The Effect of Chronic Absenteeism on College Readiness

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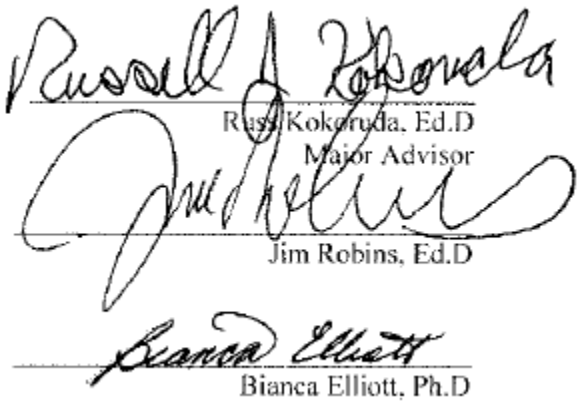

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Abstract

In 2017, 36 states and the District of Columbia adopted chronic absenteeism as a measure of school quality (Nadworny, 2017). However, little research has addressed the effect of chronic absenteeism on college readiness. Prior studies concerning the effects of chronic absenteeism on student achievement have two major limitations. First, earlier studies examine elementary students because attendance data are more readily available. Second, the majority of the studies use state assessment data as a measure of student achievement, resulting in inconsistent definitions of proficiency and providing limited information about students' college readiness.

This quasi-experimental, quantitative, cross-sectional study examined the effect of chronic absenteeism, defined as absence for 10% or more of a school year, on college readiness, measured by achievement of the ACT college readiness benchmarks. The sample included 427 students who took the ACT and graduated from a high school located on the outskirts of a large Midwestern metropolitan area in 2013, 2014, or 2015. The results indicated no difference in achievement of the ACT college readiness benchmarks between students who are chronically absent and students who regularly attend. Additionally, the results indicated no difference in composite ACT scores between students who are chronically absent and students who regularly attend. However, chronic absenteeism tended to be associated with students not taking the ACT test.

Dedication

This dissertation is dedicated to my family. I would not have accomplished this without them.

Acknowledgements

I would like to express my appreciation to Dr. Kokoruda, Dr. Waterman, Dr. Robins, and Dr. Elliott for helping me throughout this process. Thank you for your time, encouragement, and advice.

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Chapter 1

Introduction

A growing percentage of careers require some form of post-secondary training (Carneville, Smith, & Strohl, 2014). However, a substantial proportion of students do not complete such training, ostensibly because they are academically underprepared (Steward, Lim, & Kim, 2015). Consequently, policymakers have called for reforms targeting college readiness (Nadworny, 2017). Students are college-ready when they have the academic and cognitive preparation to be successful in post-secondary education. In Kansas, evidence of students' post-secondary attendance and completion is part of the Kansas Education Systems Accreditation process. Hein, Smerdon, and Sambolt (2013) identified attendance in primary school and attendance in secondary school as indicators of post-secondary success.

A student's score on a standardized assessment such as the ACT has been identified by four-year postsecondary institutions as one of the top four measures of student likelihood of success (Clinedinst, Hurley, & Hawkins, 2011). Research has shown that composite ACT scores are valid predictors of student early college success (Harris, 2014; Radunzel & Noble, 2012a; Thompson & Zamboanga, 2004; Westrick, Le, Robbins, Radunzel, & Schmidt, 2015). Radunzel and Noble (2012a) found that the ACT College Readiness Benchmarks scores were comparable to the composite ACT score as a predictor of student early-college success. Students who met the ACT College Readiness Benchmarks were more likely to graduate from college (Radunzel & Noble, 2012b). The ACT College Readiness Benchmark in mathematics also was found to be a reliable

predictor of student success in college mathematics courses (Colvin, 2014; Medhanie, Dupuis, LeBeau, Harwell, & Post, 2012; Radunzel & Noble, 2012a).

School leaders often consider a 95% average daily attendance to be an indicator of good attendance, but it is unclear how absences are distributed (Bruner, Discher, & Chang, 2011). A 95% average daily attendance rate may be the result of a large number of students missing a few days, but it also may be that a small group of students is missing many days (Balfanz & Byrnes, 2012; Bruner, Discher, & Chang, 2011). Because it may mask other problems, average daily attendance rate is not necessarily an adequate measure of student attendance.

People have assumed that students who are absent are not exposed to the topics addressed in the classes they do not attend. When compulsory education laws were adopted in the late 19th and early 20th centuries, this was certainly the case for most students (Dunlap, 2016). However, the development of the internet and the subsequent availability of information could mean this assumption is no longer as likely to be true, especially in later grades once students have achieved basic literacy skills. Students who are absent may forfeit the benefits of classroom discussion and teamwork, but as software allowing collaboration becomes more available, this may change. Furlong and Davies (2012) found that information and communications technology facilitated learning in the home.

Background

District A is located in a small town on the fringe of a large metropolitan area in northeast Kansas. The town population was approximately 12,000 in 2016, of whom 17.5% were school-aged (United States Census Bureau, 2016). Over 12% of the

residents were veterans, possibly a result of the nearby military post. Almost 92% of the population aged 25 or older had earned a high school diploma and approximately 35% of those with a diploma had also earned a 4-year degree. At the time the study was conducted, the median household income ($82,288) was higher than the state median income ($50,624) and the national median income ($59,039).

District A had three attendance centers: an elementary school (K-5), a middle school (6-8), and a high school (9-12) (Kansas State Department of Education, 2017). During the 2012-2013 school year, 887 students were enrolled in grades 9 through 12 and the average daily attendance was 95.1 percent (Kansas State Department of Education, 2017). The district reported these students were White (75.4%), Black (7.1%), Hispanic (10.6%), and Other (6.9%). Of the students enrolled during the 2012-2013 school year, 11.6% had Individualized Education Programs and 22.8% received free or reduced-price lunches. In the 2013-2014 school year, 883 students were enrolled in grades 9 through 12 and the average daily attendance was 96.1 percent. The district reported these students were White (75.1%), Black (6.7%), Hispanic (10.1%), and Other (8.1%). Of the students enrolled during the 2013-2014 school year, 11.4% had Individualized Education Programs and 23.6% received free or reduced-price lunches. In the 2014-2015 school year, 889 students were enrolled in grades 9 through 12 and the average daily attendance was 95.3 percent. The district reported these students were White (74.6%), Black (6.0%), Hispanic (10.2%), and Other (9.2%). Of the students enrolled during the 2014-2015 school year, 11.4% had Individualized Education Programs and 25.9% received free or reduced-price lunches (Kansas State Department of Education, 2017).

According to Sethi (2014), many school leaders have been unconcerned about overall building attendance rates above 90 percent. Because the usual reported attendance rate is an aggregate, it may mask problems associated with students who are chronic absentees (Balfanz & Byrnes, 2012). Students are chronically absent when they miss 10 percent or more of the school year, regardless of the reason they are absent (Chang & Balfanz, 2016; Gottfried, 2015). Balfanz and Byrnes (2012) estimated that between 10 percent and 15 percent of students in the United States are chronically absent each year. Dealing with absenteeism consumes community resources as school officials, law enforcement, and the courts must dedicate time and personnel to the problem. Most school accountability measures use building attendance rates to determine whether a school is performing satisfactorily. Schools and communities have implemented programs to combat absenteeism, many of which have been designed to reduce rates of truancy (Cooper, 2016).

Statement of the Problem

In 2017, 36 states and the district of Colombia adopted chronic absenteeism as a measure of student success (Chang & Balfanz, 2016). The 2015 reauthorization of the Elementary and Secondary Education Act, the Every Student Succeeds Act (ESSA), also requires every state to report chronic absenteeism data, even if the state is not using the data as an accountability measure (ESSA, 2015). However, the results of research regarding the effect of chronic absenteeism on student achievement have been mixed. Moreover, chronic absenteeism has only recently entered the policy discussion, and existing studies have primarily examined urban populations (Gottfried, 2015). Further

investigation is needed to determine the usefulness of chronic absenteeism as a measure of student achievement.

Purpose of the Study

The purpose of this study was to determine to what extent chronic absenteeism is associated with college readiness. Specifically, the primary purpose was to determine the impact of chronic absenteeism on student achievement of the ACT college readiness benchmarks. The secondary purpose was to determine what impact chronic absenteeism has on student composite ACT scores. The tertiary purpose was to determine if there was a difference in either of those results depending on student socioeconomic status.

Significance of the Study

Chronic absenteeism has only recently entered the policy dialogue (Gottfried, 2015). In earlier studies, chronic absenteeism was referred to as school absenteeism, truancy, and school refusal (Dunlap, 2016). As recently as 2012, a common numerical threshold was not in use, although Allensworth and Easton (2007) identified an absence rate of less than 10% as an indicator of post-secondary success. Balfanz and Byrnes (2012) examined attendance data from Florida, Georgia, Maryland, Nebraska, Oregon, Rhode Island, and West Virginia. They estimated the number of students nationwide who were chronically absent to be between 5 million and 7.5 million students. Hein et al. (2013) reported on predictors of secondary and post-secondary success. They reported that students absent less than 10% of the time were more likely to be college and career ready than those students who were absent for 10% or more of high school. The majority of the research conducted using the 10% absence threshold for chronic absenteeism has focused on elementary students in large urban areas. Such research has found that

chronically absent students perform approximately 0.05 standard deviations below their regularly attending classmates (Gershenson, Jacknowitz, & Brannegan, 2015; Gottfried, 2011, 2015; Sawyer & Gibson, 2012).

Chronic absenteeism in early grades negatively affects academic performance and those negative effects persist through later grades. As early as sixth grade, chronic absenteeism becomes a predictor that a student is at risk to drop out of school (Allensworth, Gwynne, Moore, & de la Torre, 2014). Research has shown that chronic absenteeism in elementary school negatively affects student test scores (Ginsburg, Jordan, & Chang, 2014).

At the secondary level, findings have been mixed. Mac Iver and Messel (2012) found that chronically absent students did not perform as well as regularly attending students on standardized tests. However, McCrary (2010) found no significant correlation between attendance and test scores. Quarles (2011) also found no significant difference between chronically absent students and regularly attending students in Geometry but did find a weak negative correlation between student absences and scores in Algebra and American Literature on the Georgia End-of-the-Year assessments. Sanchez (2012) confirmed the negative correlation between absence and test scores at the elementary and middle levels but found no significant link between attendance and test scores at the high school level. Although 36 states and the District of Columbia have chosen chronic absenteeism as the fifth measure of student success under ESSA, the results of research regarding the effects of chronic absenteeism on student achievement at the secondary level have been mixed (Nadworny, 2017).

Although resources and policies are dedicated to improving attendance, absenteeism rates remain high (Tanner-Smith & Wilson, 2013). Many stakeholders, especially students and parents, do not recognize the negative effects of excused absences (Eaton, Brenner, & Kann, 2008; Goodman, 2014; Vanneste, Mathijssen, van de Goor, Rot-de Vries, & Feron 2015). This study contributes to the understanding of the effect of chronic absenteeism at the high school level.

Delimitations

"Delimitations are self-imposed boundaries set by the researcher on the purpose and scope of the study" (Lunenburg & Irby, 2008, p. 134). The following delimitations were set for this study.

- The study focused on a single school district.
- The sample for the study was limited to students in the district high school's graduating classes of 2013, 2014, and 2015 who had taken the ACT prior to graduation.
- The study used only ACT data to measure college readiness.

Assumptions

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

1. All ACT data retrieved from the Office of the Registrar were complete and accurate.
2. Attendance data were recorded completely and accurately.
3. Data were compiled accurately.

Research Questions

RQ1. To what extent is there a difference in the proportion of students who met the English ACT College Readiness Benchmark score between students who regularly attend school during high school and students who are chronically absent from school during high school?

RQ2. To what extent is the difference in the proportion of students who met the English ACT College Readiness Benchmark score between students who regularly attend school during high school and students who are chronically absent from school during high school affected by socioeconomic status?

RQ3. To what extent is there a difference in the proportion of students who met the mathematics ACT College Readiness Benchmark score between students who regularly attend school during high school and students who are chronically absent from school during high school?

RQ4. To what extent is the difference in the proportion of students who met the mathematics ACT College Readiness Benchmark score between students who regularly attend school during high school and students who are chronically absent from school during high school affected by socioeconomic status?

RQ5. To what extent is there a difference in the proportion of students who met the reading ACT College Readiness Benchmark score between students who regularly attend school during high school and students who are chronically absent from school during high school?

RQ6. To what extent is the difference in the proportion of students who met the reading ACT College Readiness Benchmark score between students who regularly attend

school during high school and students who are chronically absent from school during high school affected by socioeconomic status?

RQ7. To what extent is there a difference in the proportion of students who met the science ACT College Readiness Benchmark score between students who regularly attend school during high school and students who are chronically absent from school during high school?

RQ8. To what extent is the difference in the proportion of students who met the science ACT College Readiness Benchmark score between students who regularly attend school during high school and students who are chronically absent from school during high school affected by socioeconomic status?

RQ9. To what extent is there a difference in the proportion of students who met all of the ACT College Readiness Benchmark scores between students who regularly attend school during high school and students who are chronically absent from school during high school?

RQ10. To what extent is the difference in the proportion of students who met all of the ACT College Readiness Benchmark score between students who regularly attend school during high school and students who are chronically absent from school during high school affected by socioeconomic status?

RQ11. To what extent is there a difference in college readiness, as measured by the ACT composite score, between students who regularly attend school during high school and students who are chronically absent from school during high school?

RQ12. To what extent is the difference between the composite ACT score for students who regularly attend school during high school and students who are chronically absent from school during high school affected by socioeconomic status?

Definition of Terms

Definitions of terms used in this study follow.

ACT College Readiness Benchmarks. ACT (2013) provided College Readiness Benchmarks as minimum scores required for students to have a 50% chance to earn at least a B and a 75% chance to earn at least a C in the corresponding credit-bearing college course. The English, reading, mathematics, and science reasoning subtest scores correspond to English Composition, an introductory social science course, College Algebra, and Biology, respectively (ACT, 2013).

Chronic absenteeism. Students are chronically absent if they are absent at least 10% of the school year, regardless of whether the absence was excused or unexcused (Balfanz & Byrnes, 2012).

College readiness. College readiness is students' ability to enroll at a post-secondary institution, take and earn passing grades in credit-bearing courses beginning in the first year, and attain their educational goals (Arnold, Lu, & Armstrong, 2012).

High socioeconomic status. Students are considered high socioeconomic status (high SES) if they do not qualify for free or reduced-price meals according to the U.S. Department of Agriculture's Income Eligibility Guidelines at any point while enrolled at the high school in District A (Food and Nutrition Service, 2017).

Low socioeconomic status. Students are considered low socioeconomic status (low SES) if they qualify for free or reduced-price meals according to the U.S.

Department of Agriculture's Income Eligibility Guidelines at any point while enrolled at the high school in District A (Food and Nutrition Service, 2017).

Regular attendance. Students with regular attendance are those who are absent less than 10% of the school year (Balfanz & Byrnes, 2012; Parke & Kanyongo, 2012).

Severe absentees. Students absent at least three days within the last four-week period are severe absentees (Ginsburg & Chudowsky, 2012; National Center for Education Statistics, 2014). Severe absenteeism is not the same as chronic absenteeism unless a student exhibits a pattern of severe absenteeism throughout the school year (Henderson, Hill, & Norton, 2014).

Truancy. Students are truant when they are willfully absent in opposition to applicable compulsory education laws (Gleich-Bope, 2014).

Organization of the Study

This study consists of five chapters. Chapter 1 provides the background and purpose of the study, research questions, and definitions of terms used throughout the study. Chapter 2 contains a review of the literature related to absenteeism. Chapter 3 presents the research design and methodology of the study including a description of the instrumentation, data collection methods, and statistical analysis procedures. Chapter 4 contains an analysis of the collected data. A summary of the study, conclusions, and recommendations for future study are presented in Chapter 5.

Chapter 2

Review of the Literature

The following literature review provides information about the predictors of absenteeism, the academic effects of absenteeism, other effects of absenteeism, and the effects of absenteeism on college readiness. Research concerning attendance has largely addressed truancy and average daily attendance (Gottfried, 2015). Truancy is the willful refusal of a student to attend school in accordance with compulsory education laws (Gleich-Bope, 2014). Monitoring only truancy or average daily attendance may hide chronic absenteeism (Balfanz & Byrnes, 2012).

Chronic absenteeism is defined as a student missing 10% or more of the school year, general regardless of whether the absences are excused or unexcused (Dunlap, 2016; Gottfried, 2015; Sanchez, 2012). Balfanz and Byrnes (2012) estimated that the national rate of chronic absenteeism was between 10% and 15%, meaning between 5 million and 7.5 million students are chronically absent each year. In urban areas, the rate of chronic absenteeism was higher than the national average (Nauer, Mader, Robinson, & Jacobs, 2014). However, chronic absenteeism was not restricted to urban areas. Rural areas may also have high rates of absenteeism (Balfanz & Byrnes, 2012; Henderson et al., 2014).

Kindergarten has the highest rate of chronic absenteeism (Balfanz & Byrnes, 2012; Sanchez, 2012). However, the rate of chronic absenteeism decreases through later primary grades, then increases to peak again in high school (Balfanz & Byrnes, 2012; National Center for Education Statistics, 2014; Sanchez, 2012). As children get older, rates of absenteeism increase (Ginsburg & Chudowsky, 2012; Parke & Kanyongo, 2012).

According to Rosenkranz, de la Torre, Stevens, and Allensworth (2014), students miss almost three times as many days of school in ninth grade as in eighth grade and unexcused absences quadruple in ninth grade.

Predictors of Absenteeism

Casoli-Reardon, Rappaport, Kulick, and Reinfeld (2012) divided the reasons students choose not to go to school into four categories: cultural factors, family factors, peer factors, and neuropsychiatric factors. Cultural factors include the presence of gangs, guns, or bullying at school, language barriers, and conflicting values (Casoli-Reardon et al., 2012). Family factors include the student's home responsibilities, meeting the conditions of migrancy, home conditions, socioeconomic status, lack of insurance, and unreliable transportation. Peer factors involve an inability to interact with a positive peer group or membership in a negative peer group. Neuropsychiatric factors include various neurological and psychiatric disorders for which students may, if identified, receive special education services. For each of these categories, Casoli-Reardon et al. (2012) further divide these factors into individual factors and community factors. Individual factors include student race, gender, attendance patterns in previous grades, academic history, drug use, health and weight (Casoli-Reardon et al., 2012; Black, Seder, & Kekahio., 2014). Community factors are barriers to attendance in students' neighborhoods, cities, or areas (Casoli-Reardon et al., 2012).

Individual factors. A variety of individual factors have been associated with chronic absenteeism. Teenage mothers, students who are married as teenagers, and students who used drugs are also more likely to be chronically absent (Black et al., 2014; Henry, 2007). Sanchez (2012) examined the effects of absence on student achievement.

The sample consisted of 1775 students in three cohorts based on grade level during the 2006-2007 school year: kindergarten, fourth grade, or eighth grade. Data for the kindergarten and fourth-grade cohorts for five years were analyzed. Data for the eighth-grade cohort for three years were analyzed. The study found that female students were more likely to be chronically absent than their male classmates (Sanchez, 2012). Collins (2015) examined the effects of chronic absenteeism on student performance on Missouri state assessments. The sample consisted of 250 students in grades five through eight in a rural school district in Missouri. The study also found that female students were more likely to be chronically absent (Collins, 2015). However, Balfanz and Byrnes (2012) examined two cohorts of students, one in Maryland and one in Florida, in grades 6 through 12 and found no correlation between gender and chronic absenteeism. The same study found no correlation between ethnic background and chronic absenteeism (Balfanz & Byrnes, 2012).

Henderson et al. (2014) examined the relationship between health and chronic absenteeism in Oregon. The researchers found that members of racial or ethnic minorities were more likely to be chronically absent than their White classmates. Their finding conflicts with the findings of Balfanz and Byrnes (2012). The Utah Education Policy Center (2012), whose findings also conflict with Balfanz and Byrnes (2012), examined two data sets: attendance and achievement data for all Utah students for the 2010-2011 school year, and longitudinal data for the class of 2010 in Utah, beginning with the 2006-2007 school year. The researchers found that members of a racial or ethnic minority were 40% more likely to be chronically absent.

The strongest predictor of chronic absenteeism is prior chronic absenteeism (Connolly & Olson, 2012; Sanchez, 2012; Sawyer & Gibson, 2012; Schoenberger, 2012). Students with large numbers of absences in the first month of school are also likely to be chronically absent. Borg (2014) found that students who missed between two and four days in the first month of school missed an average of 25 days that school year. Students who missed four or more days missed an average of 70 days that school year. Similarly, students who are tardy frequently are likely to be chronically absent (Quarles, 2011; Sanchez, 2012).

Students who perform poorly in school are more likely to be chronically absent. Students who are struggling academically tend to become disengaged and subsequently become chronically absent (Black et al., 2014; Sabates, Akyeampong, Westbrook, & Hunt, 2011). Students with low educational goals and students who repeat one or more grades are also likely to become chronically absent (Black et al., 2014).

Acute illness, especially respiratory infections, account for a substantial portion of absences (Simons, Hwang, Fitzgerald, Kielb, & Lin, 2010). This is especially true for elementary students (Borg, 2014). According to Simons et al. (2010), asthma is one of the leading causes of student absenteeism. Henderson et al. (2014) also reported that chronic conditions such as asthma accounted for a substantial percentage of absences.

Other health problems, including obesity, can also increase student absence (Vanneste et al., 2015). At the primary level, students who were obese, determined by using Body Mass Index (BMI), were likely to be absent more frequently (Li et al., 2012). At the secondary level, Li et al. (2012) found no relationship between obesity or being overweight and attendance. Similarly, Rappaport, Daskalakis, and Andrel (2011) found

that obesity was not related to attendance except among children with the top 5% body mass index. Body mass index is calculated by dividing weight in kilograms by the square of the height in meters and is used to identify weight categories in which people are at risk for health problems (Centers for Disease Control and Prevention, 2015). The effect of obesity on attendance was weaker than the effect of race and socioeconomic status.

School Culture. Unsafe school situations like fights, presence of gangs, bullying, overcrowding, or poorly maintained facilities may be barriers to student attendance (Casoli-Reardon et al., 2012; Parrish, 2015; Vanneste et al., 2015). Poorly maintained school facilities, especially non-classroom areas like hallways, gymnasiums, or cafeterias, increase student absence due to illness and parents' perception of the school (Black et al., 2014; Simons et al., 2010). Students are also more likely to be absent when they do not have a strong connection with an adult at school or when they are enrolled at a school with a shortage of qualified teachers (Black et al., 2014; Parrish, 2015).

Language barriers interfere with student attendance. The aforementioned study by the Utah Education Policy Center (2012) found that English language learners were 20% more likely to be chronically absent. Similarly, Sanchez (2012) also found that English language learners were more likely to be chronically absent. Casoli-Reardon et al. (2012) asserted that language barriers make students feel unwelcome and prevent them from connecting with the curriculum.

When students or parents do not value education, students are more likely to be absent (Black et al., 2014; Casoli-Reardon et al., 2012; Gleich-Bope, 2014). Sanchez (2012) found that students who were chronically absent were more likely to have at least one parent who did not complete high school. This supports an earlier finding (Henry,

2007) that students whose parents had less formal education were more likely to be truant.

Family factors. A variety of family factors may cause students to be absent. Parrish (2015) found that lack of parental involvement may lead to truancy and that over-involvement of parents may have similar results. Students may have responsibilities in the home, be members of migrant families, or live in an extremely stressful home environment (Casoli-Reardon et al., 2012). Lack of health insurance and possibly socioeconomic status may also interfere with student attendance.

Some families prioritize education as second to the family's financial needs (Casoli-Reardon et al., 2012; Parrish, 2015). Older students may be truant or chronically absent because they are needed to watch younger siblings or because they must earn money to help support the family (Balfanz & Byrnes, 2012; Casoli-Reardon et al., 2012). Balfanz and Byrnes (2012) added that when a language other than English is spoken in the home, students may be absent in order to serve as a translator for family members who did not speak English.

Migrancy and other extreme stressors in the home environment may lead to chronic absenteeism. Students in migrant families are at greater risk of chronic absenteeism because frequent moves create prolonged absences (Black et al., 2014; Casoli-Reardon et al., 2012; Parrish, 2015). Stressful family events such as divorce, major illness, or death of an immediate family member are also predictors of chronic absenteeism (Black et al., 2014; Vaughn, Maynard, Salas-Wright, Perron, & Abdon, 2013; Zorc et al., 2013). Sanchez (2012) found that students placed in foster care were

absent more frequently due to frequent relocation. However, Hixson (2015) examined a low migrancy population and found that family structure did not affect student absence.

Children who do not have adequate health insurance are more likely to be chronically absent (Borg, 2014). Among students from poor families, otherwise minor ailments may become persistent and lead to more serious health conditions because poor families are less likely to have private health insurance and appropriate access to adequate medical care (Borg, 2014; Timmermans, Orrico, & Smith, 2014). Because visiting a physician is often difficult financially for families of uninsured students, lacking health requirements such as immunization records from a physician or physical exams may cause uninsured students to be absent (Timmermans et al., 2014). Ironically, school policies requiring a doctor's note in order to return to school prolong absences of uninsured students. Furthermore, uninsured students tend to be absent longer because they wait out illnesses instead of receiving medical attention.

Research regarding the effect of socioeconomic status on chronic absenteeism has been inconclusive. Quarles (2011) found that socioeconomic status did not influence absences in an urban school district in southeastern Georgia. Collins (2015) found that socioeconomic status was not a predictor of chronic absenteeism in a rural school district in Missouri. Sanchez (2012) found no correlation between receiving public assistance and chronic absenteeism in an urban school district in California.

However, two studies using samples more representative of the national population had different findings. The Utah Education Policy Center (2012) found that Utah students who received free or reduced-price lunch were 90% more likely to be chronically absent. Balfanz and Byrnes (2012) also found that students who received free

or reduced-price lunch in Oregon, Rhode Island, Maryland, Florida, Georgia, and Nebraska were more likely to be chronically absent according to the states' definitions for chronic absenteeism. Oregon and Rhode Island considered students chronically absent if they missed 10% or more of enrolled school days. However, Rhode Island did not report students who had not been enrolled for at least 90 days. Maryland and Florida considered students chronically absent when they missed 21 or more days of school. Georgia and Nebraska considered students chronically absent when they missed 15 or more days of school. Maryland and Florida reported only students who were enrolled for the full school year.

Because of these differences, it is difficult to generalize Balfanz and Byrnes's (2012) findings in accordance with the more common definition of chronic absenteeism, that students are chronically absent when they miss 10% or more of the school year (Gottfried, 2015). Aggregate data about chronic absenteeism from Georgia and Nebraska may include a significant number of students who were absent between 15 and 17 days, which would not be considered chronic absenteeism. However, the data from Maryland and Florida would not include students who were absent between 18 and 20 days, who would be considered chronically absent. Because Rhode Island reported only students who were enrolled for at least 90 days, the data from that state may not include migrant students, while data from Maryland and Florida, states that reported only students enrolled for the full year, may not include migrant and uninsured students.

Relationship with Peers. Students who have trouble managing anxiety and have poor social skills, particularly at the secondary level, tend to have difficulty integrating with their peers (Casoli-Reardon et al., 2012). The subsequent feelings of rejection and

isolation contribute to truancy. Students' failure to integrate with their peers may result in bullying, creating an additional barrier to student attendance (Casoli-Reardon et al., 2012; Henderson et al., 2014). However, if students integrate into a negative peer group, such as a gang, pressure from that group to be absent may also become a barrier to student attendance (Black et al., 2014).

Neuropsychiatric factors. Students who receive special education services are more likely to be chronically absent (Collins, 2015; Utah Education Policy Center, 2012). According to Casoli-Reardon et al. (2012), neurological and psychiatric factors could interfere with student attendance regardless of whether students received special education services related to those factors. Anxiety disorders, attention deficit disorder, learning disorders, milder forms of autism spectrum disorder, mood disorders, concussions, and post-concussive disorder may interfere with student attendance (Casoli-Reardon et al., 2012; Vanneste et al., 2015).

Community factors. According to Black et al. (2014), students who live in communities that lack social and educational services such as community libraries are more likely to be absent. Students who lack geographic access to school are also more likely to be absent. Such inaccessibility may be due to distance, unreliable transportation, lack of a safe route to school, or weather (Black et al., 2014; Goodman, 2014). Students who live in communities with a high availability of jobs that do not require formal schooling, particularly those communities with low compulsory education requirements, are also more likely to be absent (Black et al., 2014).

Academic Effects of Absenteeism

Absenteeism has a negative effect on student achievement. Truancy is predictive of poor academic performance (Vaughn et al., 2013). Ginsburg and Chudowsky (2012) examined the data from the 2009 administration of the National Assessment of Educational Progress (NAEP) to explore the effects of student absenteeism, classroom instructional time, and homework time expected by teachers on student proficiency level. They found that regularly attending students were more likely to score Advanced and students who were severe absentees were more likely to score Below Basic on the NAEP.

Chronic absenteeism in an early grade was linked to lower test scores throughout elementary school (Balfanz & Byrnes, 2012). Students who arrived at school academically ready to learn but were chronically absent in kindergarten did not score as well as regular attenders on both reading and mathematics assessments (Applied Survey Research, 2011). Sanchez (2012) and Gottfried (2014) found a statistically significant negative relationship between chronic absenteeism and standardized test scores in English and mathematics at the elementary level. Research has shown that chronic absentees score 0.05 to 0.11 standard deviations lower than their regularly attending classmates (Gershenson, Jacknowitz, & Brannegan, 2015; Gottfried, 2010, 2011, 2015; Sawyer & Gibson, 2012).

According to Allensworth et al. (2014), high school grades and failures are best predicted by earlier grades and attendance. In grades 5-8, Collins (2015) found that students who were absent more often scored worse on the communication arts portion of the Missouri Assessment Program. However, Dunlap (2016) found that chronic

absenteeism was not a statistically significant predictor of whether or not students would score proficient or above on the New Jersey English or mathematics assessments.

Quarles (2011) found that the less frequently high school students were absent, the higher they tended to score on the Georgia End-of-the-Year Tests in Algebra and American Literature and Composition. Balfanz and Byrnes (2012) found that high school students scored lower on reading and math assessments the more frequently they were absent, supporting the earlier finding. The negative effect described by Balfanz and Byrnes (2012) was greater for mathematics assessments than for reading assessments. According to Morgan (2012), mathematics learning is more dependent on formal schooling than literacy development. However, Quarles (2011) found no significant relationship between absence and student scores on the Georgia End-of-the-Year test in Geometry. Despite finding a correlation between elementary and middle grade attendance and student achievement, Sanchez (2012) found no link between high school attendance and student test scores. These studies used state assessments as the measure of academic achievement. States define proficiency differently. The effects that Sanchez (2012) and Quarles (2011) observed in California and Georgia respectively might have been similar to the effects observed by Dunlap (2016) in New Jersey but could have been categorized differently due to differences in the states' definitions of proficiency. State assessment scores do not necessarily relate to college readiness.

Course attendance in ninth grade is eight times more predictive of course failure in ninth grade than eighth grade test scores (Allensworth & Easton, 2007). Mac Iver and Messel (2012) examined the relationship between early warning indicators that students were likely to drop out, including 8^{th} and 9^{th} grade attendance, behavior problems, and

number of course failures. The sample consisted of all first-time ninth graders enrolled in the Baltimore City school district during the 2004-2005 and 2005-2006 school years. Mac Iver and Messel (2012) found a strong relationship between attendance and grades. Students who were chronically absent in eighth grade or ninth grade were more likely than their regularly attending peers to earn failing grades in ninth-grade courses. Chronic absenteeism was associated with a decline in high school grade point average (GPA) (Sanchez, 2012). For students who had achieved a GPA of 3.0 or higher the previous school year, chronic absenteeism was associated with a decline of 0.30 grade points on a 4.0 scale. For students who had achieved a GPA between 2.0 and 2.99 the previous school year, chronic absenteeism was associated with a decline of 0.21 grade points. For students who had achieved a GPA below 2.0 the previous school year, chronic absenteeism was associated with a decline of 0.12 grade points (Sanchez, 2012). Chronic absenteeism tended to have a larger negative effect for students who had achieved a higher GPA the previous year.

Students' absences disrupt the classroom environment (Timmermans, Orrico, & Smith, 2014). Teachers deal well with coordinated disruptions when all students in the class miss the same material, like snow days, but deal poorly with absences that affect different students at different times (Goodman, 2014). When only some students are absent, teachers much choose either to reteach material for the absent students or to continue to new material, increasing the remediation needed by the students who were absent and the potential discipline issues due to those students' lack of engagement with the new material. Gottfried (2015) examined the effects of having chronically absent classmates on student scores on standardized mathematics and reading assessments. The

sample consisted of 23,386 students enrolled in the third grade and fourth grade in the School District of Philadelphia. Chronic absentees exhibit greater frequencies of disruptive behavior (Gottfried, 2015).

Gottfried (2015) found that negative effects of chronic absenteeism also affect the regularly attending classmates of chronically absent students. Absent students, especially chronically absent students due to the frequency or duration of absences, cause deviation from regular instruction when they return to class because they need remediation. Such deviations reduce the effective instructional time for all students in the class (Gottfried, 2015).

Gottfried (2011) examined absenteeism and student achievement data for 6,872 students enrolled in third grade or fourth grade in the School District of Philadelphia who had siblings who were also enrolled in the district. Gottfried (2011) defined siblings as students whose home addresses were the same and found that patterns of chronic absenteeism were consistent between siblings.

Students with higher percentages of chronically absent classmates score worse in reading and mathematics (Gottfried, 2011, 2015). The effect is consistent across ability levels. Female students and students who received free or reduced-price lunch were more affected by having a higher percentage of chronically absent classmates. Students who were English language learners and those who received special education services were less affected by having a higher percentage of chronically absent classmates (Gottfried, 2015).

Other Effects of Absenteeism

The Youth Risk Behavior Surveillance System (YRBSS) is a survey developed by the U.S. Center for Disease Control and administered biennially across the U.S. to monitor behaviors that contribute to death, disability and social problems (Centers for Disease Control and Prevention, 2017). On the YRBSS, youth risk behaviors are divided into six types. These types were (a) behaviors that contribute to unintentional injuries and violence, (b) sexual behaviors related to unintended pregnancy and sexually transmitted diseases, (c) alcohol and other drug use, (d) tobacco use, € unhealthy dietary behaviors, and (f) inadequate physical activity (Centers for Disease Control and Prevention, 2017). In addition to these behaviors, the relationship between absenteeism and criminal activity and the effects of absenteeism after exiting school have also been studied.

Behaviors that contribute to unintentional injuries and violence. Students who were chronically absent were more likely to engage in risk behaviors that contribute to unintentional injuries and violence (Eaton et al., 2008; Hemphill, 2011). Dembo, Briones-Robinson, Barrett, et al. (2014) examined the effects of an intervention program for youth who were truant on marijuana use and sexual risk behaviors. The sample consisted of 421 youths between the ages of 11 and 17 who had been identified as truant, had fewer than two misdemeanor arrests, and lived within 25 miles of the Hillsborough County Juvenile Assessment Center. Dembo, Briones-Robinson, Ungaro, et al. (2014) examined the effects of the same intervention program on alcohol use and sexual risk behaviors. The sample consisted of 200 youths between the ages of 11 and 17 who had been identified as truant, had fewer than two misdemeanor arrests, and lived with 25

miles of the Hillsborough County Juvenile Assessment Center and the legal guardians of those youths. Chronically absent students were more likely to have been forced to have sexual intercourse, been involved in sexual dating violence, been in a physical fight, made a suicide plan, or carried a weapon (Dembo, Briones-Robinson, Barrett, et al., 2014; Dembo Briones-Robinson, Ungaro, et al., 2014; Eaton et al., 2008). Additionally, students who had been absent without permission were more likely to have carried a gun and were less likely to have worn a seatbelt. Students who had been absent without permission were twice as likely to have attempted suicide. Bailey et al. (2015) found that severe absentees had five times the risk of injury-related mortality.

Truancy and Sexual Behaviors. Dembo et al. (2016) examined the effects of an intervention program for youth who were truant on marijuana use and sexual risk behaviors. The sample consisted of 300 youths between the ages of 11 and 17 who had been identified as truant, had fewer than two misdemeanor arrests, and lived within 25 miles of the Hillsborough County Juvenile Assessment Center. Dembo et al. (2016) noted that students who were truant were more likely to have engaged in sexual risk behaviors. Aspy et al. (2012) examined the effects of alcohol use and early initiation of sexual activity on other youth risk behavior. The sample consisted of 1117 students and their primary caretakers. The Youth Asset Survey (YAS) is a survey that measures youth risk behaviors including unexcused absence from school, sexual activity, and alcohol use. Using student responses to the YAS, Aspy et al. (2012) found that students who had no unexcused absences were less likely to use alcohol or engage in sexual risk behaviors than students who had unexcused absences. Truant students are likely to engage in risky sexual behaviors (Aspy et al., 2012, Dembo, Briones-Robinson, Barrett, et al., 2014;

Dembo, Briones-Robinson, Barrett, et al., 2014; Dembo et al., 2016). Absentee students were more likely to have had sexual intercourse before age 13, to be sexually active, and to have had four or more partners, and were less likely to use birth control (Eaton et al., 2008). Truant students were more likely to have been pregnant or to have gotten someone else pregnant (Dembo, Briones-Robinson, Barrett et al. 2014; Dembo, Briones-Robinson, Ungaro et al., 2014; Eaton et al., 2008).

Alcohol and other drug use. Flaherty, Sutphen, and Ely (2012) examined the effects of truancy on substance abuse in truant youths and their caregivers. The sample consisted of 458 students who had been arraigned for truancy in Fayette County, Kentucky between March 2007 and March 2009 and 473 caregivers of those students. Truant students are more than twice as likely to use illicit substances as non-truant students (Flaherty et al., 2012). Students who were absent at least once in the 30 days prior to being interviewed were more likely to have used illegal steroids, MDMA, methamphetamines, inhalants, or cocaine (Eaton et al., 2008). They were also more likely to have used marijuana, consumed alcohol, engaged in heavy episodic drinking, ridden with a driver who had been drinking alcohol, or driven while under the influence of alcohol (Dembo, Briones-Robinson, Barrett et al., 2014; Dembo, Briones-Robinson, Ungaro et al., 2014; Eaton, 2008; Flaherty et al., 2012).

Tobacco use. Absentee students, especially those who are truant, are more likely to use tobacco (Eaton et al., 2008). Truant students were more likely to use cigars or smokeless tobacco than students who had no absences and students who had only excused absences. Students who are absent from school were more likely to have started smoking before age 13. Yang, Cheng, Ho, and Pooh (2013) examined the effects of

psychosocial factors, including truancy, on cigarette use among Asian American and Pacific Islander adolescents. Yang et al. (2013) supported the findings of Eaton et al. (2008) for Asian American students but found no relationship between truancy and tobacco use among Pacific Islanders. Hill and Mrug (2015) examined the effects of school absenteeism on adolescent tobacco, alcohol, and marijuana use. The sample consisted of 23,615 students from 42 middle schools and 24 high schools in Alabama. They found that absenteeism was the most consistent predictor of student use of tobacco, marijuana, and alcohol.

Unhealthy dietary behaviors and inadequate physical activity. Eaton, Brenner, and Kann (2008) examined the effects of absence on the risk behaviors monitored by the YRBSS. The sample consisted of 4517 students enrolled in the ninth grade or eleventh grade during the 2003-2004 school year. Eaton, Brenner, and Kann (2008) found that truant students were more likely to have vomited or taken laxatives to lose weight or keep from gaining weight. However, there was no significant difference between the percentage of students who described themselves as overweight among students who were truant, students who were absent with permission, and students with no absences. There was also no significant difference between the percentage of students who were trying to lose weight among students who were truant, students who were absent with permission, and students with no absences. Vanneste et al. (2015) examined the effects of health problems on student absence. The sample consisted of 493 students who were enrolled in 1 of 7 pre-vocational secondary schools in the Netherlands and who had been absent due to illness six consecutive school days or four or more times in 12 school weeks. Vanneste et al. (2015) reported that 16.5% of the students included in the

study were absent due to lifestyle problems, including poor diet, substance abuse, and lack of exercise. Health problems can also increase student absenteeism. (Vanneste et al., 2015). Li et al. (2012) examined the relationship between Body Mass Index (BMI) and chronic absenteeism. The sample consisted of 1387 students between the ages of 8 and 11 and the students 2185 students between the ages of 12 and 18 who completed an interview as part of the National Health and Nutrition Examination Survey, which included demographic, socioeconomic, dietary, and health-related questions, and an examination including medical, dental, and psychological components (Centers for Disease Control and Prevention, 2017). At the primary level, students who were obese, determined using BMI, were likely to be absent more frequently (Li et al., 2012). However, at the secondary level, Li et al. (2012) found no relationship between obesity or being overweight and attendance. Rappaport et al. (2011) examined the effects of obesity status, defined using CDC guidelines, on student attendance. The sample consisted of 165,056 students enrolled in the School District of Philadelphia. Rappaport et al. (2011) found a weak correlation between obesity and absence, but that the relationship was stronger among the students who had the highest 1% BMI.

For risk behaviors involving physical activity, students with absences were generally no more likely to engage in risk behaviors than students with no absences (Eaton et al., 2008). Truant students were actually more likely to have attended and participated in physical education class than students with no absences. Inadequate physical activity was the only category of risk behaviors examined by the YRBSS that included behaviors in which truant students were less likely to engage than their peers.

Absenteeism and College Readiness

Chronic absenteeism is highly predictive of high school dropout (Balfanz & Byrnes, 2012; Henderson et al., 2014; Mac Iver & Messel, 2012; Schoenberger, 2012). Students who drop out tend to follow patterns of chronic absenteeism over several years (MacIver, 2010; MacIver & Messel, 2012). For each year students are chronically absent, they are 2.21 times more likely to drop out (Utah Education Policy Center, 2012). Using data from an urban school district in Maryland, West (2013) found that high school students who were absent three or more times during the first nine weeks of ninth grade were three times as likely to drop out of high school.

Attendance is also predictive of academic success after high school. Barry et al.'s (2011) cross-sectional study examined the effect of truant and alcohol-related behavior on educational aspirations of high school seniors. Data from the Monitoring the Future (MTF) project's 2006 survey were analyzed. The study used a nationally representative sample of 10,833 students. The independent variables were alcohol use and truancy and the dependent variable was educational aspirations. The study found that the more frequently students are truant, the less likely they are to plan to attend a college or university.

Sawyer and Gibson (2012) examined the long-term effects of improving behavior and attendance on educational achievement in elementary school and high school. The sample consisted of students enrolled in grade 1 or grade 8 during the 2005-2006 school year. The study found that the principal predictor for the number of days absent each year in high school is the number of days absent in previous years. The study also found that chronically absent students performed 0.05 standard deviations worse than regularly

attending students, supporting earlier results (Gottfried, 2010, 2011). Sawyer and Gibson (2012) estimated that improving student attendance to fewer than 18 days absent in eighth grade and maintaining the improvement through graduation would result in an increase in 0.02 standard deviations in the students' composite ACT score, or approximately one point.

Mac Iver and Messel (2012) examined the effects of attendance, behavior, and course failure on students in Baltimore. The study used a sample consisting of two cohorts of all ninth graders in Baltimore City Public Schools in the 2004-2005 and 2005-2006 school years. The data set was drawn from school district records on withdrawal, grade level, attendance, test scores, suspensions and course grades from the National Student Clearinghouse on college enrollment. The study found chronic absenteeism in eighth grade or ninth grade increased the likelihood that students would drop out. Students who exhibited at least one early warning indicator (i.e., chronic absenteeism, failure of one or more core courses, or suspension from school) in both eighth and ninth grade had a graduation rate of 30.4%, compared with a rate of 91.8% for students who did not exhibit an early warning indicator in either grade. Mac Iver and Messel (2012) also found that 44% of students who were not chronically absent in ninth grade enrolled in college by fall 2010, in contrast with 10% of students who were chronically absent in ninth grade.

Rosenkranz et al. (2014) examined the decline in course grades between eighth and ninth grade. The study used school district data on students enrolled in the Chicago Public Schools, especially those who were enrolled in eighth grade in the 2007-2008 school year. The study found that students miss almost three times as many days of

school in ninth grade as in eighth grade, but that the number of excused absences is similar. Furthermore, Rosenkranz et al. (2014) found that the change in attendance between eighth grade and ninth grade resulted in a decline of between two and three letter grades in English and mathematics.

Allensworth et al. (2014) examined the effect of middle grade indicators on student high school and college readiness. The study used school district data on students enrolled in the Chicago Public Schools as first-time ninth graders in the 2009-2010 school year. The study found that attendance in the middle grades predicted high school failure and dropout. Allensworth et al. (2014) found attendance patterns matching those in Rosenkranz et al. (2014), which examined the ninth-grade students in the same district from the previous school year.

Summary

Chapter 2 discussed the causes and predictors of absenteeism. Additionally, an overview of the effects of absenteeism, both academic and nonacademic, was provided. This chapter also explored the relationship between absenteeism and college readiness. Chapter 3 includes a description of the methodology used in conducting this study, including a description of the research design, population, sample of the students studied, information pertaining to the sampling process, measurement, data collection, data analysis, and the limitations of the study.

Chapter 3

Methods

The purpose of this study was to determine to what extent chronic absenteeism is associated with college readiness. Specifically, the purposes were to determine the impact of chronic absenteeism on the achievement of the ACT college readiness benchmarks, to determine the impact if any of chronic absenteeism on student achievement on the ACT college readiness benchmarks, to determine what if any impact chronic absenteeism has on student composite ACT scores, and to determine if there was a difference in either of those results depending on student socioeconomic status. This chapter describes the methodology used in conducting the study, including a description of the research design, population, sample of the students studied and information pertaining to the sampling process, measurement, data collection, data analysis, and the limitations of the study.

Research Design

A quasi-experimental, quantitative, cross-sectional research design was used in the study. The dependent variable was college readiness, as measured by achievement of the ACT college readiness benchmarks. The independent variables were attendance status (chronically absent or not chronically absent), measured by whether or not a student had been absent 18 or more school days, and socioeconomic status (low SES or high SES), measured by whether or not a student qualified to receive free or reduced-price lunches.

Selection of Participants

The population for this study consisted of students who graduated from a high school in a small town on the fringe of a large metropolitan area in northeast Kansas. The sample consisted of 427 students. These students were enrolled at the district's high school for ninth, tenth, eleventh, and twelfth grades and took the ACT and graduated in school years 2012-2013, 2013-2014, and 2014-2015.

Nonrandom purposive sampling was used for the current study. Lunenburg and Irby (2008) defined purposive sampling as selecting a sample using criteria specified by the researcher. Participants attended the district's high school for ninth, tenth, eleventh, and twelfth grades. To be considered as attending the high school for a given grade level, students must have been enrolled at the high school on September 20th of that year. Selected participants were first-time freshmen during school years 2009-2010, 2010-2011, and 2011-2012.

Measurement

The researcher selected ACT scores and ACT college readiness benchmarks for the measurements of college readiness. "The ACT contains four multiple-choice tests – English, Mathematics, Reading, and Science – and an optional Writing Test. These tests are designed to measure skills that are most important for success in postsecondary education and that are acquired in secondary education" (ACT, 2014, p.5). The English subtest is a 45-minute, 75-question test that assesses production of writing, knowledge of language, and conventions. The mathematics subtest is a 60-question, 60-minute test assessing mathematical modeling, integration of mathematical skills, algebra, geometry, statistics, and number sense. The reading subtest is a 40-question, 35-minute test

assessing examinees' ability to identify key ideas and details, analyze craft and structure, and integrate knowledge and ideas. The science subtest is a 40-question, 35-minute test assessing interpretation of data, scientific investigation, and evaluation of models, inferences, and experimental results.

According to ACT (2014), there are strict specifications for each test and an extensive review process to ensure the tests align with current high school and university curricula. Students who take more rigorous coursework in high school and students with better high school grade point averages tend to earn higher composite ACT scores. In addition, students who enroll in more English and mathematics classes in high school tend to score 2 to 3 points higher on the English and mathematics subtests of the ACT, respectively (ACT, 2014).

On each of the four ACT subtests, an examinee scores between 1 and 36 inclusive and in whole-number increments, with higher scores indicating greater levels of academic achievement. The ACT composite score is a whole number between 1 and 36 inclusive, calculated by finding the mean of the ACT subtest scores and rounding to the nearest whole number. If an examinee leaves any subtest completely blank, no composite score is reported. The reliability of the ACT and its subtests varies slightly for each administration. Reliability coefficients above 0.80 are considered sufficiently reliable to make decisions about individuals (Webb, Shavelson, Haertel., 2006). The reliability coefficients for each subtest and for the composite score are close to 0.90 (Ormrod, 2014). These values are very similar from year to year; in 1995 and 2012 the reliability coefficients for the English, mathematics, and reading subtests were the same: 0.92, 0.91, and 0.88, respectively (ACT, 2014). The reliability coefficient for the science subtest

was 0.85 in 1995 and 0.83 in 2012. Since these coefficients are above 0.80, the ACT composite and subtest scores are reliable.

The ACT College Readiness Benchmarks are provided by ACT as the minimum scores required for students to have a 50% chance of earning at least a B, and a 75% chance of earning at least a C, in the corresponding college credit-bearing course (ACT., 2013). The English, reading, mathematics, and science reasoning scores correspond to English Composition, an introductory social science course, College Algebra, and Biology, respectively. The ACT College Readiness benchmark scores are 18 for English, 22 for mathematics, 22 for reading, and 23 for science reasoning.

The qualified admissions requirements for the Kansas Board of Regents (KBOR) are an ACT composite score of at least 21 and completion of the KBOR qualified admission pre-college curriculum, including four years of English, three years of mathematics with a mathematics subtest score greater than or equal to 22 or three years with a mathematics ACT subtest score below 22, three years of social science, three years of natural science including a year of either chemistry or physics, and three years of electives with a GPA of at least 2.0 (Kansas Board of Regents, 2015). Therefore, any student who meets the minimum high school graduation requirements in Kansas must also have a GPA of 2.0 or higher, a fourth year of mathematics or an ACT mathematics subtest score of at least 22, and an ACT composite score of at least 21 (Kansas State Department of Education, 2016). An ACT composite score of 21 is also the lowest possible composite score for a student who has met all four ACT college readiness benchmarks (ACT, 2013).

At High School A, attendance was calculated by class period. For a given class period, students were considered absent if they missed more than twenty minutes of first period or more than five minutes of a subsequent period. Students were considered chronically absent when they had missed the equivalent of 18 or more school days in a given school year. Students who were absent for fewer than 18 school days were considered regularly attending. Seven missed class periods constituted one full day absence.

Students were considered either high SES or low SES. Students were categorized as low socioeconomic status if they qualified for free or reduced-price meals according to the U.S. Department of Agriculture's Income Eligibility Guidelines during at least two of the examined years. (Food and Nutrition Service, 2017). Any student who was not categorized as low SES was categorized as high SES.

Data Collection Procedures

On November 30, 2017, the researcher sent a letter to the superintendent of the school district and received permission to conduct the study at the district's high school (Appendix A). On December 12, 2017, the researcher applied for permission from the Baker University IRB committee to conduct the study using the attached form (Appendix B). The Baker University Institutional Review Board granted permission to conduct the research on December 14, 2017 (Appendix C).

Archival data were requested from the registrar for High School A, including students' absences, ACT scores, and ACT subtest scores. When the data were received, the researcher entered the data into SPSS Version 25 for analysis.

Data Analysis and Hypothesis Testing

RQ1. To what extent is there a difference in the proportion of students who met the English ACT College Readiness Benchmark score between students who regularly attend school during high school and students who are chronically absent from school during high school?

H1. There is a difference in the proportion of students who met the English ACT College Readiness Benchmark scores between students who regularly attend school during high school and students who are chronically absent during high school.

A χ^2 test of independence was conducted to test H1. The observed frequencies were compared to those expected by chance. The level of significance was set at .05.

RQ2. To what extent is the difference in the proportion of students who met the English ACT College Readiness Benchmark score between students who regularly attend school during high school and students who are chronically absent from school during high school affected by socioeconomic status?

H2. The difference in the proportion of students who met the English ACT College Readiness benchmark scores between students who regularly attend school during high school and students who are chronically absent during high school is affected by SES status.

Prior to testing H2, the data were disaggregated into two groups: students with full-pay lunch status and students with free or reduced-price lunch status. A χ^2 test of independence was conducted using the data for the students with full-pay lunch status. The two categorical variables included in the analysis were student English benchmark status and student attendance. The observed frequencies were compared to the

frequencies expected by chance. A second χ^2 test of independence was conducted using the data for the students with free or reduced-price lunch status. The two categorical variables included in the analysis were student English benchmark status and student attendance. The observed frequencies were compared to the frequencies expected by chance. The results of the two χ^2 tests were compared to test H2.

RQ3. To what extent is there a difference in the proportion of students who met the mathematics ACT College Readiness Benchmark score between students who regularly attend school during high school and students who are chronically absent from school during high school?

H3. There is a difference in the proportion of students who met the mathematics ACT College Readiness Benchmark scores between students who regularly attend school during high school and students who are chronically absent during high school.

A χ^2 test of independence was conducted to test H3. The observed frequencies were compared to those expected by chance. The level of significance was set at .05.

RQ4. To what extent is the difference in the proportion of students who met the mathematics ACT College Readiness Benchmark score between students who regularly attend school during high school and students who are chronically absent from school during high school affected by socioeconomic status?

H4. The difference in the proportion of students who met the mathematics ACT College Readiness benchmark scores between students who regularly attend school during high school and students who are chronically absent during high school is affected by SES status.

Prior to testing H4, the data were disaggregated into two groups: students with full-pay lunch status and students with free or reduced-price lunch status. A χ^2 test of independence was conducted using the data for the students with full-pay lunch status. The two categorical variables included in the analysis were student mathematics benchmark status and student attendance. The observed frequencies were compared to the frequencies expected by chance. A second χ^2 test of independence was conducted using the data for the students with free or reduced-price lunch status. The two categorical variables included in the analysis were student mathematics benchmark status and student attendance. The observed frequencies were compared to the frequencies expected by chance. The results of the two χ^2 tests were compared to test H4.

RQ5. To what extent is there a difference in the proportion of students who met the reading ACT College Readiness Benchmark score between students who regularly attend school during high school and students who are chronically absent from school during high school?

***H5*.** There is a difference in the proportion of students who met the reading ACT College Readiness Benchmark scores between students who regularly attend school during high school and students who are chronically absent during high school.

A χ^2 test of independence was conducted to test H5. The observed frequencies were compared to those expected by chance. The level of significance was set at .05.

RQ6. To what extent is the difference in the proportion of students who met the reading ACT College Readiness Benchmark score between students who regularly attend school during high school and students who are chronically absent from school during high school affected by socioeconomic status?

H6. The difference in the proportion of students who met the reading ACT College Readiness benchmark scores between students who regularly attend school during high school and students who are chronically absent during high school is affected by SES status.

Prior to testing H6, the data were disaggregated into two groups: students with full-pay lunch status and students with free or reduced-price lunch status. A χ^2 test of independence was conducted using the data for the students with full-pay lunch status. The two categorical variables included in the analysis were student reading benchmark status and student attendance. The observed frequencies were compared to the frequencies expected by chance. A second χ^2 test of independence was conducted using the data for the students with free or reduced-price lunch status. The two categorical variables included in the analysis were student reading benchmark status and student attendance. The observed frequencies were compared to the frequencies expected by chance. The results of the two χ^2 tests were compared to test H6.

RQ7. To what extent is there a difference in the proportion of students who met the science ACT College Readiness Benchmark score between students who regularly attend school during high school and students who are chronically absent from school during high school?

H7. There is a difference in the proportion of students who met the science ACT College Readiness Benchmark scores between students who regularly attend school during high school and students who are chronically absent during high school.

A χ^2 test of independence was conducted to address to test H7. The observed frequencies were compared to those expected by chance. The level of significance was set at .05.

RQ8. To what extent is the difference in the proportion of students who met the science ACT College Readiness Benchmark score between students who regularly attend school during high school and students who are chronically absent from school during high school affected by socioeconomic status?

***H8*.** The difference in the proportion of students who met the science ACT College Readiness benchmark scores between students who regularly attend school during high school and students who are chronically absent during high school is affected by SES status.

Prior to testing H8, the data were disaggregated into two groups: students with full-pay lunch status and students with free or reduced-price lunch status. A χ^2 test of independence was conducted using the data for the students with full-pay lunch status. The two categorical variables included in the analysis were student science benchmark status and student attendance. The observed frequencies were compared to the frequencies expected by chance. A second χ^2 test of independence was conducted using the data for the students with free or reduced-price lunch status. The two categorical variables included in the analysis were student science benchmark status and student attendance. The observed frequencies were compared to the frequencies expected by chance. The results of the two χ^2 tests were compared to test H8.

RQ9. To what extent is there a difference in the proportion of students who met all of the ACT College Readiness Benchmark scores between students who regularly

attend school during high school and students who are chronically absent from school during high school?

H9. There is a difference in the proportion of students who met all of the ACT College Readiness Benchmark scores between students who regularly attended school and students who were chronically absent.

A χ^2 test of independence was conducted to test H1. The observed frequencies were compared to those expected by chance. The level of significance was set at .05.

RQ10. To what extent is the difference in the proportion of students who met all of the ACT College Readiness Benchmark score between students who regularly attend school during high school and students who are chronically absent from school during high school affected by socioeconomic status?

H10. The difference between the proportion of students who met all of the ACT College Readiness benchmark scores for students who regularly attend school during high school and students who are chronically absent during high school is affected by SES status.

Prior to testing H10, the data were disaggregated into two groups: students with full-pay lunch status and students with free or reduced-price lunch status. A χ^2 test of independence was conducted using the data for the students with full-pay lunch status. The two categorical variables included in the analysis were student overall benchmark status and student attendance. The observed frequencies were compared to the frequencies expected by chance. A second χ^2 test of independence was conducted using the data for the students with free or reduced-price lunch status. The two categorical variables included in the analysis were student overall benchmark status and student

attendance. The observed frequencies were compared to the frequencies expected by chance. The results of the two χ^2 tests were compared to test H10.

RQ11. To what extent is there a difference in college readiness, as measured by the ACT composite score, between students who regularly attend school during high school and students who are chronically absent from school during high school?

***H11*.** There is a difference between the composite ACT scores for students who regularly attended school and students who were chronically absent.

A two-factor analysis of variance (ANOVA) was conducted to test H11 and H12. The two categorical variables used to group the composite ACT scores were attendance status (regular attendance or chronic absenteeism) and socioeconomic status (received free/reduced-price lunch). The two-factor ANOVA can be used to test three hypotheses including a main effect for attendance status, a main effect for socioeconomic status, and a two-way interaction effect (attendance status x socioeconomic status). The main effect for attendance was used to test H11. The level of significance was set at .05.

RQ12. To what extent is the difference between the composite ACT score for students who regularly attend school during high school and students who are chronically absent from school during high school affected by socioeconomic status?

***H12*.** The difference between the composite ACT scores for students who regularly attend school during high school and students who are chronically absent during high school is affected by SES status.

The interaction effect for attendance status by socioeconomic status from the two-factor ANOVA was used to test H12. The level of significance was set at .05.

Summary

Chapter 3 included a restatement of the purpose of the study. Also, this chapter included a description of the methodology used in conducting the study, the research design, population, sample of the students studied and information pertaining to the sampling process, data collection, data analysis, hypothesis testing, and the limitations of the study. Chapter 4 includes the results of the data analysis.

Chapter 4

Results

The purpose of this study was to determine to what extent chronic absenteeism is associated with college readiness. An additional purpose was to determine whether socioeconomic status affected the relationship between chronic absenteeism and college readiness. This chapter presents an explanation of the descriptive statistics and the results of hypothesis testing.

Descriptive Statistics

The sample for this study included 427 students who graduated from District A in 2013, 2014, or 2015 and took the ACT. Of the students in the sample, 57 met none of the ACT college readiness benchmarks, 62 met one benchmark, 78 met two benchmarks, 71 met three benchmarks, and 159 met all four benchmarks. Two students qualified for free or reduced-price lunch; the remaining 425 did not. Thirty-three students were chronically absent and 394 were not chronically absent.

Hypothesis Testing

RQ1. To what extent is there a difference in the proportion of students who met the English ACT College Readiness Benchmark score between students who regularly attend school during high school and students who are chronically absent from school during high school?

H1. There is a difference in the proportion of students who met the English ACT College Readiness Benchmark scores between students who regularly attend school during high school and students who are chronically absent during high school.

A χ^2 test of independence was conducted to test H1. The observed frequencies were compared to those expected by chance. The level of significance was set at .05. The results of the χ^2 test of independence indicated no difference between the observed and expected values, $\chi^2 = 0.712$, $df = 1$, $p = 0.399$. The observed frequencies were similar to the expected frequencies (see Table 1).

Table 1

Observed and Expected Frequencies for Hypothesis 1

Chronic Absenteeism Status	English Benchmark	Observed	Expected
Chronically Absent			
	Did Not Meet	8	6.2
	Met	25	26.8
Not Chronically Absent			
	Did Not Meet	72	73.8
	Met	322	320.2

RQ2. To what extent is the difference in the proportion of students who met the English ACT College Readiness Benchmark score between students who regularly attend school during high school and students who are chronically absent from school during high school affected by socioeconomic status?

***H2*.** The difference between in the proportion of students who met the English ACT College Readiness benchmark scores between students who regularly attend school during high school and students who are chronically absent during high school is affected by SES status.

Only two students in the sample were categorized as low SES. The χ^2 test for differences among proportions requires all expected values to be at least five. Therefore,

due to the small sample size, the χ^2 test for different proportions could not be conducted for H2.

RQ3. To what extent is there a difference in the proportion of students who met the mathematics ACT College Readiness Benchmark score between students who regularly attend school during high school and students who are chronically absent from school during high school?

H3. There is a difference in the proportion of students who met the mathematics ACT College Readiness Benchmark scores between students who regularly attend school during high school and students who are chronically absent during high school.

A χ^2 test of independence was conducted to test H3. The observed frequencies were compared to those expected by chance. The level of significance was set at .05. The results of the χ^2 test of independence indicated no difference between the observed and expected values, $\chi^2 = 0.79$, $df = 1$, $p = 0.778$. The observed frequencies were similar to the expected frequencies (see Table 2).

Table 2

Observed and Expected Frequencies for Hypothesis 3

Chronic Absenteeism Status	Mathematics Benchmark	Observed	Expected
Chronically Absent			
	Did Not Meet	16	15.2
	Met	17	17.8
Not Chronically Absent			
	Did Not Meet	181	181.8
	Met	213	212.2

RQ4. To what extent is the difference in the proportion of students who met the mathematics ACT College Readiness Benchmark score between students who regularly attend school during high school and students who are chronically absent from school during high school affected by socioeconomic status?

***H4*.** The difference in the proportion of students who met the mathematics ACT College Readiness benchmark scores between students who regularly attend school during high school and students who are chronically absent during high school is affected by SES status.

Only two students in the sample were categorized as low SES. The χ^2 test for differences among proportions requires all expected values to be at least five. Therefore, due to the small sample size, the χ^2 test for different proportions could not be conducted for H4.

RQ5. To what extent is there a difference in the proportion of students who met the reading ACT College Readiness Benchmark score between students who regularly attend school during high school and students who are chronically absent from school during high school?

***H5*.** There is a difference in the proportion of students who met the reading ACT College Readiness Benchmark scores between students who regularly attend school during high school and students who are chronically absent during high school.

A χ^2 test of independence was conducted to test H5. The observed frequencies were compared to those expected by chance. The level of significance was set at .05. The results of the χ^2 test of independence indicated no difference between the observed

and expected values, $\chi^2 = 0.000$, $df = 1$, $p = 0.983$. The observed frequencies were similar to the expected frequencies (see Table 3).

Table 3

Observed and Expected Frequencies for Hypothesis 5

Chronic Absenteeism Status	Reading Benchmark	Observed	Expected
Chronically Absent			
	Did Not Meet	12	12.1
	Met	21	20.9
Not Chronically Absent			
	Did Not Meet	144	143.9
	Met	250	250.1

RQ6. To what extent is the difference in the proportion of students who met the reading ACT College Readiness Benchmark score between students who regularly attend school during high school and students who are chronically absent from school during high school affected by socioeconomic status?

H6. The difference in the proportion of students who met the reading ACT College Readiness benchmark scores between students who regularly attend school during high school and students who are chronically absent during high school is affected by SES status.

Only two students in the sample were categorized as low SES. The χ^2 test for differences among proportions requires all expected values to be at least five. Therefore, due to the small sample size, the χ^2 test for different proportions could not be conducted for H6.

RQ7. To what extent is there a difference in the proportion of students who met the science ACT College Readiness Benchmark score between students who regularly attend school during high school and students who are chronically absent from school during high school?

H7. There is a difference in the proportion of students who met the science ACT College Readiness Benchmark scores between students who regularly attend school during high school and students who are chronically absent during high school.

A χ^2 test of independence was conducted to test H7. The observed frequencies were compared to those expected by chance. The level of significance was set at .05. The results of the χ^2 test of independence indicated no difference between the observed and expected values, $\chi^2 = 0.001$, $df = 1$, $p = 0.978$. The observed frequencies were similar to the expected frequencies (see Table 4).

Table 4

Observed and Expected Frequencies for Hypothesis 7

Chronic Absenteeism Status	Science Benchmark	Observed	Expected
Chronically Absent			
	Did Not Meet	16	16.1
	Met	17	16.9
Not Chronically Absent			
	Did Not Meet	192	191.9
	Met	202	202.1

RQ8. To what extent is the difference in the proportion of students who met the science ACT College Readiness Benchmark score between students who regularly attend

school during high school and students who are chronically absent from school during high school affected by socioeconomic status?

H8. The difference in the proportion of students who met the science ACT College Readiness benchmark scores between students who regularly attend school during high school and students who are chronically absent during high school is affected by SES status.

Only two students in the sample were categorized as low SES. The χ^2 test for differences among proportions requires all expected values to be at least five. Therefore, due to the small sample size, the χ^2 test for different proportions could not be conducted for H8.

RQ9. To what extent is there a difference in the proportion of students who met all of the ACT College Readiness Benchmark scores between students who regularly attend school during high school and students who are chronically absent from school during high school?

H9. There is a difference in the proportion of students who met all of the ACT College Readiness Benchmark scores between students who regularly attended school and students who were chronically absent.

A χ^2 test of independence was conducted to test H9. The observed frequencies were compared to those expected by chance. The level of significance was set at .05. The results of the χ^2 test of independence indicated no difference between the observed and expected values, $\chi^2 = 0.233$, $df = 1$, $p = 0.629$. The observed frequencies were similar to the expected frequencies (see Table 5).

Table 5

Observed and Expected Frequencies for Hypothesis 9

Chronic Absenteeism Status	All Benchmarks	Observed	Expected
Chronically Absent			
	Did Not Meet	22	20.7
	Met	11	12.3
Not Chronically Absent			
	Did Not Meet	246	247.3
	Met	148	146.7

RQ10. To what extent is the difference in the proportion of students who met all of the ACT College Readiness Benchmark score between students who regularly attend school during high school and students who are chronically absent from school during high school affected by socioeconomic status?

***H10*.** The difference between the proportion of students who met all of the ACT College Readiness benchmark scores for students who regularly attend school during high school and students who are chronically absent during high school is affected by SES status.

Only two students in the sample were categorized as low SES. The χ^2 test for differences among proportions requires all expected values to be at least five. Therefore, due to the small sample size, the χ^2 test for different proportions could not be conducted for H10.

RQ11. To what extent is there a difference in college readiness, as measured by the ACT composite score, between students who regularly attend school during high school and students who are chronically absent from school during high school?

***H11*.** There is a difference between the composite ACT scores for students who regularly attended school and students who were chronically absent.

A two-factor analysis of variance (ANOVA) was conducted to test H11. The two categorical variables used to group composite ACT scores were chronic absenteeism status (chronically absent, not chronically absent) and SES status (low SES, high SES). The two-factor ANOVA can be used to test three hypotheses including a main effect for chronic absenteeism status, a main effect for SES status, and a two-way interaction effect (chronic absenteeism status x SES status). The main effect for chronic absenteeism was used to test H11. The level of significance was set at .05.

The results of the analysis indicated there was not a statistically significant difference between at least two of the means, $F = 0.010$, $df = 1, 425$, $p = 0.922$. No follow-up post hoc was warranted.

RQ12. To what extent is the difference between the composite ACT score for students who regularly attend school during high school and students who are chronically absent from school during high school affected by socioeconomic status?

***H12*.** The difference between the composite ACT scores for students who regularly attend school during high school and students who are chronically absent during high school is affected by SES status.

Only two students in the sample were categorized as low SES. Because of the small sample size, the interaction effect for chronic absenteeism status by SES status could not be used to test H12.

Additional Analyses

The above results are counterintuitive, which raises the question of whether there is a difference between the proportion of students who took the ACT between students who regularly attend school during high school and students who are chronically absent during high school. Between 2013 and 2015, 584 students graduated from District A. Of those graduates, 427 students took the ACT and 157 students did not take the ACT. Of the 427 students who took the ACT, 33 were chronically absent and 394 were not chronically absent.

A χ^2 test of independence was conducted to test whether there is a difference in the proportion of students who took the ACT between students who regularly attend school during high school and students who are chronically absent during high school. The observed frequencies were compared to those expected by chance. The level of significance was set at .05. The results of the χ^2 test indicated a statistically significant difference between the observed and expected values, $\chi^2 = 11.166$, $df = 1$, $p = 0.001$. The number of students who were chronically absent and did not take the ACT ($n = 27$) was higher than the number expected by chance ($n = 16.1$). The number of students who were not chronically absent and did take the ACT ($n = 394$) was higher than the number expected by chance ($n = 383.1$) (see Table 6). These findings indicate that chronic absenteeism tended to be associated with not taking the ACT.

Table 6

Students taking the ACT by Chronic Absenteeism Status

Chronic Absenteeism Status	ACT Status	Observed	Expected
Chronically Absent			
	No ACT	27	16.1
	ACT	33	43.9
Not Chronically Absent			
	No ACT	130	140.9
	ACT	394	383.1

Summary

Chapter 4 included descriptive statistics for the sample used in this study. The chapter continued with a presentation of the results of hypothesis testing. These results indicated no difference in the proportion of students who achieve each of the ACT college readiness benchmark between students who are chronically absent and students who regularly attend school. Additionally, the results indicated no difference in the proportion of students who achieve all of the ACT college readiness benchmarks between students who are chronically absent and students who regularly attend and no difference in composite ACT scores between students who are chronically absent and students who regularly attend. Additional analysis revealed that students who were chronically absent tended to be less likely to take the ACT than students who regularly attended. Chapter 5 includes the interpretations of the findings and recommendations for future research.

Chapter 5

Interpretation and Recommendations

The results of the data analysis for this study were presented in the previous chapter. This chapter begins with a summary of the study including an overview of the problem, purpose, research questions, methodology and major findings, followed by an explanation of the findings related to the literature. Chapter 5 concludes with implications for action, recommendations for future research, and concluding remarks.

Study Summary

This section provides an overview of the problem concerning the relationship between chronic absenteeism and college readiness. A restatement of the purpose, research questions, and methodology follows. The study summary section concludes with a review of the studies major findings.

Overview of the problem. Schools are working to improve students' college readiness. Under the Every Student Succeeds Act, many states have chosen chronic absenteeism as a measure of school quality. At the elementary level, studies have found a variety of negative effects of chronic absenteeism. The effect of chronic absenteeism at the high school level has not been thoroughly studied, however.

Purpose statement and research questions. The purpose of this study was to determine to what extent chronic absenteeism is associated with college readiness. Specifically, the primary purpose was to determine the impact of chronic absenteeism on student achievement of the ACT college readiness benchmarks. The secondary purpose was to determine what impact chronic absenteeism has on student composite ACT scores.

The tertiary purpose was to determine if there was a difference in either of those results depending on student socioeconomic status.

Review of the methodology. The groups of students sampled for this study graduated from High School A in 2013, 2014, or 2015. Data from students who took the ACT were analyzed. Students who were absent for at least 10% of any school year while enrolled at High School A were considered chronically absent. Students who qualified for free or reduced-price lunch at any point while they were enrolled at High School A were categorized as low-SES. Chi-square tests were used to determine the strength and direction of the relationships between achievement of the ACT college readiness benchmarks and chronic absenteeism status. The main effect from a factorial ANOVA was used to determine the relationship between chronic absenteeism and composite ACT score.

Major findings. Because the number of students categorized as low-SES was very small, it was not possible to conduct tests of hypotheses related to socioeconomic status. For the remaining hypotheses, the results of the hypothesis testing revealed no relationship between achievement of the ACT college readiness benchmark in English and chronic absenteeism. Similarly, there was no relationship between achievement of the ACT college readiness benchmark in mathematics and chronic absenteeism. There was also no relationship between achievement of the ACT college readiness benchmark in reading and chronic absenteeism or between achievement of the ACT college readiness benchmark in science and chronic absenteeism. There was no difference in the composite ACT scores of students who were chronically absent and students who regularly attended. Additional analysis revealed that there was a statistically significant

difference in the proportion of students who took the ACT between chronically absent students and regularly attending students. Chronic absenteeism tended to be associated with lower likelihood that students took the ACT.

Findings Related to the Literature

This section examines this study's findings as they relate to the literature regarding the effect of chronic absenteeism on student achievement. Specifically, this study addressed the effects of chronic absenteeism on student achievement as measured by achievement of the ACT college readiness benchmark scores. Limited research related to the effects of chronic absenteeism on test scores of high school students has been conducted.

Ginsburg and Chudowsky (2012) found that students with higher rates of absences tended to have lower scores on the Nation Assessment of Educational Progress (NAEP). In this study however, there appeared to be no difference in test scores or achievement of the ACT College Readiness Benchmarks between those students who were chronically absent and those students who were not chronically absent. Possible explanations for these conflicting results include that the NAEP and ACT may have different proficiency standards or that different methodologies were used to set benchmarks for the NAEP and ACT. This discrepancy may also be due to the selection of the students who take the test. Since students who take the ACT are usually college-bound and consequently better prepared academically, it is possible that the results were affected by this bias. The results of this study also conflict with The Utah Education Policy Center (2012), which reported that students who were chronically absent scored lower than their regularly attending peers on the Utah reading, language, mathematics,

and science assessments. This discrepancy, too, may be the result of different standards, benchmark-setting methodologies, or the sample of students who took the exam.

The results of this study indicated no significant difference between the college readiness of students who are chronically absent and students who regularly attend. One possible explanation is that some students did not take the test. Results of the analyses indicated that chronic absenteeism was associated with not taking the ACT. Barry et al. (2012) found that the more students were absent, the lower their academic aspirations tended to be. Since the ACT is a college entrance exam, not taking the test might be an indicator for low educational aspirations. A second possibility is that defining chronic absenteeism as being absent for 10 percent or more of a given school year may be inadequate at the high school level. Although that definition is based on research, the majority of the studies that support it use samples consisting of elementary school students (Chang & Balfanz, 2016).

Another possible explanation is that the second-order effects of chronic absenteeism include negative effects for classmates of chronically absent students. Gottfried (2015) found that regularly attending students are negatively affected by having chronically absent classmates. Although Gottfried (2015) examined third and fourth grade classrooms, those findings provide a possible alternative explanation for the results of this study; that is, the negative effects of having chronically absent classmates may persist through high school. Teachers in District A may have assisted students to master material presented in lessons for which the students were absent, possibly sacrificing time that might have been used to present new material to students who were not absent (Goodman, 2014). Additionally, the negative effects may compound from having

chronically absent classmates in subsequent years. Consequently, the negative effects of chronic absenteeism may have contributed to the failure of regularly attending students to achieve the college readiness benchmarks.

Conclusions

This section contains conclusions based on the current study about the effect of chronic absenteeism on college readiness. Implications for action and recommendations for future research are included. The section ends with concluding remarks.

Implications for action. The results of the additional analyses conducted in this study suggest that students who took the ACT tended to be less likely to be chronically absent. Districts need to monitor attendance, engage students and parents, and work to remove barriers to attendance.

Building and district leaders should monitor chronic absenteeism data. By monitoring chronic absenteeism data, school leaders can identify trends in chronic absenteeism. School personnel also should identify students who have risk factors for chronic absenteeism, especially those students, particularly ninth grade students, transitioning to a new attendance center. Because monitoring the data enables school leaders to know which students are chronically absent, they can develop individualized interventions to improve students' attendance. By defining chronic absenteeism as a percentage of the elapsed days in a school year, school personnel can intervene early, before a student has been chronically absent for an entire school year.

Second, building and district leaders should engage parents and students. In a typical school year, a student who is absent twice a month is chronically absent, but to parents and students the rate of absence may appear small. School leaders should

organize orientation programs for students and community awareness campaigns emphasizing the importance of attendance and the potential effects of chronic absenteeism. Higher rates of absenteeism have been associated with high school dropout, higher rates of risk behaviors and injury, especially injuries that result in death (Eaton, Brenner, & Kann, 2008; Bailey et al., 2015). Higher rates of school absenteeism are also associated with higher rates of job absenteeism after exiting school (Larson, Singh, & Lewis, 2011). Additionally, the results of this study indicate that chronic absenteeism is associated with not taking the ACT. Schools should send reminders that include the total number of absences and information regarding the negative effects of chronic absenteeism to students and their guardians as they near level of chronic absenteeism.

Finally, building and district leaders should work to remove barriers to attendance. Barriers to student attendance include bullying, academic or social deficiencies, or undiagnosed disability. School leaders should consider programs, including academic support and bullying prevention programs, to reduce these barriers to attendance. School systems have less control over other barriers to student attendance such as housing instability, high mobility, lack of safe route to school, and chronic illness. By cooperating with community partners, school leaders can mitigate these problems. For example, school systems can partner with local governments to add sidewalk routes from residential areas to school attendance centers or pedestrian bridges at busy intersections. Health issues, especially respiratory ailments, are a common cause of student absence (Simons et al., 2010; Borg, 2014). Schools can limit the instances of such ailments by using hypoallergenic materials in buildings. Performing regular air

quality tests enables schools to identify and resolve mold or allergen problems before large numbers of students and teachers are absent because of those problems.

Recommendations for future research. The primary purpose of this study was to determine the impact of chronic absenteeism on student achievement of the ACT college readiness benchmarks. The secondary purpose was to determine what impact chronic absenteeism has on student composite ACT scores. The tertiary purpose was to determine if there was a difference in either of those results depending on student socioeconomic status. This study contributed to the knowledge base regarding the effect of chronic absenteeism on college readiness. However, further research should be considered. This study was conducted in a school district located on the fringe of a metropolitan area. It would be valuable to replicate the study in urban, suburban, and rural areas as well.

Only data from those students who took the ACT were used in this study. This study did not provide results related to the effect of socioeconomic status because so few students who took the ACT were categorized as low-SES, which made the hypothesis testing impossible. Additionally, the results of this study provide no information about the college readiness of the students who did not take the ACT. Replicating the study using data from schools in which all students take the ACT would be beneficial. Replicating the study using a more diverse sample would also be beneficial.

Finally, the analyses conducted in this study found no difference in the ACT composite scores or achievement of the ACT college readiness benchmarks between students who were chronically absent and students who regularly attended. This result suggests that students in high school may experience negative effects from having

chronically absent classmates. A study to determine whether this is, in fact, the case should be conducted.

Concluding remarks. Using only average daily attendance as the sole measure provides an incomplete representation of student attendance. As states begin to use chronic absenteeism as an additional measure of student attendance and as a measure of school quality under the Every Student Succeeds Act, more information is needed about the effects of chronic absenteeism, especially the effects on students as they complete high school. This study documented the scarcity of research regarding the effects of chronic absenteeism at the high school level and contributed to the body of knowledge related to the effects of chronic absenteeism on college readiness.

The results of the current study indicated that chronic absenteeism is associated with not taking the ACT, which may support earlier findings that chronically absent students tend to have lower educational aspirations, since not taking the ACT might be an indicator of lower educational aspirations. However, the results of this study conflicted with earlier findings that chronically absent students achieve lower scores on standardized tests. District and building leaders need to monitor data, engage parents and students, and work to remove barriers to attendance. All stakeholders, particularly parents and students, need to be aware of the negative effects of chronic absenteeism.

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Appendices

Appendix A: Application for Permission to Conduct Research in District A

30 November 2017

[redacted]
Superintendent of Schools
[redacted]

RE: Permission to Conduct Research Study

Dear [redacted]

I am writing to request permission to conduct a research study in [redacted] School District. I am currently enrolled in the Doctor of Education program at Baker University in Baldwin City, KS, and am in the process of writing my dissertation.

I hope that the school administration will allow me to access archival data regarding the senior classes of 2013, 2014, and 2015 from the school district. The data would include student attendance, ACT, and demographic information. The individual data used in this study will remain absolutely confidential and anonymous. No costs will be incurred by either your school or the individual participants.

If you agree, kindly sign below and return the signed form in the enclosed self-addressed envelope. Alternatively, kindly submit a signed letter of permission on your institution's letterhead acknowledging your consent and permission for me to conduct this study at your institution.

Sincerely,

Matthew Stevenson

Approved by:

[redacted] 11-30-17

Print your name and title here Signature Date

Appendix B: Institutional Review Board Application

BAKER UNIVERSITY

IRB Request

Date 12/12/17

IRB Protocol Number _____ (IRB use only)

I. Research Investigator(s) (students must list faculty sponsor)

Department(s) Graduate School of Education

	Name	Signature	
1.	Matthew Stevenson		Principal Investigator
2.	Russ Kokoruda		☑ Check if faculty sponsor
3.	Peg Waterman		☐ Check if faculty sponsor
4.			☐ Check if faculty sponsor

Principal investigator contact information

Phone (913)687-8964

Email matthewastevenson@stu.bakeru.edu

Address 83 Continental Dr

Lansing, KS 66043

Note: When submitting your finalized, signed form to the IRB, please ensure that you cc all investigators and faculty sponsors using their official Baker University (or respective organization's) email addresses.

Faculty sponsor contact information

Phone (913)344-1221

Email rkokoruda@bakeru.edu

Expected Category of Review: ☑ Exempt ☐ Expedited ☐ Full ☐ Renewal

II. Protocol Title

The Effect of Chronic Absenteeism on College Readiness

III. Summary:

The following questions must be answered. Be specific about exactly what participants will experience and about the protections that have been included to safeguard participants from harm.

A. In a sentence or two, please describe the background and purpose of the research.
To comply with the latest reauthorization of the Elementary and Secondary Education Act, most states have selected chronic absenteeism as a measure of student success. The purpose of this study is to determine what effect, if any, chronic absenteeism has on college readiness.

B. Briefly describe each condition, manipulation, or archival data set to be included within the study.
The archival data set to be included within the study contains student ACT composite and subtest scores, attendance data, and free or reduced lunch status for the classes of 2013, 2014, and 2015 of a school district in a small town on the fringe of a large metropolitan area.

IV. Protocol Details

A. What measures or observations will be taken in the study? If any questionnaire or other instruments are used, provide a brief description and attach a copy.
No measures or observations will be taken in the study. All data that will be used are archival.

B. Will the subjects encounter the risk of psychological, social, physical, or legal risk? If so, please describe the nature of the risk and any measures designed to mitigate that risk.
Subjects will not encounter any psychological, social, physical, or legal risk.

C. Will any stress to subjects be involved? If so, please describe.

No stress to subjects will be involved.

D. Will the subjects be deceived or misled in any way? If so, include an outline or script of the debriefing.
Subjects will not be deceived or misled in any way.

E. Will there be a request for information which subjects might consider to be personal or sensitive? If so, please include a description.
No information which subjects might consider to be personal or sensitive will be requested.

F. Will the subjects be presented with materials which might be considered to be offensive, threatening, or degrading? If so, please describe.
The subjects will not be presented with any materials which might be considered to be offensive, threatening, or degrading.

G. Approximately how much time will be demanded of each subject?
No time will be demanded from subjects.

H. Who will be the subjects in this study? How will they be solicited or contacted? Provide an outline or script of the information which will be provided to subjects prior to their volunteering to participate. Include a copy of any written solicitation as well as an outline of any oral solicitation.
The subjects of the study are students who were enrolled at District A for 9th through 12th grades, took the ACT, and were part of the classes of 2013, 2014, or 2015.

I. What steps will be taken to insure that each subject's participation is voluntary? What if any inducements will be offered to the subjects for their participation?
The data to be examined are archival data already collected by the school district.

J. How will you insure that the subjects give their consent prior to participating? Will a written consent form be used? If so, include the form. If not, explain why not.

The superintendent of District A provided written permission to use the archival data. The data used are archival data with no student identified, so no student permission is necessary.

K. Will any aspect of the data be made a part of any permanent record that can be identified with the subject? If so, please explain the necessity.

The data will not be made part of any permanent record that can be identified with the subject.

L. Will the fact that a subject did or did not participate in a specific experiment or study be made part of any permanent record available to a supervisor, teacher, or employer? If so, explain.

The fact that a subject did or did not participate in the study will not be made part of any permanent record.

M. What steps will be taken to insure the confidentiality of the data? Where will it be stored? How long will it be stored? What will be done with the data after the study is completed?

Data will not include names or personally-identifiable information. The data will be stored on a password-protected computer secured in a home office and the data will be destroyed two years after the completion of the study.

N. If there are any risks involved in the study, are there any offsetting benefits that might accrue to either the subjects or society?

There are not risks involved in the study.

O. Will any data from files or archival data be used? If so, please describe.

The data are archival data from the records of District A. The data include ACT composite scores, ACT subtest scores, free or reduced-price lunch data, attendance data, and enrollment data for students who: were enrolled in the district from 9th to 12th grade, took the ACT, and graduated in 2013, 2014, or 2015.

Appendix C: Institutional Review Board Permission to Conduct Research

BAKER UNIVERSITY
Own Confidence

Baker University Institutional Review Board

December 14th, 2017

Dear Matt Stevenson and Russ Kokoruda,

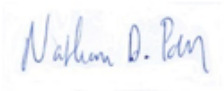
The Baker University IRB has reviewed your project application and approved this project under Exempt Status Review. As described, the project complies with all the requirements and policies established by the University for protection of human subjects in research. Unless renewed, approval lapses one 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 npoell@bakeru.edu or 785.594.4582.

Sincerely,



Nathan Poell, MA
Chair, Baker University IRB

Baker University IRB Committee
Scott Crenshaw
Erin Morris, PhD
Jamin Perry, PhD
Susan Rogers, PhD