

Bethel University

Spark

All Electronic Theses and Dissertations

2023

How Does a Four Day Work Week Affect Students' Achievement, Attendance, and Behavior

Joshua David Palmquist
Bethel University

Follow this and additional works at: <https://spark.bethel.edu/etd>

Recommended Citation

Palmquist, J. D. (2023). *How Does a Four Day Work Week Affect Students' Achievement, Attendance, and Behavior* [Master's thesis, Bethel University]. Spark Repository. <https://spark.bethel.edu/etd/928>

This Master's thesis is brought to you for free and open access by Spark. It has been accepted for inclusion in All Electronic Theses and Dissertations by an authorized administrator of Spark.

**HOW DOES A FOUR DAY WORK WEEK
AFFECT STUDENTS' ACHIEVEMENT, ATTENDANCE AND BEHAVIOR**

**A MASTER'S THESIS
SUBMITTED TO THE FACULTY
OF BETHEL UNIVERSITY**

**BY
JOSH PALMQUIST**

**IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF
MASTER OF ARTS IN SPECIAL EDUCATION**

MARCH 2023

**HOW DOES A FOUR-DAY WORK WEEK
AFFECT STUDENTS' ACHIEVEMENT, ATTENDANCE AND BEHAVIOR**

**A MASTER'S THESIS
SUBMITTED TO THE FACULTY
OF BETHEL UNIVERSITY**

BY

JOSH PALMQUIST

APPROVED:

PROGRAM DIRECTOR: KATIE BONAWITZ, ED.D.

ADVISOR: CHARLES S. STRAND, ED.S.

MARCH 2023

ABSTRACT

This thesis focuses on a four-day school week and the benefits of this approach as it relates to student achievement, attendance and behavior. Over the past two decades, the popularity of a four-day school week has grown, most notably in rural, western states. There are several reasons why school districts adopt the four-day school week. Most notably, it helps them financially. It also can be more attractive to retaining and hiring staff. There is one more reason why schools may be transitioning to the four-day school week: to close the achievement gap. Over the past 10 years, there have been increasingly more studies and data to support this new school schedule. Covid-19 also interrupted the entire school system for two-plus years, which forced schools to reevaluate how to 'do' school. This Literature Review takes an in-depth look at both the positive effects and negative effects a four-day school week may have on student achievement, attendance, and behaviors.

TABLE OF CONTENTS

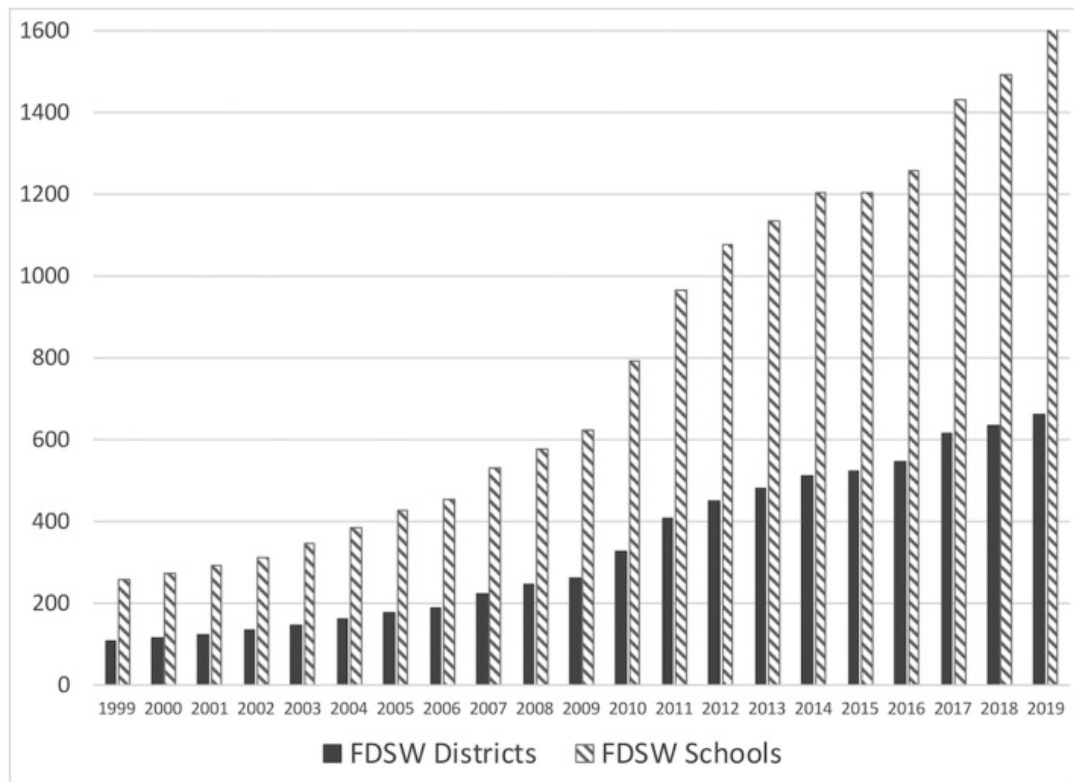
TITLE PAGE	1
SIGNATURE PAGE	2
ABSTRACT	3
TABLE OF CONTENTS	4
CHAPTER I: INTRODUCTION	5
CHAPTER II: LITERATURE REVIEW	10
CHAPTER III: APPLICATION OF RESEARCH	24
CHAPTER IV: DISCUSSION AND CONCLUSION	31
SUMMARY OF LITERATURE	
LIMITATIONS OF RESEARCH	
IMPLICATIONS OF FUTURE RESEARCH	
PROFESSIONAL APPLICATION	
CONCLUSION	
REFERENCES	35

CHAPTER I: INTRODUCTION

The landscape of education in America has shifted dramatically over the past couple of decades. In the United States, the general trend regarding school year length has been to increase the number of school days required during a school year or to replace the school days-per-year requirement with an hours-per-year requirement (DeNisco, 2013). The option to move to a school calendar based on hours per year opened alternatives for schools to reduce the number of school days on the calendar (Turner et al., 2018).

One of those drastic changes has been the shift from traditional five-day school weeks to a four-day school week. The idea of a four-day school week actually became a reality back in the early 1930s in South Dakota (DonisKeller & Silvernail, 2009), but until the last couple of decades, it was scarcely implemented. In 2011, a survey completed by the Washington Post found that roughly 294 school districts had implemented the four-day school week. As of 2018, at least 550 school districts have implemented the four-day school week, nearly double from 7 years prior (Turner et al., 2019). Every state west of the Mississippi has four-day school week districts, excluding only Arkansas (Heyward, 2018). Although the national percentage of public schools with a shortened school week was about 1.9 percent, there were eight states, largely located in the western United States, where more than 10 percent of schools had a shortened school week: Arizona, Colorado, Idaho, New Mexico, Oklahoma, Oregon, South Dakota, and Wyoming.

The table below shows the growth of school districts adopting the four-day school week schedule. This graph (Thompson et al., 2021) shows that 257 schools in 108 school districts operated on a four-day school week in 1999, but that number rose to 1,607 schools in 662 school districts by 2019.



As of 2017-2018, Minnesota had 3.3% of their public schools operating on a school schedule that was less than 5 days per week. It is important to note that most of these school districts are in rural areas, with school populations of 1,000 or fewer in their K-12 grades (Turner et al., 2019). While historically, cost savings have primarily been given as the driving factor in the move toward four-day school weeks, more and more the ability to attract teachers and to provide additional time for professional development are given by school leaders as the reason for the change (Turner et al., 2018).

Although there is not an abundance of research on the effectiveness of four-day school weeks, some studies have supported and criticized the four-day school week model. One of the concerns that the public has is behavioral concerns, especially outside of the school. A study done in Colorado found that a four-day school week increased the number of juvenile arrests by

73% (Turner et al., 2019). This is the fear that the public and educators may have when students are given an ‘off-day’ during the week. Academically, there have been studies that show a positive relationship between a four-day school week and students’ math and reading scores (Turner et al, 2019). Unsurprisingly, there are studies that show a decline in academic achievement long term. A study done in one western state showed better reading and writing scores compared to the rest of the state after implementing a four-day school week for two years. However, the 20% loss of instructional time over a long period of time seemed to negatively affect students’ performances (Matt et al., 2015).

Regardless of the data, parent input also plays a pivotal role in determining whether four-day school weeks should continue. One survey found that sixty-nine percent of parents agreed with the statement that the four-day week model should continue (Turner et al, 2019). Furthermore, teachers and administrators have shown support for four-day school weeks because it gives them the time to collaborate and focus on educational outcomes (Turner et al., 2019).

Over the past two decades, prior to the COVID-19 Pandemic, for various reasons, we have seen more and more school districts adjusting to a four-day school week. The COVID-19 pandemic certainly made school districts look at how the school schedule is adjusted. With restrictions placed on schools across most of the country during the 2020-2021 school year, administrators and school officials needed to create a safe and effective learning environment. One of the restrictions from the government was the amount of in-person learning that was allowed during a given school week. South Saint Paul Secondary, for example, went to a four-day synchronous schedule with the 5th day of the school week being asynchronous for the entirety of the 2020-2021 school year. However, with the successes that administrators and teachers saw from the adjusted school week schedule, the school district has continued to

implement the four-day school week for the 2021-2022 and currently the 2022-2023 school year.

Currently, the high school has a program called **“What I Need” Wednesdays**, which is a non-instructional school day for high school students. Students who are failing one or more classes are required to come to school on Wednesdays to receive help and support from their teachers. This day is for those students to get caught up with their schoolwork. Students who are not failing any classes have the option to stay home for the day. Teachers do push out enrichment activities for those students that are passing all their classes. The middle school implemented a two-hour late start each Wednesday. This allows teachers time to collaborate within their small groups to discuss any concerns with students and create a plan to support those students. Wednesday school days are then used for reteaching material that students may not have mastered yet, or to get caught up on certain priority assignments they may be missing. Some of the factors for these permanent changes include more time for teacher collaboration and more time for students to complete school work.

With the ever-growing shift from the traditional five-day school week to a four-day school week, one has to wonder if it is affecting our students, specifically those with special needs. The loss of instructional days is theoretically added on to make longer school days in the four-day school week model. Special education students are obviously affected by this. Behavioral concerns, academic performance, and attendance are all issues that need to be addressed when determining whether or not the four-day school week is beneficial to our students. The short and long-term effects of the four-day school week are still being studied and analyzed as more and more school districts across the country are shifting their focus to the new model. The focus of this literature review is to determine if the four-day school week is effective

in improving or maintaining academic achievement, behavioral and emotional needs, and attendance issues, specifically with students in special education.

Thesis Question

- 1. What are the benefits of student attendance, achievement and behavior using a four-day work week in schools?**

CHAPTER II: LITERATURE REVIEW

Research Process

The research materials used for the literature review were gathered mainly through the Bethel University library. Databases such as ERIC and EBSCO were the main sources for finding and reading Scholarly Articles such as Journals. This researcher also used data from South Saint Paul Secondary Schools provided by the Principal.

Academic Performance

The motivation for four-day school weeks is most often stated as a need for financial savings. For example, a report from Kentucky's Webster School District stated that there were substantial savings once they implemented the four-day schedule changes. Specifically, they saved on transportation, utility, and insurance costs (Anderson & Walker, 2015). Changing from the traditional five-day school week has several implications that must be studied in order to understand the positive and negative effects of the four-day school week. Switching to a four-day school week will affect teachers, communities, families, financial reports (as stated above), and most importantly, student achievement. Therefore, Anderson and Walker (2015) conducted a study looking at test scores from the CSAP test, an exam administered each spring in the Colorado public schools in specific grades, to measure student performance. The researchers examined 14 school districts for their reading scores and 15 school districts for their math scores. They looked at 4th-grade reading scores and 5th-grade mathematics scores. More specifically, they wanted to look at the percentage of students who scored proficient or advanced in math or reading. Because there are many more elementary schools than middle or high schools, this data is perhaps the most appropriate for examining the effects of the four-day week on student achievement (Anderson & Walker, 2015).

In this study by Anderson and Walker (2015), test scores were taken from the two years prior to adjusting to the four-day school week, the year the new schedule was implemented, and each of the two years after the adjustment. The data results are interpreted in multiple ways. First, Anderson and Walker took into account variables at the county level (poverty, population density), the school district level (percent of male teachers, Hispanic teachers, and white teachers), and the school level (total students, pupil-teacher ratio, percent free lunch, percent Hispanic students, and percent of white students). When looking at test scores as a whole, Anderson and Walker (2015) found that there was an improvement in math and reading scores when the school implemented a four-day school week, as well as during the following two years, compared to school districts with traditional schedules. The mean percentage of students who were proficient or advanced in 4th-grade reading and 5th-grade math, one year before implementing a four-day schedule, was 55.5 and 61.5, respectively. The year a four-day schedule was implemented, the mean percentage of students who scored proficient or advanced was 63.1 for 4th grade reading and 58.9 in 5th grade math. The year after the four-day schedule was implemented, scores continued to increase among those school districts; 62.3 percent of students scored proficient in 4th-grade reading and 70.7 percent of students in 5th-grade math. This data indicates that there is a discrete increase in the percentage of students scoring proficient or advanced in math (and reading) during the year in which the schedule change took place, and this improvement persists over time (Anderson & Walker, 2015). Furthermore, Anderson and Walker (2015 p. 314) concluded, “there is little evidence that switching to a four-day week harms student performance.” Morton (2021b) also found no detectable effect of the schedule on districts’ (in Oklahoma) average ACT scores in math or English. This evidence also

aligns with a study done by Morton on students in grades 3-8 in Oklahoma. Whereas, she did not observe significant changes, positive or negative, to test scores (Morton, 2021a).

Thorpe et al. (2015) conducted a study to determine the differences in test scores among schools that have implemented the four-day school week compared to those that use a traditional style schedule. The participants of the study were from Montana and attended school sometime between 2007 and 2013. Every student who took the criterion-referenced test was used in the study. The number of students who took the test state-wide was over 70,000 annually. The number of these students who attended four-day week school started at 207 in 2007 and increased annually to 2685 in 2013 (Matt et al., 2015). The data that was taken from the State Education Agency (SEA) were math and reading scores, specifically, the percentage of students who scored proficient or advanced.

As a result of this study by Matt et al. (2015), it is clear that the four-day school week had a negative impact on student achievement in reading and mathematics as measured by the criterion-referenced test. Over the course of six years, the studies showed that students who attended a school using the four-day school schedule fared worse than those who attended schools with traditional schedules. Reading scores for students who attended a school with a four-day schedule went from 87% in 2007 down to below 79% in 2013. This is worse when compared to students who attended a traditional school, who scored 82% in 2007 and increased to 85% in 2013. The same is true for the mathematics scores. Students attending four-day school weeks saw a decrease in their test scores, from 70.5% to 57.2%. During the same time period, students who attended a five-day school week saw math scores increase from 64.2% to 67.3%. As is evident from both data points, the students in four-day school weeks actually fared better in their test scores compared to the rest of the state. However, once the four-day

week becomes part of the (school) culture, the loss of the day of instruction appears to negatively affect student performance (Matt et al., 2015). Furthermore, there has been some evidence that while short-term academic benefits may be obtained by switching to longer days and shortened school weeks, over time, the improved academic results may wane (Matt et al., 2016).

While looking at student achievement amongst schools who have implemented four-day school weeks compared to those that are in the traditional five-day week, a study done in Oregon, Oklahoma and Colorado could not ignore the fact that the amount of instructional time (hours students are in school) had an inverse effect on the student achievement test scores. Thompson (2019) posits that overall time in school is a critical mechanism for understanding the achievement declines in Oregon schools and thus could potentially explain differences in achievement effects of four-day school weeks across states. Per the National Center For Educational Statistics (NCES), the average hours in a school day in the United States in 2018 was 6.64 with an average number of school days of 180. So, the average number of hours students are in school during the course of a school year adds up to 1,195 hours. Each state has different requirements for the number of school days needed per school calendar year. Thompson (2021) conducted his research for the 2018 school year, which is why the data point from the NCES was pulled from the 2018 school year. It is also important to note that this varies depending on elementary, middle school, and high school.

In 2018, the average number of hours in school across the United States was 1,195. In Oregon, schools using the four-day school week had an average of 1,116 hours during the school year, Oklahoma had an average of 1,139, and Colorado had an average of 1,169 hours in school (Thompson, 2021). The number of hours 'lost' during the course of the school year ranges between 26 to 79 hours in total, which does not seem significant. However, 26.6 percent of

Oregon four-day schools have yearly time in school below 1,100 hours, compared with only 5.8 percent of Colorado four-day schools and 9.5 percent of Oklahoma four-day schools (Thompson 2021). For the 26.6 percent of Oregon four-day schools that average less than 1,100 total hours, for example, that total ‘lost’ instructional time adds up quickly and cannot be ignored when looking at why test achievement scores are lower or in decline compared to those schools that are in the traditional five-day school week.

On the other hand, 73.4 percent of schools using the four-day school week model in Oregon in 2018 only cut total time throughout the school year by 79 hours on average. According to Thompson (2021), this was because they implemented longer school hours, not more school days, to their calendar. Wu (2020) suggested in his findings that fewer school days and longer school hours would yield positive achievement impacts. Kuger and Marcus's (2017) study supports longer school hours as well. They found that increasing instructional time by two hours per week had small positive effects that are most pronounced for high-performing students.

Derek Wu (2020), a professor at the University of Chicago, conducted a study to find out if there is a correlation between the number of school days and/or school hours per day, and student achievement. With more and more school districts opting for a four-day school week, and policymakers wanting to improve the student achievement gap, the decision to extend the number of school days in a school year or to extend the hours per school day is not an easy one. There are studies that support both decisions. Derek Wu (2020) took an in-depth look at the data using the Trends in International Mathematics and Science Study Assessment (TIMSS) to support his claim that longer school days have a more positive effect on academic achievement than more days in a school year. This would support the idea that a four-day school

week, given the extended school hours, can have a positive impact on student achievement scores.

As we continue to look at how the four-day school week affects students' academics and behavior, it is crucial to remember that multiple factors are in play that can alter the data. Just like Wu (2020), Kuger & Marcus (2017) found in their studies that more time in school had a positive impact on students' academics. Taking a quick snapshot of that statement might make you conclude that this would support the traditional five-day school week. However, if you are an advocate for the four-day school week, that statement by Kuger and Marcus could be interpreted as supporting longer school days, but not necessarily more school days. As mentioned earlier, most school districts increase school hours to account for the school days lost because of the four-day school week schedule. This study is a great example of how school districts may interpret and analyze certain data differently to make a decision for their students.

According to Kuger & Marcus (2017), the reason for their study was because of the lack of studies done to look at the effects additional school time (hours) had on overall academic achievement as well as how it affects the achievement gap between low and high performing students. For their study, Kuger & Marcus (2017) took a look at a major educational reform in the German academic track schools. The reform added additional time to the school day for students. The findings from this study would strengthen the Matt et al. (2015) study we reviewed earlier in the literature review. Remember, in the Matt et al. (2015) study, it was concluded that after shifting to a four-day school week (decreasing instructional time), students' math and reading scores fared worse than those students in the traditional five-day school week. Kuger & Marcus (2017) saw increases in math, reading, and science across all three track domains. The overall increase is small, but an increase nevertheless.

Analytics can be interpreted in multiple ways. So, a district looking to propose the four-day school week may analyze the data from Kuger & Marcus and conclude that, although it says that additional time in school increases academic performance, it doesn't necessarily mean that it needs to be in a traditional five-day school week. Thompson (2021) found that most school districts in his study only 'lost 26 to 79 hours in total, depending on the school district. These school districts 'made up' the hours by extending the school days during the four-day weeks. In addition, the data from Kuger & Marcus (2017) study may be interpreted in that the increase is not significant enough to justify keeping the five-day school week.

Although the test scores taken over a five-year span showed that the overall performance did improve, it was also clear that it benefitted one specific group of students. Students who were already performing at a proficient or above proficiency level benefitted from the additional hours added to the school day. The low-performing students actually fared worse with the longer school days. If the achievement gap is what the school districts were trying to close or improve upon, the additional two hours per school week actually had the opposite effect. The study done by Kuger & Marcus (2017), if nothing else, proves that the educational system, including the four-day school week system, is more complicated and needs to be further analyzed to find the best solution for all students.

Lafortune et al. (2018) make a very interesting point when looking at the effects of financial reforms on student achievement. In their study, they concluded that if funds are used appropriately and effectively, it should "increase the flow of educational services." Districts that adjust to the four-day school week structure are swayed by the potential financial savings that can be had. If they can use those savings appropriately, as Lafortune et al. (2018) suggested,

school districts may adopt the four-day school week and still see an increase in student achievement down the road. However, school districts need to be patient.

“Achievement is cumulative, so these services are unlikely to have immediate impacts on test scores, but should raise scores gradually as students are exposed for longer. Effects should grow at least until students have been exposed to the new funding levels (possibly four-day school week) for their entire careers. They may even continue to grow beyond this point” (Lafortune et al., 2018, p.16).

Perspective from members of the school and communities where a four-day school week is also important in determining if four-day school weeks are best for our students. We have looked at student achievement, attendance, and behavioral advantages and disadvantages throughout this literature review. Harrison (2021) conducted a study using two rural school districts in Minnesota during the 2016-2017 school year. The purpose of the study was to understand the perception of the implemented four-day school week in their school district. The study surveyed school board members, parents, teachers, and administrators about how they perceived the new school schedule, the advantages and disadvantages of the changes and whether they were supportive of the four-day school week. In total, there were 467 respondents to the survey that were included in the study between the two school districts. 94.6% of respondents from School District A were either “very supportive” or “supportive” of the school district's decision to implement the four-day school week. School District B expressed 60.4% support overall for the implementation of the four-day school week (Nelson 2021). An interesting takeaway from Nelson's (2021) study was School District B's response from 71.7% of the teachers who were not supportive of the continued four-day school week schedule. As we continue to learn more and more about four-day school week schedules being implemented in school districts across the country, it will continue to be interesting to see which group (teachers, administrators, school board members, and parents) find it beneficial to the students or not.

Student Behavior and Attendance

Although the four-day school week is becoming more and more popular across the country, specifically in rural school districts, there is very little research on the effects it has on students. Student behavior is not commonly indicated as a reason districts adopt a four-day school week (Thompson et al., 2020). Only 29% of four-day week districts from a national sample of four-day-week districts cited attendance issues as one of their primary reasons for adopting the four-day school week (Morton 2021b). However, it is still important to look at student behaviors after the implementation of a four-day school week schedule is started. According to a study by Sherwood (2011), fewer students were leaving the classroom for disciplinary reasons in school districts operating on a four-day school week. The superintendent of the Chattooga County School District in Georgia reported that the discipline referral frequency of students decreased by 73% after a year of employing the four-day schedule (Sherwood, 2011). That is a very strong piece of evidence for those who support four-day school weeks. That result was only from the first year of its implementation and is important to note. As we have seen with students' academics, we need to be patient and allow the students to be in the four-day school week system for multiple years to see the true impact it may have on their overall behavior and attendance.

The following study took a look at student health in four-day schools in Colorado and compared it to students' health in traditional five-day schools. The Healthy Kids Colorado Survey (HKCS) is a biennial, cross-sectional, and anonymous health survey given to middle and high school students in Colorado (Israel et al., 2020). This study analyzed data from 234 high schools and 59,339 students from the fall of 2017. The overall student-level response rate was 72.5% (Israel et al., 2020). The measures that were used for this study were safety and violence (having been bullied, weapon carrying, having been in fights); school connectedness

(engagement, academic performance, and community service); substance use (marijuana, alcohol, tobacco); sexual health, and mental health (Israel et al., 2020). The study also measured sleep, physical activity, and nutrition. Another important characteristic to mention about the study was that schools were considered four-day schools if they had that schedule prior to 2017.

The Israel et al. (2020) study hypothesized that a shorter school week would be associated with increased risky health behaviors because students would have less adult supervision during non-contact days, assuming many or most parents would have conflicting commitments to job schedules during the week. In the study of student health behaviors in relation to shortened school weeks, the researchers found a mixture of positive and negative differences among Colorado high school students in four-day vs six-day schools (Israel et al., 2020). Results showed that students in four-day schools were more likely to have been bullied on school property, bullied online, or been in a fight and they were more likely to carry a weapon. However, students in a four-day school were more likely to participate in extracurricular activities, perform community service, consume less screen time outside of school, and be more physically active. The results shared are just a few of the health risk factors that were analyzed from the Healthy Kids Colorado Survey (HKCS), which was used for this.

Emily Morton (2021b) conducted a study using Oklahoma's school districts to determine the trends in behavioral incident reports filed within four-day school week and five-day school week school districts. Morton's (2021b) results suggested that four-day weeks significantly decreased the frequency of bullying incidents per pupil by 0.52 incidents per student, which is approximately 31% fewer incidents than four-day districts had before they adopted the four-day week. Four-day weeks also significantly decreased fighting and assault incidents per pupil by

0.68 incidents per student, which is approximately 27% fewer incidents than four-day districts had before adopting the four-day week.

Lastly, Harrison (2021) surveyed members of two school districts in Minnesota during the 2016-2017 school year. The study surveyed administrators, teachers, parents, and school board members. Their perception of the four-day school week and the effect it had on student behavior were as follows: 85.6% of members surveyed strongly agreed or agreed that the four-day school week improved student behaviors, and 50.6% strongly agreed or agreed that it improved student behaviors in School District B (Harrison 2021). It is interesting to note that the perception is vastly different between the two school districts. We have seen this throughout the literature review. Studies that have been completed to see the effect on students' academics and behaviors are all across the board. This study done by Harrison (2021) is a perfect example of how a four-day school week may be beneficial to one school district but not another.

Student attendance has also been discussed by many who study the effects of the four-day school week on students' achievement and behaviors. A superintendent of a school district in Minnesota reported the change to the four-day week schedule yielded unexpected benefits, such as lower absentee rates among students and teachers, who can schedule appointments and other errands on Mondays (Layton, 2011). Based on surveys and interviews that Emily Morton (2021b) conducted in her study, it is fair to say that attendance will improve because families can use that fifth day (off-day) for doctor's appointments and other activities instead of missing school for those appointments.

While we focus on students and their mental health, it is also vital to remember how the four-day school week may affect teachers. Turner et al. (2019) conducted a survey that was sent out to all the teachers from three school districts in Missouri that had implemented the four-day

school week model. A total of 136 school staff members completed the survey. The survey asked about the employees' perception of the four-day school week. Generally, the employees' perception about the four-day week model was very positive (Turner et al., 2019). Ninety-one percent of the respondents agreed the four-day school week had improved staff morale in the school district; 87% agreed the model had a positive impact on what is being taught in class; and 76% agreed the four-day school week had improved the academic quality of their school district. Half or more of the staff members who completed the survey believe that a four-day school week helps students with disabilities, makes it possible for students to participate in extracurricular activities and has helped those students considered "at risk" for dropping out of school. However, the staff members shared that a four-day school week did not decrease the workload but actually increased it in some areas. As the survey shows, there are plenty of factors that affect, positively and negatively, students and teachers depending on the school week model that they are using.

Furthermore, Fischer and Argyle (2018) found that four-day school weeks led to an almost 20 percent increase in juvenile crime in Colorado. The biggest spike in crime was from high school-aged students. Given that Colorado generally has a percentage of school districts without student academic services on the off day that is comparable to the national average, we may expect similar opportunities for juvenile crime to be increased in other four-day school week settings. This puts more strain on parents and the tough decisions families need to make given that their child may be unsupervised on their off day. Parents of middle and high school children need to decide whether they keep their children unsupervised or to cut back on their own work hours. Children in elementary may need a daycare, babysitter, or a parent staying home altogether, which affects families financially. To support Fischer and Argyle's (2018)

data, Graves (2010) made the point that increasing (or maintaining) the amount of time spent in school would keep students who live in more unfavorable environments from exposure to such settings and mitigating the learning loss that might accompany larger breaks in the school calendar. This point made by Fischer and Argyle (2018) showed the complexities of a four-day school week. Not only do school districts need to account for student achievement, but also student safety in regard to behaviors and their mental health.

As we continue to determine the effects four-day school weeks have on student behavior, we can also look at studies that document how increased instructional time affects our students' behavior, positively or negatively. A study completed by Krekel (2017) took a look at how a referendum on the education system in Germany is affecting students' pro-social behavior. This reform that took place in Germany is the same reform that Kuger & Marcus (2017) did a study on that was mentioned earlier in the literature review. Pro-social behaviors are defined as voluntary behaviors such as helping, caring, or some form of cooperation. These are all behaviors that teachers, parents, and school administrators are teaching our students from an early age. If we can find a positive or negative correlation between increased instructional time and student pro-social behaviors, then school districts can use that data to support the school week system that they believe is best for their students.

By increasing the instructional time by 12.5%, on average, the study found that this had a profound negative effect on students' willingness to volunteer outside of school (Krekel 2017). The study stated that about 34 percent of students reported volunteering monthly, but with the increased instructional time, this number would decrease to about 19 percent of students willing to volunteer on a monthly basis. If students are cutting back on volunteering, one can conclude that a percentage of students are also cutting back on other activities outside of

school. School districts who are looking at the four-day school week option may see this study and conclude that students' social well-being is a high priority and see the four-day school week as a way to actually increase student pro-social behaviors.

CHAPTER III: APPLICATION OF RESEARCH

Overview of Four-Day School Week

The following information for this chapter was provided by the principal of South Saint Paul Secondary Schools, Charles Ochocki. During and following the Covid-19 pandemic, our high school made the decision to address the academic and social/emotional needs of their students.

As stated in my introduction, my interest in this topic stems from the two years during the COVID-19 pandemic. Schools across the country scrambled to create and implement a safe learning environment for students, staff, and their families. Distance Learning was the leading model for the spring of 2020 and most of the 2020-2021 school year. During this time, school districts had the opportunity to look at their learning model and implement new ideas and strategies for how schools were operated. My school district, South Saint Paul Special School District 006, implemented a Hybrid Learning Model for most of the 2020-2021 school year. Once schools were given the opportunity to return to the classroom, our middle school decided to implement a four-day synchronous learning schedule, with Wednesdays being asynchronous. The four-day school week is not a new concept, however. As of 2018, there were at least 550 school districts who implemented the four-day school week; nearly double from seven years prior (Turner et al., 2019). Before sharing about the school district's current four-day school week model, it is important to reflect on where the ideas and concepts stemmed from.

School-wide Schedule during Pandemic

For the 2020-2021 school year, schools across the state continued to find safe and effective learning models that families and staff could feel comfortable about. South Saint Paul Public Schools decided to implement a Hybrid Learning Model, a combination of traditional in-

person learning and the unfamiliar Distance Learning Model. Students were organized into two groups: Day 1 and Day 2 students. Day 1 students would attend school in the classroom on Monday and Thursday. Day 2 students would attend the classrooms on Tuesday and Friday. These were the synchronous school days. On Wednesday, we held 'office hours' from 9:00 am to 3:00 pm for students to schedule 1-on-1 or small group meetings with their teachers via Google Meet or a phone conference. This was a time for students to receive extra support, complete missing or current work, or complete enrichment activities if all other work was completed. This model was continued throughout the entirety of the 2020-2021 school year.

It is important to point out that while this was the model for students who selected in-person instruction two days a week, students and their families also had the option to attend school fully through Distance Learning. Since our teachers needed to cater to the students attending school through Distance Learning, our daily schedule needed to implement time for our teachers to instruct those using the Distance Learning Model. To accommodate all students, the first three class periods each day were taught to the students attending through Distance Learning. Students in-person would be given their assignment/activities and expected to work independently, while the teacher sat at their computer giving their instruction to the students via Google Meet. The three afternoon class periods were in-person instruction for the students in the building. The students who were at home would be given their assignments on Schoology to work on independently.

Remember, students that attended in person were labeled as Day 1 or Day 2 students. This determined if that student would come to school on Monday and Thursday or if they would attend in person on Tuesday and Friday. If a student elected to attend school in person, they would need some in-person instruction throughout the week. If we just

implemented a typical class period schedule, period 1, then period 2, etc., that student would then never get in-person instruction during periods 1-3, as the model explained above shows. That is why the school administrators flipped the schedule on Tuesday and Friday. As you can see below in the sample schedule for a student who attended through the Hybrid Learning Model (in-person), you see that their schedule started with 6th period on Tuesday and Friday. This way, the student would receive two in-person instructional days for each class.

Schedule	Monday	Tuesday	Wednesday	Thursday	Friday
7:50-8:46	Period 1 (distance learning instruction)	Period 6 (distance learning instruction)	Connections at 8am Connect with teacher(s)	Period 1 (distance learning instruction)	Period 6 (distance learning instruction)
8:50-9:45	Period 2 (distance learning instruction)	Period 5 (distance learning instruction)		Period 2 (distance learning instruction)	Period 5 (distance learning instruction)
9:50-10:45	Period 3 (distance learning instruction)	Period 4 (distance learning instruction)		Period 3 (distance learning instruction)	Period 4 (distance learning instruction)
10:45-12:10	Period 4 (in-person instruction) + Lunch	Period 3 (in-person instruction) + Lunch		Period 4 (in-person instruction) + Lunch	Period 3 (in-person instruction) + Lunch
Flex Time 12:10-12:25	Period 4 classroom	Period 3 classroom		Period 4 classroom	Period 3 classroom
12:30-1:25	Period 5 (in-person instruction)	Period 2 (in-person instruction)		Period 5 (in-person instruction)	Period 2 (in-person instruction)
1:30-2:25	Period 6 (in-person instruction)	Period 1 (in-person instruction)		Period 6 (in-person instruction)	Period 1 (in-person instruction)

The 2020-2021 school year presented itself with many challenges such as accommodations for families that elected for Distance Learning, scheduling for those students who attended via the Hybrid Learning Model, and staffing. It also brought forth new ideas and a chance to revamp the educational learning model as we had always known it. As administrators and teachers reflected on the 2020-2021 school year, a couple of things stood out. Teachers needed more time collaborating with colleagues to discuss, plan, and implement lesson plans and strategies to help our students academically, socially, and behaviorally. Students also needed support in their academics and mental well-being. As a result, South Saint Paul School District implemented a new school schedule for the middle and high schools.

The Middle School

The middle school began the 2021-2022 school year with a traditional five-day school week, with Wednesday being a two-hour late start. Staff members collaborated each Wednesday morning with their small block and large block teams. This time was for staff members to discuss students who needed Tier 1 or Tier 2 type interventions. They discussed multidisciplinary curriculum integration. Teams also used this time to plan parent conferences and grade-level field trips, amongst other issues. Class periods on Wednesdays were reduced from 53 minutes to 41 minutes to adjust for the two-hour late start. Teachers used Wednesdays as a time to connect with students and work on missing or current work that needed to be finished for the week. Students who were all caught up with their school work were given enrichment opportunities to continue their learning of the topic being taught. No new content was taught on Wednesday. It was a day for the students to connect and receive any support they needed academically or socially.

The High School

The high school started the Packer Plus: “What I Need” (WIN) Wednesday program for the 2021-2022 school year. The problem that the school was trying to solve is that they have students who fail one or more classes in any given year, which threatens their graduation status. South Saint Paul Secondary’s current principal, Charles Ochocki, shared the following statistics prior to implementing the “WIN” Wednesday program:

Percentage of Students Who Failed One or More Classes

	Trimester 1	Trimester 2	Trimester 3
2019-2020	26%	29%	37%
2020-2021	47%	37%	-
2021-2022	22%	-	25%

The high school did not have an intervention structure that helped students as soon as they started to fall behind in class. Instead, students typically waited until the end of the trimester or during summer school. Students do have the option to enroll in an after-school program for credit recovery, but not all students are able to attend due to other after-school obligations. Not only were there no immediate interventions for the struggling students, but there were also no immediate incentives for students who were passing or exceeding grade expectations. As a result of the increasing number of students failing and previous structures not being successful, South Saint Paul Secondary decided to begin the “WIN” Wednesday, starting in trimester 3 of the 2020-2021 school year.

At the high school, Wednesdays were asynchronous school days. The new “WIN” Wednesday program allowed students who were struggling to attend school and receive the

help/support they needed to complete missing/late assignments or tests. The students who were caught up with their coursework and passing all classes were now given that immediate incentive that was lacking prior to this program; they were allowed to stay home on Wednesdays. As a result, Principal Chuck Ochocki reported that 51 students came to school that Wednesday to receive help from a teacher(s). By the end of the trimester (9 weeks later), the high school had helped over 1,000 students. The success of “WIN” Wednesday prompted administrators to continue and improve this program for the 2021-2022 school year.

For the 2021-2022 school year, South Saint Paul Secondary officially started the “WIN” Wednesday program full-time. Every Monday, by 3:00 pm, teachers had their grade books complete. On Tuesdays, students would check their grades in their Connections Class (homeroom). In the evening on Tuesday, teachers would email the families of students who needed to come in on Wednesday for the “WIN” Wednesday program. On Wednesdays, students who were required to attend in-person schooling started school at 9:30 am. They would go to their Connections teachers’ classroom and begin working on homework. Students would complete missing assignments, make up a test/assessment they missed, receive support from their teachers, and have an environment in which they could be successful.

As a result, the number of failing grades in Trimester 1 (2021) fell by 50%. By the end of the trimester, they were able to reduce the number of students who needed to come in on Wednesdays by 26%, or 136 students. In Trimester 1 (2021), the percentage of students who failed one or more classes was 22%, compared to 47% in Trimester 1 of 2020. In Trimester 2, the number of “A’s” earned by students increased by 8% and the number of “B’s” earned by students increased by 22%. This is evidence that not only did the “WIN” program support and improve the bottom line (failing grades), but it also gave support to those students who were

passing but wanted to improve their overall grades. In Trimester 3 of the 2021-2022 school year, The number of failing grades was only 25%.

At the end of the school year, a survey was given out to the students. The results showed that students responded well to the “WIN” Wednesday program and wanted it to continue, with 97.4% of students voting to keep the program. 26.7% of those students said ‘Yes,’ but that some changes should be made. 80% of the parents who answered the survey agreed and wanted the program to continue for the 2022-2023 school year. 89.9% of the teachers also said ‘Yes’ to keeping the program. There is an overwhelming amount of support for the program after its first year.

CHAPTER IV: DISCUSSION AND CONCLUSION

SUMMARY OF LITERATURE

The purpose of this Literature Review was to examine the effects of the four-day school week on students' academic performance, attendance and behavior. Although the idea and implementation of a four-day school week has been around for decades, studies on the impact it has on students are relatively new and have not been studied to the extent where there is a general consensus. From the studies that I looked at in this Literature Review, one thing is certain; there is support for both educational models.

For example, Anderson & Walker (2015) conducted a study looking at test scores from the CSAP test, an exam administered each spring in the Colorado public schools in specific grades, to measure student performance. They looked at 4th-grade reading scores and 5th-grade mathematics scores. In this study by Anderson & Walker (2015), test scores were taken from the two years prior to adjusting to the four-day school week, the year the new schedule was implemented, and each of the two years after the adjustment. The data results are interpreted in multiple ways. When looking at test scores as a whole, Anderson & Walker (2015) found that there was an improvement in math and reading scores when the school implemented a four-day school week, as well as during the following two years, compared to school districts with traditional schedules. The mean percentage of students who were proficient or advanced in 4th-grade reading and 5th-grade math, one year before implementing a 4-day schedule, was 55.5 and 61.5, respectively. The year a four-day schedule was implemented, the mean percentage of students who scored proficient or advanced was 63.1 for 4th-grade reading and 58.9 for 5th-grade math. The year after the four-day schedule was implemented, scores continued to increase among those school districts; 62.3 percent of students scored proficient in 4th-grade reading and

70.7 percent of students in 5th-grade math. Looking at the data from this study by Anderson & Walker (2015), I could conclude that the four-day school week was efficient in improving student achievement in those school districts.

As we have seen throughout the Literature Review, however, studies showed positive and negative/no effects when a four-day school week was implemented. The study by Matt et al. (2015) clearly showed that the four-day school week had a negative impact on student achievement in reading and mathematics as measured by the criterion-referenced test. Over the course of six years, the studies showed that students who attended a school using the four-day school schedule fared worse than those who attended schools with traditional schedules. Reading scores for students who attended a school with a four-day schedule went from 87% in 2007 down to below 79% in 2013. This is worse when compared to students who attended a traditional school, who scored 82% in 2007 and increased to 85% in 2013. The same is true for the mathematics scores. Students attending four-day school weeks saw a decrease in their test scores, from 70.5% to 57.2%. During the same time period, students who attended a five-day school week saw math scores increase from 64.2% to 67.3%. Over time, students' achievement in the four-day school week actually decreased, presumably, because of the lost instructional time.

Student behavior and safety were also researched during this literature review. Results from Israel et al. (2020) showed that students in four-day schools were more likely to have been bullied on school property, bullied online, or been in a fight and they were more likely to carry a weapon. However, students in a four-day school were more likely to participate in extracurricular activities, perform community service, consume less screen time outside of school, and be more physically active. The superintendent of the Chattooga County School

District in Georgia reported that the discipline referral frequency of students decreased by 73% after a year of employing the four-day schedule (Sherwood, 2011). So, again, you see mixed results on student behavior, much like we saw when analyzing student achievement.

Looking at these areas (student achievement and attendance/behavior), we conclude that the four-day school week had a unique effect on students depending on each school district. The simple question, “Is the four-day school week beneficial for our students?” does not present a simple answer.

LIMITATIONS OF RESEARCH

The four-day school week has been implemented for decades across the United States. However, up until the last five years, the vast majority of these school districts have been in rural, small towns with small enrollment. Because of this, as shown in the literature review, the studies that have been conducted have been small in their sample size. Of these limited studies, much was discussed on how the four-day school system affected the finances of those school districts. Not nearly enough has been done to observe and analyze the effects it has on our students. The next step to continue the study on how four-day school weeks affect student achievement, behaviors, and attendance is to explore school districts that transitioned to a hybrid or four-day school system during or post-pandemic.

IMPLICATIONS OF FUTURE RESEARCH

Further research needs to be done to better understand which system, traditional five-day or four-day school weeks will best serve our students, as well as our staff and communities as a whole. While this literature review focused on student achievement, behavior, and attendance, this is a complicated issue to study that has many moving pieces. The deeper we study this shift

from the traditional school system to a four-day school week, the greater scope we will have on our educational system as a whole

PROFESSIONAL APPLICATION

I am currently a special education teacher in middle school. I saw firsthand the implementation of a hybrid version of a four-day school week, as I shared in Chapter III. Over the course of two+ school years, I have witnessed how a four-day school week is beneficial to our students and families. It is not to say that it did not come without its struggles. However, our high school has continued with the Hybrid Model because of its success in students' academics. I am also on the Site Solutions Team within the middle school. I plan to bring my knowledge from this thesis to continue to support our students, families, staff members, and our community.

CONCLUSION

I believe that the educational system needs to be analyzed and dissected at the district level to determine what is best for our students, families, staff, and community. My school district took the challenge head-on, making the difficult decision to make a change that they believed would best serve our students, their families, and our staff members. Every school district is unique with its own strengths and weaknesses. I believe that, for our students, the four-day school week was the best decision. It allowed more time for us teachers to collaborate, re-establish our core values and mission statement into our schools, and support the overall social/emotional health of our students and staff members. If school districts across the United States will take the difficult and sometimes intimidating task of overhauling their school system with some form of a four-day school week, then maybe it will be a small step toward closing the achievement gap that exists today.

REFERENCES

- Anderson, D. M., & Walker, M. B. (2015). Does Shortening the School Week Impact Student Performance? Evidence from the Four-Day School Week. *Education Finance and Policy, 10*(3), 314–349.
- DeNisco, A. (2013, November). More schools choose a four-day week. District Administrator. Retrieved December 30, 2016, from <https://www.districtadministration.com/article/more-schools-choose-four-day-week>
- Donis-Keller, C., & Silvernail, D.L. (2009). Research Brief: A Review of the Evidence of the Four-Day School Week. *Center for Education Policy, Applied Research and Evaluation*,
- Fischer, S., & Argyle, D. (2018, October). Juvenile Crime and the Four-Day School Week. *Economics of Education Review, 64*, 31–39. doi:[10.1016/j.econedurev.2018.03.010](https://doi.org/10.1016/j.econedurev.2018.03.010)
- Goldring, R., & National Center for Education Statistics (ED). (2020). Shortened school weeks in the U.S. public schools. Data Point. NCES 2020-011. *National Center for Education Statistics*.
- Graves, J. (2010). The Academic Impact of Multi-Track Year-Round School Calendars: A Response to School Overcrowding. *Journal of Urban Economics 67*(3): 378–391.
- Hanson, H., (2021). An examination of the four-day school week schedule in select Minnesota school districts. *Culminating Projects in Education Administration and Leadership*. 39.

Heyward, G., & Center on Reinventing Public Education (CRPE). (2017). A user's guide to the four-day school week: How to assess district readiness and evaluate the results. *Center on Reinventing Public Education*.

Huebener, M., Kuger, S., & Marcus, J. (2017). Increased Instruction Hours and the Widening Gap in Student Performance. *Labour Economics*, 47, 15-34.

Israel W, Multaoupele C, Ma M, Levinson AH, Cikara L, & Brooks-Russell A. Adolescent Health Behaviors in Schools with 4-Versus 6-Day School Weeks. *J sch Health*, 2020; 90: 794-801.

Krekel, C. (2017). Can rising instructional time crowd out student pro-social behaviour? Unintended consequences of a German high school reform. CEP Discussion Paper No. 1495. In *Centre for Economic Performance*. Centre for Economic Performance

Lafortune, J., Rothstein, J., & Schanzenbach, D. W. (2018). School Finance Reform and the Distribution of Student Achievement. *American Economic Journal: Applied Economics*, 10(2), 1–26.

Layton, L. (2011) In trimming school budgets, more officials turn to a four-day week. *The Washington Post*. https://www.washingtonpost.com/local/education/in-trimming-school-budgets-moreofficials-turn-to-a-four-day-week/2011/10/26/gIQABsiXQM_story.himl?utm_term=.ebe146f20298

Matt, J., O'Reilly, F., & Thorp, T. (2016). Is the 4 Day School Week Detrimental to Student Success? *Journal of Education and Training Studies*, 2016, 4(3), 126-132.

- Morton, E. (2020). Effects of Four-Day School Weeks on School Finance and Achievement: Evidence from Oklahoma. CEPA Working Paper No. 20-02. In *Stanford Center for Education Policy Analysis*. Stanford Center for Education Policy Analysis.
- Morton, E. (2021). Effects of Four-Day School Weeks on Adolescents: Examining Impacts of the Schedule on Academic Achievement, Attendance, and Behavior in High School. CEPA Working Paper No. 21-05. In *Stanford Center for Education Policy Analysis*. Stanford Center for Education Policy Analysis.
- Sherwood, S. (2011). Pros & cons of a 4 day school week. *Seattle PI*.
- Thompson, P. N., Gunter, K., Schuna, J. M., Jr., & Tomayko, E. J. (2021). Are All Four-Day School Weeks Created Equal? A National Assessment of Four-Day School Week Policy Adoption and Implementation. *Education Finance and Policy*, 16(4), 558–583.
- Turner, J. S., Finch, K., & Ximena, U.-Z. (2018). Staff Perspectives of the Four-Day School Week: A New Analysis of Compressed School Schedules. *Journal of Education and Training Studies*, 6(1), 52–62.
- Turner, J., Finch, K., & Uribe-Zarain, X. (2019). Three Midwest Rural School Districts' First Year Transition to the Four Day School Week: Parents' Perspectives. *Rural Educator*, 40(1), 1–15.
- Wu, D. (2020). Disentangling the Effects of the School Year from the School Day: Evidence from the TIMSS Assessments. *Education Finance and Policy*, 15(1), 104–135.

