from their research show achievement advantages, depending on criterion variables, ranging from one-third to a full standard deviation. Franklin and Glascock (1998), whose study consisted of hundreds of rural Louisiana schools, found the learning environment of the K-6/7 as well as the K-12 setting more beneficial with regard to student behavior and academics for students than those with either a 6-8 or 7-9 environment. These results were based on student behavior, as shown by attendance and suspension rates, and academics as determined by state assessment scores.

However, not all research conducted in a rural setting is as positive. Alspaugh and Harting (1995) found significant declines in mathematics at the seventh grade level. They believe this may be due to the fact rural districts, unlike their urban counterparts, frequently have to use teachers who are certified K-8 rather than teachers who are certified in mathematics. George (2005) similarly concluded this may be more of an issue of teacher qualification than the actual K-8 setting. Alspaugh and Harting (1995) studied K-4, K-5, K-6, K-7, and K-8 schools in Missouri and found no significant differences on mean achievement levels in reading, math, science, or social studies. A decline occurred in academic achievement during the transition year, but that decline was overcome the following year (Alspaugh & Harting, 1995). A K-8 setting results in only one transition, the transition to high school. Therefore, only one timeframe of transitional academic decline occurs, which is a major argument of the proponents for such a configuration. While the previous literature focused on the rural setting, it must be taken into consideration it is only a small portion of the literature on K-8 settings.

Even though Kansas is predominately a rural state, major urban districts make up a large portion of the state's student population. An examination of the literature regarding urban populations is warranted. Research conducted in New York City found reading achievement, attitude toward school, and attendance to be higher in a K-8 school configuration than in elementary/junior high configurations (Moore, 1983). Seventh and eighth grade students in K-8 schools performed better in reading than their counterparts in junior high. While eighth grade students in junior high experienced greater gains in reading achievement than their counterparts in K-8, they were unable to make up for losses experienced during the transition year. The findings of Alspaugh and Harting

(1995) contradict Moore (1983) and found the decline in achievement was overcome the following year after the transition. In Philadelphia, Offenberg (2001) studied Stanford Achievement Test (SAT-9) achievement scores of students who completed eighth grade. He determined K-8 schools were more effective than middle schools in similar communities. The study also showed that the number of students per grade, not the overall total school population, contributed to the success of the K-8 schools, which coincides with a study conducted by George (2005). George suggests that by moving students from large 6-8 middle schools to less crowded K-8 schools, there would be greater parental involvement and student accountability, leading to more desirable outcomes. Within the same district, high poverty middle school students scored lower on test scores than their K-8 counterparts (George, 2005). Abella (2005) compared five different K-8 schools to three middle schools, each in Miami-Dade County, Florida. The middle schools were close in geographical proximity to the K-8 school with which they were being compared. From this study, Abella (2005) determined K-8 students had greater improvement on reading scores and significantly outperformed K-5/6-8 middle school students in mathematics, but the scores of the two groups of students equaled out in ninth grade. Providing a broader view by using state assessment data to analyze all public schools in Florida, Schafer (2010) found sixth grade reading and mathematics assessments to have the highest mean scores from students in PK-6 compared to students in a K-5/6-8 configuration.

K-5/Middle School/Junior High. At the time most students are experiencing puberty and the associated social changes, they also make the transition from elementary to junior high or middle school (Wigfield, Eccles, Mac Iver, Reuman, & Midgley, 1991).

For many students this is the first involuntary school-to-school transition experienced. The literature is mixed with regard to the effect the transition to junior high or middle school has on academic performance, as well as on psycho-social issues such as peer relations, stress, and self-perceptions.

An important note to consider is a middle school may be a middle school in name only and not necessarily follow the middle school concept as part of the building program. A pivotal report titled *Turning Points: Preparing American Youth for the 21st Century* (Carnegie Council on Adolescent Development, 1989) provided recommendations to improve middle school education. The recommendations were: create small learning communities, teach a core academic program, ensure success for all students without achievement tracking and encourage cooperative learning, give teachers and administrators the authority to make decisions regarding the instructional program, staff middle schools with teachers specifically trained to work with adolescents, improve academic achievement by encouraging healthy living, involve families in their child's academic career, and provide partnerships within the community. Brazee and Lounsbury (2005) assert that schools that implement the middle school concept, compared to those that do not, see improvements in student academic achievement.

Anderman and Midgley (1996) found English achievement had a stronger decline than mathematics immediately after the transition. This was followed by a greater increase in English achievement than in mathematics between sixth and seventh grades. The authors of this study believe this may be due to elementary English teachers having greater flexibility, fewer time constraints, and fewer students than middle school English teachers. They also suggest it may be due to math being more consistent in its content.

Alspaugh (1998a) found declines in achievement based on the Missouri Mastery Achievement Test when students entered middle school from multiple elementary buildings. Alspaugh pointed out that his research would indicate students who are placed in small cohorts for an extended time tended to have better academic outcomes. In other words, students who attend schools with smaller student populations for longer periods of time, and fewer transitions, experience a better quality of education. Johnson (2002) found differences in achievement when students transitioned to middle school, especially in reading as shown in the Stanford Achievement Test 9th Edition (SAT9) results. Student academic achievement levels during the last year of elementary school were compared to academic levels of students' first year of middle school. Johnson (2002) compared the SAT9 results to report card grades which showed no significant difference. The author suggests the expectations of the SAT9 were greater than those of the teachers. Using statewide data from the Texas Assessment of Academic Skills Test (TAAS), Schneider (2002) found not only did achievement drop, but due to apprehension over the transition, students focused less on academics and needed a six week period, and in some cases a second six week period, to adjust to their new educational environment. Additionally, Rockoff and Lockwood (2010) discovered substantial middle school declines in mathematics and English, which continued to decline through eighth grade. When looking at reading and mathematics scores independently, results are mixed. Schwerdt and West (2011) used Florida's statewide assessment data and determined that after students transitioned to middle school, reading and mathematics achievement declined dramatically, and the effects continued through middle school. For lower

achieving students the effects in mathematics were even greater. They also determined the effects lasted through grades nine and ten.

Results are also mixed with regard to ability perception and self-esteem after the transition to middle school. Wigfield, Eccles, Mac Iver, Reuman, and Midgley (1991), who examined twelve districts over seven years, found declines in self-esteem after sixth grade and into seventh grade in junior high. These declines resulted from students moving from the highest grade level in their school, knowing routines, and having overall familiarity with their environment, to being in the lowest grade and not having any of those attributes. Their research also indicated student self-concepts of ability toward mathematics, English, sports, and social issues went down immediately after transitioning. These self-concepts of ability did increase in the seventh grade year in all areas except for social issues and mathematics. With regard to student perceptions of academic competence, Anderman and Midgley (1997) found declines in student perceptions of academic competence in English and mathematics after data were collected in fifth grade at the elementary level and then again after sixth grade in middle school, with high ability students being the most vulnerable to these perceptions. Disseler (2010) did not find any effect on academic achievement, regardless if the student transitioned from a self-contained classroom or a departmentalized setting, but did determine that during the transition to middle school, girls have more difficulty transitioning than boys and tend to focus on peer relations, while boys focus on stricter rules. Disseler (2010) suggests girls have more difficulty transitioning due to different concerns than boys, or there may not be a good environmental fit at the middle school level. Both girls and boys are also concerned with bullying during this time of transition.

Some studies have found involuntary transitions have no effect on academic achievement. Whitley, Lupart, and Beran (2007) conducted research in Canada on the academic effect of the transition from sixth to seventh grade and found no impact on student achievement. Malaspina and Rimm-Kaufman (2008) determined school transitions points, such as the change from elementary school to middle school, were not associated with instability in academic or social performance. Likewise, according to Dove et al. (2010), grade span, therefore involuntary transitions, did not account for academic achievement in Arkansas as measured by the Arkansas Benchmark Examination.

High school. The transition to high school occurs when students are seeking independence while still requiring support from adults. However, the bureaucratic nature of high school tends not to support these students, even more so for students with poor social and academic preparation (Legters & Kerr, 2001). The middle school transition has had the greatest focus in the literature (Benner & Graham, 2009). The literature on the transition to high school is growing, according to Benner (2011), but is lacking coordination "that now needs to be organized into a coherent body of knowledge" (p. 299).

Two specific areas addressed in the literature with regard to the high school transition are student psycho-social and academic performance perceptions on the transition and the effects of the transition on student academic performance. Akos and Galassi (2004) point out the amount and difficulty of homework and getting lost within the new building were top concerns with both middle school and high school students, while pressure to perform well academically was a top concern for high school students.

When 320 ninth grade students in a medium-sized southern school district were surveyed, they rated the transition to high school as moderately easy (Akos & Galassi, 2004). Similarly, Barber and Olsen (2004) determined the transition was less disruptive, even after students noted the quality of the school environment, which includes items such as total student body enrollment, grading standards, and less teacher support at high school than middle school.

If the transitions were moderately easy and less disruptive, one would have had to wonder whether research had found negative results concerning the transition to ninth grade. Ninth grade students, according to Barone, Aguirre-Deandreis and Tickett (1991), experienced a significant drop in their attendance and grade point average (GPA), with males experiencing more of a drop than females. Rice (1995) indicates in her research the transition from middle to high school does have an effect on achievement in mathematics and science. In addition, she clarifies the transition alone is not the only variable. Student background is also a variable. Conversely, Weiss and Bearman (2007) suggest making the transition has no effect on student achievement and the declines would occur regardless of the transition. They argue previous research is founded on speculation rather than stringent evidence, and academic effects at the transition are determined by variables other than the transition. Using data from the Longitudinal Study of American Youth, Rice (1997) found students whose teachers did not push with regard to academics, but allowed for some adjustment time following the transition, experienced growth in achievement. Students making the transition from a middle school had greater achievement losses than those students transitioning from a K-8 school, with all students having a mean achievement loss. Mathematics was the subject area with the

least amount of achievement decline. Alspaugh (1998a) found a correlation between increased student population and loss of achievement. Alspaugh linked larger school size with more transitions, which lead to a greater loss of academic achievement. Bottoms (2002) found more students fail ninth grade, three to five times more, than any other grade. Two factors that affect academic achievement at the high school transition point are the learning environment and academic performance expectations by teachers and parents. Students who experience a significant increase in the diversity of the student population or experience a less-safe environment tend to experience achievement loss. African-American and Latino students who transitioned into high schools where their particular ethnicity was not as represented as in their previous building experienced more stress, with grades being more adversely affected for African-Americans and attendance being adversely affected for Latinos (Benner & Graham, 2009).

Involuntary School-to-school. Very little exists in the literature that specifically addresses the effect of involuntary school-to-school transitions in total. The focus has been primarily on the transition from elementary to middle school followed by the transition to high school. Alspaugh (1998b) determined a relationship existed between the number of transitions within a district and the high school dropout rate. Brown (2004) determined the number of school-to-school transitions did have a negative impact on academic achievement. Brown's findings were supported by the findings of Anderson (2012) who also determined the number of school-to-school transitions had a detrimental effect on academic achievement. Similar to the findings of Alspaugh (1998b) were those of DelViscio (2013) who studied the relationship between the numbers of school-to-school transitions to the percentage of students who graduated in New York State.

DelViscio found there was a negative effect on academic achievement as measured by the total percentage of students who graduate.

Grade Span History

The majority of schools in the United States, until the late 1940's, were one-room school houses which served essentially rural populations. Due to low enrollment, there was not a need to have a separate high school settings as were being introduced in larger populations.

After World War I, due to a declining rural population and the need for more efficient school systems, many small districts consolidated and small schools closed. In 1915, prior to the end of World War I, professor Ellwood Cubberley of the Teachers College was advancing the idea that larger schools could provide a better and more efficient education (Howley, 2002). As a result the K-8, 9-12 grade configuration gained in popularity (Howley, 2002). In 1918 Professor Cubberley, along with the National Education Association's (NEA) Commission on the Reorganization of Secondary Education, recognized the need for maturing students to learn in a setting which was most apt to address their maturity level. The commission felt this could be achieved at the secondary level more effectively than at the elementary level (NEA, 1921).

Around the time Cubberley's idea of larger schools was gaining momentum, the junior high movement was beginning to impact public education. The idea of a junior high was first broached by Charles W. Eliot during his presidency of Harvard (1888-1918), and the National Education Association Committee (Eichhorn, 1998). It was not until nearly twenty years later that the first junior high opened in Columbus, Ohio in 1909 (Lounsbury, 1960). Junior high schools gained in popularity and significant growth in

the number of junior high schools occurred between 1920 and 1930. The number of junior highs jumped from around 100 to nearly 2,000 during this time. The junior high concept came under scrutiny beginning in the 1950s' as it was believed the junior high setting was not meeting the social and psychological needs of students. Mizell (2005) noted that dissatisfaction with the junior high model had grown as they become more of a stepping stone to high school rather than fulfilling the intent of the junior high movement. Alexander (1963) pointed out there was a "real need for a bridge between the self-contained classroom of the elementary school with its broad and flexible units of work and the departmentalized program of the high school with its relatively greater emphasis on subjects and specialization" (p. 3).

As dissatisfaction with the junior high school concept continued to grow, junior high enrollment was decreasing and elementary enrollment was increasing due to birth patterns and increased popularity of early childhood education and kindergarten. The civil rights movement and desegregation were impacting reorganization efforts, and new research was showing teens were reaching puberty at an earlier age. Each of these issues influenced the formation of middle schools containing grades 6-8 (Juvonen, Le, Kaganoff, Augustine, & Louay, 2004). The middle school concept was designed with the psycho-social needs of adolescents in mind. It was believed the middle school concept was a better model for meeting student needs. The number of middle schools grew beginning in the 1960s'. The 1989 seminal report, *Turning Points: Preparing American Youth for the 21st Century* (Carnegie Council on Adolescent Development, 1989) greatly impacted the development, understanding of, and growth of middle schools. The report contained eight recommendations, which were believed, would improve education for

adolescents through the middle school setting. These recommendations were updated in *Turning Points 2000: Educating Adolescents in the 21st Century* (Jackson, Davis, Abeel, Bordonaro, & the Carnegie Council on Adolescent Development, 2000) and were based on what had been learned since the previous reports release. These reports emphasized the need for a setting conducive to the needs of adolescent learning. It would seem that the middle school was becoming firmly entrenched.

In the 1990s' a new movement was beginning which would challenge the concept of the middle school. A call for the return to the K-8, 9-12 grade level setting began. This new setting has been referred to as the "elemiddle school" which combines elements of all three levels (Hough, 1995, p. 9). The middle school had now been in existence long enough for new research to be conducted showing deficiencies with the middle school concept (Anfara & Buehler, 2005; Clark, Slate, Combs, & Moore, 2014; Hough, 1995; Pardini, 2002). Research was beginning to indicate that middle school student achievement was falling behind elementary and high school student achievement. The move to the elemiddle school gained momentum in the late 1990's, mostly in the urban environment (Hough, 2009) in cities such as Cincinnati, Cleveland, Philadelphia, Baltimore, and Washington D.C. (Blair, 2008; Clark et al., 2014). Reasons other than increasing academic achievement were identified for the move from the middle school concept to the elemiddle concept, including too much emphasis on the school environment and not enough on academic achievement, the continuity with regard to relationships with staff and understanding of school routines for students attending a particular school for an extended time, and parental dissatisfaction with middle schools (Blair, 2008; Pardini, 2002). In addition, the argument was made that reorganizing to a

K-8, 9-12 configuration would eliminate academic, psychological, and social stresses and declines (Mizell, 2005).

Researchers differ in their beliefs regarding the nature of grade configurations as well. Epstein and Mac Iver (1990) concluded what occurs in the classroom is more important than grade configuration or the name on the building. Franklin and Glascock (1998) believe grade configuration is the foundation to the learning environment. The programs that meet the needs of the students are what are important. Somewhere between these two positions is the position of Coladarci and Hancock (2002) who state, "The configuration of grades, in and of itself, probably does matter. The challenge for us is to become smarter about how and why" (p. 191).

Districts in Kansas are organized and reorganized for various reasons. Districts may reorganize due to limited enrollment numbers, to lower expenditures, or relieve buildings from overcrowding. Some small districts have closed and have been absorbed by another. Other districts consist of multiple cities in which each city has, in essence, its own school system, which differs from the other (Elaine Mowder, personal communication, June, 24, 2014). Another small district in Kansas had to reconfigure for a short period of time while work was completed on a district building (Diane Terrell, personal communication, June 24. 2014). Once work was completed, they reconfigured back to the original configuration. A major district in eastern Kansas reconfigured to the middle school system due to the need to provide relief from overcrowding of its elementary buildings and to cut operating costs (Olathe Public Schools, 2008). It is important to understand not only how these various configurations affect the total student population, but also any affect they may have on the various subgroups.

NCLB

The driving force toward accountability in American K-12 education in the early 21st century was the No Child Left Behind Act of 2001 (NCLB) (Groen, 2012) which, under the George W. Bush administration, was a reauthorization of the Elementary and Secondary Education Act (ESEA). Groen (2012) details how the roots of NCLB go back to the War on Poverty declared by President Lyndon B. Johnson. The Elementary and Secondary Education Act (ESEA) of 1965 brought about a momentous change in the federal government's role in education, resulting in a substantial shift in education from falling solely under state control to the federal government becoming involved. Under President Clinton there was a strong movement towards standards-based education. Voters expressed their concern for education in the election of 2000, and bipartisan support grew for narrowing the release of Title I funds to the poorest schools (Groen, 2012). It was during this time specific ethnic and socio-economic subgroups were identified and districts became liable for their academic progress. A Title I school has a high percentage of students who qualify as economically disadvantaged. These schools receive Title I funds to help ensure all children meet academic standards. Those on the liberal side of politics favored assisting identifiable subgroups while members of the conservative side favored identifying failing schools. As a result of an unprecedented consensus between the parties, the left desiring to see the focus on the under-served and the right desiring accountability, NCLB became law under the George W. Bush administration (Groen, 2012).

Owens and Sunderman (2006) explain NCLB holds districts accountable for making AYP based on reading and mathematics scores, attendance for elementary and

middle schools, and graduation rates for high schools. In order for AYP to be met, all students and all subgroups must achieve proficiency on each state's target goals. Owens and Sunderman (2006) go on to state while all schools must meet the demands of NCLB, only Title I schools can be labeled as needing improvement and face penalties for failing to meet proficiency targets. According to Linn (2006) there are a minimum of five areas of achievement which need to be met to make AYP. Under NCLB the Council of Chief State School Officers (CCSSO) (2002) point out "the adequate yearly progress of schools, districts, and States would be based on up to 37 determinations of student performance… in at least reading or language arts and mathematics" (CCSSO, 2002, p. 10), for each grade span of 3-5, 6-9, and 10-12. Failure in any one area would result in a building not making AYP.

Linn (2006) found that with such a narrow focus on mathematics and reading, there has been a negative effect on curriculum and instruction. In some districts the instructional time allotted to reading and mathematics has increased at the cost of other subjects. The Center on Educational Policy (CEP) (2007) surveyed 349 districts, of which 62% indicated they increased language arts and mathematics instructional time at the elementary level. At the middle school level 20% of the districts increased instructional time for language arts and mathematics. In this same report 84% of the districts stated that they put greater emphasis on material and skills associated with the state assessments. It is understandable districts would adjust instructional time and practices to meet the pressures of NCLB. In doing so, one would have to consider whether those districts are gaining an edge over districts that do not adjust instructional

time and practices. It is not known how many districts in Kansas have either adjusted instructional time or practices as a result of NCLB.

Subgroups

A key component of NCLB was the disaggregation of all student data into subgroups to ensure educators were meeting the needs of the underserved. By requiring educators to focus on students identified in these subgroups, educators could no longer hide the poor performance of any particular group behind overall average building scores that might indicate a well-performing building or district.

Economically disadvantaged. The Social Economic Status (SES) of a student is determined by the state, and in Kansas the definition for economically disadvantaged "implies free or reduced lunch eligibility" (Hoffman, 2012, p. 31). In the literature common qualifications are based on occupation, education, and income. Other qualifications may also include family size, ethnicity, and mobility (White, 1979). Hoffman (2012) clarifies a student today is eligible for free or reduced lunch based on either family size and income or categorical eligibility, or some other form of participation in a public assistance program.

At the elementary level, in his meta-analysis of the data, White (1982), found only a weak relationship between SES and academic achievement. A rather unique aspect of the research by Entwisle and Alexander (1989) focused on what they consider the first school transition, the entrance into school, which many studies do not consider. While they identify the entrance into school as the first transition, their research reflects more on the preparedness of the student prior to entering school, rather than how the transition affects student performance. Patterson, Kupersmidt, and Vaden (1990) found students

who were economically disadvantaged had lower scores on standardized achievement test. Entwisle and Alexander (1990) found the economic resources of parents affected pre-mathematics skills of children. These students tend to live in homes that lack support for academic achievement in school (Zill, Moore, Smith, Stief, & Coiro, 1991). Entwisle and Alexander (1993) indicate economically disadvantaged students perform poorly due to the lack of resources available to families to support learning when school is dismissed for the summer. One important resource found to be lacking is intellectual stimulation. Duncan, Brooks-Gunn, and Klebanov (1994) studied the effects of transient and persistent poverty and found SES, particularly family income, had a strong relationship to age-5 IQ. Persistent poverty was found to have twice the impact as transient poverty. Jimerson, Egeland, and Teo (1999) determined that children from economically disadvantaged backgrounds tend to fall further behind through their educational career than students who do not come from economically disadvantaged backgrounds. Morrissey, Hutchison and Winsler (2013) found children receiving either free or reduced lunches had lower standardized test scores at the third and fourth grade levels. They also reported lower test scores among students who were identified as low-SES for longer periods of time than those who were identified for a shorter period. Given the research on the academic struggles of economically disadvantaged students, it is important to determine if the number of school-to-school transitions adds to the detrimental effects of being economically disadvantaged. An important group to remember when considering those who are considered economically disadvantaged are students who fail to qualify by a minimal amount for free or reduced lunch, and thus are classified the same as more affluent students (Duncan et al., 1994).

Learning disabilities. The literature varies with regard to how students with learning disabilities respond academically and socially to involuntary school-to-school transitions. Bryan and Nelson (1994) believe that the transition from elementary to junior high "may be more extreme for students in SPED [special education], who in this study reported getting the least amount of homework in elementary but the most in junior high, compared to other students" (p. 496). The stress that accompanies the homework load makes the transition more difficult for students with learning disabilities than other students. When comparing students with and without learning disabilities who had transitioned to junior high, Geisthardt and Munsch (1996) found the number of students with learning disabilities who reported failing a class to be significantly higher than students without learning disabilities. Geisthardt and Munsch (1996) indicate the cause of these students failing classes in junior high may be due to inadequate assistance provided in the resource room in preparing them for the increased academic expectations at the junior high level. As a result, transitioning from the elementary setting to the secondary setting may be more difficult for students with learning disabilities. Anderman (1998) found students with learning disabilities who do not experience a transition until ninth grade performed better academically in mathematics and science than those who transitioned earlier. However, he did find that academic achievement does suffer for students with learning disabilities who also have had difficult school transition associated with entering the less personal environment of middle school, as compared to the more inviting elementary environment. Maras and Aveling (2006), when addressing stressors on students with learning disabilities making school transitions, explain being a student with a learning disability doesn't increase the number of stressors, but the various types

of special educational needs may determine which stressors are more prevalent during the transition.

In contrast to the previous research, Earnest (1994), based on the School Attitude Measure (SAM), concluded the transition from fifth to sixth grade was not more difficult for students with learning disabilities than for students without learning disabilities. Similar to Earnest's findings were those of Forgan and Vaughn (2000) who determined there was little difference between students with learning disabilities and students without learning disabilities in their ability to transition from the elementary to the secondary setting.

English Language Learners. The number of ELL students is increasing rapidly. Students from non-English speaking backgrounds represent the fastest growing portion of the student population (Genesee, Lindholm-Leary, Saunders, & Christian, 2005). While total enrollment increased 12% between 1991-1992 and 2001-2002, the ELL population increased 95% (Genesee et al., 2005). Of these students, more than 400 languages were represented, of which 80% were native Spanish speakers (Genesee et al., 2005). While the majority of non-ELL students experience only the involuntary transition of school-to-school change, ELL students additionally are experiencing the change of language and culture. It seems apparent the stress level ELL students experience would be much higher than non-ELL students. As a result, involuntary school-to-school transitions may have a greater effect on ELL students. Even when educated in the best of school settings, an ELL student takes four to seven years to attain mastery of the academic language encountered in the classroom. The SES status of an ELL student also impacts the length of time needed for the acquisition of language and thus academic language proficiency

(Hakuta, Butler, & Witt, 2000). The ELL subgroup, including students who have been in the United States for only one year, is required to be assessed annually by NCLB. Therefore, many ELL students are taking assessments steeped in the academic language they are in the early stages of learning (Menken, 2010). Because of issues such as previously addressed, NCLB is not short of critics as far as the fairness of the testing of ELL students with regard to language proficiency (Abedi, 2002; Crawford, 2004; Genesee et al., 2005; Menken, 2010).

Gender. Gender may play a role in academic achievement, particularly during involuntary school-to-school transitions. Chung, Elias, and Schneider (1998) found that boys, following the transition to middle school, showed a substantial decline in academic achievement, while girls did not. Interestingly, Chung et al. (1998), while finding boys showed a more significant decline academically than girls, admit their findings contradict previous research conducted by Simmons and Blyth (1987) who found girls had a greater decline in academics than boys; therefore, determining which gender is at greater risk academically during the transition is difficult to do. Simmons, Burgeson, Carlton-Ford, and Blyth (1987) found students entering junior high, both males and females, experienced a decline in their grade point average (GPA). Simmons et al. (1987) determined girls who transitioned to junior high at the seventh grade were disadvantaged compared to girls who made the transition from a K-8 setting to 9th grade with regard to self-esteem. Eccles, Lord, and Midgley (1991) discussed the pubertal changes adolescents' experience, in addition to grade level changes, and suggested this decline in self-esteem was related to declines in academics as well. Anderman and Midgley (1997) found low-ability females and high-ability males experienced a drop in grades, while

high-achieving females' grades increased during the transition to middle school. Additionally, Anderman and Midgley (1997) determined that females, during the middle school transition, experienced a lack of grade stability in mathematics and English even though their scores on the Cognitive Test of Basic Skills (CTBS) were very stable. Urban high school girls were found to have more difficulty when transitioning to high school, were lonelier, and more anxious than boys, even though they were outperforming boys academically (Benner & Graham, 2009).

The Educational Testing Service (ETS) Gender Study examined gender differences using data involving millions of students and provides a wider view of the differences between the genders academically. Over a span of four years researchers used data from 400 tests such as commercial testing programs, state-linked programs, the ACT and SAT. Factors such as the skill focus of particular test, ensuring female and male comparability equality, and cohort population were controlled for the study. The conclusions of the study show among 12th graders no single gender outperforms another academically across all subject areas. At 4th grade gender differences were very small. Between fourth and eighth grade, females did gain slightly on males in writing and language use, while males gained slightly in mathematics, geopolitical subjects, and natural science from eighth to 12th grades (Cole, 1997). Given the significantly high number of students used in ETS Gender Study, it may be the most accurate with regard to academic achievement in a broad sense.

Summary

This chapter addressed change and how it may impact student academic performance. A history of grade span configurations was presented. The information

provides a background into the development of grade configurations that determine the number of involuntary school-to-school transitions students experience during their educational career. With the advent of NCLB and the focus on the various subgroups, a review of the literature focusing on these groups and how they are affected by involuntary school-to-school transitions was detailed. NCLB's requirements were outlined, followed by a discussion of some of the negative effects that may have an impact on this current study. Chapter three follows with an explanation of the methodology implemented in the current study.

Chapter Three

Methods

The purpose of this quantitative study was to determine if the number of involuntary school-to-school transitions students experienced had an effect on their academic performance on the annual KRA and KMA at the high school level for the school years 2010-2011 through 2012-2013. This chapter includes the research design; population and sample; sampling procedures; the instrumentation, measurement, and validity and reliability; data collection procedures; data analysis and hypothesis testing; and limitations of the study.

Research Design

This study was a quantitative non-experimental research design using archival data of high school-level scores on the KRA and KMA. Student assessment results were gathered from Kansas public school districts. Data on the dependent variable of academic achievement as measured by the KRA and KMA were gathered by submitting a request for data from KSDE through the KSDE website (see Appendix A). Data were also gathered on the independent variable of building transitions used in Kansas. That data was collected from data files retrieved from the KSDE website Selected School Statistics by District, the National Center for Educational Statistics Elementary and Secondary Information System (ELSi) table generator. Individual districts were contacted to confirm data when the data was unclear from either or both of the previously mentioned sources.

Population and Sample

The population for this study consisted of public high school students, in the cohort year of 11th grade, who participated in the KRA and KMA, and whose scores were reported by their district to KSDE during the school years 2010-2011, 2011-2012, and 2012-2013. The state total of 11th grade student enrollment for each group is shown in Table 3.

The KRA and KMA are administered once in high school for the cohort year of grade eleven (KSDE, 2010a; 2011b; 2012a). Districts were required to provide all demographic information on students prior to a ticket being generated by the state enabling the student to test (Z.T. Conrad, KSDE, personal communication, August 24, 2015). Only students who were enrolled in a Kansas public school prior to February 11, 2011; February 12, 2012; and February 8, 2013 were required to take the KRA and KMA (KSDE, 2010a; KSDE, 2011b; KSDE, 2012a). The number of students in the 11th grade cohort whose scores were collected for this study are shown in Table 3.

Table 3

Eleventh Grade Student Enrollment Totals by Subgroup

Student Subgroup	2010-2011	2011-2012	2012-2013
All Students	33,715	33,781	33,476
Economically Disadvantaged	12,725	13,275	13,607
Students with Learning Disabilities	3,871	3,938	3,779
English Language Learners	1,164	1,448	1,615
Male	17,283	17,205	17,051
Female	16,432	16,576	16,425

Note. National Center for Educational Statistics. Adapted from the "Yearly Totals State Headcount Enrollment by Year, Race, and Gender All Schools" [ElSi tableGenerator]. Retrieved from http://nces.ed.gov/ccd/elsi/tableGenerator.aspx

Sampling Procedures

The population for this study consisted of students in their cohort year of 11th grade. These students were eligible to take the KRA and KMA and their scores were reported to the state by their individual districts. There were 33,714 11th graders enrolled during the 2010-2011 school year, 33,781 during the 2011-2012 school year, and 33,476 during the 2012-2013 school year.

Instrumentation

The KRA and KMA test items, under the direction of and specifications provided by KSDE, were developed by WestEd (Irwin, Poggio, Yang, Glasnapp, & Poggio, 2007). The Center for Educational Testing and Evaluation (CETE) at the

University of Kansas was responsible for the remaining portions of the assessments (Irwin et al., 2007).

The purpose of the assessments was to provide KSDE with assessment data as required by NCLB. The assessment data also provided districts, buildings, and classroom instructor's vital information to guide instruction and improve student performance (Irwin et al., 2007).

Both assessments are criterion-referenced, untimed, and administered annually during the testing window, which starts in February and ends in May. The assessments, which determine academic proficiency, are administered in third through eighth grade and once in high school. The state of Kansas provides a *Second Opportunity to Learn* option at the high school level. This enables students who do not score proficient on the KRA or KMA one more opportunity to test in a later year. The results of the second attempt to score proficient are final (KSDE, 2012b).

The KRA and KMA measured the Kansas Curricular Standards in each content area. Standards were organized into benchmarks. Benchmarks were organized into indicators that are further organized into sub-indicators (Irwin et al., 2007). Sixteen indicators were tested on the high school KRA and 15 on the KMA (KSDE, 2010a).

The KRA was used to test students' knowledge of text types, including narrative, expository, technical, or persuasive (Irwin et al., 2007). The Kansas Education Resource Center website breaks down the standards more specifically for the KRA as shown in Appendix B.

The KMA benchmarks were organized into four categories: number and computation, algebra, geometry, and data. A detailed list of assessed benchmarks for the KMA is shown in Appendix C.

Measurement. Student's scores from the KRA and KMA show the percentage of questions answered correctly. Cut scores were determined through meetings conducted by CETE with representatives from KSDE in attendance. The cut scores determined the performance level of student scores. The levels of performance were *Academic Warning, Approaches Standard, Meets Standard, Exceeds Standard,* and *Exemplary*. A student must score at the *Meets Standard* level to demonstrate proficiency on each assessment. A high school student must score at 68% or higher to demonstrate proficiency on the KRA and 50% or higher to demonstrate proficiency on the KMA. The cut score recommendations were presented to and approved by the Kansas State Board of Education (KSBE) (Irwin et al., 2007). Once student overall scores are determined and the performance level is assigned, based on the "proportion of students classified in these categories" (Irwin et al., 2007, p. 4), determination can be made as to whether a school, district, or state has made AYP (Irwin et al., 2007).

Students were assessed on particular standards, benchmarks, and indicators on the KRA and KMA. Students should know or be able to perform what each standard entails. However, only overall scores rather than scores on a particular standard, benchmark, or indicator are used to determine AYP. Districts and buildings use such standards, benchmark, or indicator performance results to determine instructional and curricular needs (Irwin et al., 2007).

Validity and reliability. Lunenburg and Irby (2008) define validity as "the degree to which an instrument measures an intended content area" (p. 181). Reliability is defined by Lunenburg and Irby (2008) as "the degree to which an instrument consistently measures whatever it is measuring" (p. 182). The KRA and KMA have been documented to be valid and reliable.

A sample of students who took the KRA and KMA in 2006 was used to obtain evidence of validity. Five test forms in mathematics and four test forms in reading were utilized. The purpose of the formative assessment system was to "provide feedback regarding whether a student has mastered particular content standards during the course of instruction" (Irwin et al., 2007, p. 76). Student scores on the formative assessment were compared with student scores on state summative assessments (Irwin et al., 2007). The relationship between formative and summative assessments is detailed in Table 4 in which *r* represents the correlations between formative and summative assessment performance and *n* represents the number of forms.

Table 4

KRA and KMA Formative Assessment Correlated with General, ALL Forms, Then Split by Forms

Assessment	All Forms	P&P		A (Computer)		B		C		D		E	
	r (*n*)	*r*	*n*	*r*	*n*	*r*	*n*	*r*	*n*	*r*	*n*	*r*	*n*
KRA	.83 (535)	.74	33	.85	118	.81	127	.88	126	.82	131		
KMA	.82 (830)	.83	15	.86	166	.86	158	.82	164	.76	156	.82	171

Note: Adapted from "2006 Technical Manual - General, KAMM, and KAA," by Irwin, Poggio, Yang, Glasnapp, & Poggio, 2007. Retrieved from http://www.ksde.org/LinkClick.aspx?fileticket=OK5DQmBe4LU%3d&tabid=2374&mid=5445&forcedownload=true, section 7.

The coefficients overall were strong. The average correlation is over 0.80, well above the 0.70 threshold to be considered strong (Rumsey, 2011).

With a limited number of forms per grade level used in the assessment, the sample size was small when determining reliability. The grade-level scores from all forms for the KRA and KMA "were equated to the percent correct scale of the base form and the same set of cut scores were used to classify the performance of all students" (Irwin et al., 2007, p. 60). Only the base form was used for reliability analysis.

Classification consistency and classification accuracy were used to determine the evidence of reliability of the KRA and KMA. Cui, Gierl, and Chang (2012) stated that "classification consistency is often referred to as the reliability of classifications" and "is estimated based on results from a single test administration" (p. 20). Cui et al. (2012) explain that classification accuracy "examines the degree to which classifications based on observed scores match those based on true scores" (p. 20). Estimation of

classification indices, "were estimated by assuming a four-parameter beta compound binomial strong true score model" (Irwin et al., 2007, p. 60). Table 5 details the classification consistency and accuracy values on the KRA and KMA.

Table 5

Classification Indices for Base Form for High School and Subjects

Assessment	Base Form	Sample Size	Classification Consistency	Classification Accuracy
KRA	582	5,699	0.74	0.81
KMA	590	4,966	0.72	0.80

Note. Adapted from "2006 Technical Manual - General, KAMM, and KAA," by Irwin, Poggio, Yang, Glasnapp, & Poggio, 2007. Retrieved from http://www.ksde.org/LinkClick.aspx?fileticket=OK5DQmBe4LU%3d&tabid=2374&mid=5445&forcedownload=true, section 6.

Irwin et al. (2007) noted that performance classification was more reliable at higher grade levels and believed this was due to the length of the test being longer at upper grade levels. Classification indices were examined and are shown in Table 6.

Table 6

Classification Indices by Cut Points

Assessment	Cut Point	Classification Accuracy	Classification Consistency
KRA	1 / 2345	0.99	0.99
	12 / 345	0.98	0.97
	123 / 45	0.95	0.93
	1234 / 5	0.90	0.85
KMA	1 / 2345	0.93	0.91
	12 / 345	0.94	0.91
	123 / 45	0.96	0.94
	1234 / 5	0.97	0.96

Note. Adapted from " 2006 Technical Manual - General, KAMM, and KAA," by Irwin, Poggio, Yang, Glasnapp, & Poggio, 2007. Retrieved from http://www.ksde.org/LinkClick.aspx?fileticket=OK5DQmBe4LU%3d&tabid=2374&mid=5445&forcedownload=true, section 6.

This data was used to determine the probability of a student being misclassified at a particular cut score. These results indicate that classification at a particular cut score was high while the probability of a misclassification was low. The data indicates for reading and mathematics the performance classification accuracy was higher than classification consistency. It was determined classification reliabilities were acceptable and have construct validity (Irwin et al., 2007).

Data Collection Procedures

Institutional Review Board (IRB) documentation was submitted to Baker University's Institutional Review Board seeking approval of a proposal to conduct the study and was approved on October 3, 2015 (see Appendix D). Data from the 2010-

2011, 2011-2012, and 2012-2013 Selected School Stats (Pupil/Teacher Ratio) reports were retrieved from the School Finance Publication page on the KSDE website. A list of Kansas public school districts and their grade-span configurations was generated from these reports. The list of districts was used to identify all public school districts, which were open during the time period data were collected. Reports were generated using the ElSi tableGenerator accessed from the National Center of Educational Statistics website to gather grade span configurations for the years 1998-2013. The information gathered from the Selected School Stats (Pupil/Teacher Ratio) and the ElSi tableGenerator was combined to corroborate data and determine each district's actual grade configurations. Individual districts were contacted when discrepancies became apparent between state data and data collected from the ElSi tableGenerator. District offices were contacted to review the data and history to ensure correct data was collected. The numbers of transitions per district for the school years 1998-1999 through 2012-2013 were tabulated. The number of transitions per district was coded. KRA and KMA scores were collected from KSDE through a request for data from the KSDE website (see Appendix A). An Excel spreadsheet was created containing the coded transitions and correlated assessment scores. The data were then processed through IBM®SPSS® Statistics Faculty Pack 23 for Windows and confirmed piloted data through JASP Version 0.7.1.12.

Data Analysis and Hypothesis Testing

The research questions used for this study were formulated to determine the extent student achievement, as measured by the KRA and KMA administered to high school students by the end of their 11th grade cohort year, differed based on the number of involuntary building transitions they experienced. One-way ANOVAs were conducted

on all hypotheses to determine the extent of difference of the independent variable of building transitions on the dependent variable of academic achievement on all students, economically disadvantaged, learning disabilities, ELL, male and female students as measured by the KRA (hypotheses 1-5) and the KMA (hypotheses 6-10). The one-way ANOVA was selected since the current study contained only one independent variable with more than two groups (Steinberg, 2011). The one-way ANOVAs were conducted using JASP Version 0.7.1.12 and results were confirmed with the SPSS® Statistics Faculty Pack 23 for Windows. The Tukey HSD procedure was chosen as the follow-up test to be conducted if any statistically significant interactions occurred in the analyses of all hypotheses. No post hoc test was run for those ANOVA F-values that were not significant. To control for Type I error, this procedure was used to evaluate any pairwise differences among the means (Steinberg, 2011).

RQ1. To what extent did student achievement, as measured by the KRA administered to high school students by the end of their 11th grade cohort year, differ based on the number of involuntary building transitions experienced by all students?

H1. Student achievement, as measured by the KRA administered to students by the end of their 11th grade cohort year, differed based on the number of involuntary building transitions experienced by all students.

RQ2. To what extent did student achievement, as measured by the KRA administered to high school students by the end of their 11th grade cohort year, differ based on the number of involuntary building transitions experienced by economically disadvantaged students?

H2. Student achievement, as measured by the KRA administered to students by the end of their 11th grade cohort year, differed based on the number of involuntary building transitions experienced by economically disadvantaged students.

RQ3. To what extent did student achievement, as measured by the KRA administered to high school students by the end of their 11th grade cohort year, differ based on the number of involuntary building transitions experienced by students with learning disabilities?

H3. Student achievement, as measured by the KRA administered to students by the end of their 11th grade cohort year, differed based on the number of involuntary building transitions experienced by students with learning disabilities.

RQ4. To what extent did student achievement, as measured by the KRA administered to high school students by the end of their 11th grade cohort year, differ based on the number of involuntary building transitions experienced by ELL students?

H4. Student achievement, as measured by the KRA administered to students by the end of their 11th grade cohort year, differed based on the number of involuntary building transitions experienced by ELL students.

RQ5. To what extent did student achievement, as measured by the KRA administered to high school students by the end of their 11th grade cohort year, differ based on the number of involuntary building transitions experienced by male and female students?

H5. Student achievement, as measured by the KRA administered to students by the end of their 11th grade cohort year, differed based on the number of involuntary building transitions experienced by male and female students.

RQ6. To what extent did student achievement, as measured by the KMA administered to high school students by the end of their 11th grade cohort year, differ based on the number of involuntary building transitions experienced by all students?

H6. Student achievement, as measured by the KMA administered to students by the end of their 11th grade cohort year, differed based on the number of involuntary building transitions experienced by all students.

RQ7. To what extent did student achievement, as measured by the KMA administered to high school students by the end of their 11th grade cohort year, differ based on the number of involuntary building transitions experienced by economically disadvantaged students?

H7. Student achievement, as measured by the KMA administered to students by the end of their 11th grade cohort year, differed based on the number of involuntary building transitions experienced by economically disadvantaged students.

RQ8. To what extent did student achievement, as measured by the KMA administered to high school students by the end of their 11th grade cohort year, differ based on the number of involuntary building transitions experienced by students with learning disabilities?

H8. Student achievement, as measured by the KMA administered to students by the end of their 11th grade cohort year, differed based on the number of involuntary building transitions experienced by students with learning disabilities.

RQ9. To what extent did student achievement, as measured by the KMA administered to high school students by the end of their 11th grade cohort year, differ based on the number of involuntary building transitions experienced by ELL students?

H9. Student achievement, as measured by the KMA administered to students by the end of their 11th grade cohort year, differed based on the number of involuntary building transitions experienced by ELL students.

RQ10. To what extent did student achievement, as measured by the KMA administered to high school students by the end of their 11th grade cohort year, differ based on the number of involuntary building transitions experienced by male and female students?

H10. Student achievement, as measured by the KMA administered to students by the end of their 11th grade cohort year, differed based on the number of involuntary building transitions experienced by male and female students.

Limitations

Limitations, according to Lunenburg and Irby (2008), are out of the control of the researcher and may affect the interpretations of findings. The limitations of this study were:

- Life events causing stress for students unrelated to the transition.
- Eligible students may have been absent during testing.
- Scores may not have been reported accurately.
- Scores may not have been accurately calculated.
- Testing procedures may not have been followed according to testing guidelines.
- The instructional class time for language arts and mathematics may not have been equal among districts.
- The curriculum related to assessments may not have been the same.

- The time spent outside of regular class time on curriculum related to assessments may not have been the same.

Summary

The non-experimental archival data quantitative research design of the study was detailed in this chapter. The population consisted of public high school students in Kansas and the sample consisted of public school district students in Kansas in the cohort year of 11th grade who were eligible to take the KRA and KMA and whose scores were reported to the state. Detailed in this chapter were the purposive sampling procedures, the instrumentations, measurements of the KRA and KMA, and the validity and reliability of the KRA and KMA. The steps used in data collection were described. One-way ANOVAs for data analysis were chronicled and the hypothesis for each research question documented. This was followed by a listing of the limitations of the study. In chapter four the results of hypothesis testing will be presented and analyzed, followed by a discussion of the research presented in chapter five.

Chapter Four

Results

The purpose of this quantitative study was to determine if the number of involuntary school-to-school transitions students experienced had an effect on their performance on the annual KRA and KMA at the high school level for the school years 2010-2011 through 2012-2013. This chapter contains the descriptive statistics, hypothesis testing, additional analysis, and summary.

One-way ANOVAs were conducted for all students, economically disadvantaged students, students with learning disabilities, ELL students, male students, and female students to determine if involuntary school-to-school transitions had a significant effect on KRA and KMA scores. Table 7 shows the frequency and number of transitions used by districts. Each transition type was assigned a model name. The totals reflect only the number of districts that provided scores for all three school years during this study. Districts utilizing two transitions reflect a K-5/6, 6/7-/9, 9/10-12 transition configuration. A single transition reflects a K-8, 9-12 or similar type configuration. Transitions of 1,2 or 2,3 reflect districts that changed grade configuration during the student's time within the district, thus resulting in two different numbers of transitions. Three transition districts reflect a Pre-K, K-5/6, 6/7-8/9, 9/10-12 or K-5, 6, 7-9, 10-12 types of grade configurations. The least used transition type consisted of districts with varying grade configurations that were too small in number to be classified independently. Districts were categorized based on the consistency of grade configuration, which in turn determined the number of transitions. Districts that

were consistent in maintaining their grade configuration and did not vary in the number of transitions were considered stable. Districts that changed grade configuration, and therefore the number of transitions, were considered to be variable. Districts using the least used transition type, consisting of varied grade configurations too small to categorize independently, were categorized as variable.

Table 7

Transitions by Type, Usage, Consistency, Frequency, Numbers, and Totals

Model	Two-transition model	One-transition model	One/two-transition model	Two/three-transition model	Three-transition model	Varied-transition model
Transition Usage	Most Used	2nd Most Used	3rd Most Used	4th Most Used	5th Most Used	Least Used
Consistency	Stable	Stable	Variable	Variable	Stable	Variable
Transition Number(s)	2	1	1,2	2,3	3	All Other Types
Total Districts	89	88	31	18	20	31

Table 8 provides information regarding the organizational structure for each transition type. The organizational structures shown in Table 8 are examples and do not show all possible configurations.

Table 8

Transition by Transition Type, Model and Organizational Structure

Transition Type	Model	Organizational Structure
Most Used	Two-transition model	K-5/6, 6/7-/9, 9/10-12
2nd Most Used	One-transition model	K-8, 9-12
3rd Most Used	One/two-transition model	Time in a one-transition model and in a two-transition model
4th Most Used	Two/three-transition model	Time in a two-transition model and in a three-transition model
5th Most Used	Three-transition model	PK, K-5/6, 6/7-8/9, 9/10-12 or K-5, 6, 7-9, 10-12
Least Used	Varied-transition model	All Other Types

Descriptive Statistics

Data were collected from all public school districts in Kansas that reported scores for all three school years of this study and participated in the KRA and KMA. Transition types and totals were determined for each district covering all years students involved in this study were enrolled in school.

Hypothesis Testing

This section contains the results of the hypothesis testing. One-way ANOVAs were conducted for each hypothesis. The level of significance was set at 0.10. The significance level of 0.10 was utilized to increase the probability of finding significant relationships; conversely, the researcher also recognized that this choice increased the chance of making a Type II error (Sauro, 2014). The decision to use the significance level of 0.10 for this study enabled the researcher to find relationships within the data that may have been overlooked. Because there was little evidence that involuntary school-to-school transitions directly impact academic performance, it was determined the choice of 0.10 as the significance level did not reduce the validity of this study.

RQ1. To what extent did student achievement, as measured by the KRA administered to high school students by the end of their 11th grade cohort year, differ based on the number of involuntary building transitions experienced by all students?

H1. Student achievement, as measured by the KRA administered to students by the end of their 11th grade cohort year, differed based on the number of involuntary building transitions experienced by all students.

Table 9 shows the descriptive statistics for transitions versus all students. The total of scores, *n*, equaled 831. The low mean score was 0.883, and the high mean score was 0.912. The mean score in all descriptive statistic tables represents the percentage of students who scored proficient or higher on the KRA or KMA. The standard deviation ranged from 0.067 to 0.090.

Table 9

Summary of Descriptive Statistics Transitions v. All Students Reading

Transition Model	*n*	Mean	*SD*
Two-transition model	267	0.892	0.090
One-transition model	264	0.912	0.087
One/two-transition model	93	0.902	0.072
Two/three-transition model	54	0.883	0.069
Three-transition model	60	0.899	0.067
Varied-transition model	93	0.898	0.084

A statistically significant difference among the means was found, thus supporting H1 for all students KRA scores as shown in Table 10, indicating the number of involuntary transitions may have an effect on reading scores for all students. The value of *p* was 0.091 and the value of *F* was 1.906.

Table 10

Summary One-way ANOVA Analysis on All Students Reading

Cases	*SS*	*df*	Mean	*F*	*p*
Transitions	0.066	5	0.013	1.906	0.091
All Student Reading	5.744	825	0.007		

A *p* Tukey post hoc comparison found significance between the two-transition model and the one-transition model. Table 11 shows a mean difference of –0.019 indicating students in the one-transition model performed better on the KRA than those in two-transition model. The value of *SE* was 0.007, *t* =-2.640, and the *p* Tukey was 0.083.

Table 11

Post Hoc Comparisons – By Transition for All Students Reading

Transition Model	Transition Model	Mean Difference	*SE*	*t*	*p* tukey
Two-transition model	One-transition model	-0.019	0.007	-2.640	0.083

Mean scores by transition type in reading for all students are shown in Figure 1. The mean scores ranged from 0.883, the two/three-transition model, to 0.912 on the one-transition model. Figure 1 illustrates for all students in reading, the one-transition model provided the best setting while the two/three-transition model provided the least conducive setting.

Figure 1. Mean Scores for Reading, All Students

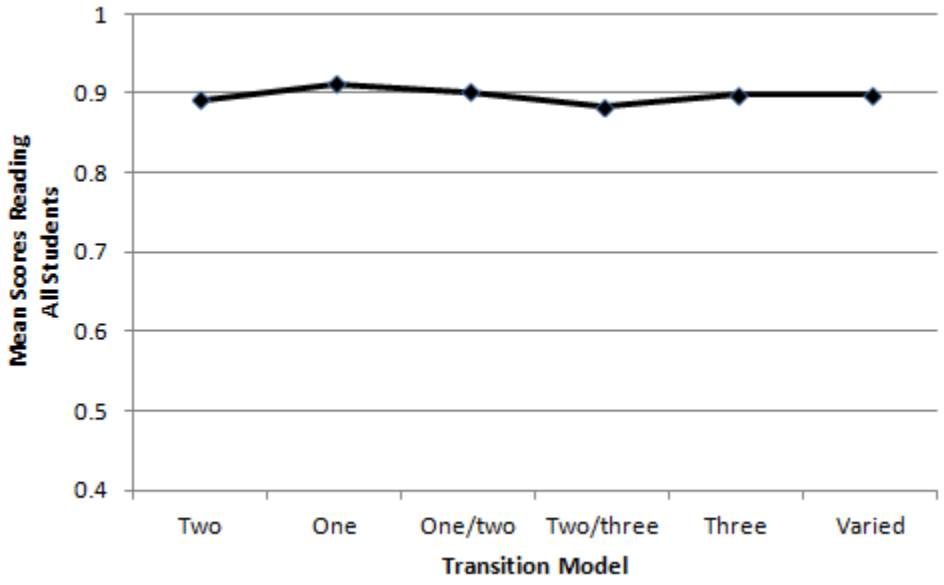

Figure 1 shows the mean scores by transition model in reading for all students.

RQ2. To what extent did student achievement, as measured by the KRA administered to high school students by the end of their 11th grade cohort year, differ based on the number of involuntary building transitions experienced by economically disadvantaged students?

H2. Student achievement, as measured by the KRA administered to students by the end of their 11th grade cohort year, differed based on the number of involuntary building transitions experienced by economically disadvantaged students.

The descriptive statistics for transitions in relation to the reading scores of economically disadvantaged students are shown in Table 12. The total of scores, *n*, equaled 830. The total of *n* will vary with each category based on the number of scores reported by districts for each category. For instance, a district may not report a score for a particular category if the number of students did not reach the minimum enrollment for a subgroup requiring reporting. The highest mean score, 0.874 was found in the one-transition model and the lowest, 0.824, in the two/three-transition model. The standard deviation ranged from 0.099 to 0.134.

Table 12

Summary of Descriptive Statistics Transitions v.

Economically Disadvantaged Reading

Transition Model	*n*	Mean	*SD*
Two-transition model	267	0.848	0.125
One-transition model	263	0.874	0.129
One/two-transition model	93	0.858	0.134
Two/three-transition model	54	0.824	0.099
Three-transition model	60	0.858	0.086
Varied-transition model	93	0.866	0.117

A statistically significant difference was found among the means for economically disadvantaged student KRA scores. Data regarding economically disadvantaged student KRA score are shown in Table 13, indicating the number of involuntary transitions did have an effect on reading scores for economically disadvantaged students. The value of *p* was 0.059 and *F* was 2.135. H2 was supported.

Table 13

Summary One-way ANOVA Analysis on Economically Disadvantaged Reading

Cases	*SS*	*df*	Mean	*F*	*p*
Transitions	0.160	5	0.032	2.135	0.059
Economically Disadvantaged Reading	12.388	824	0.015		

Significance was found in the *p* Tukey post hoc analysis between the one-transition model and the two/three-transition model, as shown in Table 14, indicating students in the one-transition model scored better than students in the two/three-transition model with a mean difference of 0.050. The *p* Tukey was 0.064, *t* = 2.737, and *SE* = 0.018.

Table 14

Post Hoc Comparisons – By Transition for Economically Disadvantaged Reading

Transition Model	Transition Model	Mean Difference	*SE*	*t*	*p* tukey
One-transition model	Two/three-transition model	0.050	0.018	2.737	0.064

The mean scores in reading for economically disadvantaged students, as shown in Figure 2, show a range of 0.824 to 0.874. The one-transition model had the highest mean score of all transition types. The two/three-transition model had the lowest mean score of all transition types. This suggests the one-transition model provided the best setting for reading achievement while the two/three-transition model was the least conducive setting for economically disadvantaged students reading achievement.

Figure 2. Mean Scores for Reading, Economically Disadvantage Students

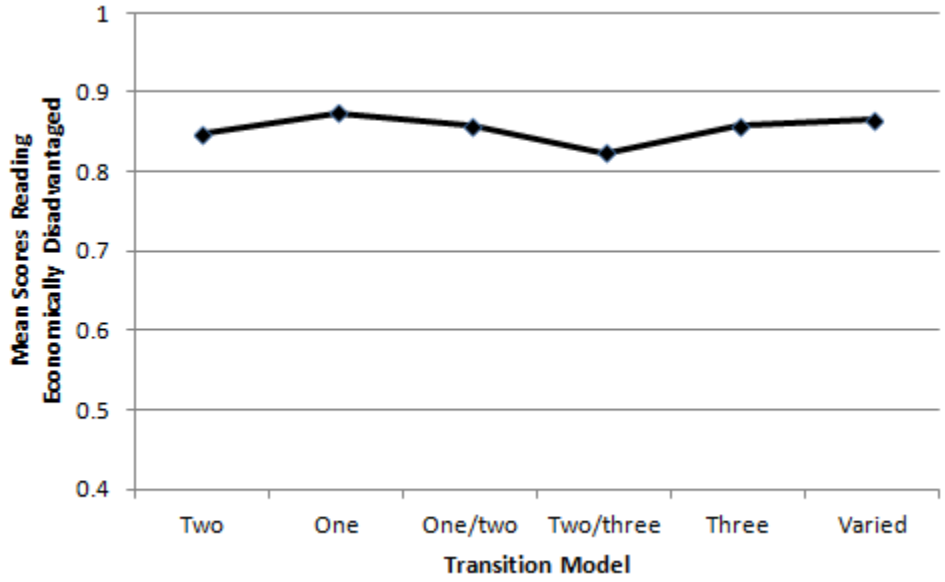

Figure 2 shows the mean scores by transition model in reading for economically disadvantaged students.

RQ3. To what extent did student achievement, as measured by the KRA administered to high school students by the end of their 11th grade cohort year, differ based on the number of involuntary building transitions experienced by students with learning disabilities?

H3. Student achievement, as measured by the KRA administered to students by the end of their 11th grade cohort year, differed based on the number of involuntary building transitions experienced by students with learning disabilities.

Table 15 contains the descriptive statistics for transitions versus learning disabilities. The total of scores, *n*, equaled 572. The mean had a range from 0.710 to 0.701. The range of the standard deviation went from a low of 0.209 to a high of 0.313.

Table 15

Summary of Descriptive Statistics Transitions v. Learning Disabilities Reading

Transition Model	*n*	Mean	*SD*
Two-transition model	259	0.715	0.242
One-transition model	243	0.750	0.302
One/two-transition model	86	0.746	0.313
Two/three-transition model	52	0.712	0.212
Three-transition model	60	0.710	0.229
Varied-transition model	92	0.791	0.209

The results of the one-way ANOVA, as shown in Table 16, did not indicate a statistically significant difference among the means, which indicates the number of involuntary transitions did not affect reading performance for students with learning disabilities. H3 was not supported. The *p*-value was 0.193, 0.093 more than required to show significance. *F* had a value of 1.482.

Table 16

Summary One-way ANOVA Analysis on Learning Disabilities Reading

Cases	*SS*	*df*	Mean	*F*	*p*
Transitions	0.518	5	0.104	1.482	0.193
Learning Disabilities Reading	54.922	786	0.070		

The mean scores, as illustrated in Figure 3, show the varied-transition model had the highest value. Of all reading results, this was the only time for mean scores in which

this category of transition type had the highest value. It was also the only time in which the three-transition model had the lowest value in reading.

Figure 3. Mean Scores for Reading, Students with Learning Disabilities

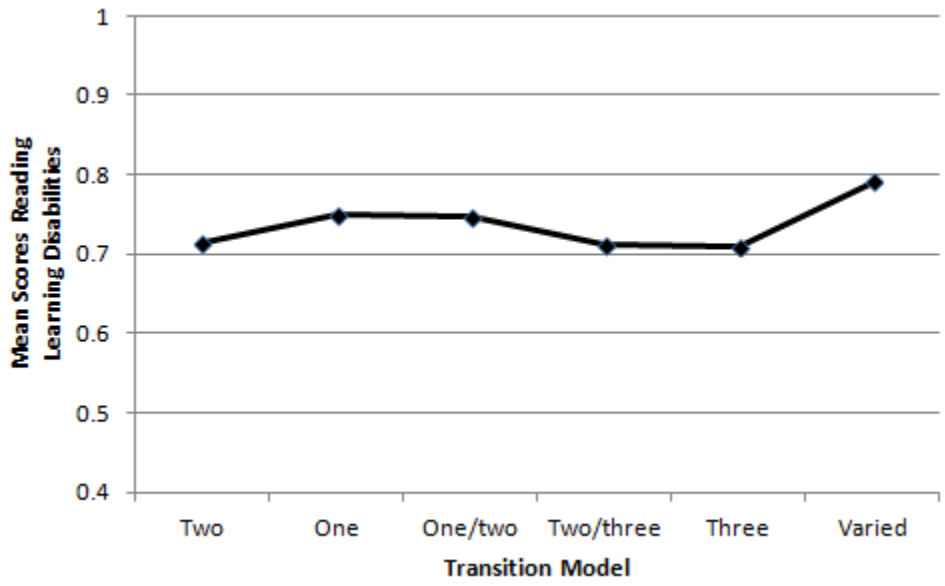

Figure 3 shows the mean scores by transition model in reading for students with learning disabilities.

The variation in mean scores did not illustrate a significance was found between transitions. The difference between the two-transition model and the varied-transition model had a *p*-value of 0.16, which neared but did not meet the threshold of significance.

RQ4. To what extent did student achievement, as measured by the KRA administered to high school students by the end of their 11th grade cohort year, differ based on the number of involuntary building transitions experienced by ELL students?

H4. Student achievement, as measured by the KRA administered to students by the end of their 11th grade cohort year, differed based on the number of involuntary building transitions experienced by ELL students.

The total of scores, *n*, equaled 272. Along with the *n* values, Table 17 shows the highest mean value to be 0.738, the one-transition model, and the lowest value 0.445, the two/three-transition model, for ELL students reading. The highest value of *SD* was in the three-transition model with 0.396 and the lowest in the two-transition model with 0.342.

Table 17

Summary of Descriptive Statistics Transitions v. ELL Reading

Transition Model	*n*	Mean	*SD*
Two-transition model	109	0.599	0.342
One-transition model	51	0.738	0.378
One/two-transition model	23	0.605	0.355
Two/three-transition model	23	0.445	0.379
Three-transition model	39	0.586	0.396
Varied-transition model	27	0.681	0.386

ELL reading had the lowest *p*-value, 0.036 of all categories in reading as can be seen in Table 18. The data seem to indicate this particular group was impacted greater by the number of involuntary transitions than any other group. A statistically significant difference was found among the means and H4 was supported. *F* was valued at 2.416.

Table 18

Summary One-way ANOVA Analysis on ELL Reading

Cases	*SS*	*df*	Mean	*F*	*p*
Transitions	1.614	5	0.323	2.416	0.036
ELL Reading	35.531	266	0.134		

The post hoc comparison, seen in Table 19, for ELL reading between the one-transition model and the two/three-transition model had the lowest *p*-value of all post hoc analyzes in reading and math with a value of 0.018. The *p*-value indicates the one-transition model students performed better than the two/three-transition model students.

Table 19

Post Hoc Comparisons – By Transition for ELL Reading

Transition Model	Transition Model	Mean Difference	*SE*	*t*	*p* tukey
One-transition model	Two/three-transition model	0.293	0.092	3.192	0.018

The mean scores as illustrated in Figure 4 illustrate the significance between the one-transition model and the two/three-transition model. The two-transition model, the one-transition model, and the three-transition model were very closely grouped together. Students in the varied-transition model performed slightly lower than those in the one-transition model. Student scores in the one-transition model were again the highest and in the two/three-transition model student scores were the lowest for ELL students in reading.

Figure 4. Mean Scores for Reading, ELL Students

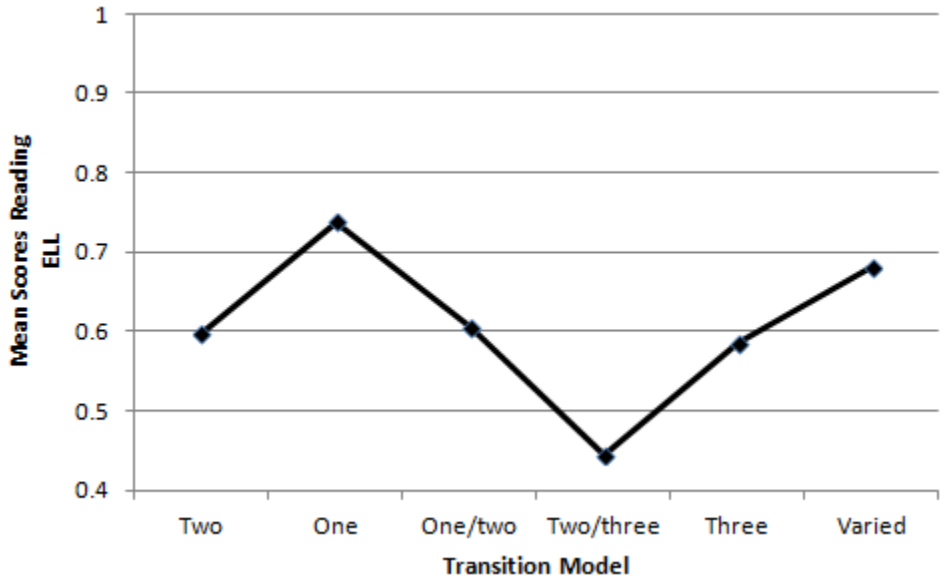

Figure 4 shows the mean scores by transition model in reading for ELL students.

RQ5. To what extent did student achievement, as measured by the KRA administered to high school students by the end of their 11th grade cohort year, differ based on the number of involuntary building transitions experienced by male and female students?

H5. Student achievement, as measured by the KRA administered to students by the end of their 11th grade cohort year, differed based on the number of involuntary building transitions experienced by male and female students.

In Table 20 the total of scores, *n*, equaled 830. The highest mean score was 0.929 in the one/two-transition model. The lowest mean score was 0.886 in the two/three-transition model. *SD* ranged from 0.070 to 0.103. The summary for descriptive statistics transitions versus female reading is shown in Table 20.

Table 20

Summary of Descriptive Statistics Transitions v. Female Reading

Transition Model	*n*	Mean	*SD*
Two-transition model	267	0.905	0.102
One-transition model	263	0.922	0.103
One/two-transition model	93	0.929	0.083
Two/three-transition model	54	0.886	0.085
Three-transition model	60	0.907	0.070
Varied-transition model	93	0.917	0.079

With a *p*-value of 0.040, a statistically significant difference was found among the means for female reading, indicating the number of involuntary transitions did have an effect on student performance on the KRA as shown in Table 21. The value of *F* was 2.345. H5 was supported for female students reading.

Table 21

Summary One-way ANOVA Analysis on Female Reading

Cases	*SS*	*df*	Mean	*F*	*p*
Transitions	0.105	5	0.021	2.345	0.040
Female Reading	7.403	824	0.009		

In Table 22, the post hoc comparison shows a *p*-value of 0.076, indicating significance between the one/two-transition model and the two/three-transition model. The post hoc comparisons also indicated a possible significance between the one-

transition model and the two/three-transition model with a *p*-value of 0.102, which is only 2/1000ths above the threshold for significance.

Table 22

Post Hoc Comparisons – By Transition for Female Reading

Transition Type	Transition Type	Mean Difference	*SE*	*t*	*p* tukey
One/two-transition model	Two/three-transition model	0.043	0.016	2.676	0.076
One-transition model	Two/three-transition model	0.036	0.014	2.559	0.102

The mean score significance between the one/two-transition model and the two/three transition model is illustrated in Figure 5. The near significance between the one-transition model and two/three-transition model is shown as well. Mean scores of the one/two-transition model indicate this particular transition type provided the best setting for females in reading and two/three-transition model the least conducive setting.

Figure 5. Mean Scores for Reading, Female Students

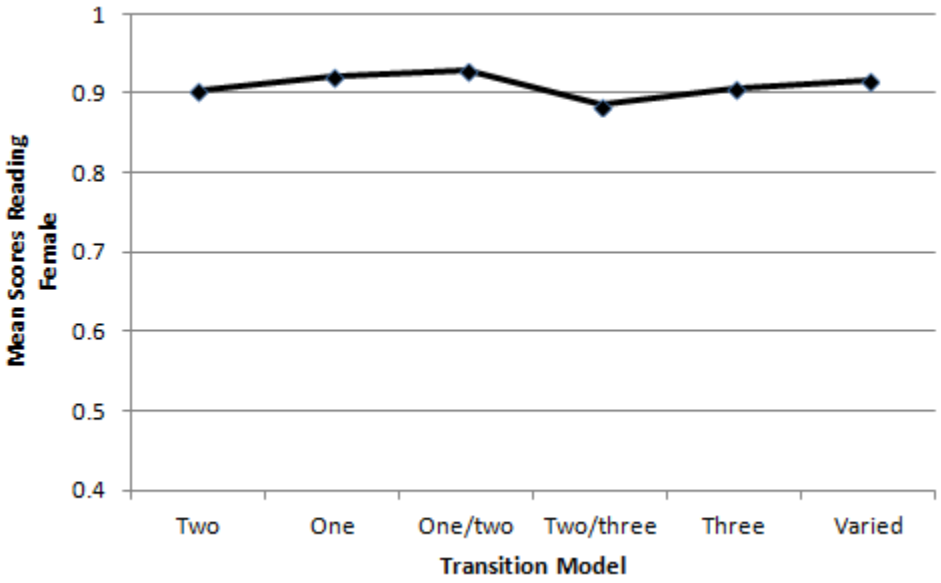

Figure 5 shows the mean scores by transition model in reading for female students.

For males in reading, Table 23 shows the total of scores, *n*, equaled 831. The mean ranged from 0.869 to 0.896. The highest mean value was associated with the one-transition model and the lowest with the one/two-transition model. The standard deviation ranged from 0.077, the three-transition model, to 0.138 in the one-transition model.

Table 23

Summary of Descriptive Statistics Transitions v. Male Reading

Transition Model	*n*	Mean	*SD*
Two-transition model	267	0.880	0.109
One-transition model	264	0.896	0.138
One/two-transition model	93	0.869	0.136
Two/three-transition model	54	0.879	0.081
Three-transition model	60	0.894	0.077
Varied transition model	93	0.882	0.108

The results of the one-way ANOVA did not indicate a statistically significant difference among the means, indicating the number of involuntary school-to-school transitions on male reading did not impact KRA scores, as shown in Table 24. *F* had a value of 0.999 and the value of *p* was 0.417. H5 was not supported for male reading.

Table 24

Summary One-way ANOVA Analysis on Male Reading

Cases	SS	df	Mean	F	*p*
Transitions	0.071	5	0.014	0.999	0.417
Male Reading	11.693	825	0.014		

Figure 6 illustrates the mean scores for males in reading. The one-transition model can be seen to be slightly higher than the three-transition model. The one/two-transition model is clearly below the range of all other transition types. The lack of significance between transition types for male reading can be seen in Figure 6. Male

scores were highest in the one-transition model, which was only slightly higher than in the three-transition model.

Figure 6. Mean Scores for Reading, Male Students

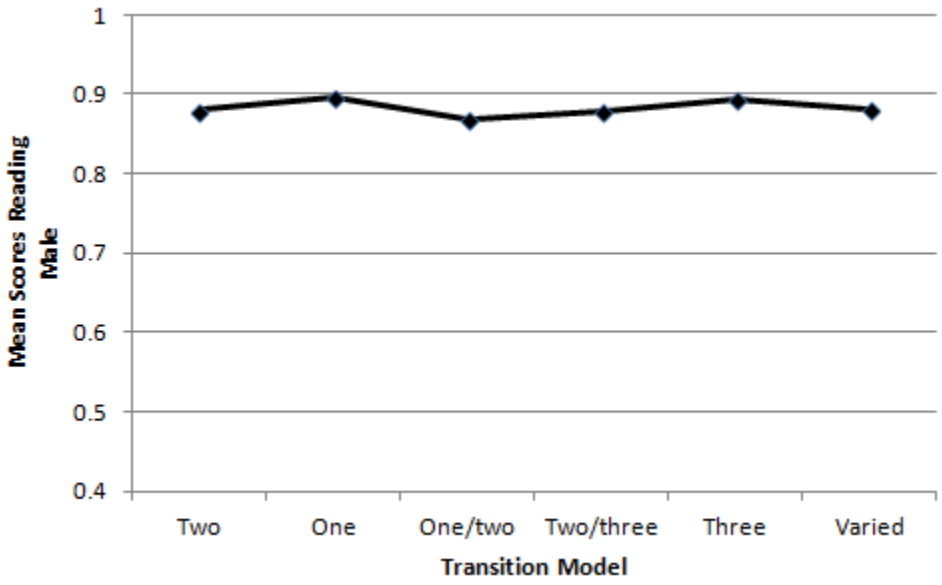

Figure 6 shows the mean scores by transition model in reading for male students.

RQ6. To what extent did student achievement, as measured by the KMA administered to high school students by the end of their 11th grade cohort year, differ based on the number of involuntary building transitions experienced by all students?

H6. Student achievement, as measured by the KMA administered to students by the end of their 11th grade cohort year, differed based on the number of involuntary building transitions experienced by all students.

The focus on the data now shifts to the effect the number of involuntary school-to-school transitions has on KMA scores. The total of scores, *n*, equaled 831 in Table 25. The two-transition model and the three-transition model had the highest mean score of 0.838. The mean score for the varied-transition model, 0.806, was the lowest mean score. The greatest *SD* value was 0.142 and the least was valued at 0.093.

Table 25

Summary of Descriptive Statistics Transitions v. All Students Mathematics

Transition Model	*n*	Mean	*SD*
Two-transition model	267	0.838	0.118
One-transition model	264	0.836	0.142
One/two-transition model	93	0.815	0.126
Two/three-transition model	54	0.827	0.104
Three-transition model	60	0.838	0.093
Varied-transition model	93	0.806	0.139

The value of *p* for all students mathematics, 0.267, did not show a statistically significant difference among the means, which suggests the number of involuntary school-to-school transitions does not affect all student KMA scores. *F* had a value of 1.289. The data, as shown in Table 26, does not support H6.

Table 26

Summary One-way ANOVA Analysis on All Students Mathematics

Cases	*SS*	*df*	Mean	*F*	*p*
Transitions	0.104	5	0.021	1.289	0.267
All Students Mathematics	13.334	825	0.016		

The mean scores, as illustrated in Figure 7, show the two-transition model, the one-transition model, and the three-transition model results are grouped closely together and are higher than all other transition types. The varied-transition model results were the lowest of all transition types.

Figure 7. Mean Scores for Mathematics, All Students

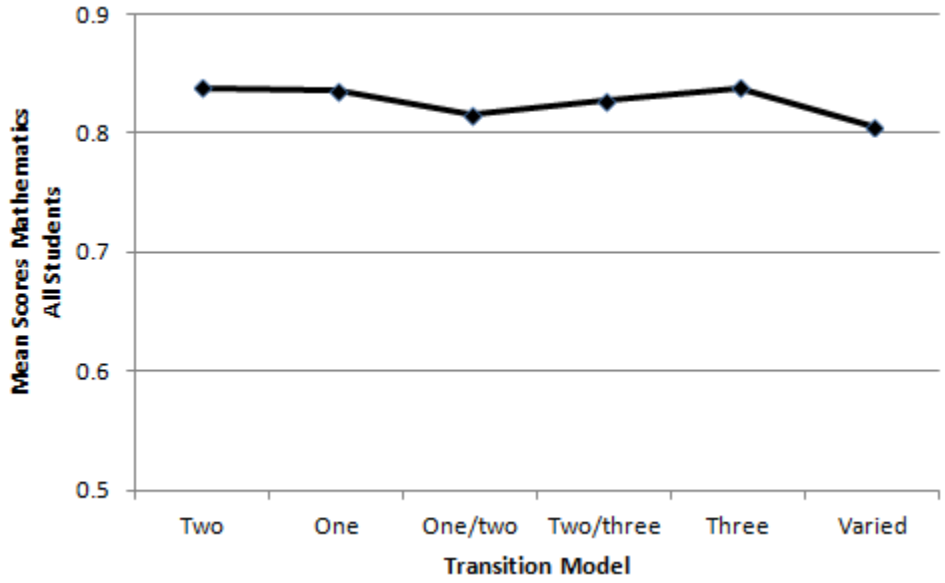

Figure 7 shows the mean scores by transition model in mathematics for all students.

RQ7. To what extent did student achievement, as measured by the KMA administered to high school students by the end of their 11th grade cohort year, differ based on the number of involuntary building transitions experienced by economically disadvantaged students?

H7. Student achievement, as measured by the KMA administered to students by the end of their 11th grade cohort year, differed based on the number of involuntary building transitions experienced by economically disadvantaged students.

Table 27 provides the descriptive statistics for transitions versus economically disadvantaged students' mathematics. The total of scores, *n*, equaled 831. The mean score ranged from the one/two-transition model at 0.745 to the two-transition model at 0.778. The highest *SD* value was 0.185 and the lowest was 0.119.

Table 27

Summary of Descriptive Statistics

Transitions v. Economically Disadvantaged Mathematics

Transition Model	*n*	Mean	*SD*
Two-transition model	267	0.778	0.158
One-transition model	264	0.785	0.185
One/two-transition model	93	0.745	0.171
Two/three-transition model	54	0.770	0.119
Three-transition model	60	0.776	0.127
Varied-transition model	93	0.751	0.163

Table 28 shows the data for economically disadvantaged mathematics had a *p*-value of 0.302 and an *F* value of 1.211. A statistically significant difference among means, therefore, was not found for school-to-school transitions for economically disadvantaged students in mathematics. H7 was not supported by the data. The implication is that involuntary school-to-school transitions did not have an effect on KMA scores for economically disadvantaged students.

Table 28

Summary One-way ANOVA Analysis on Economically Disadvantaged Mathematics

Cases	*SS*	*df*	Mean	*F*	*p*
Transitions	0.165	5	0.033	1.211	0.302
Economically Disadvantaged Mathematics	22.468	825	0.027		

The mean scores presented in Figure 8 show all transition types are closely grouped together. The one-transition model and the one/two-transition model represent the highest and lowest mean score respectively.

Figure 8. Mean Scores for Mathematics, Economically Disadvantaged Students

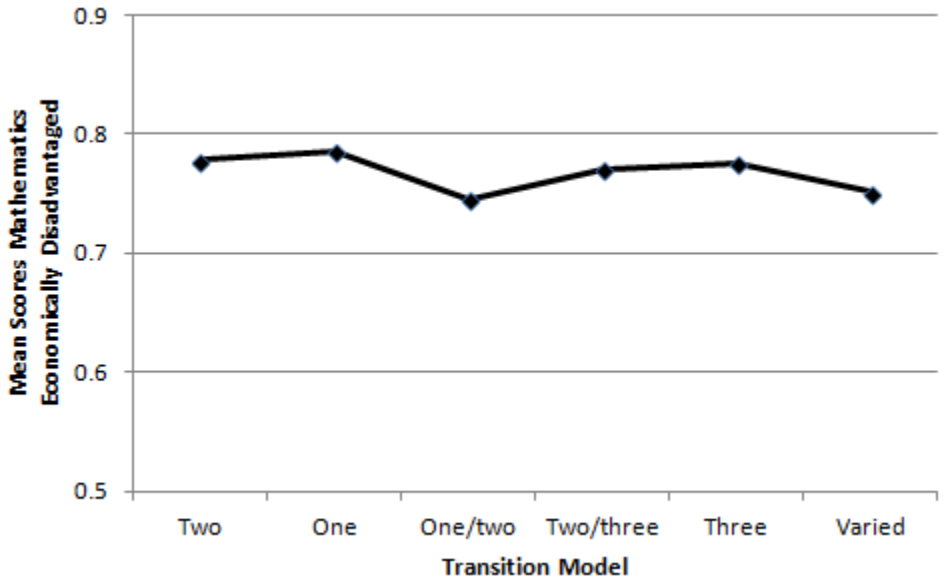

Figure 8 shows the mean scores by transition model in mathematics for economically disadvantaged students.

RQ8. To what extent did student achievement, as measured by the KMA administered to high school students by the end of their 11th grade cohort year, differ based on the number of involuntary building transitions experienced by students with learning disabilities?

H8. Student achievement, as measured by the KMA administered to students by the end of their 11th grade cohort year, differed based on the number of involuntary building transitions experienced by students with learning disabilities.

For descriptive statistics for learning disabilities mathematics, the total of scores, *n*, equaled 795. The varied-transition model had the highest mean value of 0.661 and the

three-transition model had the lowest value of 0.595. The standard deviation ranged from 0.206 to 0.354. The data is shown in Table 29.

Table 29

Summary of Descriptive Statistics Transitions v. Learning Disabilities Mathematics

Transition Model	*n*	Mean	*SD*
Two-transition model	258	0.648	0.263
One-transition model	245	0.633	0.338
One/two-transition model	87	0.617	0.354
Two/three-transition model	53	0.625	0.206
Three-transition model	60	0.595	0.247
Varied-transition model	92	0.661	0.253

The data for summary means and standard deviations on learning disabilities mathematics are found in Table 30. The value of *F* was 0.543. The value of *p*, 0.744, does not indicate a statistically significant difference among means, suggesting the number of involuntary school-to-school transitions did not impact scores on the KMA for students with learning disabilities. H8 was not supported by the data.

Table 30

Summary One-way ANOVA Analysis on Learning Disabilities Mathematics

Cases	*SS*	*df*	Mean	*F*	*p*
Transitions	0.234	5	0.047	0.543	0.744
Learning Disabilities Mathematics	68.061	789	0.086		

Figure 9 highlights how the varied-transition model had the highest mean score with the three-transition model underperforming all other transition types. All other transition types are closely grouped together.

Figure 9. Mean Scores for Mathematics, Students with Learning Disabilities

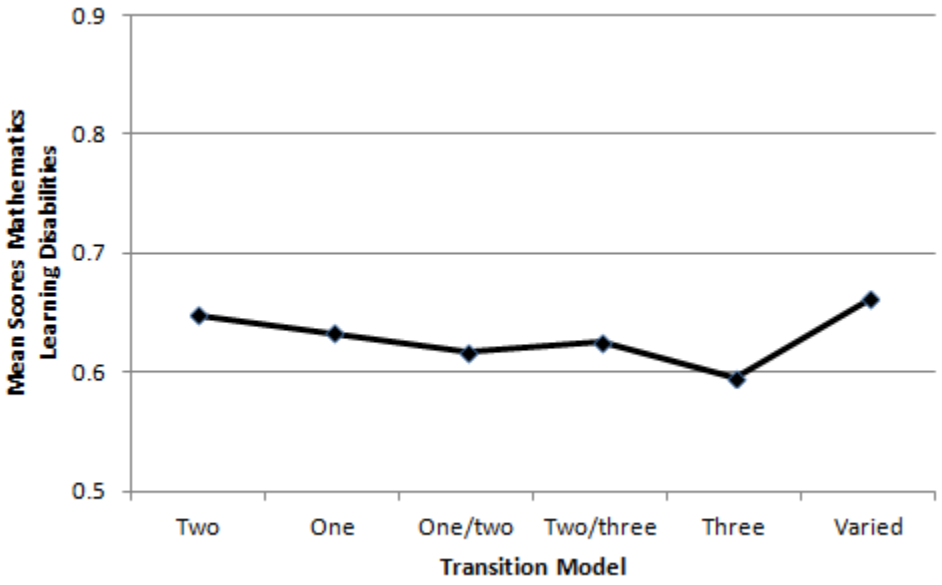

Figure 9 shows the mean scores by transition model in mathematics for students with learning disabilities.

RQ9. To what extent did student achievement, as measured by the KMA administered to high school students by the end of their 11th grade cohort year, differ based on the number of involuntary building transitions experienced by ELL students?

H9. Student achievement, as measured by the KMA administered to students by the end of their 11th grade cohort year, differed based on the number of involuntary building transitions experienced by ELL students.

ELL mathematics, as shown in Table 31, shows the varied-transition model had the highest mean score of 0.671. This mean score was 0.141 better than the one/two-

transition model's mean score of 0.537. The standard deviation ranged from 0.340 to 0.410. The total of scores, *n*, equaled 281.

Table 31

Summary of Descriptive Statistics Transitions v. ELL Mathematics

Transition Model	*n*	Mean	*SD*
Two-transition model	112	0.561	0.340
One-transition model	54	0.618	0.410
One/two-transition model	25	0.537	0.376
Two/three-transition model	22	0.604	0.340
Three-transition model	39	0.574	0.387
Varied-transition model	29	0.671	0.384

Table 32 shows the data for the summary means and standard deviations on ELL mathematics. The data showed *F* had a value of 0.606 and the value of *p* was 0.696. A statistically significant difference among the means was not found for ELL mathematics, thus, H9 was not supported indicating the number of involuntary school-to-school transitions did not have an effect on ELL student KMA scores.

Table 32

Summary One-way ANOVA Analysis on ELL Mathematics

Cases	SS	df	Mean	F	p
Transitions	0.412	5	0.082	0.606	0.696
ELL Mathematics	37.400	275	0.136		

Figure 10 reveals the varied-transition model as having the highest mean score in mathematics for ELL students. The other transition types are grouped closely together with the one/two-transition model having the lowest mean score.

Figure 10. Mean Scores for Mathematics, ELL Students

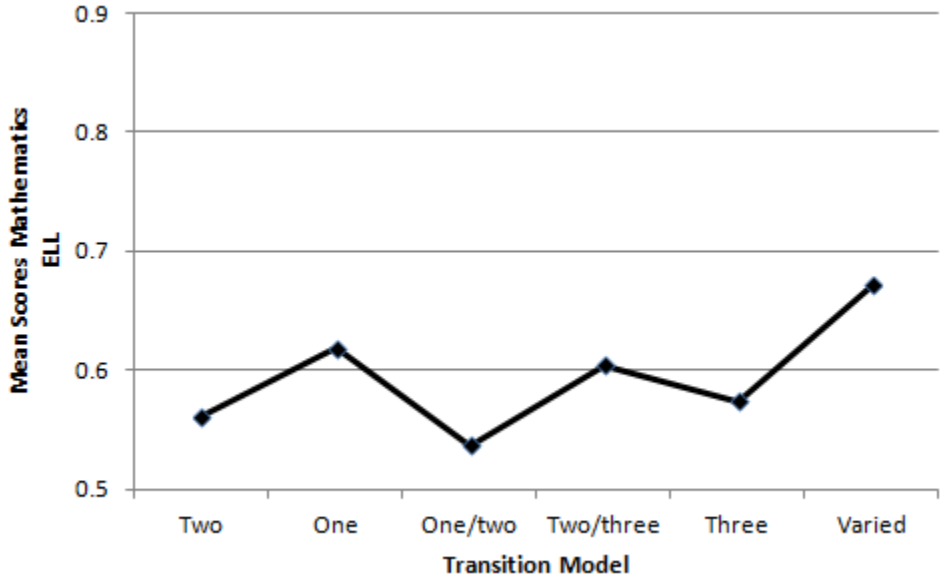

Figure 10 shows the mean scores by transition model in mathematics for ELL students.

RQ10. To what extent did student achievement, as measured by the KMA administered to high school students by the end of their 11th grade cohort year, differ based on the number of involuntary building transitions experienced by male and female students?

H10. Student achievement, as measured by the KMA administered to students by the end of their 11th grade cohort year, differed based on the number of involuntary building transitions experienced by male and female students.

Table 33 provides the descriptive statistics for transitions versus female mathematics. The mean score ranged from 0.812 to 0.843. The varied-transition model had the lowest mean score and the three-transition model had the highest. The standard

deviation range was from 0.099 at the three-transition model to 0.175 at the one-transition model. The total of scores, *n*, equaled 830.

Table 33

Summary of Descriptive Statistics Transitions v. Female Mathematics

Transition Model	*n*	Mean	*SD*
Two-transition model	267	0.840	0.141
One-transition model	263	0.832	0.175
One/two-transition model	93	0.828	0.137
Two/three transition model	54	0.825	0.112
Three-transition model	60	0.843	0.099
Varied-transition model	93	0.812	0.144

The results of the one-way ANOVA, as shown in Table 34, show the value of *F* as 0.595, and the value of *p* equaling 0.704. H10 was not supported due to the data failing to show a statistically significant difference among the means for female mathematics. The number of involuntary school-to-school transitions, as indicated by the data, did not affect female student scores on the KMA.

Table 34

Summary One-way ANOVA Analysis on Female Mathematics

Cases	*SS*	*df*	Mean	*F*	*p*
Transitions	0.066	5	0.013	0.595	0.704
Female Mathematics	18.195	824	0.022		

Figure 11 shows the three-transition model as having the highest mean score. The varied-transition model is shown to have the lowest mean score. All other transition models are closely grouped together.

Figure 11. Mean Scores for Mathematics, Female Students

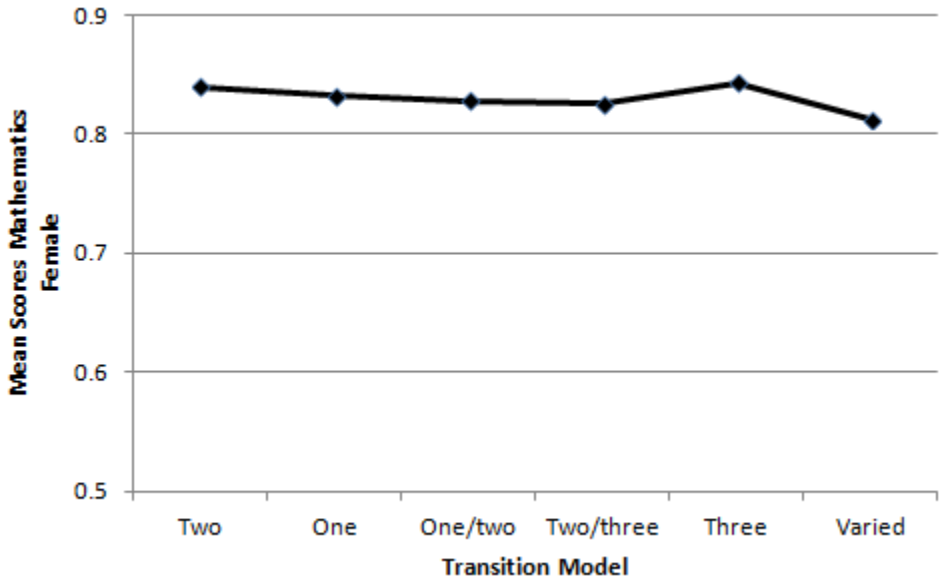

Figure 11 shows the mean scores by transition model in mathematics for female students.

In Table 35, the total of scores, *n*, equaled 831. The two-transition model had the highest mean score of 0.836. The one/two-transition model had the lowest mean score of 0.798. The range of the standard deviation was from 0.101 to 0.169.

Table 35

Summary of Descriptive Statistics Transitions v. Male Mathematics

Transition Model	*n*	Mean	*SD*
Two-transition model	267	0.836	0.131
One-transition model	264	0.835	0.165
One/two-transition model	93	0.798	0.169
Two/three-transition model	54	0.829	0.112
Three-transition model	60	0.831	0.101
Varied-transition model	93	0.804	0.157

Table 36 shows the summary of the one-way ANOVA analysis on male students' mathematics scores. *F* had a value of 1.563 and *p* a value of 0.168.

The value of *p*, while not indicating a statistically significant difference among the means, was the closest to a significance of all mathematics results. As with female mathematics, H10 for male mathematics was not supported. As with all other mathematics results, there appears to have been no effect of involuntary school-to-school transitions on KMA scores for male students.

Table 36

Summary One-way ANOVA Analysis on Male Mathematics

Cases	*SS*	*df*	Mean	*F*	*p*
Transitions	0.169	5	0.034	1.563	0.168
Male Mathematics	17.879	825	0.022		

Figure 12 shows the two-transition model, the one-transition model, the two/three-transition model, and the three-transition model to be grouped closely together and at the high end of the mean scores. The closeness of these scores makes it difficult to determine with confidence if any single transition type provides a better learning environment than any other. The one/two-transition model and the varied-model are closely paired and at the lower end of the mean scores and again make it difficult to determine with confidence which transition type provides the least conducive environment for academic achievement in mathematics for males.

Figure 12. Mean Scores for Mathematics, Male Students

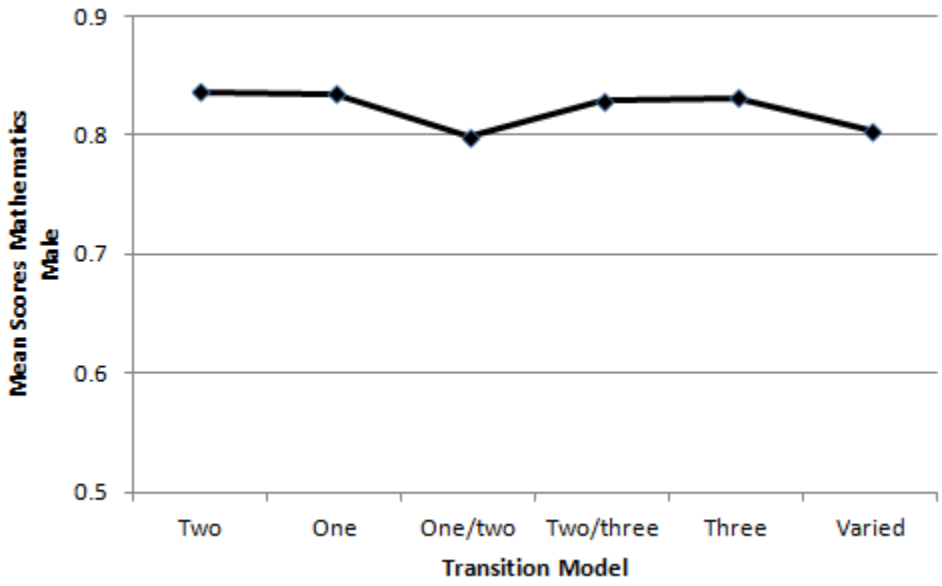

Figure 12 shows the mean scores by transition model in mathematics for male students.

Additional Analysis

During the school years of 1998-1999 through 2012-2013, many districts were consistent regarding the number of involuntary school-to-school transitions in their district. At no point during the time data were collected did these districts vary in the number of transitions their students experienced. These districts were considered stable

and are found in the one-transition model, the two-transition model, and the three-transition model. During this same time frame, there were districts that changed their grade configuration, thus impacting the number of involuntary school-to-school transitions their students would experience. For example, a district may have transitioned from a K/8 – 9/12 grade-span configuration to a K/5 – 6/8 – 9/12 grade-span configuration. These types of transitions were considered variable and found in the one/two-transition model, the two/three-transition model, and the varied transition model. One-way ANOVAs were conducted to determine if either the stable transition types, in order of frequency, of the two-transition model, the one-transition model, and the three-transition model had a higher mean score than the variable transition types of the one/two-transition model, the two/three-transition model, and the varied-transition model. Table 37 provides the data resulting from the analysis on the mean of reading. With the exception of learning disabilities, the two-transition model had the highest mean score in reading. The data suggests, for reading, the two-transition model provided the best learning environment.

Table 37

Mean Scores for All Groups for Reading

	Two-transition model	One-transition model	Three-transition model	Variable Transition Types
All Students	0.912	0.894	0.901	0.896
Economically Disadvantaged	0.875	0.849	0.864	0.846
Learning Disabilities	0.754	0.721	0.762	0.738
ELL	0.737	0.604	0.632	0.530
Female	0.923	0.906	0.913	0.914
Male	0.897	0.881	0.890	0.873

Table 38 shows the data for the mean scores of all groups for mathematics. The highest mean scores for all students, learning disabilities, female, and male were found in the one-transition model. Economically disadvantaged and ELL high mean scores were both in the two-transition model. The data suggests for mathematics, the one-transition model may be the best environment for mathematics.

Table 38

Mean Scores for All Groups for Mathematics

	Two-transition model	One-transition model	Three-transition model	Variable Transition Types
All Students	0.838	0.838	0.819	0.822
Economically Disadvantaged	0.786	0.780	0.764	0.758
Learning Disabilities	0.638	0.657	0.645	0.628
ELL	0.617	0.572	0.616	0.577
Female	0.833	0.841	0.825	0.827
Male	0.837	0.838	0.816	0.812

The results of the additional analysis would seem to indicate districts that have remained consistent and stable concerning transitions outperform districts that were not consistent with transitions. The data suggests the inconsistency in transitions or other more unique transition type's impact student performance on both the KRA and KMA.

Summary

This chapter included the descriptive statistics and findings of the hypothesis testing. One-way ANOVAs were conducted for all students, economically disadvantaged students, students with learning disabilities, ELL students, male students, and female students to determine if involuntary school-to-school transitions had a significant effect on KRA and KMA scores. Significance was found in the following groups for reading: all students, economically disadvantaged, ELL, and Female. Significance was not found for any group in mathematics. Chapter five includes a study summary consisting of an

overview of the problem, purpose statement and research questions, review of the methodology, and major findings. Following the study summary are the findings related to the literature. The conclusion section ends the chapter with implications for action, recommendations for future research, and concluding remarks.

Chapter Five

Interpretation and Recommendations

The purpose of this quantitative study was to determine if the number of involuntary school-to-school transitions students experienced had an effect on their performance on the annual KRA and KMA at the high school level for the school years 2010-2011 through 2012-2013. Chapter five presents an overview of the problem, the purpose statement and research questions, a review of the methodology, and major findings of the study. Additionally, chapter five includes findings related to the literature, implications for actions, and recommendations for future research.

Study Summary

This study examined involuntary school-to-school transitions students encounter in their academic career and the effect those transitions may have had on the academic achievement of all students and the subgroups of economically disadvantaged students, students with learning disabilities, ELL students, and gender. The population of this study was public high school students in their cohort year of 11th grade in Kansas who were eligible to take the KRA and KMA and whose scores were reported to the state. Academic achievement was determined by student results on the KRA and KMA. Scores were collected for the school years of 2010-2011, 2011-2012, and 2012-2013. Transition data were collected for all public school districts in Kansas for the school years 1998-1999 to 2012-2013.

A review of the literature provided information on how change impacts people, particularly children. The literature review also contained information regarding the

various types of grade-span configurations and the impact transitions have related to each. A history of grade spans followed. A review of NCLB and its impact continued the literature review. Finally, the literature review concluded with information regarding the subgroups reported in this study.

KRA and KMA scores were used to measure academic achievement. The numbers of involuntary school-to-school transitions were determined for each district in Kansas. The research questions were analyzed using one-way ANOVAs.

Overview of the problem. Educators face increased accountability for student academic success due to NCLB. The change students encounter during their academic career through involuntary school-to-school transitions may affect their academic performance. To assist students during these transitions, educators need a better understanding of how these transitions may impact student academic performance. The current study investigated the impact involuntary school-to-school transitions had on student academic achievement as determined by KRA and KMA scores.

Purpose statement and research questions. The purpose of this quantitative study was to determine if the number of involuntary school-to-school transitions students experienced had an effect on their academic performance on the annual KRA and KMA at the high school level for the school years 2010-2011, 2011-2012, and 2012-2013. An additional purpose of the study was to determine if the transitions had a different effect on students' assessment performance based on students' economic status, Individualized Education Program (IEP) status, English Language Learner (ELL) status, and gender. Ten research questions were developed to guide the research in order determine if the independent variable of building transitions had an effect on the dependent variable of

student academic achievement as measured by the KRA and KMA. The research questions were: (1) To what extent did student achievement, as measured by the KRA administered to high school students by the end of their 11th grade cohort year, differ based on the number of involuntary building transitions experienced by all students?; (2) To what extent did student achievement, as measured by the KRA administered to high school students by the end of their 11th grade cohort year, differ based on the number of involuntary building transitions experienced by economically disadvantaged students?; (3) To what extent did student achievement, as measured by the KRA administered to high school students by the end of their 11th grade cohort year, differ based on the number of involuntary building transitions experienced by students with learning disabilities?; (4) To what extent did student achievement, as measured by the KRA administered to high school students by the end of their 11th grade cohort year, differ based on the number of involuntary building transitions experienced by ELL students?; (5) To what extent did student achievement, as measured by the KRA administered to high school students by the end of their 11th grade cohort year, differ based on the number of involuntary building transitions experienced by male and female students?; (6) To what extent did student achievement, as measured by the KMA administered to high school students by the end of their 11th grade cohort year, differ based on the number of involuntary building transitions experienced by all students?; (7) To what extent did student achievement, as measured by the KMA administered to high school students by the end of their 11th grade cohort year, differ based on the number of involuntary building transitions experienced by economically disadvantaged students?; (8) To what extent did student achievement, as measured by the KMA administered to high school students by

the end of their 11th grade cohort year, differ based on the number of involuntary building transitions experienced by students with learning disabilities?; (9) To what extent did student achievement, as measured by the KMA administered to high school students by the end of their 11th grade cohort year, differ based on the number of involuntary building transitions experienced by ELL students?; and (10) To what extent did student achievement, as measured by the KMA administered to high school students by the end of their 11th grade cohort year, differ based on the number of involuntary building transitions experienced by male and female students?

Review of the methodology. A quantitative non-experimental research design using archival data of the high school-level scores on the KRA and KMA was used in this study. The population of the study consisted of students who were in the cohort year of 11th grade. Data were analyzed through one-way ANOVAs using JASP Version 0.7.1.12 and confirmed with SPSS® Statistics Faculty Pack 23 for Windows to determine the degree of difference between the independent variable of building transitions and the dependent variable of academic achievement. The dependent variable consisted of assessment scores in the categories of all students, economically disadvantaged students, students with learning disabilities, ELL students, and gender. The Tukey HSD procedure was used as the follow-up test to be conducted if any statistically significant interactions occurred in the analysis of all hypotheses. No post hoc test was run for those ANOVA F-values that were not significant.

Major findings. The first five research questions focused on the effect of involuntary building transitions on academic achievement as measured by the KRA. The results of the one-way ANOVAs determined a significance exists for H1 (all students),

H2 (economically disadvantaged students), H4 (ELL students), and H5 (females). The findings for these particular research questions indicate involuntary building transitions do have an effect on student academic achievement as measured by the KRA. A significance was not found for H3 (students with learning disabilities) and H5 (males) thus indicating involuntary building transitions do not affect academic achievement as measured by the KRA for students with learning disabilities and male students.

In the post hoc analysis, significance was found between the two-transition model and the better performing one-transition model for H1. For H2 and H4 there was significance between the one-transition model and the two/three-transition model, the result of a district changing its grade configuration during the time of this study. The one-transition model had higher mean scores than the two/three-transition model for both research questions. Significance between the one/two-transition model and the two/three-transition model was found in H5 for female students. A possible significance was also found in H5 for female students between the one-transition model and the two/three-transition model. The last five research questions focused on the effect of involuntary building transitions on academic achievement as measured by the KMA. No significance was found in the one-way ANOVAs for hypotheses 6 - 10 indicating involuntary building transitions have no effect on academic achievement as measured by the KMA. The analysis of data did not find significance between any of the transition types for the last five hypotheses.

The mean scores for the first five research questions indicate students in the one-transition model outperformed all other transition models. The mean scores for the last five research questions did not indicate students in any one particular transition type

outperformed students in any other. Additional analysis was conducted using one-way ANOVAs to determine if stable transition types, those in which districts did not reconfigure during the time of the collection of data, thus creating additional transitions, differed from variable transition types. The results indicate the two-transition model had the highest mean score in reading, suggesting this type of transition provides the best learning environment for reading. The results relating to mathematics suggest the one-transition model may provide the best learning environment for students.

Findings Related to the Literature

The current study was conducted to build on the knowledge base of the impact involuntary school-to-school transitions may have on academic achievement. A review of the literature regarding the impact of transitions on academic achievement was presented in chapter two. In this section is a presentation of the relationship between the literature and the current study.

When comparing the results of reading to mathematics, the current study found reading scores were impacted by involuntary school-to-school transitions for all students, economically disadvantaged students, ELL students, and gender (female), while mathematic scores were not impacted. The current study supports the findings of Anderman and Midgley (1996) as well as Johnson (2002) who found academic achievement in reading was impacted by transitions more so than mathematics. Contradictory to the current study are the findings of Rockoff and Lockwood (2010) and Schwerdt and West (2011) whose findings indicated both reading and mathematics achievement was affected by transitions. Studies by Whitley et al. (2007) and Malaspina and Rimm-Kaufman (2008) found transitions had no effect on academic achievement.

Rockoff and Lockwood (2010), and Dove et al. (2010) determined while declines occurred, transitions did not have a significant impact on academic achievement in either reading or mathematics. Therefore, the current study contradicts these studies.

Economically disadvantaged. The current study found reading scores were affected by involuntary building transitions, but mathematics scores were not. Research by Entwisle and Alexander (1990) found economic resources impacted pre-mathematics skills of children. Understanding this, it would seem logical to predict the mathematic scores for the current study would have shown significance. The current results may indicate economically disadvantaged students can overcome any pre-mathematics skills deficits as they progress through school. Duncan et al (1994) and Morrissey et al. (2013) both determined students living in continual poverty underperform compared to students who are not economically disadvantaged. The current study contradicts these studies with regards to mathematics.

Learning Disabilities. The results of the current study seem to support the research conducted by Earnest (1994) and Forgan and Vaughn (2000) that found little difference between students with a learning disability and those without a learning disability during transitions from elementary to sixth grade. Anderman (1998) discussed how the determining factor for how students with learning disabilities perform may be related to the difficulty, or lack of difficulty, that the student encounters making the transition. If this was the case, the current study would seem to indicate that students with learning disabilities are transitioning well. However, the transition type that seemed to be best for these students was found in the varied-transition model. The varied-transition model consisted of grade configurations used by districts that were insufficient

in number to be classified independently, making it very difficult to determine exactly how transitions affect this particular subgroup.

English Language Learners. It may take an ELL student, according to Hakuta et al. (2000), up to seven years to attain academic language proficiency. Yet NCLB required all students who have been in the United States for only one year to take the state assessments. As a result, Menken (2010) points out these students are assessed in the beginning stages of learning the language required to be successful on the assessments. The current study adds to the current literature by indicating the number of involuntary building transitions has an impact on reading achievement. The value of *p* in the current study for ELL students was 0.036, which was the lowest *p*-value in reading and mathematics. The implication of this is that not only does the lack of language skills affect ELL academic achievement, but low academic performance may be compounded when building transitions are included.

Gender. Research that examined the transition to middle school/junior high was mixed regarding which gender performed better. Chung et al. (1998) determined boys had more of an academic decline than girls. Simmons et al. (1987) found both genders declined after the transition. Anderman and Midgley (1997) found girls experienced declines in academic achievement. Benner and Graham (2009), while finding urban girls had more psycho-social issues than boys after the transition to high school, still outperformed them academically. According to the ETS Gender Study no particular gender outperforms another (Cole, 1997). The ETS Gender Study, due to the significant number of students used in the study, may be one of the most accurate studies on academic achievement and gender. In the current study, females had only a slightly

higher value for *p*, 0.040, than ELL students in reading. These findings are contradictory to Cole (1997) and suggest a particular gender, males, does outperform another in reading. Concerning mathematics, the current study would support Cole (1997) since no significance was found for females or males.

Conclusions

It was stated in chapter one that educators need to understand how involuntary building transitions may affect student academic achievement. This study examined KRA and KMA scores and the possible impact of involuntary building transitions on those scores. In this section are implications for actions, recommendations for future research, and concluding remarks.

Implications for action. The findings of this study strongly suggest educators focus on ensuring that reading skills are not affected by building transitions. Student progress should be monitored and instruction should be designed to support students before building transitions occur and followed through after building transitions occur. Communication regarding student performance in reading between building levels should be strong and clear. Particular attention should be paid to the two lowest performing subgroups of ELL students and females. Instructional time and curriculum should be reviewed to determine if students are receiving adequate time in reading courses before and after building transitions. Transition plans should be designed to meet student academic needs.

However, mathematics cannot be ignored. The current changes in state assessments, which have a stronger emphasis on mathematical understanding, may have implications on future mathematic scores (KSDE, 2010b). Students will be required to

do more than solve mathematical equations. Students will be required to read problems that consist of content-specific academic vocabulary. As a result, scores may be impacted by a student's reading skills that may result in low mathematic scores if educators are not proactive in preparing their students to perform better in reading.

This study determined for reading the two-transition model provided the best learning environment, while the one-transition model provided the best learning environment for mathematics. As educators consider changing grade configurations, they should not, based on these results, require their students to encounter more than two transitions during their educational career.

Recommendations for future research. The current study focused on all public school districts in Kansas. It did not analyze the data pertaining to district size or classification such as urban, suburban, or rural. A future study could be conducted to determine if involuntary building transitions had similar effects on student academic achievement based on school setting or size. Such a study would be useful especially if the results varied based on school size or setting and would provide even more precise information to educators.

District scores and not individual scores were analyzed in this study. Future research could be conducted in which student scores were analyzed for students who would be categorized in multiple subgroups. For example, a student may be identified as economically disadvantaged as well as ELL. This future research could determine if being identified in more than one group had an even more significant impact than being identified in only one group.

Howley (2002) indicated the results of research conducted in one state or region may vary from the same research being conducted in another state or region. Replication of this study would be useful in determining if Howley was correct.

The current study used scores that were based on the Kansas State Standards. With the revisions of the standards and thus creation of new assessments, which were implemented in the 2014-2015 school year, a replication of this study would prove to be a valuable addition to the literature. A replication of this study with the new data would either prove or disprove the current study as a predictor to future mathematic assessment performance.

Concluding remarks. The purpose of this study was to determine if involuntary building transitions had an effect on student academic performance on the KRA and KMA. This study determined that involuntary building transitions did impact student academic success as measured by the KRA for all students, economically disadvantaged students, ELL students, and females. However, the study found that reading scores for students with learning disabilities, or male students in general, were not affected by involuntary building transitions. It also found no significance related to the impact of involuntary building transitions on KMA scores. With the continuing accountability for student success for all students and subgroups, educators must continue to understand fully any possible influence on student academic success. Understanding this will help educators better understand the impact of involuntary building transitions on student academic success, resulting in their ability to make better-informed decisions regarding grade-configurations and transition programming.

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Appendices

Appendix A: Request for Data Submission

Sarah Vanderpool <SVanderpool@ksde.org>

Tue 8/4/2015 2:15 PM

To:TimothyPMurray <TimothyPMurray@stu.bakeru.edu>;

Mr. Murray,

We have received your data request and assigned it #3149 in our internal tracking system.

I will be in touch as your request moves throughout the data request process.

Thank you,

Sarah J. Vanderpool
Data Compliance Officer
Information Technology
(785) 296-7943

MAIN: (785) 296-3201 | Landon State Office Building |900 SW Jackson St., Suite XXX | Topeka, KS 66612-1212 | www.ksde.org

From: SVanderpool@ksde.org [mailto:SVanderpool@ksde.org]
Sent: Tuesday, August 04, 2015 9:21 AM
To: timothypmurray@stu.bakeru.edu
Cc: DataRequest
Subject: Thank you for your Data Request

Thank you for your Data Request Submission. We will review the requirements of your request and get back with you as soon as possible. Thank you.

I have looked for this data on the K-12 Reports:	Yes
I have looked for this data on the Report Card:	Yes
First Name:	Timothy
Last Name:	Murray
Email:	timothypmurray@stu.bakeru.edu
Affiliation:	doctoral student
Affiliation Type:	Other

If Other (Please describe):	University
Address:	16216 W. 125th Ct
City:	Olathe
State:	KS
ZIP:	66062
Phone Number:	913-284-2919
When is the data needed:	9/4/15 if possible
Detailed Description:	I need the percentage of 11th grade students who scored proficient or above on the state reading and math assessments for each district. I need the results for the following subgroups: Economically disadvantaged, Special Education, ELL, Female, and Male.
Year(s) Needed:	2011, 2012, 2013
State Level:	No
District Level:	Yes
District Level Type:	All Districts
If Specific District(s) (please list):	

Building/School Level:	No
Building/School Level Type:	
If Specific Building(s)(please list):	
Individual Student:	No
Longitudinally Linked:	No
Grade:	Yes
Other Level:	No
If Other Level (please describe):	
N/A:	No
Gender:	Yes
Race/Ethnicity:	No

Free/Reduced Lunch/Paid Lunch:	Yes
English Learners:	Yes
Students with Disabilities:	Yes
Other Demographic:	No
If Other Demographic (please describe):	
Please Select Format:	Excel
If Other Format (please describe):	
Data Suppression:	No Cell Suppression - I need all individual records. If Restricted Data are requested, a Request for Personally-Identifiable Student Info document must be approved prior to granting access to this data.
Public Benefit from this project:	For my dissertation I am researching if the number of involuntary school-to-school transitions affect student achievement using results from state math and reading results. This information will assist educators in decisions regarding how to assist students with transitions and limit the possible negative effects of those transitions and/or assist educators when having to make decisions regarding grade span configurations and the number of school-to-school transitions students may have to make. The research on specific subgroups will provide needed information for each of these groups given the results may vary for each and each may need specialized attention.

Appendix B: Kansas Reading Standards (Assessed)

Standard, Benchmark, Indicator	Indicator
1.3.1	The student determines meaning of words or phrases using context clues from sentences or paragraphs.
1.3.3	The student determines meaning of words through structural analysis, using knowledge of Greek, Latin, and Anglo-Saxton roots, prefixes, and suffixes to understand complex words, including words in science, mathematics, and social studies.
1.3.4	The student identifies, interprets, and analyzes the use of figurative language, including similes, metaphors, analogies, hyperbole, onomatopoeia, personification, idioms, imagery, and symbolism.
1.4.2	The student understands the purpose of text features (e.g., title, graphs/charts and maps, table of contents, pictures/illustrations, boldface type, italics, glossary, index, headings, subheadings, topic and summary sentences, captions, sidebars, underlining, numbered or bulleted lists, footnotes, annotations) and uses such features to locate information in and to gain meaning from appropriate-level texts.
1.4.5	The student uses information from the text to make inferences and draw conclusions.
1.4.6	The student analyzes and evaluates how authors use text structure (e.g., sequence, problem-solution, comparison-contrast, description, cause-effect) to help achieve their purposes.
1.4.7	The student compares and contrasts varying aspects (e.g., characters' traits and motives, themes, problem-solution, cause-effect relationships, ideas and concepts, procedures, viewpoints, authors' purposes, persuasive techniques, use of literary devices, thoroughness of supporting evidence) in one or more appropriate level texts.
1.4.8	The student explains and analyzes cause-effect relationships in appropriate-level narrative, expository, technical, and persuasive texts.
1.4.9	The student uses paraphrasing and organizational skills to summarize information (e.g., stated and implied main ideas, main events, important details, underlying meaning) from appropriate-level narrative, expository, persuasive, and technical texts in logical or sequential order, clearly preserving the author's intent.

1.4.10	The student identifies the topic, main idea(s), supporting details, and theme(s) in text across the content areas and from a variety of sources in appropriate-level texts.
1.4.11	The student analyzes and evaluates how an author's style (e.g., word choice, sentence structure) an use of literary devices (e.g., foreshadowing, flashback, irony, symbolism, tone, mood, satire, imagery, point of view, allusion, overstatement, paradox) work together to achieve his or her purpose for writing text.
1.4.14	The student identifies the author's position in a persuasive text, describes techniques the author uses to support that position (e.g., bandwagon approach, glittering generalities, testimonials, citing authority, statistics, other techniques that appeal to reason or emotion), and evaluates the effectiveness of these techniques and the credibility of the information provided.
1.4.15	The student distinguishes between fact and opinion, and recognizes propaganda (e.g., advertising, media, politics, warfare), bias, and stereotypes in various types of appropriate-level texts.

Note. Adapted from the *Kansas Education Resource Center* website. (2003a). [Standards table].

Retrieved from http://www.kerc-

ks.org/Benchmark_ind_list.aspx?stan_con_grade_id=14362&con_id=31&grade_no=HS&stan_id=4245

Appendix C: Kansas Mathematics Standards (Assessed)

Standard, Benchmark, Indicator	Indicator
1.2.K3	The student names, uses, and describes these properties with the real number system and demonstrates their meaning including the use of concrete objects.
1.3.A1	The student adjusts original rational number estimate of a real-world problem based on additional information.
1.4.A1A	The student uses applications from business, chemistry, and physics that involve addition, subtraction, multiplication, division, squares, and square roots when the formulae are given as part of the problem and variables are defined.
1.4.A1B	The student uses information from the text to make inferences and draw conclusions.
1.4.A1D	The student uses application of percents.
2.2.A2A	The student uses linear equations and inequalities both analytically and graphically.
2.2.K3C	The student uses systems of linear equations with two unknowns using integer coefficients and constants.
2.3	The student analyzes functions in a variety of situations.
2.3.A2	The student interprets the meaning of the x- and y- intercepts, slope, and/or points on and off the line on a graph in the context of a real-world situation.
2.3.K6	The student recognizes how changes in the constant and/or slope within a linear function change the appearance of a graph.
2.4.A1I	The student uses frequency tables, bar graphs, line graphs, circle graphs, Venn diagrams, charts, tables, single and double stem-and-leaf plots, scatter plots, box-and-whisker plots, histograms, and matrices to describe, interpret, and analyze data.
3.1.A1B	The student applies the Pythagorean Theorem, e.g., when checking for square corners on concrete forms for a foundation, determine if a right angle is formed by using the Pythagorean Theorem.

3.3.A1	The student analyzes the impact of transformations on the perimeter and area of circles, rectangles, and triangles and volume of rectangular prisms and cylinders.
3.4.K4	The student finds and explains the relationship between the slopes of parallel and perpendicular lines.
3.4.K6	The student recognizes the equation of a line and transforms the equation into a slope-intercept form in order to identify the slope and y-intercept and uses this information to graph the line.
4.1.K3	The student explains the relationship between probability and odds and computes one given the other.
4.2.A1	The student uses data analysis (mean, median, mode, range, quartile, interquartile range) in real-world problems with rational number data sets to compare and contrast two sets of data, to make accurate inferences and predictions, to analyze decisions, and to develop convincing arguments from these data displays.
4.2.A1A	The student uses frequency tables and line plots.
4.2.K4	The student explains the effects of outliers on the measures of central tendency (mean, median, mode) and range and interquartile range of a real number data set.
4.2.K5	The student approximates a line of best fit given a scatter plot and makes predictions using the equation of that line.

Note. Adapted from the *Kansas Education Resource Center* website. (2003b). [Standards table]. Retrieved from http://www.kerc-ks.org/Standards_List.aspx?con_id=2&grade_no=10

Appendix D: Baker University Institutional Review Board Approval

BAKER UNIVERSITY
Own Confidence

Baker University Institutional Review Board

October 3, 2015

Dear Timothy Murray and Dr. Kokoruda,

The Baker University IRB has reviewed your research project application and approved this project under Exempt Status Review. As described, the project complies with all the requirements and policies established by the University for protection of human subjects in research. Unless renewed, approval lapses one year after approval date.

Please be aware of the following:

1. Any significant change in the research protocol as described should be reviewed by this Committee prior to altering the project.
2. Notify the IRB about any new investigators not named in original application.
3. When signed consent documents are required, the primary investigator must retain the signed consent documents of the research activity.
4. If this is a funded project, keep a copy of this approval letter with your proposal/grant file.
5. If the results of the research are used to prepare papers for publication or oral presentation at professional conferences, manuscripts or abstracts are requested for IRB as part of the project record.

Please inform this Committee or myself when this project is terminated or completed. As noted above, you must also provide IRB with an annual status report and receive approval for maintaining your status. If you have any questions, please contact me at CTodden@BakerU.edu or 785.594.8440.

Sincerely,

Chris Todden EdD
Chair, Baker University IRB

Baker University IRB Committee
Verneda Edwards EdD
Sara Crump PhD
Erin Morris PhD
Scott Crenshaw