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Teachers' Perceptions on the Use of Behavior Management Software Programs to Encourage Positive Student Behavior

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This is to certify that the doctoral study by

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has been found to be complete and satisfactory in all respects,
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Walden University
2024

Abstract

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by

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MA, Southwestern University, 2012

BS, De La Salle University, 2001

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Education

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February 2024

Abstract

The problem under study was that even with training, teachers have difficulty implementing behavior management programs. The purpose of this basic qualitative study was to explore middle school teachers' perceptions of the challenges they encounter in implementing behavior management programs to encourage positive student behavior. The theory of self-determination within the context of the motivation and technology acceptance model served as the conceptual framework of this study. The research questions were focused on the challenges teachers experience in implementing behavior management software, including gathering their suggestions for improving the use of the software. Purposeful sampling was used to collect data from 12 middle school teachers recruited from a professional learning network. Data from interview sessions were analyzed using topic and analytic coding. The findings indicated that providing immediate positive behavior referrals to students due to the competing demands of classroom instruction and student interactions was a challenge. Limited administrator support was also a challenge because teachers only reported getting support from colleagues and self-initiated support. Recommendations and suggestions from teachers include formal professional development, colleague collaboration, parent involvement, and frequent data sharing to increase the use and motivation on the use of behavior management programs. These findings will help teachers maximize the use of these software programs to support their classroom management. When students demonstrate positive behavior, it positively influences their time on task, work completion, academic achievement, and decreased absenteeism which would bring positive social change.

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Dedication

I am dedicating this study to my two sons who are my inspiration and source of strength throughout this journey on pursuing my dream to contribute to the field of education beyond the classroom. I am also dedicating my research to my husband who is my voice of reason when I am overwhelmed and wanting to give up. Lastly, I am dedicating this dissertation to my parents who are my pillars and support system. They have shown me and my family their unwavering support throughout my education and family life. They kept my morale high and were always willing to lend a helping hand when I needed it the most.

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Lastly, I express my most sincere thanks to my personal friend and mentor for acting as a sounding board for ideas and helping me to have confidence in myself and my work.

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Chapter 1: Introduction to the Study

Classroom management is the most critical component of a successful classroom (National Education Association, n.d.). Both punishment and remediation techniques have historically been implemented as part of traditional classroom management plans used to address problem student behavior (Horner & Macaya, 2018). Currently, at least 37 states implement nonpunitive alternative approaches to suspensions and expulsions due to student behavior issues (Education Commission of the States, 2021). Some examples of nonpunitive approaches include community service, counselor referrals, prosocial behavior programs, after school programs, and positive behavioral interventions and supports (PBIS). Among these alternatives, PBIS has contributed to positive school outcomes, such as improved academic achievement (Lloyd et al., 2022), improved student behavior (Freeman et al., 2019; Grasley-Boy et al., 2019), and reduced need for disciplinary actions (Freeman et al., 2019; Gage, Lee et al., 2018; Grasley-Boy et al., 2022; Kim et al., 2018; Noltemeyer et al., 2019; Scherer & Ingle, 2020).

The PBIS framework is an evidence-based framework grounded in the integration of data, systems, and practices to support student behavior, staff behavior, social competencies, academic achievement, and decision making (Center on PBIS, 2022). The framework is three tiered and ranges from universal prevention for all students (Tier 1) to intensive individualized prevention for a few students (Tier 3). As a multitiered system of support, the PBIS framework is designed to address all students' needs and encourage positive behaviors.

A variety of technology-based applications (i.e., apps) can be used to provide rewards to track and encourage expected behavior in the classroom as well as measure the effectiveness of schoolwide culture initiatives like PBIS. Examples of such apps include SCORE IT (n.d.), LiveSchool (2022), ClassDojo (n.d.), and Kickboard (2023).

The focus of this study was to determine the challenges teachers experience pertaining to procedures for encouraging positive behavior within the PBIS framework, specifically the use of behavior management programs to encourage positive student behavior. The potential for positive social change exists in the possibility that improved student behavior positively influences time on task, work completion, and subsequent academic achievement (Herman et al., 2022) as well as decreases absenteeism (Freeman et al., 2019).

In this chapter, I present related background information, the problem statement, the purpose of the study, and the research questions (RQs). The conceptual framework and the nature of the study are described briefly, with more detailed discussions in Chapters 2 and 3, respectively. Pertinent definitions are provided, and the study's assumptions, scope, delimitations, and limitations are identified. I explain the significance of the study before concluding the chapter with a summary.

Background

To ensure the reader has an adequate foundation for understanding the discussions that follow throughout this study, including the study findings, I begin this section with a presentation of the context of the study. Specifically, the purpose and functionality of PBIS are discussed. In the remaining sections, the gap in practice and the need for the

study is explained in the current literature related to the scope of the study topic, which is PBIS. PBIS is focused on the use of behavioral interventions, such as the use of behavior management apps, to encourage positive student behaviors and discourage negative behaviors.

The PBIS framework focuses on student behavior instead of academic performance. The framework includes three tiers: Tier 1 provides universal support, Tier 2 provides targeted support, and Tier 3 provides intensive individualized support (Center on PBIS, 2022). In this study, I focused on Tier 1 and, in particular, procedures for encouraging expected behavior. However, this section contains a description of the key practices for all three tiers to provide the reader with a general understanding of the overall PBIS framework.

The universal supports in Tier 1 apply to all students and provide regular proactive support to prevent unwanted behaviors (Center on PBIS, 2022). Tier 1 supports educators in teaching and emphasizing prosocial skills and acknowledging appropriate student behavior (Center on PBIS, 2022). To apply the key practices in Tier 1, schools establish classroom expectations, procedures to encourage expected behavior and discourage unwanted behavior, and procedures to support school–family partnerships.

The targeted supports in Tier 2 apply to students who need more support than can be provided by Tier 1 supports alone (Center on PBIS, 2022). The goal of Tier 2 supports is to keep students engaging in unwanted behavior from engaging in more problematic behavior. To apply the key practices in Tier 2, schools (a) provide students with access to additional academic support, (b) prioritize teaching students' self-regulation and social

skills, and (c) emphasize providing students opportunities to practice those skills. Teachers are encouraged to (a) increase the time they engage in proactive supervision, (b) increase the opportunities they provide students to earn positive feedback, (c) anticipate and correct problem behaviors before they begin, and (d) consider underlying factors associated with students' unwanted behaviors.

The intensive individualized supports in Tier 3 apply to approximately 1%–5% of students for whom Tier 1 and 2 supports have not been successful (Center on PBIS, 2022). Tier 3 strategies are helpful for students with disabilities such as autism, emotional, and behavioral disorders, and students without diagnostic label at all (Center on PBIS, 2022). To apply the key practices in Tier 3, schools must consider how school culture and context contribute to the environment in which the students are asked to engage. The school also focuses on (a) using student assessment that is function based, meaning that the reason behind the unwanted student behavior is of importance; (b) developing a team of friends, family, and community members to provide students continuity of support in all aspects of their lives; and (c) ensuring student need remains the focus of planned action to drive change.

When teachers implement student-behavior programs, rates of in-school suspensions (Simonsen et al., 2022), out-of-school suspension (Gage, Lee et al., 2018), expulsions (Valdebenito et al., 2018), and referrals to law enforcement (Grasley-Boy et al., 2022) are reduced. Additionally, teacher implementation of student-behavior programs is associated with improved academic achievement, in some instances, as an outcome of improved time on task (Herman et al., 2022) and decreased absenteeism

(Freeman et al., 2019). Considering the potential for these improved student outcomes through the use of student-behavior management programs, the current study was needed to better understand why some teachers have difficulty implementing behavior management programs to encourage positive student behavior.

Problem Statement

The problem under study was that even with training, teachers have difficulty implementing behavior management programs. Managing behavior issues were reported by teachers as a barrier when implementing various classroom management strategies (Collier et al., 2019). The frequent struggles that teachers face with intervention implementation are competing demands related to activities in the classroom or students. Finding time for planning and implementation of instructional activities to manage classrooms were found to contribute to some challenges teachers experience when implementing classroom management techniques.

Managing behavior in the classroom is one of the primary responsibilities of teachers, and yet, there is limited evidence-based classroom management training available to teachers (Klaft & Codding, 2022). The gap in the literature was that minimal to no research exists regarding the use of behavior management software by teachers to manage student behavior and encourage positive behavior. This study may lead to increased motivation to use and implementation of these software that will support teachers in managing their classroom and encourage positive student behavior. Increased positive behavior in the classroom may result in positive student outcomes, such as improved academic achievement (Chen et al., 2019; Estrapala et al., 2021), improved

student behavior (Holcomb et al., 2020; Riden et al., 2021), reduced disciplinary actions (Barrett & Harris, 2018), and improved school culture (McIntosh et al., 2021).

Purpose of the Study

The purpose of this qualitative study was to explore middle school teachers' perceptions of the challenges they encounter in implementing behavior management software programs to encourage positive student behavior. Qualitative research is typically associated with interpretivism because the understanding generated by the data is perceived as having informational value; however, qualitative research also can be associated with pragmatism when the understanding generated by the data is perceived as having practical value for initiating action or guiding the implementation of an intervention (Goldkuhl, 2012). In the current study, both cases applied. This study was interpretive because the data generated contributed knowledge to the field of educational technology and, thus, can be perceived as having informational value. This study was also pragmatic because findings from this study may help in initiating change and subsequently improve implementation of behavior management programs used by teachers to encourage positive student behavior.

Research Questions

To understand the implementation challenges of middle school teachers and their perceptions regarding their experiences using behavior management software, the following RQs guided this qualitative study:

RQ1: What are middle school teachers' perceptions of the challenges experienced in implementing behavior management software programs to encourage positive student behavior?

RQ2: What are middle school teachers' suggestions for implementation to increase the use of behavior management software programs to encourage positive student behavior?

Conceptual Framework

The phenomenon grounding this study was driven by motivation as conceptualized by self-determination theory. Motivation to engage in a particular behavior or accomplish a particular task influences whether a person will engage in that particular behavior or take action to accomplish that particular task (Bandura, 2012; Deci & Ryan, 1985). Additionally, the decision and motivation to use a technology is based on its ease of use and usefulness as explained by the technology acceptance model (TAM) created by Davis (1989). The logical connections between the TAM's concept of ease of use and self-determination theory's concept of motivation will be described in more detail in Chapter 2.

Nature of the Study

The phenomenon investigated in this basic qualitative study was teachers' experiences implementing behavior management programs driven by motivation. My specific interest in this study was the challenges teachers experience while implementing behavior management software programs. Unlike quantitative research that uses specific units of measure and statistical analyses to explain observations (Wienclaw, 2021),

qualitative research is intended to generate rich descriptions that enhance the researcher's understanding of the topic and is based on people's perceptions (Merriam & Tisdell, 2016) about a particular phenomenon (Crawford, 2020). I chose the the qualitative research method for this study because the focus of the study was on teachers' experiences implementing behavior management applications or programs rather than on any quantifiable measures. The rationale for choosing the qualitative tradition will be explained in more detail in Chapter 3.

The basic qualitative design is appropriate for exploring people's perceptions of real-world phenomena (Percy et al., 2015) in education research (Merriam & Tisdell, 2016). According to Hathaway (1995), the qualitative paradigm, or underlying philosophies used to guide qualitative research, comprises methodological, ontological, and epistemological traditions. Hathaway defined methodology as the choices about how the study is conducted, ontology as how people construct their realities, and epistemology as how people derive meaning from social contexts. Additionally, Hathaway stated that methodological choices in qualitative research include the narrative articulation of interpreted data and the researcher's acknowledgment that they are an active participant in the research. Furthermore, with regard to ontology, qualitative researchers understand that people (a) differ in their attitudes, (b) alter their behavior based on their interactions with their surroundings, and (c) behave according to the context of their environment (Hathaway, 1995). Additionally, Hathaway said that with regard to epistemology, qualitative researchers understand that people's perceptions of knowledge are based on their interpretation of their life experiences. It is the researcher's task to employ

methodological choices aligned with qualitative data collection and analysis to explore how study participants create their realities and construct knowledge (Hathaway, 1995).

I chose a basic qualitative study design for this study because I explored middle school teacher perceptions about a real-world phenomenon in education research. Specifically, I conducted the study in a public school, was familiar with the topic under study, and sought to better understand the circumstances surrounding the use of behavior management programs as teachers perceive them. The rationale for choosing the basic qualitative research design will be explained in more detail in Chapter 3.

Data for this study were collected from teachers in Grades 6–8 using an interview protocol (seeAppendix). Data were analyzed using topic and analytical coding methods as described by Richards (2015) and Saldaña (2010). I used NVivo software (Version 14.0) to transcribe the recorded interview data; organize the data; and analyze the data, deriving themes to answer the RQs.

Definitions

Behavior management strategy: A plan or approach for managing or changing behavior in schools (Parsonson, 2012). A behavior management strategy may be school wide, classroom based, or individualized.

Classroom management: "The process by which the teachers and schools create and maintain appropriate behavior of students in the classroom" (Kratochwill et al., 2018, para. 1).

Assumptions

Assumptions in a study are conditions that cannot be verified (Gay et al., 2017) and, therefore, are taken for granted (Leedy & Ormrod, 2016). Without the ability to make assumptions, research would be without value. To avoid misleading readers, researchers strived to be transparent about their study assumptions. One methodological assumption that I identified during the development stage of this study was that because of the potential for social desirability bias, which, according to Bergen and Labonté (2020) "refers to the tendency to present oneself and one's social context in a way that is perceived to be socially acceptable, but not wholly reflective of one's reality," it was necessary for me to assume that the participants were honest when responding to the interview prompts (p. 783).

Scope and Delimitations

Scope refers to what is important to study (Akanle et al., 2020) and the extent of what will be studied (Mertler, 2021). Delimitations are restrictions placed on the study (Mertler, 2021) by the researchers themselves (Theofanidis & Fountouki, 2018). In comparison to the study's scope, delimitations identify the boundaries of the study (Theofanidis & Fountouki, 2018) and what will not be studied (Leedy & Ormrod, 2016). Delimitations typically identify boundaries regarding the study's objectives, RQs, variables, and theoretical framework grounding the study (Theofanidis & Fountouki, 2018).

The scope of this study was to gather teachers' perceptions of the challenges they experience using behavior management apps to reduce student behavior issues, including

why teachers struggle using the behavior management program and their suggestions on best practices for effective implementation of the program. This study was delimited to teachers. School leadership was not included because they were unable to provide direct data about teachers' perceptions. This study also was delimited to Tier 1 (i.e., universal support for all students) intervention supports within the PBIS framework. Tier 2 and 3 intervention supports within the PBIS framework and other discipline programs being implemented by the study site school were not examined. In addition, I delimited the study to teachers who were using behavior management programs that were digital, such as an app or a software.

Limitations

Although limitations are aspects of a study over which researchers do not have control (Mertler, 2021), limitations are understood to be weaknesses that can reduce the generalizability of a study's results (Gay et al., 2017) and can lead readers to question the study outcomes and conclusions based on those outcomes (Leedy & Ormrod, 2016). Honest researchers recognize that no research can be perfect and work to be transparent about their study's limitations.

I identified three limitations in this study. The first limitation pertained to the extent of teachers' honest responses to the interview prompts. The potential for participants responding at various levels of honesty to the interview prompts was a limitation because, according to Bergen and Labonté (2020), "social desirability bias is problematic because it can lead to overestimation of the positive and diminished heterogeneity in responses, resulting in a questionable appearance of consensus" (p. 784).

If social desirability bias was evident in this study, participants may have provided less-than-truthful responses that do not accurately depict their true thoughts or behaviors in their classrooms. This situation would negatively influence the accuracy of the data collected. To reduce the potential for social desirability data, I took the following steps as described by Bergen and Labonté: (a) conducted the study in a private location; (b) built rapport with participants; and (c) ensured the participants had a clear understanding of the study purpose, the way the study data would be used, and that their confidentiality would be protected.

The second limitation pertained to the potential for researcher bias. As human beings, researchers are fallible and may unintentionally bring their own biases to their research (Merriam & Tisdell, 2016). In this study, it was possible that my own bias toward the value of using behavior management software to support the implementation of PBIS could have inadvertently influenced the collection and interpretation of the study data. To reduce the potential for researcher bias, I reflected on my potential biases and clearly presented any identified biases that became evident. This process is called *reflexivity* and will be discussed in more detail in the Role of the Researcher section.

Because generalizability is not applicable to qualitative research, the third limitation pertained to the transferability of the findings. The findings of this study were not generalizable to other schools; however, through a clear explanation and description of study processes, the transferability of this qualitative study is possible. Stakeholders in other settings may make informed decisions about the use of this study's data in their own settings (see Mertler, 2021).

Significance

This study was significant because it generated insight into teachers' challenges in implementing behavior management software to reduce student behavior issues. With a better understanding of (a) how teachers are using behavior management programs to manage their classrooms and to improve student behavior, (b) whether teachers are implementing the app with fidelity, and (c) what value teachers attach to the use of behavior management programs for managing their classrooms and improving student behavior, stakeholders can make informed decisions about how to improve teachers' implementation of behavior management programs to improve student behavior and, thus, reduce a gap in practice. Improved student behavior is a valuable outcome as a driver of positive social change because it is associated with improved time on task, work completion, and subsequent academic achievement (Herman et al., 2022) as well as decreased absenteeism (Freeman et al., 2019) in part, perhaps, because improved student behavior reduces the incidence of student suspensions (Baule, 2020; Simonsen et al., 2022).

Summary

The problem under study was that even with training, teachers have difficulty implementing behavior management programs. To better understand this phenomenon, the purpose of this basic qualitative study was to explore middle school teachers' perceptions of the challenges they encounter in implementing behavior management software programs to encourage positive student behavior.

In this chapter, a brief discussion of the study's conceptual framework was provided, including its role in the development of the study's RQs. I employed a basic qualitative research design to generate data that could be used to address the RQs. Some key concepts and constructs related to the current study include behavior management strategy and classroom management. Additionally, this chapter included a discussion of the study's assumptions, scope, delimitations, and limitations. I also described the study's potential for contributions to the field of educational technology and the improvement of student behavior and subsequent positive outcomes. In Chapter 2, I will review the extant literature related to implementing behavior programs and the outcomes on encouraging positive student behavior.

Chapter 2: Literature Review

The problem under study was that even with training, teachers have difficulty implementing behavior management programs. The purpose of this basic qualitative study was to explore middle school teachers' perceptions of the challenges they encounter in implementing software behavior management programs to encourage positive student behavior. In this chapter, I discuss the literature search strategy, self-determination theory and TAM as parts of the conceptual framework of this study, factors that influence teacher motivation, impact of adherence on program implementation in the context of PBIS and behavior management software, outcomes of implementation of evidence-based practices, outcomes of improved student behavior, and outcomes of PBIS and non-PBIS behavior interventions on student expected behavior.

Literature Search Strategy

To locate literature for this study, I searched Walden University Library research databases, including EBSCOhost, ERIC, ProQuest, and SAGE Journals. Google Scholar was also used for broader searches of key terms related to the concept of this study. The key search terms included *PBIS, classroom management, theory of self-determination, motivation, multitiered system of support,* positive behavior interventions and supports, PBIS, *behavior management programs such as CHAMPS (conversation, help, activity, movement, participation, and success), Good Behavior Game, behavior management software such as ClassDojo, SCORE IT, Kickboard, digital behavior intervention plans,* and *classroom behavior management software*. The searches were limited to publication

dates within the last 5 years, although I included other older publications when necessary due to their importance to the discussion of the literature.

Conceptual Framework

The conceptual framework that grounded this qualitative study included motivation as conceptualized in self-determination theory. This framework acted as a blueprint for this research and guided the development of this study. According to self-determination theory by Deci and Ryan (1985), intrinsic motivation is the most self-determined type of motivation derived from pleasure and enjoyment. Besides from intrinsic motivation, an individual's aim to pursue meaningful outcomes from an activity is referred to as identified regulation. Deci and Ryan (1985) described both intrinsic motivation and identified regulation as autonomous motivation; contrastingly, participating in an activity out of avoidance of guilt and shame is called introjected regulation. The decision to participate in an activity is not fully internalized, and participating in an activity based on the motivation of rewards is referred to as external regulation (Deci & Ryan, 1985). Both introjected regulation and external regulation are conceptualized as controlled motivation.

The decision to act on a behavior depends on intrinsic or extrinsic motivation. For example, people are most often motivated extrinsically, for example, by rewards, grades, evaluations, or the opinions they fear others have of them (Deci & Ryan, 1985). The level of adherence to act on a behavior can be attributed to the motivation, which is based on normative beliefs on behavior expectations, or from internal or external motivators, such as fear of discipline or financial forfeiture (Bandura, 2012; Deci & Ryan, 1985).

Participants' responsiveness to the intervention they implement (i.e., they may either adopt or reject it) depends on communication through specific channels over time in the social system (Rogers, 2003). Their decision will depend on prior conditions, such as previous practice, needs/problems, innovativeness, and norms. Based on the TAM, an individual's decision to use a technology stems from their perceptions of the technology's usefulness and ease of use (Davis, 1989). Usefulness describes the degree to which the use of the technology would increase one's performance such as completing a task more quickly, while ease of use refers to the extent to which an individual must put in mental or physical effort to using the technology. These two factors will determine an individual's attitude towards using a technology, which influences their motivation and intentions to use it. Furthermore, the decision to use technology is based on the complexity of how it is used, which regulates one's decision to perform or not to perform a behavior based on the perceived usefulness of technology (Venkatesh & Davis, 2000). Therefore, an individual's belief in their perceived ease of use and perceived usefulness determine their intentions to use technology (Ajzen, 1985; Venkatesh & Davis, 2000).

Literature Review Related to Key Concepts

In this section, I review the current literature related to factors influencing teacher motivation as conceptualized by self-determination theory, understanding teachers' use of behavior management software programs, the impact of implementing behavior interventions within the context of PBIS, the factors influencing student behavior, the value of student behavior, the value of improved school climate, the value of classroom

behavior management strategies, and outcomes of behavior management programs within the PBIS framework and non-PBIS interventions to reduce student behavior issues.

Factors That Influence Teacher Motivation

In this section, I discuss four factors that influence teacher motivation: professional development and training, leadership styles, atmosphere in the workplace, and financial factors.

Professional Development and Training

Training and professional development influence teacher motivation because they improve their delivery of curriculum (Gyimah, 2020). Zhang et al. (2022) investigated the relationship between workplace conditions, particularly the support teachers receive from their colleagues, and teachers' autonomous motivation. They found that teachers are more autonomously motivated to attend professional development continuously when supported by principals. Therefore, school management providing resources essential to teachers' instruction motivates teachers (Gyimah, 2020).

Leadership Styles

Teachers' motivation can be influenced depending on the leadership style of their supervisor. According to Ertem's (2021) meta-analysis study, leadership style influences teacher motivation, with laissez-faire and spiritual leadership styles showing positive influences on teachers' motivation. The results of Ertem's research implied that teachers prefer to have autonomy over their work.

Another influence that leadership has on teacher motivation is the supervisor's approach (Javorcíková et al., 2021). Javorcíková et al. (2021) found that managing

teachers through transformational leadership encourages teachers and increases their motivation and make them feel empowered. However, receiving pressure from school administration can negatively affect teachers' motivation (Shaukat et al., 2021). Shaukat et al. added that teachers' self-determination is also affected by school administration pressures. When teachers are motivated, their satisfaction and work fulfillment are positively affected.

Atmosphere in the Workplace

Collegial behavior in the workplace was determined to influence teacher motivation (Orina et al., 2022). In their study, Orina et al. (2022) found that teachers' work environment influences their motivation, engagement, and enthusiasm at their workplace. Teachers are more willing to perform at their full potential in the workplace so that they can work with ease and meet their needs when their work environment is positive and supportive. Furthermore, workplace conditions can influence the autonomous motivation of teachers depending on the support available in their working environment (Zhang et al., 2022).

Financial Factors

as shown in In a quantitative study investigating primary school teachers' levels of motivation, Javorcíková et al. (2021) found that financial motivation is the leading motivating factor. Over the duration of 5 years, teachers' stable requirement in terms of motivation was a basic salary and a fair appraisal system; therefore, when teachers receive low salary, their motivation is negatively affected (Shaukat et al., 2021).

Teacher Experiences With Behavior Management Software Programs for

Classroom Management

Klaft and Codding (2022) conducted a study using the Good Behavior Game as a behavior management program for teachers to implement in their classroom to reinforce positive student behavior. To determine their improved adherence and quality of delivery, teachers received behavior skills training of the intervention to implement, including steps for adherence and quality of delivery of the Good Behavior Game. The behavior skills training consisted of four phases with each phase including observations and data collection of student outcomes and measures of adherence and delivery quality. Teachers implemented the program following the nine steps of adherence and quality of delivery until they achieved 100% implementation of the steps. The results showed that as teachers went through the four phases of training, the level of implementation of Good Behavior Game behavior program increases as shown in increased levels of adherence and quality of delivery. Along with increased adherence to implementing the behavior management program, student outcomes also improved.

Ford et al. (2022) combined the Good Behavior Game intervention with the ClassDojo behavior tracking system to track study behavior. Teachers perceived the use of the software along with the intervention to be acceptable and efficient; however, there were difficulties when implementing ClassDojo to reinforce positive behavior, such as balancing lesson delivery and addressing positive behavior or behavior concerns.

Bahceci (2019) found that teachers recommend using ClassDojo because of its ease of use in terms of accessibility, convenience, and messaging features. ClassDojo helped teachers in maintaining discipline in the classroom, and tracking students'

behavior using ClassDojo made it easier for teachers to solve behavior problems with the support of their students' parents. According to teachers in Bahceci's study, parents' access to ClassDojo resulted in less meetings with parents because parents were informed about their students' behavior in class.

Tokarieva and Chyzhykoya (2022) analyzed the gamified learning application Classcraft in terms of teachers' experience and attitudes. Using the software helps students develop several cognitive and affective skills, such as strategical thinking and empathy. The benefits of this gamified software outweigh teachers' main reported obstacles, which were absence of knowledge of the application, low level of digital skills, and technical difficulties. The researchers recommended an integrated training program to help educators maximize the use of the software and apply various practices while they integrate gamified learning and behavior management into their lessons.

Outcomes of PBIS and Other Behavior Management Interventions/Programs

Implementing behavior management programs and PBIS were found to benefit students because these programs improved student academic achievement (Beckman et al., 2019; Herman et al., 2022; Wright et al., 2018); their behavior at school, such as student engagement and overall behavior in the classroom (Gage, Scott et al., 2018; Zoromski et al., 2021); and as well as reduced unwanted behavior (Holcomb et al., 2020), disciplinary actions (Barrett and Harris, 2018) and reduced bullying (Ross and Horner, 2009).

Improved Academic Achievement

Interventions implemented in the classroom, such as conversation, help, activity, movement, participation, and success (CHAMPS), self-monitoring apps, and home visits help improve students' academic achievement (Beckman et al., 2019; Herman et al., 2022; Wright et al., 2018). Using classroom management programs, such as CHAMPS, promotes proactive and positive instructional techniques designed to help teachers teach expected learning behavior (Sprick, 2013). As a result of this intervention, students' scores on broad English and math problem-solving academic achievement tests improved (Herman et al., 2022). A more intensive intervention for students with autism spectrum disorder used a self-monitoring app to reinforce positive behavior to improve academic outcomes, and the results showed improved writing and math scores (Beckman et al., 2019).

Wright et al. (2018) examined how teacher home visits affect the classroom behavior of students who received a home visit from their teachers. Their study showed that the home visit program impacted students' behavior in school compared to students who did not receive a home visit from their teachers. Wright et al. stated, "Students who received a home visit had statistically significantly higher mathematics and English/language arts second quarter grades than students who did not receive a teacher home visit" (p. 80).

In a qualitative study by Lloyd et al. (2022), students reported feeling that improved behavior contributed to their academics positively. When students behaved, they acted accordingly and got better grades. Focus group interview accounts from

student participants showed that they are motivated to follow the PBIS schoolwide expectations, and as a result, they demonstrated positive behavior in the classroom.

Estrapala et al.'s (2021) systematic review revealed that among the six studies that reported academic outcome data, three reported improvements in academic achievement, such as proficiency in reading, failure rates, and grade point average (GPA) because of PBIS implementation in the classroom. One study in the systematic review found a 1% increase in reading scores and the other two studies reported a significant increase in GPA and reduction in failure rates.

The technology-based behavior intervention used in Chen et al.'s (2019) study was found to improve students' academic achievement by encouraging positive classroom behaviors. Additionally, students being rated higher scores by teachers led to them getting higher academic scores. Outcomes of encouraging positive behavior improved students' recognition of Chinese characters, correct pronunciations and copying of Chinese characters, and correcting reading and writing complex sentences.

Improved Student Behavior

Outcomes of PBIS and other behavior management interventions include overall positive behaviors and student engagement.

Overall Positive Behavior. Students receiving rewards from demonstrating positive behavior at school will likely to show good behavior and follow school expectations (Lloyd et al., 2022; Wright et al., 2018). Wright et al. found that students who received a home visit from teachers had significantly higher positive reward scores than students who did not receive a teacher home visit. In such a system, positive reward

points are awarded to students who demonstrate positive behavior at school, such as "helping a fellow student without being asked (Wright et al., 2018, p. 74). Earning rewards for doing something good motivates students to continue showing good behavior and follow schoolwide expectations (Lloyd et al., 2022).

Holcomb et al. (2020) investigated the use of digital behavior intervention plans to improve the behavior of students with disabilities. The digital behavior intervention plans were meant for general education teachers to use in their classroom to increase desirable behaviors of students and moderate undesirable behaviors particularly of students with disabilities in the classroom. Desirable behaviors are taught using strategies, such as waiting, sitting, or raising one's hand. Reinforcement strategies also were used to increase desired behaviors, such as awarding positive statements when a task is completed, working with quality, or following directions accurately and swiftly. Holcomb et al. (2020) found that there was a possible functional relationship between the intervention and the increase of desired behavior and the decrease of undesired behavior.

Engagement. Use of classroom behavior management strategies and classroom management profiles were determined to influence student engagement (Gage, Scott et al., 2018; Zoromski et al., 2021). Classroom behavior management implemented by teachers with average and above average levels showed high student engagement during instruction. Strategies teachers implement also influence students on task behavior in middle school classrooms (Zoromski et al., 2021). Teachers' classroom behavior management strategies of responding to rule violations followed by appropriate teacher responses showed the strongest relationship between total student rule violations and on-

task behavior. The association between the two variables resulted in increased time on task by students. Good Behavior Game is another behavior management program that increased student engagement when teachers implement the program with higher adherence and quality delivery (Klaft & Codding, 2022). As teachers promote positive reinforcement to good behavior, students demonstrated increased academic engagement.

Various technology-based interventions impact student engagement positively (Bruhn et al., 2016; Chen et al., 2019; McHugh Dillon et al., 2019). SCORE IT app is a self-monitoring app used in a reading class for two middle school students with disabilities. Students track their behavior based on their goals and rate themselves in terms of academic engagement. Teachers also rate their behavior. At the end of the experiment, both students improved their academic engagement using the app (Bruhn et al., 2016). Tablet-based classroom behavior management systems used in a primary setting were studied by Chen et al. (2019) and analyzed student behavior data on engagement such as listening, responding, participating, and speaking clearly in class. Data from classroom behavior management strategies showed increased positive behavior in terms of engagement.

Tootling is also another technology-based intervention found to be effective in supporting good behavior of students (Chaffee et al., 2020; McHugh Dillon et al., 2019). Tootling is a class-wide behavioral intervention used by students to give positive peer feedback or reporting on a classmate's positive behavior shown in the classroom (Chaffee et al., 2020; McHugh Dillon et al., 2019). When peers provide positive feedback to their classmates, students demonstrate increase in appropriate behavior related to academic

engagement. Limitations of this study, however, were that the behavior change might not be permanent, and longer-term effects of Tootling on class-wide behavior change must be examined in future research. Further, increase positive interactions with students in and outside the classroom positively influence their active engagement in class (McHugh Dillon et al., 2019).

Student self-reported affective and behavioral engagement and teacher's use of positive behavior support as classroom management was positively associated with higher levels of student-reported classroom engagement (Larson et al., 2021). When teachers use the positive behavior support program, students engage more. The sense of connectedness between teachers and students resulting to increased engagement in the classroom.

The use of positive plus program intervention which is a combination of behavior-specific praise and rewards, were found to increase academic engagement with 30% improvement at initial implementation and a 90% improvement at reimplementation (Clair et al., 2018). Students' increased engagement resulted in lesser reprimand from teachers and increased use of the program.

Managing student behavior using a classroom management approach focused on CHAMPS shows a positive impact to student achievement, including time on task and work completion (Herman et al., 2022). Beckman et al. (2019) investigated if using a self-monitoring app influences the on-task behavior of two students with autism spectrum disorders. The app prompts the students to answer questions every 15–20 seconds and

respond within seven seconds. Results showed improved on-task behavior for both students.

Using class-wide function-related intervention teams in a middle school classroom was determined to improve students' academic engagement (Wills et al., 2019). Class-wide function-related intervention teams is a multitiered intervention that helps teachers to proactively manage student behavior by behavior-specific praise, reinforcement, and teacher students' functional replacement behavior. The results of this study showed increased on-task behavior shown in students and improved academic engagement.

Reduced Unwanted Behavior

The function of challenging behavior that students with disabilities exhibited was to avoid difficult tasks (Pham et al., 2021). In this research, teachers used function-based interventions and strategies to improve the behavior of intellectually disabled students toward performing difficult tasks. With intensive training, consistent interventions, and replacement behavior strategies provided, the occurrence of challenging behavior decreased as replacement behavior increased. This showed linear changes from two students who participated in this study.

Technology-based behavior interventions were also found to influence students undesired behavior such as disruption in the classroom (Bruhn et al., 2016; Chaffee et al., 2020; Holcomb et al., 2020; McHugh Dillon et al., 2019; Riden et al., 2021). The use of digital behavior intervention plan by Holcomb et al. (2020) also resulted in reduced student undesired behavior when the intervention plan was implemented with fidelity.

The student behavior recording forms from the digital intervention plan were used to document individual student behavior changes across different conditions. At the introduction of the intervention, student behaviors were variable and unstable. During the consistent implementation, there was a steady decrease in students' undesired behavior, and continued to decrease during the maintenance conditions. This shows that the intervention resulted in reduced undesired behavior of students. Another technology-based self-monitoring app SCORE IT was also found to decrease students' disruptive behavior (Bruhn et al., 2016). The self-monitoring app SCORE IT was used to support two middle school students with disabilities during their reading class to determine the effects of the use of the app on students' behavior. Students' disruptive behavior decreased while they self-monitor their behavior using the SCORE IT app.

Tootling or positive peer reporting as a class-wide behavioral intervention also decreased disruptive behaviors (Chaffee et al., 2020; McHugh Dillon et al., 2019). Disruptive behaviors included talking about an unrelated topic, leaving out of their assigned seat without permission, throwing objects, or touching other peers, among others (McHugh Dillon et al., 2019). During the intervention phase, students were given at least three times per week to make peer reporting or "tootling" that they observed throughout the period and record it in ClassDojo at the end of class. During the initial withdrawal and reintroduction phase of the intervention, a decrease in disruptive behavior was observed. This behavior intervention may affect enduring behavior change if the longer term of tootling on class-wide behavior change is examined by future research (Chaffee et al., 2020).

Another intervention called the electronic daily behavior report card was examined by Riden et al. (2021) to determine its effect on two noncompliant, off-task, and disruptive students with specific disabilities. These daily behavior report cards are used by the students to recognize their behavior, rate their behavior daily, and share this information with another such as the teacher. Visual analysis shows an immediate and decreased level of off-task and noncompliant behavior, resulting to improved behavior for all participants in the study. Clair et al. (2018) also found that providing behavior-specific praise and teacher feedback on students' expected behavior reduced off-task behavior with an initial reduction of 48% during the initial implementation of the Positive Plus program and 46% reduction after reimplementation. When implemented with fidelity, classroom behavior management strategies such as teachers' appropriate responses to rule violations reduce the incidences of total rule violations with lower rates of disruptive behavior (Zoromski et al., 2021).

Reduced Disciplinary Action

Barrett and Harris (2018) examined the effects of the PBIS data platform Kickboard used to manage behavior in school to reduce negative behavior and encourage positive behavior and socioemotional learning. In their study, they determined if the use of Kickboard would reduce the number of suspensions. Results in their quantitative analysis showed a 0.14–0.38 per student per year (26%–72% from baseline) suspensions and the number of suspension days by 0.7–1.5 (52%). These results were obtained from schools that had met the threshold of PBIS implementation. Promoting positive behavior in schools using Kickboard improved the learning environment helping teachers focus on

teaching than managing a classroom. Fewer negative behavior results in fewer suspensions and more time on task.

Elrod et al. (2022) investigated the relationship between PBIS implementation and office discipline referrals of 288 middle and high schools. Outcomes of this study showed that greater fidelity of implementing PBIS in schools over time showed reduced office discipline referrals issued. Universal or Tier 1 PBIS interventions were found to have reduced office discipline referrals in schools when the school-wide intervention is implemented with fidelity (Eiraldi et al., 2019; Estrapala et al., 2021).

Valdebenito et al. (2018) systematically examined the effectiveness of different school-based interventions that reduce school suspension or exclusion. This systematic review covered 37 studies that looked at nine different interventions. Three of these school-based interventions, namely enhancement of academic skills, counseling, monitoring/mentoring, and skills training for teachers, were found to reduce suspensions in school.

School-based interventions producing the greatest decreases in suspensions focus on cognitive-behavioral therapy and social-emotional learning, according to Mielke and Farrington's (2021) meta-analysis of 14 studies examining school interventions implemented in schools. Among these studies, three studies and two programs showed large outcomes. The interventions targeting student behavior showed statistically significant reductions in suspensions at the high school levels. Both interventions implemented with fidelity by a teacher in a classroom and through one-on-one targeted interaction seem equally effective for helping students develop social-emotional skills.

Another study by McIntosh et al. (2021) examined the extent did schools exposed to equity focused PBIS interventions decreased the use of exclusionary discipline. The study examined how equity-focused intervention within PBIS framework improved outcomes, including decreased use of exclusionary discipline. Compared to schools that are turnaround schools (i.e., schools in the bottom fifth percentile on student achievement for 3 consecutive years), the intervention schools (i.e., 25 lowest performing schools in the state) showed significant improvement on exclusionary discipline with increased score of over 70 out of 100 indicating less use of exclusionary discipline.

Improved School Climate

School climate was found to improve when schools implement PBIS interventions such as equity focused PBIS and restorative justice with fidelity (Grant et al., 2022; Lloyd et al., 2022; McIntosh et al., 2021). McIntosh et al. (2021) examined the extent schools receiving equity focused PBIS intervention have on improved school climate as measured by students, families, and staff. Compared to turnaround schools and all other schools participated in the study, the intervention school showed the highest school climate index score of over 75% indicating positive school climate. Elrod et al. (2022) also found that additional years of implementation of PBIS with greater fidelity showed stronger school climate as exhibited by a safe and supportive environment where students engage in prosocial behaviors.

Research about a whole school intervention called restorative justice by Grant et al. (2022) investigated whether the community building, and discipline method improves school climate. The study examined whether restorative practice have direct impact on

school climate. Based on both student and teacher surveys on school climate factor analysis, there was a significant correlation (r = .49) between the school climate factors and the restorative practice intervention. Further, results showed that participating schools had more positive student interactions and fewer fights and bullying. Students in a school that implements restorative practices feel a sense of safety and belongingness at school.

Lloyd et al. (2022) conducted a series of focus groups with middle school students attending schools implementing PBIS to learn about their perspective of PBIS and the impact of PBIS on school climate. Based on the findings of this qualitative research, students describe their school as safe, positive, and accepting. Another student also mentioned that the school emphasizes positive relationships. The positive atmosphere makes students happier to be going to school.

Reduced Bullying

Research by Ross and Horner (2009, 2014) showed that when a bullying prevention component was added to a PBIS framework, incidents of bullying were reduced. In their earlier study, Ross and Horner (2009) found that physical and verbal aggression was reduced after fully implementing bullying-prevention PBIS intervention. The mean level of problem behavior per school per day decreased about 72% from baseline for all six target students. Researchers also found that the number of appropriate responses to bullying increased to problem behavior of bullying in all three schools. Both victim and bystander response said “stop” as a response to bullying around 22%–28% increase from baseline. There was also a 10%–11% increased incidence of walking away

from bullying. Positive or negative response to bullying decreased (more than 10% decrease). Lastly, there were also an increased incidence of no response to bullying (9% increase for the victim and 1% increase for bystanders). In their later study, Ross and Horner (2014) found improvements in 12 out of 13 specific components of the Student Experience Survey in particular the student perceptions of assertiveness or being an upstander to incidents of problem behavior. The interventions that all students learned about the use of "stop" signal gave students a way stand up to bullying. Last, the researchers also found that the use of bullying-prevention PBIS intervention decreased the motivation to bully, thus, reduced the incidents of bullying.

In comparison to Ross and Horner's findings, research by Gage et al. (2019) does not support the claim that PBIS has a direct influence on bullying in schools. However, the researchers noted that bullying is a dynamic behavior compared to problem behaviors such as noncompliance and being disruptive, behaviors that typically result in discipline in the form of office discipline referrals or suspensions. Considering the multifaceted nature of bullying and the previous research demonstrating that PBIS reduces the incidence of bullying, Gage et al. suggested that the integration of a bullying prevention program within a PBIS framework does have the potential got impact in that regard.

Outcomes of PBIS Implementation

The evidence-based practice that is the focus of this study is the implementation of PBIS, several literatures found favorable effects to academic achievement, improved student behavior, and reduced number of suspensions and office discipline referrals.

Improved Academic Achievement

Implementation of PBIS with fidelity were found to affect student outcome particularly student academic achievement (Lee & Gage, 2019; Pas et al., 2019). Lee and Gage (2019) examined the impacts of schoolwide positive behavior interventions and supports (SWPBIS) on school outcomes specifically on academic achievement. The systematic review and meta-analysis focused on 32 studies across the U.S. and Europe. Among these studies reviewed, 13 studies reported outcomes in academic achievement in reading, mathematics, or both. Four studies reported other subjects including science, social studies, and writing. Eleven studies used state summative tests. All studies reporting state summative test results reported percentage of students at or above proficient in academic achievement. Therefore, based on the meta-analyses, it was found that SWPBIS has a statistically significant effect on academic achievement.

Pas et al. (2019) examined how Tier 1 PBIS affects student outcome particularly student achievement. In this quasi-experimental study, elementary schools trained in SWPBIS showed significantly higher reading and math proficiency rates during the 1st and 2nd years of the study and in one of the later 2 years of the study. Secondary schools showed higher reading and math proficiency rates during the 2nd and 3rd years of the study.

However, Ryoo et al. (2018) did not find a significant relationship between SWPBIS and academic achievement. These research however, used propensity score matching scaling up statewide achievement test scores to a state level. One limitation to this study is the sampling method resulting in different characteristics across years where

cohorts were drawn. As a result, not all SWPBIS schools were selected preventing the study to be generalize its findings to all SWPBIS schools. Second, the study used statewide standardized test which require schools a more comprehensive reform efforts beyond SWPIBS such as Curriculum-based measurement for progress monitoring, response intervention, and other academic support to enhance academic performance. These limitations only provide a small part of the effects of SWPBIS on student learning, thus resulting to not statistically significant relationship between SWPBIS and academic achievement.

Improved Student Behavior

Behavior such as absences, tardiness, and out of school suspensions have significant relationship with PBIS implementation with fidelity in high schools (Freeman et al., 2019; Grasley-Boy et al., 2019). Promoting positive behavior using PBIS in schools have a significant relationship to student attendance (Freeman et al., 201 9). Their study examined the relationship between implementation of PBIS and attendance in high schools. Results showed a statistically significant relationship for student attendance. For every 10-point increase in PBIS fidelity, student absences were reduced by 7 (M = 25.5). Therefore, results showed that the higher the implementation of PBIS, the less often absences were reported in participating schools.

SWPBIS has been studied to reduce the use of exclusion in Grasley-Boy et al.'s (2019) study, they have found statistically significantly less days missed due to out-of-school suspensions. Results suggest that when universal SWPBIS is implemented with

fidelity, students will miss less days out of school if they are not removed in their school due to suspensions resulted from discipline issues.

Reduced Need for Disciplinary Action

Various studies have been conducted to explore the influence of PBIS when implemented with fidelity. It was found that implementing PBIS with high level of implementation reduces disciplinary actions such as out of school suspensions (Freeman et al., 2019; Gage, Lee et al., 2018; Grasley-Boy et al., 2022; Kim et al., 2018; Noltemeyer et al., 2019; Scherer & Ingle, 2020), in-school suspensions (Gage, Lee et al., 2018) and discipline referrals (Scherer & Ingle, 2020).

Gage, Lee et al. (2018) examined the effects of SWPBIS on school suspensions for elementary and intermediate schools compared with matched comparison schools that never received SWPBIS training. Higher fidelity results to fewer out-of-school suspensions, in-school-suspensions, and disciplinary incidents. However, after 4 years of implementation, they found no significant difference in school suspensions between treatment and comparison schools.

Baule (2020) examined the impact of PBIS implementation fidelity on high schools particularly related to racial disparity among secondary students' suspensions over time. Although there was a continuous reduction of suspension among Black students who received one or more suspensions, the disparity between the number of White students and underrepresented students experiencing suspension is significant.

Higher implementation fidelity of interventions such as PBIS results in reduced out of school suspensions compared to other schools not implementing PBIS with fidelity

(Simonsen et al., 2022). In this quantitative study, they determined the relationship between implementation fidelity of PBIS to discipline outcomes on out of school suspensions for students with disabilities. Results showed that schools with higher implementation fidelity of PBIS had a significantly lower rate of suspensions for students with disabilities. Gage, Grasley-Boy et al. (2019) also found a statistically significantly fewer out-of-school suspensions among students with disabilities in schools implementing SWPBIS with fidelity.

Noltemeyer et al. (2019) also examined the relationship of Tier 1 PBIS implementation fidelity and discipline outcomes of 153 schools within a state and found a measured implementation fidelity of PBIS using tiered fidelity inventory to assess the practice of Tier 1 PBIS. Schools with tiered fidelity inventory scores below 70% had an average out of school suspension of 22.96 per 100 students while schools scoring above 70% tiered fidelity inventory score was 14.05. Higher scale scores indicated higher implementation level of PBIS. Therefore, greater PBIS implementation scores yielded more positive behavior outcomes for students as indicated by lower suspension rate.

The study by Kim et al. (2018) examined 477 schools across 10 states implementing SWPBIS with varying levels of implementation fidelity. This empirical study determined that implementation of SWPBIS with fidelity was positively related to discipline referrals and to out-of-school suspensions. The longer the schools implemented PBIS with fidelity, the lower the incidences of out-of-school-suspensions as shown in a 3-year pattern of change in their study. However, the implementation fidelity out of school suspensions were varied based on the number of years of PBIS implementation.

While statistics show significant relationship, the level of fidelity is not a factor that cause the change in the number of office discipline referrals and out of school suspension, but instead the number of years of implementation. Even with a large sample of population of 12,127 students from 15 high schools implementing PBIS, Freeman et al. (2019) found a statistically significant relationship between implementation fidelity and number of suspensions. Results indicate that schools implementing PBIS with high fidelity had fewer suspensions. Similar results were also found by Gage et al., Grasley-Boy, Lombardo, and Anderson (2020) from replicated studies conducted in other states and examined the effects of universal SWPBIS on disciplinary exclusions in California. Results showed that schools implementing SWPBIS with fidelity have significantly fewer suspensions.

Elementary teachers trained in SWPBIS in schools implementing universal (i.e., Tier 1) PBIS showed significantly lower suspension rates during the 4th or 5th year of the study using annual propensity score to examine the longitudinal effects of SWPBIS from 2006–2012 (Pas et al., 2019). Reduced suspensions were also found based on the findings by Scherer and Ingle (2020) examining the relationship between implementation fidelity of PBIS and suspension rates in large urban schools. The out-of-school suspensions before and after training and implementation of PBIS showed decrease in suspension numbers but sustaining implementation showed increase in out-of-school suspensions each year for all 4 years of PBIS implementation. These findings contradict the research previously discussed and it may have been contributed to other factors that may have affected the implementation of PBIS such as the use of other interventions other than

PBIS, overall, there were no significant reduction in suspensions over 4 years (Scherer & Ingle, 2020).

Grasley-Boy et al. (2022) evaluated the effects of implementing three tiers of SWPBIS with fidelity compared with Tier 1 alone for 588 schools in California. Results suggest that when schools implement all three tiers with fidelity, there was a statistically significant lower rates of students receiving one out-of-school suspension, out-of-school suspensions incidents, and students referred to law enforcement. However, two or more out-of-school suspensions showed no statistical significance. Regarding the effects of implementing advanced tiers compared to only Tier 1, or implementing one additional tier, there were no significant differences. Similar results were evident in Grasley-Boy et al., (2019) in their replicated study on the effects of SWPBIS on disciplinary exclusions for students with and without disabilities. The study compared 544 schools implementing SWPBIS with fidelity and 544 schools that had never been trained with SWPBIS. It was determined that implementing Tier 1 SWPBIS with fidelity significantly reduced out of school suspensions for all students. Along with this significant reduction of out-of-school suspensions, implementation of universal PBIS was the reduced instances of students with disabilities being sent to alternative settings as disciplinary actions.

Additional Factors That Influence Student Behavior

In addition to PBIS and other behavior management interventions and programs, this section will discuss other factors that influence student behavior.

Academic Achievement

It was investigated by Brokamp et al. (2019) that students' reading performance and their behavior are significantly interrelated. In this quantitative study, 66 third-grade classrooms participated to determine how student behavior impacts better reading performance. The correlation was measured between reading fluency and task-focused behavior, emotional stability, and compliant behavior. Results suggest that better task-focused behavior, emotional stability, and compliant behavior lead to better reading performance at the beginning of the year. Task-focused behavior had the strongest relationship with reading performance at the end of 3rd grade. Therefore, student behavior is a factor of better academic achievement.

Family Background

Family can greatly influence a student's ability to adapt to school (Niehues et al., 2021). The role of family cohesion in students' learning-related behaviors during the transition to elementary school was found to influence student behavior. Family cohesion refers to the positive relationships between family members and the level of closeness, emotional bonding, and support among family members (Moos, 1990). In this longitudinal study, children's learning-related behaviors were measured, such as self-reliance, joys of learning, and persistence during schoolwork. Each of these behaviors measured the perceptions of raters whether a student is self-sufficient, enjoys school, and persists when school tasks get difficult. This research showed that students who grew up in more cohesive families displayed higher learning-related behaviors as attributed to their academic achievement in mathematics.

Li and Li (2022) studied how family atmosphere influenced prosocial behavior. In a family atmosphere scale survey, college students answered a survey measuring prosocial tendencies, gratitude, and general self-efficacy scale. Seven hundred twelve participants completed the family atmosphere scale, prosocial tendencies measures, the gratitude questionnaire, and the general self-efficacy scale. Their results indicated that family atmosphere directly influences students' prosocial behavior, such as gratitude and self-efficacy. Additionally, research indicates that a supportive family atmosphere increases prosocial behavior indirectly as well as through mediating factors such as gratitude and general self-efficacy.

Value of Positive Student Behavior

Behavior management software programs track positive student behaviors and when students demonstrate wanted behavior, it was found that their academic achievement, performance, behavior, and affective states improve.

Improved Academic Achievement

Student behavior affects classwork completion (Brokamp et al., 2019) which refers to the amount of time before the assignment is due, and submission of work (Nieberding & Heckler, 2021). It was found that completion time and grade components were correlated ACT scores but only to a weak–moderate correlation indicating that the earlier a student finished the assignments the higher the course grade showing a moderate correlation while ACT scores showed a weak correlation. However, Jackson (2019) found that improving students' behavior through effective classroom management are

much stronger predictor of improved student behavior than test scores. The increase in GPA were attributed to the teacher's impact on behavior.

Improved Student Performance

Improve student behavior also have impact on the likelihood of graduating high school and increased probability of taking SAT and college attendance (Jackson, 2019). Also, in a qualitative study by Bayar and Karaduman (2021), collected data from students showed how they developed a sense of competition and the will to study as an indication of improved student performance of students.

Improved Student Behavior

Students with special education needs in an inclusive classroom are not automatically socially included (Schwab et al., 2021). Peers with no special education needs interact less frequently with peers with special education needs. For students with disabilities, their peer interactions vary from class to class. Some classes handle social participation of students with special needs better than others.

Improved Affective States

Miles et al. (2022) assessed the effects of prosocial activity on emotional well-being and mental health during the COVID-19 pandemic. Prosocial behavior is associated with reduced anxiety and improved perceptions of the value of one's life, aspects that can contribute to mental health and emotional well-being, respectively. Findings showed that prosocial acts reduced anxiety and increased belief of life's value.

Value of Positive School Climate and Culture

Another reason why tracking positive behavior using Kickboard is valuable because it benefits the whole school community creating a positive school climate and culture and were also found to positively influence student achievement, reduced suspension rates, and decreased bullying as discussed in this section.

Improved Academic Achievement

Demirtas-Zorbaz et al. (2021) found that school climate was significantly correlated with student achievement and although the effect size is small, dimensions of school climate (safety, community, or institutional environments) influenced their results. A school climate that encourages positive interpersonal relations and a sense of community fosters academic self-efficacy which in turn positively associates with students' achievements (Zysberg & Schwabsky, 2021). Although the effects of school climate to academic achievement was small, there is still correlation between the two. Academic achievement has components such as grades, examination, academic self-concepts, and various variables that contributes to improved academic achievement and therefore the influence of school climate to academic achievement was small (Demirtas-Zorbaz et al., 2021).

Interpersonal relations and belongingness as subscales of school climate were positively associated with measures of achievement. The mean English grade were slightly higher than that of the mathematics grade (Zysberg & Schwabsky, 2021). School climate as characterized by high structure and student support were found to have association with higher student engagement in school, hence contribute to higher

academic achievement such as rate of school graduation and standardized tests (Konold et al., 2018).

Reduced Disciplinary Action

School climate measures are also predictors of out of school suspensions (Huang et al., 2020). School culture shapes the learning and student development and therefore it is important to discuss how an improved school culture contributes to improved student achievement and bullying. The relationship of school climate and out-of-schools suspensions indicated that an authoritative school climate characterized by fair and just rules was associated with decrease in suspensions. Although the effect was only small, the positive benefits to students are likely to accumulate over time.

Less Bullying

School climate affect students' experiences of bullying according to Farina's (2019) quantitative study showing significantly lower bullying victimization at a school when positive school climate was evident such as positive classroom management, fair treatment of students, and clear rules.

Summary and Conclusions

In this chapter, literature related to the primary concept of motivation is discussed. Self-determination theory within the constructs of motivation is the major conceptual framework that will guide this research. Other supporting theories linked with this framework include TAM, and diffusions of innovation were briefly discussed contributing to one's decision to use a technology.

In this chapter, I also addressed the factors that influence teacher motivation and how the level of implementation impacts student outcomes. Other literature reviewed focused on factors influencing student behavior, value of improved student behavior, school climate, and classroom behavior management strategies to different student outcomes such as academic performance, attendance, and suspensions. The outcomes of using behavior management programs within the PBIS framework and non-PBIS behavior management interventions to reduce student behavior issues were discussed. The current study will address the gap in practice relating to the implementation of behavior management software programs by identifying which factors influencing teacher motivation and will contribute to improved implementation and improved student behavior which is the focus of this study. The next chapter will describe the methodology which will be used in addressing the RQs related to the gap in practice of the use of behavior management software programs.

Chapter 3: Research Method

The purpose of this qualitative study was to explore middle school teachers' perceptions of the challenges they encounter in implementing software behavior management programs to encourage positive student behavior. In this chapter, the research design and rationale are explained, the role of the researcher is described, and the methodology is presented. I discuss the trustworthiness of the study and the ethical procedures that were followed before ending the chapter with a summary.

Research Design and Rationale

The central concept in this study relates to the TAM by Davis (1989). The theory of self-determination also grounded this study, specifically the theory's concept of motivation as it is applied to the use of behavior management software or programs to encourage positive student behavior (see Deci & Ryan, 1985). An individual's decision and motivation to use a technology will depend on the technology's ease of use and its usefulness (Davis, 1989). While challenges in using the technology exists, the motivation to engage in a task stem from the pleasure and enjoyment of doing a particular task. According to Deci and Ryan's (1985) self-determination theory, intrinsic motivation is the most self-determined type of motivation derived from pleasure and enjoyment. Besides from intrinsic motivation, an individual's aim to pursue a meaningful outcome from an activity is referred to as identified regulation. Both intrinsic motivation and identified regulation can be understood as autonomous motivation.

The RQs guiding this basic qualitative study were:

RQ1: What are middle school teachers' perceptions of the challenges experienced in implementing behavior management software programs to encourage positive student behavior?

RQ2: What are middle school teachers' suggestions for implementation to increase the use of behavior management software programs to encourage positive student behavior?

Although the characteristics of research traditions evolve over time (Jørgensen, 2015), the nature of the qualitative research tradition has remained relatively unchanged over time (Maxwell, 2013). Qualitative research can be defined by its four main characteristics: "The focus is on process, understanding, and meaning; the researcher is the primary instrument of data collection and analysis; the process is inductive; and the product is richly descriptive" (Merriam & Tisdell, 2016, p. 15). Typically, qualitative research is organized around a particular phenomenon and is intended to explore people's experiences in natural settings (Crawford, 2020) as they interpret them (Merriam & Tisdell, 2016). Sample sizes in qualitative research are generally small (Crawford, 2020).

The qualitative research tradition was appropriate for this study because (a) it is intended to generate understanding about a particular phenomenon, (b) I was the primary instrument of data collection and analysis, (c) the organization of the study and specifically the processes for analyzing data were inductive in nature, and (d) the intent of the study was to provide rich descriptions of the participants' experiences implementing behavior management software programs from their point of view.

Originally, I considered the quantitative method for this study. In quantitative studies, researchers use measurements and numerical expressions, such as inferential statistics, to explain observations (Wienclaw, 2021). Additionally, Wienclaw characterized quantitative researchers to strive for control in their research as opposed to realism. Examples of studies for which the quantitative method is appropriate include laboratory experiments, simulations, and field experiments. In these types of quantitative studies, researchers apply deductive logic and reason to a general principle to predict a particular outcome (Wienclaw, 2021) and to answer specific RQs identified prior to the start of the study (Egbert & Sanden, 2019). Sample sizes in quantitative studies tend to be large (Mertler, 2021), and in true experimental research, participants are randomly selected (Egbert & Sanden, 2019).

In this study, teachers only provided descriptions of their experiences that could not be quantifiable; therefore, an examination of quantitative data was not a feasible choice for this study. Subsequently, the mixed-methods tradition, which combines qualitative and quantitative inquiry in one study (Tebes, 2012), was not a feasible choice for this study either because of its quantitative aspect.

In this study, I employed a basic qualitative research design. Also referred to as *generic research* (Kahlke, 2014; Percy et al., 2015) and *illustrative research* (Hancock & Algozzine, 2017), basic qualitative research is interpretive and descriptive (Merriam & Tisdell, 2016). Often used for education research (Merriam & Tisdell, 2016), a basic qualitative design is appropriate to use when researchers have prior knowledge of a topic and are seeking to understand how others perceive it (Percy et al., 2015). Furthermore,

basic qualitative studies are well suited for exploring people's perceptions about real-world phenomenon that occur in physical settings. Percy et al. added that basic qualitative research can help researchers uncover participants' beliefs, attitudes, and subjective opinions. Basic qualitative researchers are not interested in in-depth analysis of bounded cases, development of theory, social-cultural analyses, or lived experiences of a particular group as is the case in case studies, grounded theory, and ethnographic and phenomenological research, respectively (Merriam & Tisdell, 2016; Percy et al., 2015).

A basic qualitative research design was appropriate for this study because the study was conducted in an educational setting, and I had prior topic knowledge of how behavior management programs are intended to be implemented. Another reason a basic qualitative research design was appropriate for this study is that the focus of the study was on teachers' perceptions about a real-world phenomenon that is occurring in a physical setting, specifically the implementation of various behavior management software. Furthermore, I anticipated that through this study, data about teachers' beliefs, attitudes, and subjective opinions about implementing behavior management programs would be discovered. Moreover, I had no interest in (a) conducting social-cultural or in-depth analyses associated with behavior management software program implementation process, (b) generating theory, or (c) exploring teachers' lived experiences.

Role of the Researcher

My role as the researcher was to interview participants for this qualitative study. My primary role was to gather information for this study, and the amount of data I could collect was limited by the amount of data the participants were willing to share. Since I

had experience using behavior management software myself, I recognized that there was the potential during the data collection and analysis processes for me to impose bias in favor of the use of behavior management software. To maintain objectivity and reduce the risk that personal opinions will influence the collection of data, researchers engage in a process called reflexivity whereby they actively consider their (a) approach to interviewing, (b) interpersonal communication style, (c) personal subjectivity, (d) social behaviors and habits, and (e) assumptions and connections they make between their data collection instruments and the incoming data (Ravitch & Carl, 2016). To maintain objectivity and reduce the risk that my personal opinions would influence the collection of data in this study, I referred to Ravitch and Carl's (2016) reflexive data generating questions both before and during data collection.

Customarily, researchers have suggested that the potential for introducing bias during data analysis can be mitigated through a process called *bracketing* (Ravitch & Carl, 2016). Although there is no one standard definition of bracketing, the term typically refers to the development of a researcher's awareness of presuppositions about a phenomenon or topic (Tufford & Newman, 2010) and conscious setting aside of those presuppositions when interpreting the data (Merriam & Tisdell, 2016). However, Ravitch and Carl (2016) suggested that it is unrealistic to believe that any researcher can effectively remove all subjectivity from the qualitative data analysis process. Rather than trying to do so, they suggested that researchers should conduct their analysis systematically and with intention but then embrace their subjectivity as a means of drawing connections between the data elements during the interpretation of those

findings. In this study, I analyzed the data systematically and with intention. The use of software during the data analysis process helped in that regard. I was cognizant of how I applied my subjectivity to the interpretation of the study findings as to not inadvertently attribute meaning to data where none truly existed.

Methodology

Participant Selection

In this qualitative study, the participants were Grade 6–8 middle school teachers across the United States who had used behavior management software programs for at least 1 full school year. I used purposeful sampling to select participants for this study. This strategy is appropriate when a researcher wants to better understand a phenomenon and chooses a particular sample based on the understanding that that particular sample will be the best source from which to learn about that phenomenon (Saldana, 2011). In this case, my interest was to better understand teachers' challenges in implementing behavior management programs to encourage positive behavior; therefore, any middle school teachers using behavior management software programs in their classrooms to encourage positive behavior were the most logical choice for the study sample.

There are various schools of thought about determining sample size in qualitative research. Lincoln and Guba (1985) suggested that if researchers are interested in generating as much information about a topic as possible, they would be best served by gathering data to the point of redundancy, when no new data are generated through ongoing collection. Guest et al. (2006) suggested that saturation of data pertaining to

themes at the metalevel occurs within the first six interviews and that full saturation of the data occurs within 12 interviews.

One challenge to this approach is that researchers may not be able to determine when they reach that level of redundancy, or *data saturation* (Merriam & Tisdell, 2016). Analyzing data throughout the data collection process can help in this regard. However, Ravitch and Carl (2016) suggested that overall study rigor is more important than achieving any specific sample size. Merriam and Tisdell (2016) acknowledged that knowing specific samples sizes in qualitative research can be more important in certain circumstances than in others (e.g., when a proposal is being submitted to an agency for funding). In their quantitative analysis of the sample sizes of qualitative interviews, Marshall et al. (2013) found that most data saturation occurred by 12 interviews. Therefore, it was reasonable to anticipate that interviewing approximately 12–15 participants in this study would achieve data saturation.

I recruited participants through my professional learning network using social media platforms, such as Facebook or LinkedIn. Education groups on Facebook were identified, and I contacted the administrators maintaining these groups to inquire about their policies or procedures regarding the recruitment of participants from within the groups. Gathering information about procedures and policies in recruiting research participants via social media is an ethical practice that promotes transparency and trustworthiness of the information (Flood-Grady et al., 2021). Recruitment procedures, inclusion criteria, and ethical considerations will be discussed in the Procedures for recruitment section.

Instrumentation

I collected data for this basic qualitative study using semistructured interviews. The alignment of the interview questions and RQs is demonstrated in Table 1.

Table 1

Alignment of Interview Questions With Research Questions

Research questions	Interview questions
RQ1: What are middle school teachers' perceptions of the challenges experienced in implementing software behavior management programs to encourage positive student behavior?	IQ1a: Please share your experience with behavior management software that you use in your classroom. IQ1b: How useful is the behavior management software in encouraging positive behavior? IQ2: How about the ease of use? Can you share how you use the software in terms of navigating it? IQ3: Share an example of a time when you used software but did achieve the outcome of encouraging positive behavior. IQ4: What are some of the difficulties in managing your students using software? IQ5: What are some challenges of implementing the software that may interfere with your planned instructional activities and student management or interaction in the classroom?
RQ2: What are middle school teachers' suggestions for implementation to increase their use of behavior management software programs to encourage positive student behavior?	IQ6: Share some strategies you employ to effectively use the software? IQ7: Please describe any specific professional development you received for implementing the software. IQ8: What resources or support would you recommend that would increase the use of the software to encourage positive student behavior? I 9: To what degree is the program useful to you? In what ways is it useful or not useful to you?

I developed the interview protocol based on the various elements underlying the study's conceptual framework. For example, the core concepts of Interview Questions 1 through 5 are centered on participants' perceptions of specific behavior management software. Participants provided information as to how the perceived challenges or usefulness of the software influences their decision to use the software. In the TAM (Davis, 1989) and the TAM2 (Venkatesh & Davis, 2000), perceived usefulness is a direct factor of intention to use a particular technology. Rogers (2003) identified perceived characteristics of an innovation as a factor that influences the degree to which a person can be persuaded to adopt and implement an innovation. As another example, Interview Questions 4–9 are focused on participants' suggested methods, strategies, resources, support, and training needed to increase their use of the behavior management software to encourage positive behavior. I designed these questions to elicit responses indicating teachers' motivations, working conditions, or ease of use when implementing the behavior management software. Ajzen (1985), Bandura (2012), and Venkatesh and Davis (2000) have identified motivation as a factor that contributes to a person's decision to either engage in or refrain from engaging in a particular behavior. Working environment (Orina et al., 2022), school administration (Shaukat et al., 2021), and financial factors (Javorcíková et al., 2021) also contribute to teachers' motivation.

Terms related to instrument validity (e.g., concurrent validity, construct validity, content validity, and face validity) refer to the accuracy and appropriateness of tests used to measure specific concepts in quantitative research (Gay et al., 2017). Because this study was qualitative in nature, I did not use a test to measure concepts. However, to

ensure the appropriateness of the interview protocol items for generating data useful for answering the study's RQs, I referred to the literature when developing the instrument. Additionally, feedback was obtained from my committee members, and revisions were made as needed. Finally, I piloted the interview protocol with the dean of academics at the school where I work who had previous experience using behavior management software prior to moving to her current administrative position. Testing the interview protocol provided me with insight into the clarity of the interview protocol items and an idea of how long each interview might take.

Procedures for Recruitment, Participation, and Data Collection

Upon approval of the institutional review board (IRB), I recruited teachers using my professional learning network on social media such as Facebook and LinkedIn. An infographic and google form link were made to advertise the recruitment. A brief detail of the study was included in the infographic and google form. Social media groups on Facebook were determined since this social media platform has different education groups. On LinkedIn, I used a hashtag on my personal post to direct potential participants who may be interested to participate. When users search for a keyword (e.g., PBIS), it helps to draw attention to the posts and encourage interactions. Referential hashtagging increases the visibility of posts when embedded into social media databases (Omena et al.,2020)

The infographic I created included the inclusion criteria that teachers must be teaching 6–8 grade or middle school, used or using behavior management software to manage their classroom for at least 1 full school year. A $25 Amazon gift card was given

to participants who were qualified to participate and details were included on the infographic. A Google form link was also included on the infographic. The form contains a brief introduction of the study and inclusion questionnaire. If the interested participant met the inclusion criteria based on the inclusion questionnaire, Google form directed the participant to the letter of consent. The letter of consent explained the study in detail to review. Participants may receive a digital copy of the consent form via email if requested. The consent form stated that the interview is part of a research study and explain (a) the inclusion and exclusion criteria, (b) the expectations of participation in the study, (c) the risks and benefits of participating in the study, and (d) the voluntary nature of the study. The last section of the Google form questionnaire is the option for participants to answer demographic questions such as gender, years of teaching experience, and geographic location.

Teachers who expressed interest and met the inclusion criteria were requested to contact the researcher to determine a mutually convenient time for the interview. All interviews were conducted via Zoom. Zoom platform were used to record the interview to which gave the researcher all the attention on the interview process and avoided distractions of excessive note taking. Participants turned off their camera during the recorded interview. Using Zoom as a recorder made the transcription easier by converting the audio recordings of the interview into text-based transcripts which were used to analyze interview responses. No teachers were recorded without their permission.

Because the Zoom platform allowed teachers to participate in the study from any location, I could not know in advance from where the teachers would choose to

participate. However, to help alleviate interruption during the interviews, I suggested that teachers participate from a quiet location they can secure, such as their classrooms or a room in their home. The interviews were conducted with each participant onlyonce and lasted between 30 to 45 minutes. No participant exited the study. Teachers who completed the interview were requested to review the interview transcript for member checking to confirm the accuracy of the information and provided any additional feedback. Teachers who participated received a $25 gift card from Amazon as a token of appreciation for their time.

Data Analysis Plan

This section contains discussions of the data analysis that was conducted in this study. The discussion of the data analysis plan for analyzing the interview data was presented in two parts. The first part is a discussion of options for coding qualitative data. The second part is a discussion of the coding methods that was applied in this study.

Coding is used to analyze data in almost all types of qualitative research (Richards, 2015). Although the process is often discussed in terms of reducing the data, an important outcome of the coding process is the retention of the most valuable data. There are numerous methods for coding qualitative data depending on the purpose for analyzing the data (Richards, 2015), and no one method is considered the standard (Saldaña, 2010). Additionally, because there is overlap between the various coding methods, researchers regularly employ several types of coding methods simultaneously.

Richards (2015) has suggested that the various methods of coding can be distinguished as descriptive coding, topic coding, and analytical coding. Saldaña (2010)

also uses these terms although not within a framework organized in terms of timing and categorized as first and second cycle coding. Descriptive coding is used as a first step in qualitative data analysis (Saldaña, 2010) and is used to identify characteristics and attributes of the participants being studied, such as age, gender, and occupation (Richards, 2015).

Topic coding is used to identify specific ideas that are stated by participants and captured in the data. This method can be used without full understanding of the phenomenon under study because little interpretation is required for topic coding (Richards, 2015). The process can be kept basic by restricting it to categorization of concepts (Saldaña, 2010). This type of coding according to Saldaña (2010) was referred to structural coding and distinguishes it as first cycle coding method. This content-based method is the most suitable approach in analyzing transcript data generated from multiple participants using semistructured data-collection approaches.

Analytic coding is used to describe underlying meaning inherent in the data (Richards, 2015). This type of coding requires both interpretation and reflection. Organizing the elements generated through first cycle coding methods into higher level themes, or conceptual or theoretical categories is the goal of analytic coding (Saldaña, 2010).

Data in this study was transcribed first using NVivo software and was used for first cycle coding. The transcription is fully automated, but the coding process required the researcher to remain in constant control as suggested by Zamawe (2015). The researcher remained cognizant of this fact throughout the coding process.

Topic coding and analytic coding were used for generating data to answer the study's RQs since the study was small. Prior to coding, NVivo software transcribed the audio-recorded interview data. Topic coding was conducted using NVivo software following the transcription and the researcher followed the steps outlined by Richards (2015):

- Identify topics of interest to locate in the data.
- Develop a set of categories and subcategories to represent the identified topics.
- Identify specific words and phrases appropriate to each category.
- Use automated software functions to search the text for key words and phrases.

Then, I reviewed the software output to (a) removed irrelevant input included by error such as repeated words (b) removed comments and discussions irrelevant to the topic, and (c) ensured no relevant text has been omitted from the transcripts.

Because computer software cannot reflect upon or interpret data (Richards, 2015), I conducted the analytic coding manually using a spreadsheet. Analytic coding was conducted following steps outlined by Richards (2015):

- Scan through the data and identify passages of interest.
- Consider why the passage is of interest and generate a category to express that concept.
- Code the data in the passage applicable to the category.
- Continue coding data, accordingly, adding categories as needed.

As Richards (2015) warned, I remained cognizant to maintain a high-level thinking when engaged in analytic coding and refrain from reverting to lower-level topic coding.

Discrepant Case

All data were considered during data analysis. No discrepant data were excluded unless the response does not relate to the interview questions, for example, the cost of the device they use where the software program was purchased. The cost of the software used is irrelevant to any interview protocols. Anything that is relevant even if it is the opposite of what I anticipated or what other people say was included.

Trustworthiness

How rigor in qualitative research is determined traditionally has been discussed in terms of the trustworthiness of the study, which Lincoln and Guba (1985) described in terms of credibility, dependability, confirmability, and transferability. In more current discussions, researchers such as Merriam and Tisdell (2016) have moved toward using language more familiar to quantitative research (e.g., internal validity, external validity, and reliability). However, for the purposes of this study, the traditional terms are used.

Credibility

Credibility refers to how true (Lincoln & Guba, 1985) or believable the data are perceived to be (Mertler, 2021). Considering that qualitative research is based on participants' perceptions, it is only logical for researchers to solicit feedback about the believability of the researcher's interpretation of the data from the very participants who provided the initial data (Trochim & Donnelly, 2008). The process of eliciting feedback from participants to validate and confirm (Gagnon, 2010) the accuracy of a researcher's

initial interpretation of the data is called *member checking* (Mertler, 2021). To demonstrate credibility of the findings in this study, I conducted member checking and requested any feedback from participants. All but one participant did not respond to confirm the accuracy of the transcript I sent and confirmed what Bryman (2004) pointed out on some participants' lack of willingness to review and respond to the findings or lack of agreement with the findings. In the case of this one participant, there was no response from the email sent to confirm the transcript's accuracy after 3–5 business days which was the time frame given to all participants to respond.

Credibility also may be established by ensuring saturation of the data (Merriam & Tisdell, 2016). The total sample for this study was 12 and therefore limited in my capacity to ensure saturation of the data and was identified as the limitation of my study.

Transferability

It is understood that qualitative data are not meant to be generalized from one setting to the next (Lincoln & Guba, 1985). However, various degrees of similarity may exist rendering data from one context valuable in another (Mertler, 2021). In this sense, transferability refers to the applicability of findings from one population in a specific setting to another population in a different setting (Mertler, 2021; Trochim & Donnelly, 2008). The transferability of findings from one study to another can be improved by identifying possible researcher biases (Fraenkel et al., 2012) and by thoroughly and clearly describing the study population and setting (Leedy & Ormrod, 2016; Mertler, 2021). In this study, I contributed to the potential transferability of the study findings by

clearly and thoroughly describing potential researcher biases and the study population and setting.

Dependability

Lincoln and Guba (1985) defined dependability in terms of the consistency and stability of the data across collection platforms. In this sense, dependability can be established by *triangulating* the data *(*Merriam & Tisdell, 2016). Researchers also may demonstrate dependability in their studies by maintaining transparency regarding potential biases (Merriam & Tisdell, 2016) as well as any unexpected events that occurred during the data collection process that could in some way influence the study findings (Mertler, 2021; Trochim & Donnelly, 2008). Dependability in this study was established through the triangulation of data from the interview protocol and by openly discussing the potential for researcher bias.

Confirmability

Confirmability refers to the objectivity of the research (Lincoln & Guba, 1985; Mertler, 2021). To maintain objectivity and reduce the risk that personal opinions will influence the collection of data, researchers engage in a process called reflexivity (Ravitch & Carl, 2016; see Role of the Researcher section). By maintaining reflexivity, researchers can enhance objectivity during the collection of data (Ravitch & Carl, 2016). In this study, I employed reflexive thinking to help reduce the potential for bias to be introduced to the data collection and analyses processes.

Confirmability also refers to the degree to which results can be corroborated (Ravitch & Carl, 2016) and replicated (Miles et al., 2020) by others. To increase the

potential that others can replicate one's study, researchers can provide explicit descriptions of their methods and procedures (Miles et al., 2020). To increase the potential that others can replicate my study, I have provided detailed descriptions of my methods and procedures.

Ethical Procedures

To ensure the ethical protection of research participants, this study was conducted in accordance with the guidelines provided by Walden University's IRB with ethics approval number 05-15-23-0752420. No data were collected before permission is granted by Walden University's IRB and signed consent forms were collected from the participants. The consent form indicated that participants' participation was voluntary and that they have the option to withdraw from the study at any time. Participants were informed about the audio recording of the interviews and the verbatim transcription that were made and analyzed. The consent form informed participants of the confidentiality of their responses. The consent form included the researcher's and the dissertation chair's contact information in case the participants have questions or concerns about the research. Contact information for a Walden University IRB representative was provided in case the participant requested to talk privately about their rights.

Data in this study were collected using interviews and Google form screening questionnaire, which was not collected anonymously. The Google form screening questionnaire included optional questions about the participant's demographics such as gender, years of experience, and geographic location. These demographic details were shared as part of the data collection included in Chapter 4. Data were deidentified to

protect the confidentiality of the participants. Participants were referred to by number: P1, P2, P3, and so on.

All collected data were kept secure. All paper copies of consent forms and data were kept in a locked filing cabinet, and all digital records were kept on a password protected computer with a strong fire wall at the researcher's residence in a private office. In this way, access to the data will be available only to me and my supervising committee upon request. In accordance with Walden University guidelines, all data will be destroyed after 5 years. Paper records will be shredded using a mechanical shredder, and digital files will be deleted from the computer.

Summary

A basic qualitative study design was chosen to understand implementation challenges of middle school teachers and their perceptions regarding their experience using behavior management software to encourage positive student behavior. Purposeful sampling was used to recruit participants, and data were collected using semistructured interview protocol. Data were analyzed using topic and analytic coding processes. Trustworthiness of the study findings were established, and ethical research guidelines were followed. Results of the data analysis will be presented in Chapter 4.

Chapter 4: Results

The purpose of this basic qualitative study was to explore middle school teachers' perceptions of the challenges they encounter in implementing behavior management software programs to encourage positive student behavior. To understand the implementation challenges of middle school teachers and their perceptions regarding their experience using behavior management software, the following RQs guided this study:

RQ1: What are middle school teachers' perceptions of the challenges experienced in implementing behavior management software programs to encourage positive student behavior?

RQ2: What are middle school teachers' suggestions for implementation to increase the use of behavior management software programs to encourage positive student behavior?

In Chapter 4, I discuss the study setting, data collection procedures, data analysis, results, and evidence of trustworthiness.

Setting

Participants of this study were public school teachers from across the United States teaching middle school students. I interviewed the participants about their experiences and perceptions of the challenges they encountered using behavior management applications to encourage positive student behavior. There were no known experiences that affected my interpretation of the study results. Participants responded to the social media recruitment post on Facebook education groups and answered the

Google Form survey to determine if they met the inclusion criteria. P1 and P9 mentioned that they shared the recruitment post with their colleagues who were also participants (i.e., P7, P8, and P11). Based on Google Form responses, participants shared the names of the behavior management software programs they used, their years of experience using the software, geographic location, and their perceived level of proficiency on a scale of 1–10, with 1 being *least proficient* and 10 being *most proficient.* These data are presented in Table 2.

Table 2

Participant Responses to Inclusion Questionnaire

Participant	Behavior management software	Years of use	Location in the United States	Perceived level of proficiency (1–10)
P1	ClassDojo	3	Southeast	8
P2	ClassDojo	2	Southwest	9
P3	ClassDojo	2	West	9
P4	ClassDojo	3	Midwest	8
P5	ClassDojo	3	Southeast	7
P6	Kickboard	5	Southwest	8
P7	Kickboard	2	Southwest	8
P8	Kickboard	2	Southwest	9
P9	Kickboard	3	Southeast	8
P10	Kickboard	4	Southeast	7
P11	Kickboard	4	Southeast	10
P12	Kickboard	2	Southwest	9

Data Collection

I interviewed 12 participants who met the inclusion criteria. Mutually scheduled dates and times for the interviews were set using Calendly, a scheduler platform that gave participants options of when to be interviewed. The interviews took place over the Zoom platform, and the interview sessions were audio recorded through Zoom. Interview sessions lasted between 30–45 minutes. Once the audio recordings were generated, they were transcribed using NVivo transcription software.

I followed the data collection process presented in Chapter 3; however, unusual circumstances during the recruitment process occurred because some potential participants were impostors. These participants met the inclusion criteria as indicated on the survey response they provided; however, during the interview session, the name of the behavior management software program they shared was different from what they wrote on the survey. Additionally, their knowledge and shared experience using the software that they claimed to have used were inconsistent with the actual use of the program.

Data Analysis

I transcribed and coded the audio-recorded interview sessions using NVivo. Topic coding was performed with the help of the software to generate codes and categories. During the first cycle of coding, phrases were highlighted in the transcripts and were grouped together using specific categories that included the name of behavior management software used by participants, years of user experience, and perceived level of proficiency of the software. Other categories included the benefits of use of behavior

management software, motivation, administrator support and professional development, challenges or difficulties in using the software, ease of use strategies for using the software, and suggested resources and support to increase and motivate teachers to use of the software.

There were only two behavior management software programs that were included in this study: Class Dojo and Kickboard. Five participants used Class Dojo and seven used Kickboard. The average years of user experience with the software programs was 3 years, and the average perceived level of proficiency with the software was 8 on a 1–10 scale with 10 being the highest level of perceived proficiency and 1 being the lowest perceived level of proficiency.

Benefits of Behavior Management Software

Most participants mentioned that they used these behavior management programs to track student behavior both positive and negative. Several participants emphasized that they only use the software to track positive behaviors and be a motivator for students. P5 and P2 mentioned that they use Class Dojo mainly for parental involvement and communication. The software was generally useful as a parent monitoring tool (P1); to measure students' progress in behavior (P2); and to encourage students to engage in class, encourage positive behavior and get their attention (P3, P4, and P5). P6 and P7 mentioned that Kickboard is beneficial because the positive behavior referral issued to students become rewards or points when they demonstrated expected schoolwide behavior. Both Class Dojo and Kickboard were also beneficial because students'

behavior data can be shared with families (P5 and P9), which has the effect of encouraging students to demonstrate positive behavior.

P10 mentioned that using Kickboard was beneficial because

> It is something that gives value to the things that we ask them to do. Students feel there's a value to the positive points they earn because they get rewards based on the number of points, it becomes like their currency.

According to P11, Kickboard is beneficial because many students respond well to the positive points they earn but teachers need to be consistent in awarding positive points.. P12, however, expressed that the use of the programs was only selective based on the grade level that they taught and mentioned "I'd say overall that Kickboard is pretty useful for sixth and seventh graders but not so much with the eighth graders."

Motivation of Using Behavior Management Programs

Participants expressed that their primary motivation in using these behavior management programs was seeing students change their behavior and feel encouraged to demonstrated expected behavior when awarded positive points. P8 mentioned, "When I give my students positive points, seeing their change in their behavior positively makes me eager to use Kickboard." Similar thoughts were expressed by P9 about seeing positive change on students' behavior. P6 mentioned that it is motivating to witness students feeling successful when receiving a reward and trying hard to earn positive behavior points and most especially seeing students building their intrinsic motivation from earning rewards. Rewarding students is also another reason to be motivated in using

Kickboard and making these earned positive behavior points as student currency (P6, P9, P10, and P12).

Administrator Support and Professional Development

According to all participants, their administrators support provided limited support to the use of behavior management software programs. The extent of support included suggesting a technology app to implement in the classroom (P1), purchasing the software for their school (P3), providing a short training or referred teachers to an expert user (P2, P6, P8, and P12), sharing of teacher data reports of which teachers use the program (P7), and providing training on PBIS and form a teacher committee responsible for getting feedback from teachers about their use of the program (P9 and P11). P4, P5, and P12 did not elaborate the extent of their administrators support on their use the software but mentioned that their administrators supported and encouraged them. P10 shared that administrators did not provide a lot of training for their teachers, and therefore, only provided the software as a tool to manage their classroom.

In terms of professional development, all participants reported there were no formal professional development provided for them by the school (P1, P3, P4, P10, and P12). The extent of their training was provided through a colleague (P5 and P8), from video tutorials (P2), through a staff meeting (P6, and P7), or from a liaison in charge of showing how the software works and through district professional development aligned with Kickboard (P9 and P11).

Challenges and Difficulties Using Behavior Management Software

The challenges and difficulties that participants shared varied from connectivity issues (P3 and P4) and consistency in using the software (P2, P11, and P12) to parents and student buy-in (P1, P7, P5, P8, and P10). P6 and P9 mentioned that their biggest difficulty was forgetting to recognize students and giving them immediate feedback. P11 also stated, "It is a missed opportunity when a positive reinforcement was not awarded just because as a teacher you are struggling to find positives in a class that all you see is negative." P7 expressed that when parents and students lack the buy-in to the system, it loses the value of the points system, especially during the second half of the school year. P10 added that awarding Kickboard points "loses its steam" towards the end of the school year, which becomes a challenge for teachers to encourage positive behavior for the later part of the year.

Another set of difficulties participants reported facing is the competing demands in their classroom in terms of managing instructional activities and their students while they use the behavior management software. Time is the most challenging in awarding positive behavior referrals when instructional activities are happening in the classroom. Participants shared that supervision is hectic when monitoring student behavior (P2), and it is time consuming to record students' names down and then recording them to the app (P1, P6, and P10). According to P8, when there are a lot of activities in class, positive behavior points are not awarded right away. Similarly, P11 said,

> During a lab, it is hard to give positive reinforcement and at the same time few negative behaviors and it takes a longer time for me to input those behaviors when there are a lot going on and it is not very efficient for me.

P3, P4, P5, and P7 did not encounter challenges when using the behavior management software while managing their instructional activities in the classroom.

Ease of Use

Both Class Dojo and Kickboard were easy to use according to all participants. Both programs can be used on a mobile device (P4 and P9), but some participants preferred to use the programs on their desktop computer (P10 and P11). Positive referral points are easy to issue on Kickboard, and participants could issue multiple positive behavior points to multiple students at once automatically (P6, P7, and P8). Training and help from colleagues were not necessary for the participants to learn how to use both software due to their intuitive features (P1, P8, and P12).

Suggested Strategies and Support to Increase and Motivate the Use of Behavior Management Software

Participants shared some strategies in implementing the behavior management software, and the most common suggestion was the use of a notepad or whiteboard to note students' names and the positive behavior they demonstrated (P1, P6, P9, P11, and P12). P2 and P4 focused on giving students clear expectations and behavior goals to receive Class Dojo points. P4 stated that "A clear understanding of your students will help in accurately recording data." P3 shared that when teachers lead by example in their classroom, students will behave accordingly. According to P7, the reasons why a student

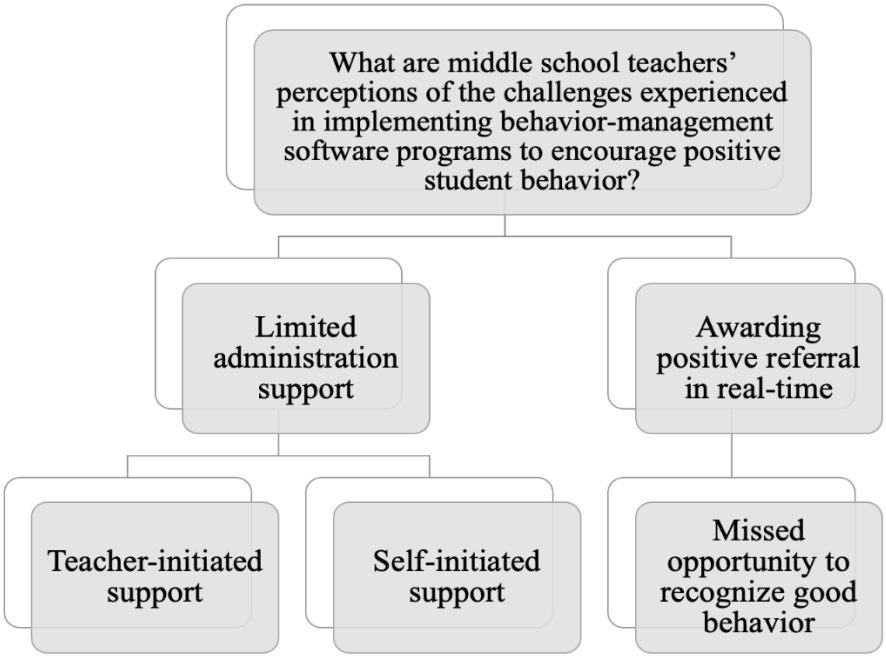
received a positive behavior referral will also be impactful. P10 recommended that holding a weekly grade-level meeting with assistant principals and sharing Kickboard data for the week and analyzing the highest and lowest earners could be a good strategy when implementing Kickboard. P5 emphasized the importance of sharing the Class Dojo data of student with their parents.

In terms of suggestions and supports to increase and motivate teachers into using behavior management software, P2, P5, and P7 stated that colleague support and the sharing of experiences and best practices could help increase the use of the software. P8 and P12 suggested that administrators share the data with teachers, and P10 also recommended that a weekly grade-level meeting with assistant principals at their school gives teachers a chance to look at high and low earners of positive points and come up with an action plan.

The themes generated from RQ1, shown in Figure 1, included teachers' difficulties or challenges related to awarding positive behavior referrals in real time. Another theme that emerged was limited administrator support. Participants mentioned that the most common challenge or difficulty of using behavior management software to be the limited time using the program simultaneously with classroom management. Most participants stated that issuing positive referrals to the software in real time is a challenge and a missed opportunity for recognizing good behavior, especially if there are a lot of activities going on in the classroom.

Figure 1

Research Question 1 With Themes From In Vivo Coding



Another theme that emerged that relates to the interview questions aligned with RQ1 was the benefits of using behavior management programs in the classroom based on participants' experience. All participants mentioned that the use of behavior management programs has had a positive influence on both teachers and students. Teachers were less stressed when students' behavior was monitored (P1 and P4). P3, P6, and P9 reported that the behavior management software used in their classroom encourages good behavior and helps give students the reason to move in the right direction. The messaging features of ClassDojo were also a preferred way for parents and teachers to communicate and relay what is exactly happening with their students (P2, P3, and P5).

Ease of use was also another theme that emerged and was related to the intuitive nature of the software. Several participants mentioned that the behavior management apps they use were easy to navigate and did not require extensive training. The option to use the app on a desktop and smartphone led to mixed responses from the participants, especially when using Kickboard app. One P11 mentioned that, "The phone app is a little bit harder to use." However, P7 used Kickboard frequently on a mobile device to award positive points right away.

The themes generated from RQ 2, shown in Figure 2, indicated that teachers did not receive appropriate professional development on the use of the software. This might be because of the intuitive nature of the program that one can learn to use the basic feature of the software right away. The participants' trainings were informal, and they learned about the software through other colleagues who had more experience using the behavior management app. Most participants taught themselves to navigate the software. One motivating factor that kept some teachers continuing to use the behavior management app to encourage positive behavior was the support from their colleagues. When parents bought in to the use of the app to track student behavior and as means for school-parent connection, it motivated P2 and P7 to continue to use the app.

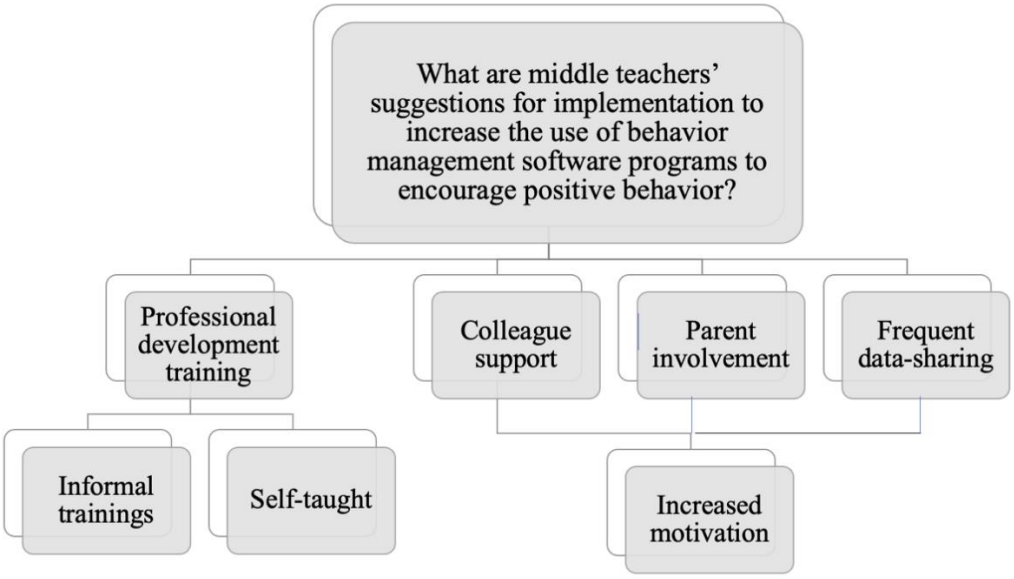
Another theme that emerged addressing RQ 2 on teachers' suggestions on recommended support to increase the use of behavior management software include colleague support. Teachers forming a committee and meeting together to discuss best practices, their interactions with their students on a weekly basis, and overall support with the use of the software were emergent among several participants when asked to

suggest support that would help increase the use of behavior management programs. Another theme that addressed RQ 2 relates to parent involvement and engagement with the data about their students in terms of their behavior. Two participants mentioned the usefulness of ClassDojo to communicate with parents and involve them within the app to view their student's behavior shown in class. P7 and P8 also mentioned that when parents are involved and informed about their students' behavior, it helps in encouraging and improving student behavior.

Lastly, reviewing and sharing data frequently from the behavior management software would provide teachers information to see how they interacted with their students whether positive or negative behavior referrals. Teachers gathering data of the types of interactions with students recorded on the app was suggested to increase teachers' use of the behavior management software to encourage positive student behavior.

Figure 2

Research Question 2 With Themes From In Vivo Coding



Discrepant Cases

Two discrepant cases on participant response that is contrary to the anticipated response was that the use of behavior management software did not pose any difficulties according to P3 and P7. These discrepant cases might be because of their perceived level of proficiency of both participants and their interpretation of the challenges they experience using the software to be on the technical aspect of the programs.

Results

The RQs were designed to explore middle school teachers' experiences of the challenges they encounter in using behavior management software in encouraging positive student behavior. Further, these questions were developed with an inquiry on potential difficulties implementing the software to manage student behavior in the

classroom and to solicit recommendations to increase the use of behavior management programs in encouraging positive student behavior.

RQ 1

Based on participant responses regarding the difficulties encountered when using behavior management software, there were limited administrator support and professional development. One participant mentioned "We don't get administrator support but instead, we formed a teacher [PBIS] committee in charge of managing and giving directions to other teachers using Kickboard at our school" (P11). Another participant mentioned that administrator support only involved encouragement to use behavior management software if desired by teachers and teachers picked ClassDojo to implement in their classroom but not used schoolwide (P1). Administrators at the school site of Participant 8 were only supportive to an extent of providing login support, and student roster export to the behavior management software.

Some participants found it difficult to consistently award positive behavior referrals due to time constraints. P11 mentioned "When there are a lot of things going on in class since I am science teacher, at times I tell myself to forget about using Kickboard today." P8, who is a science teacher forgets to issue positive referrals on the days when his attention was towards monitoring and interacting with students during class activities or labs. When the time is not enough to give student immediate feedback of doing something right, it takes too much time to go through the behavior categories and match the behavior that recognized a student recorded on the software (P9). It is a missed opportunity when students' good behavior is not recognized at that moment (Participant

10). These difficulties of recognizing positive behaviors through the behavior management software participants use confirms Ford et. al.'s (2022) findings that teachers found it difficult to balance lesson delivery and addressing positive behavior or concerns while using the behavior management software Good Behavior Game intervention with ClassDojo.

RQ 2

Teacher motivation is influenced by the professional development and training that they received. When school management provides resources essential to teachers' instruction, teachers are motivated (Gyimah, 2020). While the theme that emerged related to challenges teachers encounter as they use these behavior management software programs as limited professional development, it did not directly affect teachers' motivation to use the software. This may be attributed to the fact that these behavior management apps are easy to use. Participants' motivation to use the software stems from one's perceptions of the technology's usefulness and ease of use as explained by Davis (1989). This theory explained why participants took the initiative to learn how to navigate and use the behavior management software as part of their classroom management. Moreover, while participants encountered difficulties in recording behavior referrals on the app, the complexity of the task in recording on how it is used helped participants to carry on the task due to its perceived usefulness (Venkatesh & Davis, 2000). This also confirms Ajzen's (1985) and Venkatesh & Davis's (2000) theory that one's belief in their perceived ease of use and perceived usefulness determines one's intentions to use technology.

Another suggestion for increasing the implementation of behavior management software was the presence of colleague support. P6, P7, and P8 mentioned similar responses. Teachers motivate each other to increase the use of the software from best practices and when used schoolwide. Having a team to discuss how the app would be used among teachers and administrators will provide insights on how teachers interact with their students through the app. Having an atmosphere of collegiality among coworkers contributed to increased motivation to and engagement with their work depending on the support available in their work environment (Orina et al., 2022; Zhang et al., 2022). Parental involvement was also another recommendation by participants that also increase their motivation to use the software. Parents who are aware of the behavior of their students through the software are a good way for students to be recognized at home (P1 and P7).

Lastly, reviewing and sharing data frequently (P8) from the behavior management software would be a good way to see how teachers utilize the software (P11) and examine their reasons of use (P9). By examining teachers' activity of issuing positive and negative referrals to students may increase their use of the behavior management software to encourage positive student behavior.

Evidence of Trustworthiness

Before the interview session, I communicated with participants through email confirming their interest and having met the inclusion criteria to participate in the study. Providing them with prior information about the logistics and scheduling the interview session was imperative for collecting trustworthy data during the research process. To

maintain accuracy and consistency while gathering data from participants, interview protocols were consistently reviewed. It is important to evaluate credibility, transferability, dependability, confirmability, and reliability to ensure maintained accuracy in reporting and synthesizing themes from collected data.

Sending transcripts to participants as soon as possible establishes trustworthiness. Participants' verification of their responses improves validity of their responses and strengthens trustworthiness of data collected. Several strategies were implemented during the study to establish that the research is credible, transferable, dependable, and confirmable (i.e., can be tested or verified by future studies).

Credibility

I established credibility by conducting transcript reviews. Prior to this, I downloaded audio recording from my Zoom account and saved this file and uploaded it to NVivo for transcription. This transcription process will automatically convert audio to text form. Transcription usually takes 30 minutes for every audio recording processed. Once it is transcribed, I had the option to review the accounts and rename the speaker name to researcher and participants name. After I review the transcript and listened to the recording for corrections, I downloaded the transcription to a document set to be sent but prior to sending the raw transcript to the participant for member checking, I highlighted the interview questions on the transcript in yellow and participant response for that question in green. This strategy helped the participants to easily review their responses to corresponding questions I asked to verify the accuracy of the transcript.

Another way I established credibility is by having my doctoral committee to review my first interview transcript prior to continuing my data collection process, to give me feedback on how I can gather well defined data based on the interview questions I asked. I have shared my transcript files and coding results with my committee for transparency. The steps I took from sharing transcripts and coding results with my committee, and having participants review their responses for verification, demonstrated that I have established credibility during this study.

Transferability

It was presented in Chapter 3 that I clearly described potential research biases, the study population and setting to establish transferability. Choosing middle school teachers using behavior management software from public schools across the United States established the transferability of this study. There were no adjustments made to what was indicated in Chapter 3.

Dependability

During data collection from the Google Form survey, I performed triangulation of data comparing participant responses from the form with their interview responses. For example, on the survey, I asked about the behavior management software participants used. During the interview session, I asked the same question at the beginning of the interview. Another collected data triangulated is confirming whether participants encounter challenges with the app they use to encourage positive behavior. Their response from the interview session confirmed the presence and absence of the challenges they encounter using the behavior management app as indicated in their

response on the survey. I reflected on my influence and bias during data collection by being transparent with the participants and verifying the accuracy of their responses through clarification questions and gave them opportunity to annotate on the transcript for questions or clarification sent to them. Using triangulation of data, audit, reflecting on researcher bias, and transparency, this research established dependability.

Confirmability

Throughout the data collection process, I have practiced examining my judgement. One instance I employed reflexive thinking was when I was interviewing participants using the same behavior management software that I am familiar with and have used in the past. I only asked the questions on my interview protocols and only confirmed their responses by repeating their answers but not put extra information other than what they mentioned. While I am familiar with the behavior management applications that participants used, I employed reflexive thinking to maintain objectivity of my research.

Summary

In this chapter I presented the data I collected through a semi structured interview and analyzed participant responses to explore middle school teachers' perceptions of the challenges they encounter in implementing behavior management software to encourage positive behavior. I conducted a basic qualitative study and answered two RQs.

Participants experienced challenges of awarding positive recognition to their students in real time and having issues with consistency due to time constraints while providing instruction and interacting with their students. Participants also mentioned

limited administration support and lack of formal professional development to participants. However, limited support through professional development could be attributed to the ease of use of the software.

Regarding recommendations to increase the implementation of behavior management programs, participants considered colleague support, parent support, and frequent data sharing of their interactions with students recorded in the software will help increase their use and motivation to encourage positive behavior.

The next chapter provides detailed information and description of the findings and recommendations based on gathered insights, perceptions, and views that relate to using behavior management programs. Last, I present potential implications of the study.

Chapter 5: Discussion, Conclusions, and Recommendations

The purpose of this basic qualitative study was to explore middle school teachers' perceptions of the challenges they encounter in using behavior management software programs to encourage positive student behavior. The conceptual framework that grounded this study was based on motivation as conceptualized in the self-determination theory (Bandura, 2012; Deci & Ryan, 1985) and TAM by Davis (1989). These theories related to the current study findings because it was evident that participants' motivation to continue using the behavior management software programs in their classroom stemmed from the programs' ease of use and how easy they were to learn. Furthermore, in an updated version of the TAM, called the TAM2, Venkatesh and Davis (2000) confirmed that the complexity of the technology will determine the user's decision to perform a task, such as the use of behavior management programs in the current study because of its ease of use to overcome potential challenges. I grounded this in Deci and Ryan's (1985) self-determination theory because participants' pursuit to a meaningful outcome of encouraging positive student behavior intrinsically motivated them to continue using the software even though they experienced challenges.

The following two RQs guided this study:

RQ1: What are middle school teachers' perceptions of the challenges experienced using behavior management software programs to encourage positive student behavior? RQ2: What are middle school teachers' suggestions for implementation to increase the use of behavior management software programs to encourage positive student behavior?

Themes generated from the data aligned with the literature presented in Chapter 2. The current study findings indicate that challenges experienced by middle school teachers stem from limited administrative support, limited professional development, time constraints, and lack of buy-in from stakeholders. The results also showed how middle school teachers pivoted and found ways to get support to increase the use of the software and encourage positive student behavior.

Interpretation of the Findings

Behavior Management Software Programs

Fewer (42%) participants use ClassDojo to encourage positive behavior when compared to participants (58%) who use Kickboard for that purpose. All participants use these programs to encourage positive behavior. Participants verified how these software help in modifying or changing student behavior and recognizing students doing the right thing. ClassDojo users emphasized the parent messaging features of this software that makes parent communication easier as well as its ease of use and accessibility, which is confirmed in Bahceci's (2019) research. Users of Kickboard shared how the software encourages positive student behavior, especially when students can exchange their positive points for rewards. Participants using Kickboard employ positive behavior referrals as currency for students to motivate them to demonstrate positive behavior. Promoting positive behavior using Kickboard improved the learning environment, which helps teachers to focus more on instruction than dealing with behavior issues (Barrett & Harris, 2018).

Participants using behavior management software programs described how their students' positive behavior influences how they interact in the classroom, such as willingness to help, to participate, and to stay on task. Implementing behavior management software programs was found to benefit students in terms of student engagement (Gage, Scott et al., 2018; Zoromski et al., 2021), on task behavior (Zoromski et al., 2021), and reducing disruptions in the classroom (Bruhn et al., 2016; Chaffee et al., 2020; Holcomb et al., 2020; McHugh Dillon et al., 2019; Riden et al., 2021).

Administration Support

The results of the current study confirm that leadership styles of supervisors can influence teachers' motivation (see Ertem, 2021). While participants of the current study mentioned limited support from their supervisors as an emergent theme, this lack of support did not affect their decision to use the behavior management software. While limited administrator support may be viewed as a challenge, teachers were still encouraged and empowered with the behavior management software program provided by their administration. Teachers having autonomy over their work, such as implementing behavior management software in their classroom, clearly had a positive influence on teachers' motivation, aligning with Ertem's (2021) findings.

Professional Development and Workplace Environment

Limited to no professional development on the use of behavior management software influenced participants' motivation, which was confirmed by Gyimah's (2020) research. However, even with limited training, participants reported receiving support from their colleagues and being more autonomously motivated. When support is

available in a work environment, it influences teachers' motivation and teachers are more willing to perform at their full potential (Zhang et al., 2022).

Ease of Use

Participants of the current study reported their perceived level of proficiency on the use of the behavior management software is at 7 or above on a 10-point scale. Participants also mentioned that the software is very useful in their classroom management. These findings could be attributed to the ease of use of the programs, which aligns the perceived usefulness and ease of use concepts as explained by Davis's (1989) TAM. Furthermore, the decision of whether to use a technology is based on the complexity of the technology, with the complexity of a technology's use regulating an individual's decision to perform or not perform a behavior (Venkatesh & Davis, 2000). Therefore, it was clear that the ease of use of the behavior management software used by all participants affected their decision to use the software in their classroom, which is explained by the average perceived proficiency of the software to be at 8.

Motivation of Use

Participants expressed that their primary motivation in using behavior management software was the improvement of student behavior over time. Rewarding students for demonstrating positive behavior gives teachers pleasure and enjoyment because of the meaningful outcomes of using the software. Therefore, according to Deci and Ryan (1985), participants' motivation can be identified as autonomous motivation. Continued use of behavior management software despite challenges did not affect teachers' motivation to use these programs because they had internalized the purpose and

intentions of using behavior management software programs without expecting anything in return. Witnessing the positive impact of issuing positive behavior referrals to their students and witnessing their students develop the intrinsic motivation to demonstrate expected behavior gave participants reasons to continue using the software despite competing demands in the classroom.

Limitations of the Study

I considered the inclusion criteria for participants a limitation for this study because the study was limited to only middle school teachers at public schools across the United States. As mentioned in Chapter 1, another limitation of this study was researcher bias. I had prior experience with both behavior management programs that participants used and made sure that any response from participants was interpreted as it was given. I reflected on some of my biases, especially on the use of Kickboard, while I was interviewing participants using this software and avoided asking leading questions since I am more knowledgeable about this software and only asked the questions listed on the interview protocol. The only time I asked probing questions is when I needed to clarify a participant's response.

I considered the participants to be highly familiar with using the software, and it is unfortunate that potential participants who have less experience with the software were not interested in participating in the study during the time of recruitment. This limitation was considered a bias in the sample because participants were considered comfortable users of the behavior management software. Lastly, this study is not generalizable to

other schools because it only included 12 participants and was limited to two behavior management software programs: ClassDojo and Kickboard.

Recommendations

The gap in the literature regarding the use of behavior management software used by teachers to manage student behavior issues and encourage positive behavior was evident because participants in the current study encountered challenges and difficulties in implementing the programs and other competing demands in the classroom, which aligned with Collier et al.'s (2019) findings. Time and consistency on the use of behavior management software programs was the one of the emerging themes that addressed RQ1. Participants' biggest challenge was the time it takes to issue positive behavior referrals to students who are demonstrating positive behavior. Class Dojo and Kickboard can be time consuming, resulting in either recording the positive behavior referral later or postponing the use of the software altogether because teachers are facilitating instructional activities and interacting with students at the same time. As a result, the consistency or fidelity of using the software on a regular basis becomes another challenge. I recommend that future research be conducted to determine the effects of using behavior management software with fidelity to improve positive student behavior. Future research is also recommended to analyze teachers' usage and types of recorded behavior referrals on the app to determine how implementation fidelity improves student behavior. It would also be beneficial to look for patterns among the types of interactions that teachers record on the behavior management software and analyze behavior trends.

In terms of the issuance of real-time recording of positive behavior referral, the use of a mobile device would give a teacher more immediate access to the behavior management application because both Kickboard and ClassDojo have apps for IOS and Android smartphones. While some teachers mentioned the difficulty of using the app on their phone, I suggest that future research be conducted to explore how the use of mobile device apps could potentially increase implementation fidelity of behavior management applications to encourage positive student behavior. It is also recommended that future studies explore how receiving formal professional development beyond the technical use of the behavior management software program improves consistency in the recording of positive behavior referrals.

Since the software's ease of use is well established, the purposeful use of the software could impact student behavior positively and has the potential for contributing to improved school culture, which shapes students' learning (see Huang et al.,2020). Therefore, it is worth investigating the effects of awarding positive behavior referrals on students' motivation. It is also worth investigating the relationship of positive behavior referrals to the number of suspensions in schools using behavior management software programs.

Implications

The implications of the study's findings on positive social change include improved student behavior and academic achievement, increased student engagement, and reduced disciplinary actions if teachers are more consistent in using behavior management software programs to encourage positive student behavior in schools. Using

behavior management software programs incorporates socioemotional learning and the value of positive student behavior, which improves academic achievement (Brokamp et al., 2019), student performance (Bayar and Karaduman, 2021), and affective states in terms of prosocial behavior (A. Miles et al., 2022).

Conclusion

In this study, I explored the perceptions of middle school teachers' challenges using behavior management software programs to encourage positive student behavior. Deci and Ryan's (1985) theory of self-determination were combined with the TAM by Davis (1989) and Venkatesh and Davis's (2000) TAM2 to ground this study. An individual's motivation to participate in an activity based on the motivation of rewards was evident among 12 middle school teachers using behavior management software programs to encourage positive student behavior. The ease of use and usefulness of these programs were the reasons why teachers decided to continue using the technology despite the challenges of time and limited support from their administrators. These challenges did not discourage teachers from using the software because the benefits outweigh the setback of time constraints in awarding positive behavior referrals. Teachers' willingness and continued use of the software was derived from their pursuit of a meaningful outcomes from using the app, demonstrating their intrinsic motivation as explained by Deci and Ryan's self-determination theory.

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Appendix: Interview Protocol

Introductory script:

Based on your responses to the screening questions on the Google form you previously answered, you qualify to participate on this study. Thank you so much for being willing to participate in an interview for my doctoral research.

As I have mentioned, the purpose of my study is to explore middle school teachers' perceptions of the challenges they encounter in implementing software behavior management programs to encourage positive student behavior. In our interview today, I will be asking you about your experiences/perceptions/beliefs about the challenges you encounter when implementing behavior management software. I wanted you to know that I have a specific definition of behavior management strategies or programs, which is a plan or approach for managing or changing student behavior in schools. Behavior management strategies or programs may be school-wide, classroom-based, or individualized. As you answer my questions today, please keep this definition in mind.

I will be audio recording our interview today using Zoom so that I may make a transcript, so that I can be sure to have an accurate record of what you share with me today.

Before we get started do you have any questions?

[START RECORDING]

Background/Introductory Questions

At the time you consented to participate in this study, you also answered some screening, demographic and introductory questions. I'd like to spend a few minutes having you expand on these a bit more.

- *What behavior management software/app do you use to encourage positive behavior in your classroom?*
- *Are you using this software schoolwide or a few at your school uses the software?*
- *How long have you used this behavior management software in your classroom?*
- *One a scale of 1-10, to being the highest, how do you rate your level of proficiency on the use of this behavior management software?*

Table of Interview Questions: Add/remove rows as necessary.

Transition Statement: *My first group of questions relate to some potential challenges or difficulties you encounter when implementing behavior management software in managing your classroom. (Share any definitions participant may need to best understand what you're getting at.)*

RQ	Interview Questions (IQs)	My Notes
What are middle school teachers' perceptions of the challenges experienced in implementing software behavior management programs to encourage positive student behavior?	IQ 1a: Please share your experience with behavior management software that you use in your classroom.	
	Prompt: If this software is used schoolwide, do your administrators provide any support?	
	IQ 1b: How useful is the behavior management software in encouraging positive behavior?	
	IQ2: How about the ease of use? Can you share how you use the software in terms of navigating it?	
	Prompt: What motivates you to use this software to manage your classroom?	
	IQ 3: Share an example of a time when you used software but did not achieve the outcome of encouraging positive behavior.	
	Prompts: Have you recorded more positive or negative referrals to the software?	
	IQ 4: What are some of the difficulties in managing your students using software?	
	Prompts:	
	IQ 5: What are some challenges of implementing the software that may interfere with your planned instructional activities and student management or interaction in the classroom?	

Transition Statement: *Now that you've shared about some challenges or difficulties you encountered, I like now to move to questions related more to some ideas, suggestions, or*

recommendations you would like to share to improve the implementation of the behavior management software that you use.

RQ	Interview Questions	My Notes
What are middle school teachers' suggestions for implementation to increase the use of behavior management software programs to encourage positive student behavior?	IQ 6: Share some strategies you employ to effectively use the software?	
	Prompts:	
	IQ 7: Please describe any specific professional development you received for implementing the software.	
	Prompts:	
	IQ 8: What resources or support would you recommend that would increase the use of the software to encourage positive student behavior?	
	Prompts:	
	IQ 9: To what degree is the program useful to you? In what ways is it useful or not useful to you?	
	Prompts: What suggestions would you recommend motivating teachers to increase the use of the software to encourage positive student behavior?	

Share any other information regarding challenges or suggestions for improvement on the use of the behavior management software that we have not discussed.

Do you have any questions or comments for me?

Closing Script: *Thank you so much for your time today. I really do appreciate you sharing your thoughts with me.*

Next Steps Script:
After our interview, the transcript of our interview session will be sent to you via email. Please review the transcript including your responses to the interview questions. If you have some questions or need clarifications about your responses, or additional information about the interview, let me know by annotating on the transcript notes section. After reviewing the transcript, please reply to my email within 5 days of receipt and send back any notes you might have and acknowledge that all transcript accounts are accurate and correct.

Gift Incentive Script:
Upon receipt of your reply to the email containing the interview transcript, I will send you a digital $25 Amazon Gift Card.

Results of the Study Script:

At the conclusion of this research, I will contact you again to communicate the results of the study.