

2019

Effect of the Breakthrough Student Assistance Program on Grades, Behavior, and Attendance

Regina Shoppe
Walden University

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Walden University

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Regina L. Shoppe

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Walden University
2019

Abstract

Effect of the Breakthrough Student Assistance Program on Grades, Behavior, and
Attendance

by

Regina L. Shoppe

MA, Azusa Pacific University, 2004

BA, University of California, Irvine 2001

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Psychology

Walden University

May 2019

Abstract

It is estimated that 9-14% of children from birth to age 5 experience social and emotional problems that may significantly affect their ability to learn later in life and students of any age may experience an array of problems resulting in difficulty learning. Although interventions are available to address these issues within the school context, government funding for programs is often limited to those that are evidence based. Student Assistance Programs (SAPs) address a variety of barriers to learning but many are not supported by empirical evidence. The purpose of the study was to determine if Breakthrough, a specific SAP, had a significant effect on the dependent variables of grade point average, attendance, and behavioral referrals among $N = 727$ public school students in Grades 9-12. The independent variables were completion or noncompletion of the program, time, and grade level. This quantitative study used a systems perspective, nonequivalent control group design. The statistical analyses performed were a mixed ANOVA and a generalized estimating equation. The interaction of treatment, time, and grade level were found to be significant on attendance, and the interaction between treatment and time on was found to be significant for attendance. The main effect of time was found to be significant on grade point average, attendance, and behavioral referrals. The main effect of treatment was found to be significant on number of behavioral referrals. Increasing the types of supports for school-aged students may bring positive social change by allowing for higher academic achievement and by intervening with issues that may follow students into adulthood such as mental illness and substance abuse.

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Dedication

For all my family, friends, and loved ones who encouraged me to keep going.

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Chapter 1: Introduction to the Study

Background

The mounting stress put on educators to produce results has encouraged the need to examine more of the variables associated with academic success or failure aside from the mainstays of public education such as curriculum and teaching. A better overall scenario may include investigating what factors contribute to a student's ability to succeed or fail beyond the classroom and increasing effective interventions for dealing with these factors. This task does not come easily, however, in the current public educational system. Over the past decade many employees have become accustomed to the expectation that they must sustain or expand their performance with fewer resources (Johnson, Shannon, & Richman 2008). Likewise, with little room to deviate from improving standardized test scores, individuals working in the educational system have become familiar with increased performance expectations while receiving less financial support and resources. Nonacademic issues that impede learning, such as poverty and mental illness, are often further down on a list of priorities that go unmet while educators work to increase test scores. The following paragraph illustrates the stringent focus on academic performance and some of the funding scenarios in which schools have found themselves.

In the past decade acts such as No Child Left Behind (NCLB) raised the standards of educational performance every year, while at the same time the downturn in the economy deeply cut funds for education (Jones, Mundy, & Perez, 2014). Between 2006 and 2013 the U.S. Department of Education's appropriations for Major Education

Departments ranged from a low of \$35,359,335 to a high of \$39,762,172 for elementary and secondary education (U.S. Department of Education, 2014). Despite the expected increase in performance, schools were not given more funding to reach lofty goals. The lowest funded year during this time was 2013, and the highest, 2006. The overall appropriation has been reduced each year since 2010 (U.S. Department of Education, 2014). Across the U.S. the state average spent per year per pupil had only increased 17 dollars between fiscal years 2008 and 2012 (National Center for Education Statistics, 2011; U.S. Census Bureau, 2014). Despite the improved outlook for the economy more recently, the Center on Budget and Policy Priorities (2014) reported that for the 2014-2015 school year more than 30 states provided less per student funding, adjusted for inflation, than they did previous to the recession.

Although NCLB had practical merit, such as requiring that schools employ highly qualified teachers and use evidence-based programs, it had been largely criticized for setting unattainable achievement standards such as requiring that 100% of students became proficient in math and language arts by 2014 (U.S. Department of Education, 2001). Schools not on track to meet this goal ran the risk of becoming strictly regulated and even possibly administrated by their state if adequate yearly progress was not made. In California, for example, schools needed meet two goals in order to be compliant with NCLB. During the 2011-2012 school year, unified California school districts were required to increase proficiency in math from 78% of students to 89% of students to meet Adequate Yearly Progress (AYP) and reach a goal of an increase in one point in the

state's Academic Performance Index (API) if the previous score was below 800 to meet NCLB standards (California Department of Education, 2013).

While one point in API growth sounds attainable, AYP is much more difficult as it considers the amount of growth in each significant subgroup, not just the growth of the entire population of students who tested (California Department of Education, 2013). Significant subgroups, in this case, included students with severe cognitive disabilities who could not be expected to make these gains. Although this was not a realistic endeavor in some cases, there was still expectation and pressure to reach this goal, and schools were required to continue this as central focus. The Every Student Succeeds Act was signed in late 2015 to replace NCLB increasing flexibility among states about assessment and accountability while lessening regulations and unrealistic expectations. Some states, however, were still required to follow certain funding tenants of NCLB until the 2017-2018 school year (U.S. Department of Education, 2016).

Both the decline in educational funding and the emphasis on rapid academic proficiency during this time may have contributed to a lack of implementation of student interventions that mitigate non-academic barriers to learning. This chapter will discuss several of the nonacademic problems experienced by some public school students and the impact they have on academic success. It will also introduce one possible intervention, Breakthrough, a Student Assistance Program specifically designed to address nonacademic issues, along with discussing the purpose of the current study. The remainder of the chapter will discuss why an increase in empirical research on student interventions is necessary to provide support for public school students.

Assuming students are not always able to shift their focus from personal problems to academics; potential nonacademic problems related to overall wellbeing should be included as important contributors to educational outcomes. While it is not practical to mention all the of variables related to educational achievement, it should be mentioned that a broad range of factors, including but not limited to socioeconomic status (SES) and examination of the actual physical educational environment have been the focus of previous research related to student learning (Myrberg & Rosén, 2009; Patrick, Kaplan, & Ryan, 2011). Although nonacademic issues have been studied with regard to educational outcomes (Davis-Kean, 2005; McLeod, Uemura, & Rohrman, 2012), research regarding school-based interventions that correspond to issues such as mental health is more limited. It is one thing to define how these variables affect students' education, and another to determine how to mitigate their impact.

It is estimated that 9-14% of children from birth to age 5 experience social and emotional problems that may significantly affect their ability to learn later in life (Cooper, Masi, & Vick, 2009), and students of any age may experience an array of problems resulting in difficulty learning. Students living in poverty may not have access to basic necessities such as food or housing, some students have little to no parental support at home, and some may choose substance abuse as a coping method for any of these problems. These same students are expected to complete homework assignments, study for exams, and keep up with the educational pace at the same rate as their peers not experiencing hardship.

For school personnel, assisting students with these issues may be overwhelming. Along with their regular job duties, teachers and school staff often find themselves taking on the role of counselor, psychologist, family mediator, and even caretaker. There simply is not enough time in each day or enough resources to address every need of every student. Even when a problem can be identified, such as poor student homework quality due to a disturbance at home, the plan of action for helping that student can be more difficult to determine. Still many educators are aware of the nonacademic issues that are preventing students from progressing, and that they must find a way to do more for them with less time and resources than are necessary. Reinke, Stormont, Herman, Puri, and Goel (2011) relayed that 75% of teachers surveyed reported working with or referring students with mental health issues over the past year and ranked significant family stressors and depression as third and fifth respectively, on a top five list of mental health concerns they had for students. While 89% of these teachers expressed that the school should be involved in addressing these concerns, only 34% felt that they had the skills necessary to do this (Reinke et al., 2011). In addition, teacher surveys from the same study revealed that teachers ranked lack of funding for school based mental health services as third, and competing priorities taking precedence over mental health support in the classroom as fifth, in a list of 11 barriers to supporting student's mental health needs (Reinke et al., 2011).

A discussion about addressing nonacademic concerns in the school setting may raise the question as to why public education would include intervention for personal issues, such as mental health or substance abuse. If the increasingly ambitious aim of

public education is to produce young adults who are college or career ready, why would the educational system need or want to take on more responsibilities? Even if the argument can be made that personal issues outside the school day affect student performance, critics of expanding school provided services might also argue that the school should not be called upon to provide a solution.

There are several rationalizations that may clarify this inquiry. Weist, Evans, and Lever (2002) offered that an established recognition of barriers to student learning, specifically untreated mental health issues, must be addressed from a societal perspective encompassing the individual, family, and associated community. When an individual or family fails to confront issues that prevent or interfere with learning, this leaves the associated community, including educational institutions as possible options for providing intervention. In addition, when examining the issue of access in developing school-based delivery programs Weist et al. also proposed that clinicians working in school systems have more opportunity to establish procedures to prevent mental health disorders, substance abuse, and violence, than those in more traditional settings. Weist et al. reported that in many cases schools are already becoming the primary source of many services, especially to poor and minority children, along with increasingly being seen as a positive vehicle of mental health services to these groups.

Finally, an expectation that students are cared for by other public programs is not always realistic. Of the approximate 50 million children enrolled in public school approximately 7.6% of those under age 18 years have no insurance of any kind (Smith & Medalia, 2015; U.S. Department of Education, National Center for Education Statistics,

2015). During the 2009-2010 school year in an average high school with population of 854 students (National Center for Education Statistics, 2012) this would amount to approximately 65 individuals having little resources at their disposal for receiving not only minimal medical care, but assistance for inter/intrapersonal issues as well.

Student assistance programs (SAPs) are one possible solution for addressing the multitude of barriers to learning. The National Student Assistance Association (2009) describes student assistance programs as services that reduce student risk factors, promote protective factors, and increase asset development. SAPs were developed in the late 1970s and early 1980s to help students who had been affected by addiction within the family along with other personal problems that might be impeding their academic progress and were originally designed to mirror employee assistance programs (EAPs) (Holleran, 2006). SAPs are designed to help mitigate these issues within the context of the school system. Currently there are three different models of SAPs. There are programs that use professionals from community based non-profit organizations supervised by school principals, programs that utilize counselors employed by the school for this purpose, and programs that train existing staff to form a core team of personnel to perform SAP functions (Holleran, 2006). Regardless of the program model, SAPs exist to remove or reduce barriers to learning for students who require their services. Although several SAPs are already in existence, few have met the threshold to become evidence based and more research is needed to determine their effectiveness.

Problem Statement

There is a lack of empirical research regarding the effectiveness of SAPs in the public-school system. Database and internet searches for the current proposed study yielded two previous studies, outdated themselves, concluding what SAP research had been done was considered limited and outdated (Loneck et al., 2010; Zunz, Ferguson, & Senter, 2005). In 2005 although an estimated 1500 student assistance programs existed (Zunz et al., 2005), there were only two SAPs considered “model programs” by National Registry of Evidenced-Based Programs and Practices (NREPP), the Residential Student Assistance Program (RSAP) and Students Taking a Right Stand Nashville Student Assistance Program (STAR; U.S. Department of Health and Human Services, Substance Abuse and Mental Health Administration, 2013). As of September 2015, not a lot has changed with NREPP reporting no newly reviewed programs in this category. Another program that has gained recognition, Project SUCCESS (Schools Using Coordinated Community Efforts to Strengthen Students) is also considered a model program according to NREPP but is not categorized as an SAP and focuses more heavily on preventing use of alcohol, tobacco, and other drugs (ATOD) (U.S. Department of Health and Human Services, Substance Abuse and Mental Health Administration, 2013).

In the current educational climate, interventions must often be evidence based due to increasingly stringent educational funding guidelines. In some schools, evidence-based practice teams (EBPTs) are assembled to identify problems and decide what research supported interventions should be applied (Carey & Dimmitt, 2008). Previously, Hallfors, Pankratz, and Hartman (2007) found that most respondents reported their single funding

source for substance abuse prevention programs, when available, to be federal and only for evidence-based programs. The same study also reviewed lists of these programs and found that many were out of date and not financially supported to incorporate new scientific evidence (Hallfors et al., 2007). Additionally, when implemented, the amount of state funding for SAP programs has a bearing on how they are implemented in schools, which unfortunately does not always allow for them to function as intended (Hallfors et al., 2007). In other words, states with less funding may adopt only part of a program or use the program with less fidelity, which may lessen its effectiveness. School systems that wish to provide additional supports to students using newer SAPs may not be able to rely on public funding in order to implement them. Becoming an evidence-based school delivered intervention program can be very cumbersome and time consuming, and in fact some argue that the process has not yielded the results it should (Hallfors et al., 2007). Hallfors et al. found many loopholes in the quality control of the program review process for such programs suggesting some should not be represented as evidence based.

The lack of quality research on SAPs limits their availability to students. Further empirical research about the effectiveness of student assistance programs is needed to expand the continuum of services to address barriers to learning in the public school system.

Purpose of the Current Study

The purpose of the current quantitative study was to determine if a specific SAP, called Breakthrough, had a significant effect on previously understudied variables

connected to educational achievement: grades, behavioral referrals, and attendance of public school students, Grades 9-12 in a suburban Southern California school district.

Research Question and Hypotheses

The following were the research questions of the current study:

Research Question 1: Does Breakthrough have a significant effect on grade point averages among students who completed the Breakthrough Student Assistance Program compared to grade point averages of students who were referred, but did not complete the Breakthrough Student Assistance Program and if so, is there a significant difference in effect by student grade level?

H_01 : There will be no significant difference in mean grade point averages of participants who complete Breakthrough compared with mean grade point averages of participants who do not complete Breakthrough.

H_11 : There will be a significant difference in mean grade point averages of participants who complete Breakthrough compared with mean grade point averages of participants who do not complete Breakthrough.

H_01 : There will be no significant difference in mean grade point average of all participants 60 days prior to Breakthrough and 60 days after completion of Breakthrough

H_11 : There will be a significant difference in mean grade point average of all participants 60 days prior to Breakthrough and 60 days after completion of Breakthrough.

H_01 : There is no significant interaction between time and participation in the program.

H_{11} : There is a significant interaction between time and participation in the program.

H_{01} : There will be no significant difference in mean grade point average between grade levels. In other words, the main effect of grade level is not significant.

H_{11} : There will be a significant difference in mean grade point average between grade levels.

Research Question 2: Does Breakthrough have a significant effect on number of behavior referrals among students who completed the Breakthrough Student Assistance Program compared to number of behavioral referrals of students who were referred, but did not complete the Breakthrough Student Assistance Program and if so, is there a significant difference in effect by student grade level?

H_{02} : There will be no significant difference in number of behavioral referrals of participants who complete Breakthrough compared with number of behavioral referrals of participants who do not complete Breakthrough.

H_{12} : There will be a significant difference in number behavioral referrals of participants who complete Breakthrough compared with number of behavioral referrals of participants who do not complete Breakthrough.

H_{02} : There will be no significant difference in number of behavioral referrals in all participants at 60 days prior to Breakthrough completion and 60 days after completion of Breakthrough

H_{12} : There will be a significant difference in number of behavioral referrals in all participants 60 days prior to Breakthrough and 60 days after completion of Breakthrough.

H_02 : There is no significant interaction between time and participation in the program.

H_12 : There is a significant interaction between time and participation in the program.

H_02 : There will be no significant difference in number of behavioral referrals between grade levels. In other words, the main effect of grade level is not significant.

H_12 : There will be a significant difference in number of behavioral referrals between grade levels.

Research Question 3: Does Breakthrough have a significant effect on attendance among students who completed the Breakthrough Student Assistance Program compared to attendance of students who were referred, but did not complete the Breakthrough Student Assistance Program and if so, is there a significant difference in effect by student grade level?

H_03 : There will be no significant difference in attendance in participants who complete Breakthrough compared with attendance in participants who do not complete Breakthrough.

H_13 : There will be a significant difference in attendance in participants who complete Breakthrough compared with attendance in participants who do not complete Breakthrough.

H_03 : There will be no significant difference in attendance in all participants at 60 days prior to Breakthrough completion and 60 days after completion of Breakthrough

H_{13} : There will be a significant difference in attendance in all participants 60 days prior to Breakthrough and 60 days after completion of Breakthrough.

H_{03} : There is no significant interaction between time and participation in the program.

H_{13} : There is a significant interaction between time and participation in the program.

H_{03} : There will be no significant difference in attendance between grade levels. In other words, the main effect of grade level is not significant.

H_{13} : There will be a significant difference in attendance between grade levels.

The independent variables were completion or noncompletion of Breakthrough, time, and student grade level. The dependent variables were grade point average, number of behavioral referrals, and attendance.

Theoretical Framework for the Study

Bronfenbrenner's ecological systems theory suggests that human development is directly influenced by many different interfamilial and extrafamilial systems of operation that are in concert with one another (Yaoying & Filler, 2008). Each system, beginning with the individual, is interconnected and contained within the next larger system. People, places, institutions, ideas, and cultures encountered by an individual can all be categorized into a specific system. The smallest system, the microsystem, encompasses an individual's immediate environment including parents and home environment, for example. The next system, or mesosystem, includes constant environmental features such as schools and neighborhoods. The exosystem includes people, places, and ideas that are

familiar to an individual although not immediately present. Finally, the largest system, the macrosystem, includes culture and society at large. Sanson, Smart, and Mission (2011) described some of these micro systems as family, school, and peers being embedded in large meso and macro systems such as society and culture. Student assistance programs, or SAPs, may be one answer to the lack of services available to struggling public school students consistent with the systems perspective as they incorporate resources from different ecological systems that students encounter on a regular basis to provide services. A student and may be referred to basic services and interventions within the school, such as changing of schedules or classes, services provided directly by the school, such as substance abuse interventions groups, to services provided by the larger community such as bereavement counseling and anger management. Family members of the student may also be referred to a variety of services in these systems as well. A more detailed explanation of theory will be covered in chapter two.

Nature of the Study

The study used a quasi-experimental nonequivalent control group design to examine the effects of Breakthrough on the dependent variables of grade point average, number of behavioral referrals, and attendance by student grade level based on measures taken at two points in time, 60 days prior to Breakthrough referral and 60 days after Breakthrough completion or noncompletion. The rationale for using this design versus others was the use of archival data with existing groups making randomization not possible. Data was analyzed from an existing data set compiled and maintained by

Breakthrough program staff. A mixed ANOVA and generalized estimating equation were used to test the hypotheses comparing dependent variable data sixty days prior to referral to Breakthrough with participant data sixty days after completing or not completing Breakthrough.

Definitions

Student Assistance Program: The National Student Assistance Association (2012) describes student assistance programs as services that reduce student risk factors, promote protective factors, and increase asset development. Student Assistance Program will be further referred to as SAPs.

Breakthrough: The Breakthrough model of student assistance is similar to site-based models of student assistance programs addressing alcohol and other drug education and has a variety of educational and support services such as small support groups for at risk students. The following is the district description of the program:

The Breakthrough Student Assistance Program responds to student and family concerns with individualized services, ongoing staff and parent training, and referrals to appropriate school or community based services as needed.

Interventions focus on the immediate risk and protective factors present in the environments surrounding individuals. Components of the program include school counseling, support for military families, support for foster youth and foster parents, tobacco use prevention, intervention cessation, school achievement assessment and planning, an available district crisis team, suicide intervention,

Insight drug and alcohol use intervention group, and the Breakthrough Family Conference (Murrieta Valley Unified School District, 2018).

Aeries: Aeries is the student information system used by the school district in the currently proposed study. Information including but not limited to student demographics, grades, behavior, and attendance are all recorded in the database by multiple school personnel.

Family Conference: The program uses a specific component called the Breakthrough Family Conference which is rooted in motivational interviewing techniques. Examination of the literature suggests that this piece is unique to the Breakthrough program. The Family Conference involves a staff member facilitating a family meeting using a specific interview instrument derived from the Brief Risk Reduction Interview and Intervention Model or BRIIM. The BRIIM was originally developed in the 1980's in another Southern California school district based basic motivational interviewing research (Harris & Ryan, 2010). More specifically the conference is an indicated prevention which is defined as an intervention targeting high-risk individuals who are identified as having minimal but detectable signs or symptoms foreshadowing mental, emotional, or behavioral disorders prior to the diagnosis of a disorder (Institutes of Medicine, 2009).

Attendance: Attendance was defined as the percentage of days a participant attended school both 60 days before and 60 days after program referral and/or completion. This will be the numerical value of the number of days attended divided by 60 at each measurement.

Grade point average: Grade point average, referred to as GPA, was defined as the average of participant grades in all classes they were enrolled in at two points in time, 60 days prior to entering the program and 60 days after program completion or noncompletion. GPA scores are scaled between 0.00, an F average, to 5.00, an A+ average, 0.00 being lowest and 5.00 being highest. For the purposes of this study, GPA was the average reported by the student information system, Aeries, at the time the program extrapolated the data, not the student's cumulative GPA.

Number of behavioral referrals: Number of behavioral referrals was defined as the number of documented referrals a participant received as reflected by Aeries both 60 days before and 60 days after program completion or noncompletion. This was a simple numerical count tallied and recorded by Breakthrough staff for negative behavioral referrals and represents the number of times a participant's negative behavior was severe enough to warrant recording in Aeries.

Assumptions

There were several assumptions made for the proposed current study. First, it was assumed that data used in the study was correctly transferred from the student information system used by the school district to the Breakthrough program database by Breakthrough program staff. This was necessary to assume as it is now archival data and the researcher was not present at the time it was transferred to the program database. Second, and for the same reason, it was assumed that data given to the researcher would not be manipulated to support or negate any hypotheses of the study. Lastly, it was assumed that participation in and completion of the program, not what resources may be

prescribed within it, is related to the effect on the dependent variables as each participant's program experience varies with consideration to referrals and resources provided. Some students, for example, may have been referred to anger management programs, while others may have been referred to foster youth services. This study was not descriptive of the additional individual programs students were referred to while completing the Breakthrough process.

Scope and Delimitations

The current research study analyzed the effects of Breakthrough on the variables of grade point average, behavioral referrals, and attendance by student grade level. Several studies have confirmed the correlation between grades, behavior, and attendance on successful high school completion. Burke (2015) reported that attendance and grade point average in eighth and ninth grades were the most predictive of graduation outcome with 83% of students having 80% or less attendance in ninth grade and 65% of students having a GPA of less than 2.0 in ninth grade not graduating on time. Regarding the middle to high school transition McIntosh, Flannerty, Sugai, Braun, and Cochrane (2008) reported that Grade 8 discipline referrals had a significant crossover effect on grade 9 academics as measured by grade point average. McIntosh et al. (2008) also found that many researchers have examined academic achievement, behavior, and attendance in relation to high school completion and dropout with several studies finding academic performance and behavior as significant predictors of dropout. Approval for implementing and supporting student intervention programs in public schools may

require that they be evidence based and examining intervention programs relating to these variables may help to build the availability of supports for students.

The current study only included the population of high school students in this district who had been referred to the Breakthrough program. Although students can be referred or self-refer for a variety of reasons, students without academic or personal need obvious to others or those who do not self-refer will not have been included in the study. With regard to generalizability, Breakthrough is administered in an upper middle class, predominantly Caucasian school district. Although there are several similar school districts with similar demographics across the United States and notably in the surrounding districts, the results may not generalize to communities with lower socioeconomic status or across certain cultural backgrounds not represented in the sample.

The theory and conceptual framework used for the current study centered on a systems perspective. The Breakthrough model utilizes interventions and personnel from several systems in an individual student's environment. Theories and frameworks related to academic achievement that only identify with single concepts, socioeconomic status, for example, were not appropriate for evaluating this intervention model.

Limitations

There were several limitations to the current study. First, extraneous variables such as treatments and supports students participate in outside the program concurrently with Breakthrough were unknown and not controlled for. A participant, for example, may have concurrently participated in private therapy weekly that was not a result of

participating in Breakthrough. There was not a way for controlling these types of variables as they are not part of the data the program collects. Second, because completion or noncompletion of the Breakthrough program is left up to the student and students can self-refer to the program, confounding variables such as differences in personal traits that make it more likely for a student to complete the program or to reach out for help could also have had an effect on the dependent variables. If a student self-refers, for example, they may be more likely to work on improving their grades regardless of enrolling in Breakthrough. Finally, because group assignment was not random, and the groups were not equivalent for the proposed study, selection bias may have occurred. There was not a control for ensuring the scores of participant variables are similar between groups prior to Breakthrough participation. Again, this could not be changed working with archival data.

Significance

The current study may contribute to the increase in intervention programs available to public school students by providing evidence that Breakthrough, in particular, has a positive effect on variables related to student academic achievement. At the least it adds to the current small body of literature about SAPs, most of which does not clearly address the variables in the proposed study. Additionally, if found to have had a significant positive effect on the variables in the study, it was hoped this would help inform policy changes in funding for intervention programs. Increasing the number of and types of supports for public school students will help bring positive social change by allowing for higher academic achievement and may even help to intervene and address

issues that may follow students into adulthood such as mental illness and substance abuse.

Summary

In the current educational climate, evidence-based interventions are highly supported and in some cases, required by administrators. Although more funding has been made available for evidence-based interventions by way of the Safe and Drug Free Communities Act of 1994, little research has been conducted regarding the accessibility of the programs these acts fund that seek to reduce or eliminate substance abuse (Terry-McElrath, Johnston, O'Malley & Yamaguchi, 2005). The reported number of SAPs is not congruent with the amount of research that exists about them, and with the current focus in education on research based strategies it would benefit both students and those who seek to implement intervention programs to explore the effectiveness of SAPs.

Using archival records from a Southern California high school, data were analyzed to determine if Breakthrough had a significant effect on grade point average, behavioral referrals, and attendance by grade level. The next chapter will discuss research regarding barriers to student learning, the rationale for using a systems perspective for studying SAPs, and existing research on SAPs.

Chapter 2: Literature Review

Introduction

The struggles that school-aged youth face today are evident in many settings, particularly in the school setting. The results driven learning environment, while aiming to improve educational outcomes, may have a negative impact on the expansion of options available for providing nonacademic intervention services to students. Mental health disorders, substance abuse, family problems, grief and loss, abuse, neglect, and factors stemming from poverty or lack of resources affect many school age children every year (Committee on School Health, 2004; Weist et al., 2002). The greater focus remains, however, on addressing escalating academic expectations and some feel this is due to the perceived competition for limited resources in educational funding (Baskin, Slaten, Sorenson, Glover-Russell, & David, 2010).

Despite the more than doubled increase (7-19%) in pediatric patients with psychological problems seen by primary care physicians over the past 20 years (Committee on School Health, 2004), there is no one prevailing approach for dealing with these problems within the school. The 2000 Report of the Surgeon General's Conference on Children's Mental Health: A National Action Agenda proposes that 20% of children are in need mental health intervention, 11% of these with a significant functional impairment, and 5%with extreme functional impairment (U.S. Public Health Service, 2000). Functional impairment, in this case, refers to interference of regular life activities, such as learning, due to mental health issues (National Institutes of Mental Health, NIMH; 2017). Merikangas et al. (2010) echoed this reporting that approximately

20% of U.S. youth are affected by a mental disorder moderate enough to cause difficulty functioning. These authors also suggest that half of all lifetime cases of mental illness begin by age 14 and three quarters by age 24, while only about half of American children and teenagers who have certain mental disorders receive professional services (Merikangas et al., 2010). These statistics suggest a good number of adults suffering from mental illness developed symptoms or signs during adolescence, and that their disorders may have been treated or managed leading into adulthood.

There is a lack of empirical research regarding the effectiveness of SAPs in the public school system. The purpose of this study is to examine the effects of a specific SAP called Breakthrough on variables connected to educational achievement: attendance, behavioral referrals, and grades of public school students Grades 9-12. This chapter will explore literature regarding current barriers learning and their connection to academic achievement along with discussing existing research about Student Assistance Programs.

Literature Search Strategy

The term “Student Assistance Program” was used to search the following databases accessed through Walden University: Academic Search Complete, Business Source Complete, CINAHL Plus with Full Text, Cochrane Central Register of Controlled Trials, Cochrane Database of Systematic Reviews, Cochrane Methodology Register, Communication & Mass Media Complete, Computers & Applied Sciences Complete, Database of Abstracts of Reviews of Effects, eBook Collection (EBSCOhost), Education Research Complete, ERIC, Funk & Wagnalls New World Encyclopedia, GreenFILE, Health and Psychosocial Instruments, Health Technology Assessments, Hospitality &

Tourism Complete, LGBT Life with Full Text, Library, Information Science & Technology Abstracts, MAS Ultra - School Edition, MEDLINE with Full Text, Military & Government Collection, NHS Economic Evaluation Database, Political Science Complete, Primary Search, PsycARTICLES, PsycBOOKS, PsycCRITIQUES, PsycEXTRA, PsycINFO, Regional Business News, Research Starters - Education, SocINDEX with Full Text, Teacher Reference Center, PsycTESTS, International Security & Counter Terrorism Reference Center, Mental Measurements Yearbook with Tests in Print. The limiters used in this search were publication dates between 2005 and 2015 and inclusion of only of scholarly journals. The results were further refined to subjects 18 years of age or less and by geography only including the United States, Western Europe, Great Britain, and Australia. A general internet search was done for further information.

Theoretical Perspective

Bronfenbrenner's Ecological Systems Theory suggests that human development is directly influenced by many different interfamilial and extrafamilial systems of operation that are in concert with one another (Yaoying & Filler, 2008). Hooper and Brandt Britnell (2012) highlighted Ecological Systems Theory as being an appropriate lens for successful university mental health research within the K-12 educational setting due to the fact that the systems approach considers all parts of the educational community, administrators, parents, students, stakeholders, and support staff, not just the observable measure of what is being studied. These considerations, according to Hooper and Brandt Britnell (2012),

have been employed to strengthen relationships between researchers and those within the educational community.

Guhn (2009) proposed that previous educational reforms that have failed mainly did so due to the inability of the educational system to mitigate the negative developmental outcomes of environmental issues such as poverty and ethno-cultural segregation. Guhn (also asserted that educational reformation, as it relates to academic achievement, must include levels other than the educational setting itself in order to be successful. Arnold and Armstrong (2012) highlighted a connection between the systems perspective and educational outcomes explaining that the consequences of the decisions of one system are directly placed on the other. Exosystem design of educational instruments, for example, such as development of interventions programs or distribution of financial aid to the individual or microsystem, has an effect on educational achievement (Arnold & Armstrong, 2012).

Additionally, the existing stigma in the macrosystem regarding mental health issues has an effect that trickles down to an individual level or the microsystem. Corrigan and Deepa (2012) suggested that public stigma by the larger population of individuals with mental illness can actually be internalized by the individual resulting in self-stigma that may lead to self-isolation, low self esteem, and reduced self efficacy. With this in mind, the theoretical perspective for the current study was a systems perspective.

Finally, McGuckin and Minto (2014) suggested that it is imperative for those in positions such as school counselors and psychologists to understand developmental theories and have an awareness of the intricacies between an individual and their

environment. Corrigan, Videka, Newman, Reed, and Moonan (2010) suggest that all SAP activities are driven by the systems perspective citing cultural sensitivity and employment of resources in the larger community within their intervention techniques.

Student assistance programs such as Breakthrough are designed to not only address issues with the individual themselves, but issues within their larger environment such as home life, school, and even cultural issues with the understanding that problems students experience do not necessarily stem from one source or have one solution. Resources may also be gathered from many different areas, or systems, in order to provide support for students. The Family Conference, for example, involves members of the microsystem (the student and family) and the mesosystem (SAP program Staff) working to address barriers to student learning. SAP staff may also involve the mesosystem when providing referrals for outside services, such as anger management. School and educational administrators and policy makers, part of the exosystem, influence the school environment by deciding what services to offer students.

Barriers to Learning

Mental Health

To understand how nonacademic problems affect student learning a connection between certain health conditions, non-school related environmental circumstances and academic achievement must be illustrated. Regarding mental health Murray, Low, Hollis, Cross, and Davis (2007) suggested that the relationships between academic achievement, risk behaviors, and health status are interdependent. For example, poor school performance predicts health-compromising behaviors while physical, mental, and

emotional problems, poor nutrition, substance abuse, sedentary behavior, violence, depression, and suicidality all compromise school performance. Other authors replicate this idea stating that mental health issues and school performance are bidirectional in that each can negatively influence the other regardless of which is present first (DeSocio & Hootman, 2004). Guzman et al. (2011) extended this concept suggesting that this relationship is so strong that mental health screenings performed in first grade can predict fourth grade academic achievement on standardized testing.

In another perspective, mental health issues need not reside with the student themselves to affect school progress. Mowbray et al. (2004) found that certain students of parents with mental illness self-reported high levels of non-normative behaviors (including police contacts) and deviant peer values. These students also had lower school performance as indicated by school grade reports, lower self-reported feelings of attachment and orientation to school, and a lowered ability to solve problems. A remarkable illustration of the influence mental health has on education are the findings of Breslau, Lane, Sampson, and Kessler (2008) who suggested that mental disorders significantly predict subsequent termination of schooling (dropping out) at each of four educational milestones: primary school graduation, high school graduation, college entry, and college graduation. Adding to this finding, Stoep, Weiss, Kuo, Cheney, and Cohen (2003) reported psychiatric disorders attributable for up to 44% of the failure to complete secondary school rate within their samples.

These examples support the argument for addressing mental health issues when deciding what kinds of interventions are available to students. In extreme cases, mental

health disorders have been shown to predict not how well students do in school, but whether they complete their education or not (Breslau et al., 2008). In others, even if the student him/herself is not the one suffering from mental illness, but has a parent who is, many factors influencing their academic success may be negatively affected (Mowbray et al., 2004)

Substance Use and Abuse

Substance use and abuse are also inhibiting factors associated with educational achievement. The considerable number of students engaging in substance use currently and those who will in the future, suggest that there may be a large impact to the educational process. Johnston, O'Malley, Bachman, and Schulenberg (2008) reported lifetime prevalence rates of alcohol use are 41%, 62%, and 73% among 8th, 10th, and 12th graders respectively, and lifetime prevalence rates of marijuana use are 16%, 32%, and 42% among 8th, 10th, and 12th graders respectively. This means that by senior year of high school, well over two thirds of students have used alcohol, and almost half used marijuana. More recently, SAMHSA (2015) estimated that 1 in 14 adolescents aged 12-17 years used marijuana in the previous month, which equates to about 1.8 million, and that across all 50 states, three fourths of adolescents did not perceive using marijuana as highly risky. In a national survey, The Centers for Disease Control (2016) found that 33% of high school students had reported using alcohol in the previous 30 days, and 18% reported binge drinking in the last 30 days.

This is not to suggest that all or even a great deal of these students will become addicts or even regular users, but early onset use is related to several risk factors for

problems during later adolescence and adulthood. Alcohol use before the age of 14, for example, has been linked with a greater likelihood of alcohol dependence in the following 10 years compared with first alcohol use at age 21 or older (Hingson, Heeren, & Winter, 2006). Griffin, Bang, and Botvin (2010) found that first use of alcohol and marijuana prior to the beginning of high school predicted nine times more of a likelihood to use alcohol and marijuana weekly as a young adult along with an increased likelihood of substance related legal, occupational, and interpersonal problems. Addressing the relationship between substance use and abuse and academic achievement, Cox, Zhang, Johnson, and Bender (2007) reported that correlational data connect substance use and poor school performance, defined as mostly C's or lower, with frequent smokers, binge drinkers, and current marijuana users being more likely than other students to report poor academic performance. Additionally, Broman (2009) found the use of marijuana and other illicit drugs to be associated with lower educational achievement and that marijuana users were 1.47 times more likely to have received public assistance by young adulthood than non-users. Furthermore, Brook, Stimmel, Chenshu, and Brook (2008) found that marijuana use over time was significantly associated with increased health problems during the late twenties including respiratory problems, general malaise, neurocognitive problems, and low academic achievement and functioning.

Considering recent legislation regarding marijuana possession and use and the observable perception, even among some researchers, of its harmlessness, it would be difficult to imagine that there would not be a rise in overall use in the population, including adolescents and minors. Schools need to be prepared to deal with the

documented effects substance abuse can have on only student academic achievement, but to counter the longer term health and economic consequences that may come from early use.

Family and Home Environment

If providing support for non-academic student issues seems removed from the responsibility of public educational institutions, then providing support for family issues may seem far removed. When examining school provided supports available to children, however, issues related to family and home environment should also be addressed. Although individual student issues are usually the focus of intervention from the school's perspective, often there are larger more extensive factors at play, such as family dynamics that contribute to academic difficulty. Eppler and Weir (2009) suggested that despite a historical disconnect between schools and families, student, family, and school are all complexly intertwined systems, and that collaboration must exist between these systems to develop a positive learning environment. Discussing school counselors as a significant part of intervention development and delivery, Mullis and Edwards (2001) echoed an earlier article about school counseling and family systems in which Lewis (1996) proposed "it is seldom that a school counselor can successfully intervene in the life of a student without considering the continuous influence of the family as the primary social system for the student" (pg 93). The importance of family dynamics when developing school-based interventions cannot be understated.

Divorce

Divorce is a common family problem affecting half of all married couples, half of

these having children under the age of 18. Disruption to children's wellbeing or overall physical and emotional health due to divorce is often visible in the school setting.

Children from divorced families perform lower academically than those from intact families, and some research suggests this is connected to lower levels of psychological wellbeing from multiple divorce related factors (Potter, 2010). Furthermore, some studies suggest that students who experience marital disruption over time, not limited to divorce, score lower on academic testing in math, reading, science, social studies, and measures of educational aspiration during both pre and post-divorce time periods than students from continuously married families (Sun & Li, 2002). This research demonstrates that students from currently divorcing or in crisis families may need additional supports in order to perform at the level of their peers not experiencing marital disruption. Sun and Li (2002) directly addressed parents, educators, counselors, and policy makers as an audience who can transform these findings into actions to increase provisions for these students. At any given time, up to a quarter of a school's population could be dealing with divorce related issues.

Poverty

With the recent economic strain the country has gone through many more families and students are lacking the basic resources they used to have. The American Psychological Association (APA) (2016) reports that American children are among those living with the highest rates of poverty in the industrialized world and that factors lowering socioeconomic status, such as unequal resource distribution, are increasing. The APA (2016) also cited 2010 U.S. Census Bureau data showing that the number of children

living in poverty in 2010 was the highest rate it had been since 1993. With regard to education, some of these poverty related resources that have become scarce have a direct impact on academic achievement. Housing and space, for example, can affect variables such as sleep patterns, sense of security and emotional health, and homework and studying. Kiernan and Mensah (2011) examined several variables including income poverty, mother's education, family employment, and housing tenure in relation to academic achievement, and found that only 24% of children from poor families had good educational achievement in their first year of school compared to 69% of their more advantaged peers. Nikulina, Widom, and Czaja (2011) found that childhood neglect and poverty individually predicted low academic achievement, PTSD, and increased likelihood of crime. Although many schools provide free lunches, and sometimes breakfast as well, 14.9% of American households experienced food insecurity in 2010 while 5.7% of those experienced very low food security (Coleman-Jensen, Nord, Andrews, & Carlson, 2012). As many more students are experiencing these kinds of conditions, schools may be an option for providing the extra support families simply cannot.

Social Morbidities

Other factors that put adolescents at risk and affect educational outcomes, known as social morbidities (Weist, Evans and Lever, 2002) include suicide, sexual risks, eating disorders, school dropout or refusal, and community or domestic violence. Husky, McGuire, Glynn, Chrostowski, and Olfson (2009) found, for example, that 23% of 364 9th grade participants were screened as "positive" or at risk for suicide and that these

students, the majority girls, had lower grades, more absences, and more detentions and suspensions than those who screened “negative”. This same study found that more than a fourth of the students identified at risk did not ask for help with their problems. Perhaps even more alarming are the findings of a separate study in which 25 % of students identified as at risk for suicide reported several maladaptive behaviors such as taking drugs and alcohol and keeping depressive feelings and suicidal thoughts a secret as possible coping mechanisms for problems (Gould et al., 2004). With regard to sexual risk behaviors, a relationship between later intercourse and increased academic achievement along with school attendance and connectedness to decreased likelihood of sexual activity have been reported as well (Harden & Mendle, 2011). These studies suggest that the number of students who may be affected by these types of risk factors is large enough to warrant providing interventions to mediate their effects on educational achievement.

Student Assistance Programs

Although it may seem evident that personal and family issues influence academic achievement and that, with some exceptions, almost any distressing event that would affect an adult can influence educational outcomes of today’s youth, what is less evident is what interventions are available for dealing with them. Specifically lacking is the available research on school based interventions for non-academic problems. Student Assistance Programs (SAPs) aim to reduce the barriers to student learning by using a collaborative systems based approach to prevention and intervention, often not requiring additional staff or resources. As mentioned earlier, SAPs emerged modeled after

Employee Assistance Programs (EAPs) during the 1970's and 1980's. It has been acknowledged that little documentation exists to speak to the effectiveness of SAPs (California Student Assistance Program Resource Center, ND). Some previous research has yielded general conclusions such as a reported 82% of students who completed SAP's showed improvement in originally assessed behaviors including academic and social developmental problems (Moore & Forster, 1993). This research, however, is not considered up to date or large enough in scope (Zunz, Ferguson, & Senter, 2005). Loneck et al. (2010) acknowledge a very small body of work regarding SAPs exists and considered only three out of ten completed empirical studies in this area to be rigorous, citing that most employ very weak methodology. More specifically Loneck et al. (2010) identified student attendance records, student behavioral referral records, and student academic records as areas that have been inadequately addressed in current SAP research. Torres-Rodriguez, Beyard, and Goldstein (2010) added to this citing that little research exists on SAP implementation or functioning.

Of the small amount of research performed on SAPs, studies have varied greatly with regard to population, implementation, and type of program used making a clear picture of the efficacy of such programs difficult to determine. Wagner and Henggeler (2000), in discussing the degree to which implementation and organization of SAP programs has been unsuccessful, reported that not a single SAP clinical trial had been previously performed. Since that article's publishing, not much advancement has taken place in SAP research. Wilburn, Wilburn, Weaver, and Bowles (2007) described that although SAPs have gained popularity, there is little empirical evidence about their

effectiveness and that previous research contained mostly local and regional data. Even later, Torres-Rodriguez, Beyard, and Goldstein (2010) reported that the Center for Prevention Research and Development referred to SAPs as collections of practices rather than individual programs, also suggesting difficulty in their evaluating.

Within the literature, there are some congruencies regarding SAPs, however, the first being what types of problems SAPs address. Many SAPs serve primarily as substance abuse prevention and intervention delivery vehicles as historically SAPs were developed to address alcohol and substance abuse (Clark, Ringwalt, Shamblen, & Hanley, 2011, Corrigan, Newman, Videka, Loneck & Rajendran, 2011; Loneck et al., 2010; Loneck, Videka, Newman, Rajendran, 2009; Shamblen & Ringwalt, 2008; Torres-Rodriguez et al., 2010; Wilburn et al., 2007). A second similarity is that many SAPs contain comparable theoretical constructs. Several authors cited Bronfenbrenner's ecological systems theory in regard to SAP program development as well as to programs not defined specifically as SAPs although providing similar services (Clark, 1992; Knoll, Pepler, & Josephson, 2012 ; Lambie & Rokutani, 2002; Torres-Rodriguez et al., 2010; Wagner, Swenson, & Henggeler, 2000), while others discussed program development from an informal systems perspective (Gomez & Ang, 2007; Graczyk, Domitrovich, Small, & Zins, 2006; Telleen, Maher, & Pesce, 2003). Additional theoretical viewpoints tying SAPs together include that of Helper, Kanu, and Williams (2009) who identified empirical data about both risk and protective factors and individual resiliency theories as guiding SAP program development. A final similarity found in several articles was the description of SAPs as using existing staff and local and community agencies as potential

areas to be drawn from when assembling SAP teams. Anger management counselors working for non-profit associations, for example, may be a reference point for those in need of that specific service.

Currently there are only two SAPs considered “model programs” by the National Registry of Evidenced-Based Programs and Practices (NREPP), the Residential Student Assistance Program (RSAP) and Students Taking a Right Stand Nashville Student Assistance Program (STAR; U.S. Department of Health and Human Services, Substance Abuse and Mental Health Administration, 2014). For the purpose of this literature review RSAP is described, but efficacy findings are not discussed due to the fact that outcome data reported for RSAP only include measures of alcohol and other drug usage (Morehouse & Tobler, 2000). RSAP differs from the current SAP in that its focus is alcohol and other drug use prevention and intervention not directly aimed at improving school related variable such as attendance, behavioral referrals, and grade point average. RSAP is designed to prevent and reduce alcohol and other drug use among high-risk multi-problem youth ages 12 to 18 years who have been placed voluntarily or involuntarily in a residential child care facility such as foster care, treatment centers for adolescents with mental health problems, and juvenile correctional facilities. RSAP does share a commonality with other SAPs, however, in that it modeled after EOPs, but does not employ the same delivery model or explore the comprehensive list of characteristics some SAPs are designed to address (US Department of Health and Human Services, Abuse and Mental Health Administration, 2014)

The STARS program, on the other hand, is also based on an employee assistance model and has provided comprehensive school-based prevention services for students in kindergarten through 12th grade since 1984 to 16 school districts in middle Tennessee. The program is based on theoretical constructs related to resiliency and risk and protective factor research. Service components of the program include health promotion for the general student body, attention to students who are at special risk for substance abuse, teen pregnancy, violence, bullying, academic failure, school suspension, or dropping out, and early problem identification, referral, and intervention for students exhibiting problem behaviors. The interventions are administered by SAP specialists who are placed at the school sites on a full or part time basis and who work with faculty teams and student leaders to develop health promotion topics and activities tailored to meet the needs of students. The SAP specialists provide all students with prevention education emphasizing the establishment of prosocial norms and the building of protective factors, as well as information on overcoming social and emotional barriers to learning. They also provide counseling to small groups and individuals, and link these students to additional appropriate services in the school and community such as mental health and substance abuse treatment services (US Department of Health and Human Services, Abuse and Mental Health Administration, 2014)

Previously, data from three separate STARS evaluation studies conducted between 1994 and 2008 were consolidated in a report to NREPP in order to achieve evidence based status (Helper, Kanu, & Williams, 2009). The SAI (Student Attitudinal Inventory) was used in all three studies and measured variables including attitudinal

syndromes of positive attitude and social bonding, self-esteem, value attachment to school and school bonding, non-rebelliousness, and attitudes unfavorable towards drug use and experimentation, along with a behavioral domain including gateway drug use, smokeless tobacco use, and drug abuse including getting drunk on alcohol (Helper, Kanu, & Williams, 2009).

In one study results were drawn from a quasi-experimental research model utilizing an annual pre-post measurement of the SAI norm group comparison from the 1993-1994 school year through the 2003- 2004 school year, and during the 2007-2008 school year. For this evaluation STARS contracted with the department of Anthropology at the University of Memphis to utilize the Tennessee Alcohol and Drug Prevention Outcome Longitudinal Evaluation (TADPOLE) which administered the SAI. Only participants with matching pre and post-test surveys were used in the evaluation and numbers of participants with matching pre and post-tests varied from year to year. During the 1999-2000 school year 100% of 694 participants' pre and post-tests were matched (Helper, Kanu, & Williams, 2009). In the 2000-2001 school year 250 pre and post-tests were matched from 268 participants, and in the 2001-2002 school year 222 out of 284 original participants' pre and post tests were matched (Helper, Kanu, & Williams, 2009). No data on participant numbers were reported from the 1993-1994 through 1998-1999 school years and the 2002-2003, 2007-2008 school years (Helper, Kanu, & Williams, 2009). A statistical difference ($p < .05$) was shown between pre and post-test attitudes about self-esteem, rebelliousness, drug attitudes, social value and school value (Helper, Kanu, & Williams, 2009).

A secondary quasi-experimental evaluation, also conducted by the University of Memphis, comparing SAI outcome data between STARS and other programs in the same geographic region was performed during the 1997-1998 school year (Helper, Kanu, & Williams, 2009) A state database of information was used to compare a sample of STARS outcome data to a sample of similar Middle Tennessee programs outcome data. A significant difference ($p < .02$) was found in the attitudinal domain of non-rebelliousness (Helper, Kanu, & Williams, 2009)

Finally, an experimental study was performed during the 2002-2003 school year. In this study students were randomly assigned to the STARS treatment group or waitlisted. This study consisted of 150 students across six counties. Students in both treatment and control groups were given the SAI pre and post-tests before and after the treatment period. A significant difference ($p < .05$) was found in the behavioral domain of hard drug use (drugs other than tobacco, marijuana, or alcohol) between the treatment and control groups.

Grades, Behavior, and Attendance

Several studies have confirmed the correlation between the variables of grades, behavior, and attendance on successful high school completion. Burke (2015) reported that attendance and grade point average in eighth and ninth grades were the most predictive of graduation outcome with 83 percent of students having 80 percent or less attendance in ninth grade and 65 percent of students having a GPA of less than 2.0 in ninth grade not graduating on time. McIntosh, Flannerty, Sugai, Braun, and Cochrane (2008) reported that grade eight discipline referrals had a significant crossover effect on

grade nine academics as measured by grade point average. McIntosh, et al. (2008) also cite that many researchers have examined academic achievement, behavior, and attendance in relation to high school completion and dropout with several studies finding academic performance and behavior as significant predictors of dropout.

Summary

A gap exists in the amount and quality of research associated with Student Assistance programs. Previous research has been scattered and somewhat non-uniform regarding program implementation, variables investigated, and how results translated to practical application in the educational setting. Additional empirical research on SAPs could increase the amount of services offered to many students who may not have any other way of accessing resources. Chapter 3 will describe how the current study examined the effects of Breakthrough on the variables of grade point average, number of behavioral referrals and attendance by student grade level.

Chapter 3: Research Method

Introduction

Student Assistance Programs are understudied interventions that address barriers to learning within the public school system. The purpose of the current study was to examine if the Breakthrough Student Assistance Program had a significant effect on grade point average, number of behavioral referrals, and attendance, and if so, was there a significant difference in effects between student grade levels. This chapter discusses the methodological components of the study including design, population studied, statistical analyses performed, variables, and data collection procedures.

Research Design and Rationale

Variables

The current study had three dependent variables (DVs): grade point average, number of behavioral referrals received, and number of school days attended. The independent variables (IVs) were completion or noncompletion of the Breakthrough Student Assistance Program, time between measures, and student grade level. Data were used from measures taken 60 days prior to Breakthrough completion, and 60 days after completion or noncompletion. Possible extraneous variables included use of additional interventions outside of the Breakthrough program such as private therapy concurrent to participation in the program, and major changes in the participant's life outside of school that they do not have control over, such as improvement in living conditions. Possible

confounding variables included personal characteristics of participants that may predispose them to being more or less likely to complete the program.

Correlation of Grades, Behavior, and Attendance

Burke (2015) reported that attendance and grade point average in eighth and ninth grades were the most predictive of graduation outcome with 83% of students having 80% or less attendance in 9th grade and 65 percent of students having a GPA of less than 2.0 in 9th grade not graduating on time. With regard to the middle to high school transition McIntosh, Flannerty, Sugai, Braun, and Cochrane (2008) reported that grade eight discipline referrals had a significant crossover effect on grade 9 academics as measured by grade point average. McIntosh et al. also found that many researchers have examined academic achievement, behavior, and attendance in relation to high school completion and dropout with several studies finding academic performance and behavior as significant predictors of dropout.

Research Design

The study used a quasi-experimental nonequivalent control group design. The main benefits of using a quasi-experimental design regarding education research include its ability to be used in real world settings, such as the classroom, while maintaining internal validity by using comparison groups (Gersten, Baker, & Lloyd, 2000). This design was also chosen due to the use of archival data. There was no randomly assigned groups which reduced certain time constraints and reduced potential ethical considerations. The design allowed for comparison between two pre-existing groups of

participants, those who were referred to and completed the Breakthrough program, and those who were referred but did not complete the program.

This specific research design was used to look for significant effects on the dependent variables of grade point average, number of behavioral referrals, and attendance for participants who completed the Breakthrough program compared with participants who did not complete the program. The design also looked for differences in effects between student grade level. There were minimal resource restraints using this design and there was no anticipated time restraint in collecting and analyzing the data. As previously stated, these three variables are considered to have been understudied empirically and this design will facilitate the exploration of existing data in these areas. The Breakthrough program was chosen as the intervention for this study because the type of data collected by the program was in accordance with the gaps in literature, because the data has been collected for several years making for a significant sample size, and because of the use of the Family Conference, which is currently unique to this program.

Methodology

Population

The population for this sample were high school students in Grades 9-12 from a Southern California public school district, with an estimated total $N = 210$, who participated in or were referred to the Breakthrough Student Assistance Program between the school years of 2013-2014 and 2015-2016. The age range of participants was 13-18 years of age representing white, Hispanic/Latino, African-American, Filipino, Samoan,

Vietnamese, Cambodian, American Indian, and Asian ethnic backgrounds.

Approximately 45% of the students were female and 55% were male.

Sampling and Sampling Procedures

The sample was drawn from the participating school district's archival data. Because Breakthrough is designed to meet individual student needs, the resources provided may vary from student to student. Due to this there is no set number of meetings or contacts during program participation required for individual student data to be included in the district's collection. For the purpose of this study, participants in the intervention group must have met three criteria including completion of the initial student meeting with Breakthrough staff, completion of the Family Conference, and completion of the six week follow up meeting. Participants who were referred to the program but did not meet these criteria serve as the control group. Archival data were visually screened to determine which group participants will be placed.

To test the hypotheses that there was a significant improvement in grade point average, number of behavioral referrals, and number of school days attended after Breakthrough completion, and there was a significant difference by grade level, a mixed ANOVA (Analysis of Variance) and generalized estimating equation were used comparing participant values by grade level for the dependent variables 60 days prior to being referred to the program and then again 60 days after completion or noncompletions of the program. Using a G*Power version 3.1.9.2 to perform a power analysis with an $\alpha = .05$, and $\beta = .95$, the total target sample size was $N = 210$, with each group having a sample size of 105 to achieve an effect size of $f = .25$. The alpha level was chosen to

reduce the probability of making a type I error, the power level of $\beta = .95$ to reduce the probability of making a type II error, and the effect size to represent a moderate effect.

Breakthrough Student Assistance Program

The focus of the current study was to determine if completion of the Breakthrough Student Assistance Program had a significant effect on grade point average, behavioral referrals, and attendance compared with noncompletion of the program, and if so, was there a difference in effect between grade levels. Breakthrough is available to all high school students in the participating school district and has been available each school year since 2007. Referral to the program can arise from various sources including but not limited to disciplinary action, parent concern, teacher concern, or self-referral by students themselves. Students and families are not required to participate after referral to the program and are not required to use any of the resources offered by the program.

Once referred, an initial student meeting is set up by Breakthrough staff contacting the student. A credentialed school counselor working for the district then meets with the student alone to understand the student's needs and to gather demographic as well as survey data developed by the program not included in the present study. After this another meeting is scheduled to hold the Family Conference which briefly gathers family history and an individual service plan is developed for the student and family. During this meeting resources are discussed with the student and family that may be helpful in addressing the difficulty the student is having. These can range from coordinating community services, such as anger management, to discussing

psychoeducational testing, to making changes at the school site itself, such as a scheduling change. Both the student and immediate family participate in this meeting, which again is facilitated by a credentialed school counselor. All members of the conference are assigned roles and responsibilities with the goal of helping the student overcome whatever issue has brought them to the program. An attempt is made once per week for six weeks after this meeting to make contact with the student by the Breakthrough clerk in order to monitor if the service plan is being followed. After the sixth week, an additional meeting is scheduled with the student alone with a school counselor to discuss the implementation of the service plan and to complete post participation surveys.

Breakthrough staff independently maintains a database of student information. Some of this data is student self-reported, such as survey answers, while other data, such as grade point average, are compiled by staff directly accessing the AERIES district student information system. For the current study the Breakthrough database was accessed to determine what group participants will be placed in and to gather numerical values for the three dependent variables.

Procedures for Recruitment, Participation, and Data Collection

Archival data was used for the study. The data had been independently collected by the school district since 2007. It was anticipated that data reflecting the most recent three school years of the program would be analyzed for the current study. The following demographic information were previously collected about the participants: student number, address, phone number age, date of birth, grade, sex, grade point average, and

days in attendance at school. Because no identifying information was released to the researcher no informed consent was given to participants. Participant identifying information had been previously coded by the school district to protect privacy. The data for the DV's (grade point average, number of school days attended and number of behavioral referrals) were previously extrapolated and compiled by Breakthrough program staff using Aeries. Participants whose data was used in the study did not participate in any follow up procedures.

The procedure for gaining access to the data set involved meeting with the program administrator to request access. The program administrator was made aware of all aspects of the current study. Appropriate permission letters were obtained and are available in Appendix 1. The Walden University Institutional Review Board approval number for this study was 08-24-17-0077998. Data accessed by the researcher were uploaded from excel files created by the program administrator to SPSS.

Operationalization of Variables

The current study had three independent variables (IV's). The IV's were completion or noncompletion of the Breakthrough Student Assistance Program, time, and student grade level of 9, 10, 11, or 12. Data came from measures taken 60 days prior to Breakthrough referral and 60 days after either completion of Breakthrough or 60 days after a student would have completed the program for the noncompletion group.

There were three dependent variables (DV's) for the study. The first dependent variable was grade point average, or GPA. Participants' GPA was defined as the average of grades in all classes at two points in time, 60 days prior to entering the program and 60

days after program completion or noncompletion. GPA scores are scaled between 0.00, an F average, to 5.00, an A+ average, 0.00 being lowest and 5.00 being highest. Each individual course received a grade equivalent to a point on the scale between 0.0 and 5.0. The total of all points divided by the number of classes taken yielded the average. This score was previously recorded by Breakthrough staff using Aeries. An example of a GPA variable score would be 3.0 meaning the participant had a B average. These scores were not cumulative, but rather reflected the participant's grades in the courses they were enrolled in at the time. For this study, grade point average consisted of the score determined for the two time points by the Aeries student information system. Grade point average did not represent cumulative GPA for each student.

The second dependent variable was defined as the number of behavioral referrals a participant received as reflected by Aeries both 60 days before and 60 days after program participation. This was a simple numerical count tallied and recorded by Breakthrough staff for negative behavioral referrals and represents the number of times a participant's negative behavior is severe enough to warrant recording in Aeries. As opposed to GPA where an increasing number shows improvement, a decrease in the number of behavioral referrals was a positive indicator of the direction of participant behavior.

Finally, the third dependent variable was the number of school days attended and was defined as the percentage of days a participant attended school both 60 days before and 60 days after program referral and completion or noncompletion. This was the numerical value of the number of days attended divided by 60 at each measurement. For

example, if a participant attended school 20 out of the 60 school days prior to program participation, their attendance percentage would be 33%. If they attended school for 40 of the 60 days after program completion their attendance would be 66%.

Data Analysis Plan

SPSS software was used to analyze study data with a mixed ANOVA and a generalized estimating equation. A nonparametric test was needed for data analysis for two reasons. First, parametric tests have an assumption that data is normally distributed. The dependent variables in the current study of grade point average, number of behavioral referrals, and attendance may be markedly non-normal and produce a skewed distribution as found in a previous study with similar variables (Warren, 2016). Second, the relationship between the IVs and DVs may not be linear in nature as would be described using a general linear model. Time, for example, may not predict an increase in grade point average. Generalized estimating equations are specifically designed for dependent data when the assumptions of ANOVA cannot be met (Hanley, Negassa, & Forrester, 2003). The results of the tests are interpreted in *p* values for each dependent variable with a 95% confidence interval and effect size, if any, will be reported in *f*.

The researcher screened the data by way of examining the Breakthrough data set to determine which participants meet criteria for being part of the treatment group versus being part of the comparison group. Participants who completed the initial student meeting, the Family Conference, and the follow up meeting were classified in the treatment group and participants who referred to the program but did not meet these three criteria were classified in the control group. Although many demographic variables are gathered on

students who are referred to the program, for the purpose of statistical analysis in this study the data set was cleaned to remove any identifying student information including student identification number, name, contact information, or date of birth. Only demographic data relevant to the current study including grade, sex, race, along with data on the dependent and independent variables were visible to the researcher.

The purpose of the current quantitative study was to determine if the Breakthrough Student Assistance Program had a significant effect on grade point average, number of behavioral referrals, and attendance of public school students, Grades 9-12 in a suburban Southern California school district, and if so, was there is a significant difference in effects between grade levels. The prediction was that completion of the program would result in a significant positive effect on these variables compared with noncompletion of the program.

The following were the research questions of the study:

Research Question 1: Does Breakthrough have a significant effect on grade point averages among students who completed the Breakthrough Student Assistance Program compared to grade point averages of students who were referred, but did not complete the Breakthrough Student Assistance Program and if so, is there a significant difference in effect by student grade level?

H_01 : There will be no significant difference in mean grade point averages of participants who complete Breakthrough compared with mean grade point averages of participants who do not complete Breakthrough.

H_1 : There will be a significant difference in mean grade point averages of participants who complete Breakthrough compared with mean grade point averages of participants who do not complete Breakthrough.

H_0 : There will be no significant difference in mean grade point average of all participants 60 days prior to Breakthrough and 60 days after completion of Breakthrough

H_1 : There will be a significant difference in mean grade point average of all participants 60 days prior to Breakthrough and 60 days after completion of Breakthrough.

H_0 : There is no significant interaction between time and participation in the program.

H_1 : There is a significant interaction between time and participation in the program.

H_0 : There will be no significant difference in mean grade point average between grade levels. In other words, the main effect of grade level is not significant.

H_1 : There will be a significant difference in mean grade point average between grade levels.

Research Question 2: Does Breakthrough have a significant effect on number of behavior referrals among students who completed the Breakthrough Student Assistance Program compared to number of behavioral referrals of students who were referred, but did not complete the Breakthrough Student Assistance Program and if so, is there a significant difference in effect by student grade level?

H_02 : There will be no significant difference in number of behavioral referrals of participants who complete Breakthrough compared with number of behavioral referrals of participants who do not complete Breakthrough.

H_12 : There will be a significant difference in number behavioral referrals of participants who complete Breakthrough compared with number of behavioral referrals of participants who do not complete Breakthrough.

H_02 : There will be no significant difference in number of behavioral referrals in all participants at 60 days prior to Breakthrough completion and 60 days after completion of Breakthrough

H_12 : There will be a significant difference in number of behavioral referrals in all participants 60 days prior to Breakthrough and 60 days after completion of Breakthrough.

H_02 : There is no significant interaction between time and participation in the program.

H_12 : There is a significant interaction between time and participation in the program.

H_02 : There will be no significant difference in number of behavioral referrals between grade levels. In other words, the main effect of grade level is not significant.

H_12 : There will be a significant difference in number of behavioral referrals between grade levels.

Research Question 3: Does Breakthrough have a significant effect on attendance among students who completed the Breakthrough Student Assistance Program compared to attendance of students who were referred, but did not complete the Breakthrough

Student Assistance Program and if so, is there a significant difference in effect by student grade level?

H_03 : There will be no significant difference in attendance in participants who complete Breakthrough compared with attendance in participants who do not complete Breakthrough.

H_13 : There will be a significant difference in attendance in participants who complete Breakthrough compared with attendance in participants who do not complete Breakthrough.

H_03 : There will be no significant difference in attendance in all participants at 60 days prior to Breakthrough completion and 60 days after completion of Breakthrough

H_13 : There will be a significant difference in attendance in all participants 60 days prior to Breakthrough and 60 days after completion of Breakthrough.

H_03 : There is no significant interaction between time and participation in the program.

H_13 : There is a significant interaction between time and participation in the program.

H_03 : There will be no significant difference in attendance between grade levels. In other words, the main effect of grade level is not significant.

H_13 : There will be a significant difference in attendance between grade levels.

The statistical analyses performed to determine if Breakthrough had a significant effect on the dependent variables were a mixed ANOVA and generalized estimating equation comparing participant data by grade level 60 days prior to completing or being

referred to Breakthrough with participant data 60 days after completing or being referred to Breakthrough. The results for each dependent variable in both groups are reported in p values with a 95% confidence interval. If a significant effect on dependent variables was found, effect size is reported in f .

Threats to Validity

Although the use of archival data reduces many threats to validity of the study, such as design contamination, both external and internal threats still exist. Population validity may have been an external threat to the study. Due to demographic factors such as SES, the sample studied may not have been representative of the entire population of high school students. This particular sample was taken from an upper middle class region and results may not apply to communities with high poverty levels, for example. With the use of a nonequivalent control group design, selection bias may have been a threat to the internal validity of the study. Participants self-selecting being in the experiment or control group by completing or not completing the intervention program may have influenced the outcome of the dependent variables. Participants willing to complete the program may already have been on an attendance improvement contract, for example, making it difficult to distinguish what improvement in attendance is due to. One threat to construct validity was the lack of description of a causal relationship between the independent and dependent variables. Although quantitative data was used to determine if any significant differences lie in the dependent variables after the intervention, it was not be used to measure if the intervention itself was the cause of the difference. Finally, the

use of moderate to high statistical power decreased the threat to drawing incorrect conclusions about the data.

Ethical Procedures

The ethical concerns that existed regarding the study were minimized due to using archival data. The main concern involved access to and use of confidential student information. The existing data set used in the current study had been previously coded as to not identify any participant. The researcher did not have access to this coding. Pertinent data were examined and analyzed by only the researcher in the presence of the administrator of the Breakthrough program. This was during scheduled appointments using the researcher's personal computer for data compilation and analysis. The data collected on the researcher's computer was password protected. This computer was not accessed by anyone but the researcher.

Appropriate Institutional Review Board permission letters including a data usage agreement and letter of cooperation were obtained and are available in Appendix 1.

Summary

This quantitative study used a quasi-experimental nonequivalent control group design. A power analysis using a G*Power version 3.1.9.2 was done to determine a target total sample size of $N = 210$ with each group having a sample size of 105 and an $\alpha = .05$, $\beta = .95$.

The following were the research questions of the study:

Research Question 1: Does Breakthrough have a significant effect on grade point averages among students who completed the Breakthrough Student Assistance Program

compared to grade point averages of students who were referred, but did not complete the Breakthrough Student Assistance Program and if so, is there a significant difference in effect by student grade level?

H_0 1: There will be no significant difference in mean grade point averages of participants who complete Breakthrough compared with mean grade point averages of participants who do not complete Breakthrough.

H_1 1: There will be a significant difference in mean grade point averages of participants who complete Breakthrough compared with mean grade point averages of participants who do not complete Breakthrough.

H_0 1: There will be no significant difference in mean grade point average of all participants 60 days prior to Breakthrough and 60 days after completion of Breakthrough

H_1 1: There will be a significant difference in mean grade point average of all participants 60 days prior to Breakthrough and 60 days after completion of Breakthrough.

H_0 1: There is no significant interaction between time and participation in the program.

H_1 1: There is a significant interaction between time and participation in the program.

H_0 1: There will be no significant difference in mean grade point average between grade levels. In other words, the main effect of grade level is not significant.

H_1 1: There will be a significant difference in mean grade point average between grade levels.

Research Question 2: Does Breakthrough have a significant effect on number of behavior referrals among students who completed the Breakthrough Student Assistance Program compared to number of behavioral referrals of students who were referred, but did not complete the Breakthrough Student Assistance Program and if so, is there a significant difference in effect by student grade level?

H_02 : There will be no significant difference in number of behavioral referrals of participants who complete Breakthrough compared with number of behavioral referrals of participants who do not complete Breakthrough.

H_12 : There will be a significant difference in number behavioral referrals of participants who complete Breakthrough compared with number of behavioral referrals of participants who do not complete Breakthrough.

H_02 : There will be no significant difference in number of behavioral referrals in all participants at 60 days prior to Breakthrough completion and 60 days after completion of Breakthrough

H_12 : There will be a significant difference in number of behavioral referrals in all participants 60 days prior to Breakthrough and 60 days after completion of Breakthrough.

H_02 : There is no significant interaction between time and participation in the program.

H_12 : There is a significant interaction between time and participation in the program.

H_02 : There will be no significant difference in number of behavioral referrals between grade levels. In other words, the main effect of grade level is not significant.

H_{12} : There will be a significant difference in number of behavioral referrals between grade levels.

Research Question 3: Does Breakthrough have a significant effect on attendance among students who completed the Breakthrough Student Assistance Program compared to attendance of students who were referred, but did not complete the Breakthrough Student Assistance Program and if so, is there a significant difference in effect by student grade level?

H_{03} : There will be no significant difference in attendance in participants who complete Breakthrough compared with attendance in participants who do not complete Breakthrough.

H_{13} : There will be a significant difference in attendance in participants who complete Breakthrough compared with attendance in participants who do not complete Breakthrough.

H_{03} : There will be no significant difference in attendance in all participants at 60 days prior to Breakthrough completion and 60 days after completion of Breakthrough

H_{13} : There will be a significant difference in attendance in all participants 60 days prior to Breakthrough and 60 days after completion of Breakthrough.

H_{03} : There is no significant interaction between time and participation in the program.

H_{13} : There is a significant interaction between time and participation in the program.

H_{03} : There will be no significant difference in attendance between grade levels. In other words, the main effect of grade level is not significant.

H_{13} : There will be a significant difference in attendance between grade levels.

A mixed ANOVA and generalized estimating equation were used to test the hypotheses comparing dependent variable data sixty days prior to referral to Breakthrough with participant data sixty days after completing or not completing Breakthrough. The results of the tests are interpreted in p values for each dependent variable with a 95% confidence interval and effect size, if any, will be reported in f . The results of the statistical analysis are reported in chapter four.

Chapter 4: Results

Introduction

The purpose of the current study was to determine if a specific SAP, called Breakthrough, has a significant effect on previously understudied variables connected to educational achievement: grades, behavioral referrals, and attendance of public school students, Grades 9-12 in a suburban Southern California city.

The following summarizes the research questions of the study: Did Breakthrough have a significant effect on grade point averages, attendance, and number of behavioral referrals among students who completed the Breakthrough Student Assistance Program compared to the same variables of students who were referred, but did not complete the program and if so, was there a significant difference in effect by student grade level?

This chapter will present descriptive information about the data collected such as the time frames data were collected, demographic characteristics of the sample used, and external validity of the sample used. It will also discuss statistical assumptions about the data collected. It will then present the results of the statistical analyses performed on each hypothesis including confidence intervals and effect size. Tables and figures will be used to illustrate descriptive statistics, as well as results of statistical tests performed. Finally, a summary will be given of the research results.

Data Collection

Original data for the study were collected and compiled by Breakthrough program staff for the following school years: 2013-2014, 2014-2015, 2015-2016, and 2016-2017. An additional two school years of data were analyzed beyond what was included in the

original study proposal which included the 2013-2014 and 2014-2015 school years. In the original proposal, data from the 2015-2016 and 2016-2017 school years had not been cleaned and was not ready to be analyzed. By the time of data analysis, this data had been cleaned and was able to be included. End of year grade point average was used in the study, rather than grade point average 60 days after completion or noncompletion of the Breakthrough program as was described in the original study proposal. This differed from the original proposal because the investigator had not viewed the actual data collected and believed the measure was taken at the 60 day mark, when in actuality, it was collected at the end of the year, except 2013-2014, where end of year grade point average was not available to include in the analysis. Attempts were made unsuccessfully to collect this data.

Demographics

The overall sample size for the study was $N = 727$, consisting of 322 females, 404 males, and one female identifying as male. The sample consisted of 220 students for the 2013-2014 year, 178 students for the 2014-2015 year, 178 students for the 2015-2016 year, and 151 students for the 2016-2017 school year. The breakdown of grade levels for the total sample size was as follows, 117 12th grade students, 194 11th grade students, 198 10th grade students, and 217 ninth grade students (see Tables 1 and 2).

Table 1

Descriptive Characteristics of the Sample by Grade and Year

Grade	2013-2014	2014-2015	2015-2016	2016-2017
9 th grade	75	51	56	35
10 th grade	55	45	60	38
11 th grade	53	49	44	48
12 th grade	36	33	18	30

Table 2

Descriptive Demographic Characteristics of the Sample by Gender and Year

Grade	2013-2014	2014-2015	2015-2016	2016-2017
Female	103	77	74	68
Male	117	101	104	82
Transgender				1
Female Identifying as Male				

The self-reported ethnic background of the sample included 61.6% White, 10.3% Hispanic/Latino, 5.4% Hispanic/Latino/White, 10.3% Black/African-American, 3.7 % Filipino, 3.0% Asian, 1.8% American Indian, 1.2 % Pacific Islander. Two point five percent self-reported the following multiracial racial backgrounds comprising 1% or less of the total sample each: Black/African American, American Indian/Hispanic/Latino, Declined to state, Filipino/Black/African American, Filipino/White, Hispanic/Latino/American Indian, Hispanic/Latino/American Indian/White, Hispanic/Latino/Black, Hispanic/Latino/Chicano, Hispanic/Latino/Filipino/Black,

Hispanic/Latino/Filipino/White, Hispanic/Latino/Guamanian, Hispanic/Latino/Japanese, Hawaiian, Korean, Laotian, Samoan, American Indian/White, Black/African American/White, Guamanian, Hispanic/Latino/Japanese/White, Japanese, Hispanic/Latino/White, Pacific Islander, Vietnamese, Chinese, and Asian. .1% declined to state an ethnic background (see Figure 1).

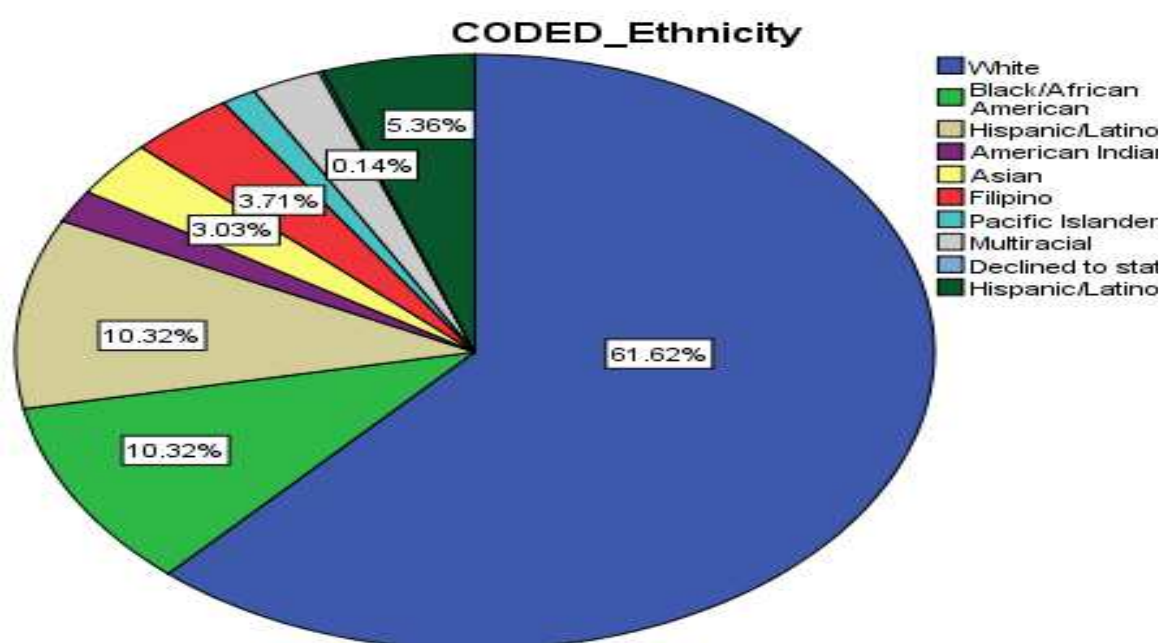


Figure 1. Ethnic background of sample.

Of the total sample size for the study, $N = 727$, 325 or 42.5% of the participants met the criteria for completing Breakthrough and were included in the intervention group, while 402, or 57.5% did not and were included in the control group.

Forty point six percent of students were referred to the program by a school administrator, 39.6% by a school counselor, 5.8% by a parent, 5.5% by a school nurse, 2.6% by a teacher, 1.1% by the attendance office, 1.1% by a school resource officer,

1.1% by a school psychologist, .3% by a family member, .3% by a friend, and .1% self-referred. The remaining 1.9% were referred by other school staff (see Table 3 and Figure 2).

Table 3

Origination of Referral Made to Breakthrough

	Frequency	Percent	Valid Percent	Cumulative Percent
Administrator	295	40.6	40.6	40.6
Counselor	288	39.6	39.6	80.2
Teacher	19	2.6	2.6	82.8
Self	1	0.1	0.1	82.9
Family Member	2	0.3	0.3	83.2
Attendance	8	1.1	1.1	84.3
School Resource Officer	8	1.1	1.1	85.4
Nurse	40	5.5	5.5	90.9
Friend	2	0.3	0.3	91.2
Parent	42	5.8	5.8	97.0
School Psychologist	8	1.1	1.1	98.1
Other	14	1.9	1.9	100.0
Total	727	100.0	100.0	

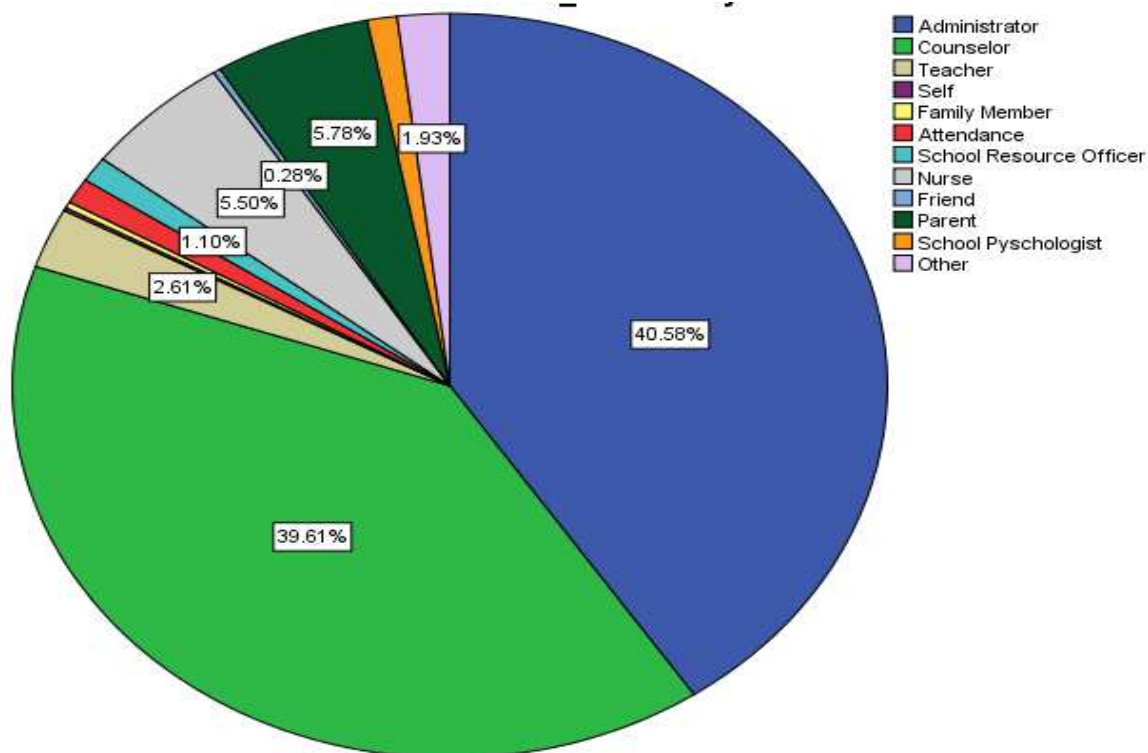


Figure 2. Origination of referral made to Breakthrough

Missing Data

Records with incomplete data were excluded from the data the analysis. Records were only analyzed for each variable if they included both pre and post data. The control group for the variable of grade point average consisted of 247 participants and the treatment group consisted of 210 participants. The control group for the variable of attendance consisted of 196 participants, and the treatment group for attendance consisted of 302 participants. The control group for the discipline variable consisted of 190 participants, and the treatment group for discipline consisted of 302 participants. Due to the use of archival data, data was concluded to be missing due to one or more of the following reasons: students were not enrolled during specified time periods data was

collected on the dependent variables and or gaps in program staff led to gaps in data entry to the Breakthrough database.

External Validity

The overall enrollment for the school district between the school years of 2013-2014 and 2016-2017 was 114,462 students. Of those, 45% were white, 34.6% Hispanic, 5.7% two or more races, 5.3% black or African-American, 4.4% Asian, 3.5% Filipino, .6% Native Hawaiian or Pacific Islander, and .3% were Native American or Alaskan Native (Ed-Data Education Data Partnership, 2018). The sample represented more students identifying as white (61.6%), more students identifying as Black or African American (10.3%), and less students identifying as Hispanic or Latino (15.7%), than the average district enrollment for those school years. Students identifying as Asian were slightly less represented in the sample (3.0%), while Filipino students were closely represented (3.7%). Less multi-race students were represented in the sample (2.5%) than the average, while more Native American students (1.8%) and more Pacific Islander students (1.2%) were represented in the sample.

These differences could be due to how ethnicity data were reported and gathered by the school district, compared with how it was reported and gathered by Breakthrough itself. District ethnicity data, for example, combines multiracial responses into one category, whereas Breakthrough included all races listed by a participant.

Descriptive Statistics

The following tables illustrate descriptive statistics for the study's three dependent variables, grade point average, attendance, and number of behavioral referrals before and after referral and completion or noncompletion of the Breakthrough program.

Table four represents basic descriptive statistics for the variable of grade point average. Initial grade point average and end of year grade point averages are listed by control and treatment groups. The grade point average control group consisted of $N = 247$ and the treatment group consisted of $N = 210$. The control group had a mean initial grade point average of 2.2688 and a mean end of year grade point average of 2.1621, while the treatment group had a mean initial grade point average of 2.1861, and a mean end of year grade point average of 2.3153. The standard deviation of the control group initial grade point average was .84736, and .83347 for end of year grade point average. The standard deviation of the treatment group initial grade point average was .81396, and .79313 for end of year grade point average.

Table 4

Initial Grade Point Average and End of Year Grade Point Average by Treatment and Control Group

		Mean	Standard Deviation	N
Initial GPA	Control	2.2688	0.84736	247
	Treatment	2.1621	0.81396	210
	Total	2.2198	0.83297	457
End of Year GPA	Control	2.3623	0.83347	247
	Treatment	2.3153	0.79313	210
	Total	2.3407	0.81463	457

Table five represents descriptive statistics for the variable of attendance. Initial and post attendance percentages are listed by treatment and control groups. The control group consisted of $N= 399$ for initial attendance percentage (CODED PrAR), and $N= 196$ for post attendance percentage (CODED PoAR) in the control group. The treatment group consisted of $N=322$ for initial attendance percentage, and 302 for post attendance percentage. The mean initial attendance percentage for the control group was 89.0431%, compared to the mean initial attendance percentage for the treatment group of 90.3783%. The mean post attendance percentage for the control group was 90.9628% compared to the mean post attendance percentage for the treatment group, which was 90.9631%. The standard deviation of initial attendance percentage in the control group was 12.61593,

compared with 14.47813 for the treatment group, while the standard deviation of post attendance percentage in the control group was 10.27044, compared with 11.56542 for the treatment group.

Table 5

Initial and Post Attendance by Treatment and Control Groups

		Prior Attendance Percentage (CODED_PrAR)	Post Attendance Percentage (CODED_PoAR)
Control	Mean	89.0431	90.9628
	N	399	196
	Standard Deviation	12.61593	10.27044
	Minimum	0	12
	Maximum	60	60
	Range	100	80
	Variance	159.162	105.482
	Skewness	-2.688	-2.837
	Median	93	94
	Mean	90.3783	90.9361
Treatment	N	322	302
	Standard Deviation	14.47813	11.56542
	Minimum	0	0
	Maximum	60	60
	Range	100	100
	Variance	209.616	133.759
	Skewness	-3.855	-3.477
	Median	95	94.35

Table six represent descriptive statistics for the variable of number of behavioral referrals. Number of prior discipline referrals and number of post discipline referrals are listed by treatment and control groups. The control group consisted of $N= 401$ for prior discipline referrals, and $N= 190$ for post discipline referrals. The treatment group

consisted of $N= 325$ for prior discipline referrals, and $N= 302$ for post discipline referrals. The mean number of prior discipline referrals for the control group was 3.0798, compared with the mean number of prior discipline referrals for the treatment group, which was 1.9046. The mean number of post attendance referrals for the control group was 1.9211, compared with the mean number of post attendance referrals for the treatment group, which was 1.5728. The standard deviation of prior discipline referrals for the control group was 6.62485, and the standard deviation of prior discipline referrals for the treatment group was 2.89425. The standard deviation of post discipline referrals for the control group was 4.40407, while the standard deviation of post discipline referrals for the treatment group was 3.37466.

Table 6

Initial and Post Number of Behavioral Referrals by Treatment and Control Groups

		Prior Discipline	Post Discipline
Control	Mean	3.0798	1.9211
	N	401	190
	Standard Deviation	6.62485	4.40407
	Minimum	0	0
	Maximum	72	30
	Range	72	30
	Variance	43.889	19.396
	Skewness	5.843	4.036
	Median	1	0
	Mean	1.9046	1.5728
Treatment	N	325	302
	Standard Deviation	2.89425	3.37466
	Minimum	0	0
	Maximum	22	30
	Range	22	30
	Variance	8.377	11.388
	Skewness	2.816	4.35

The research questions addressed by the study were: did completion of Breakthrough significantly affect grade point average, number of behavioral referrals, and attendance versus noncompletion of the program, and was there a significant difference in effects on these variables between grade levels. The prediction was that completion of the program will result in a significant positive effect on these variables compared with noncompletion of the program. Time was also examined for an interaction between the variables.

SPSS software was used to analyze study data with a generalized estimating equation for the variables of attendance and number of behavioral referrals. A general

linear model repeated measures test was used to analyze grade point average data. A nonparametric test was used for data analysis for attendance and number of behavioral referrals because the assumptions of ANOVA were not met. These two variables were not assumed to produce normal data, and in fact the variables of attendance and number of behavioral referrals were nonnormally distributed and produced a skewed distribution. The relationships between the independent variables and dependent variables were also not assumed to be linear as would be described using a general linear model. The results of all tests are interpreted in p values for each dependent variable with a 95% confidence interval.

Statistical Analysis Findings

Grade Point Average

A general linear model repeated measures test was conducted to determine if treatment had a main effect on grade point average, if time had a main effect on grade point average, if the interaction between time and treatment had a significant effect on grade point average, and if the interaction between treatment, time, and grade level had a significant effect on grade point average. The interaction between treatment and time was not found to be significant on grade point average $F(1,455) = 2.22, p = .137, \eta_p^2 = .005$. The interaction between treatment, time, and grade level was not found to be significant on grade point average $F(3,455) = .266, p = .850, \eta_p^2 = .002$. There was a significant main effect of time on grade point average $F(1,455) = 27.816, p = .00001, \eta_p^2 = .058$. There was not a significant main effect of treatment on grade point average $F(1,455) = 1.082, p = .299, \eta_p^2 = .002$.

Attendance

The interaction between treatment and time was found to be marginally significant on attendance $\chi^2 (1, N = 1035) = 1.22, p = .269$. The interaction between treatment, time, and grade level was found to be significant on attendance $\chi^2 (11, N = 1035) = 47.006, p = 0.00$. The main effect of time was found to be significant on attendance $\chi^2 (1, N = 1035) = 5.66, p = .017$. The main effect of treatment was not found to be significant on attendance $\chi^2 (1, N = 1035) = .428, p = .513$. Estimated marginal means for attendance are illustrated in table seven.

Table 7

Estimated Marginal Means for Attendance by Treatment and Control Groups

	Pre/Post	Mean	Standard Error	95% Wald Confidence Interval	
				Lower	Upper
Control	1	88.7048	0.74314	87.2601	90.1733
	2	90.9713	0.80654	89.4041	92.5659
Treatment	1	90.0223	0.93992	88.1988	91.8835
	2	90.8556	0.69702	89.4997	92.2321

Number of Behavioral Referrals

The interaction between treatment and time was not found to be significant on number of behavioral referrals $\chi^2 (1, N = 1218) p = .196$. The interaction of treatment, time, and grade level was not found to be significant on number of behavioral referrals $\chi^2 (10, N = 1218) p = .620$. The main effect of treatment was found to be significant on number of behavioral referrals $\chi^2 (1, N = 1218) = 6.13, p = .013$. The main effect of time

was found to be significant on number of behavioral referrals $\chi^2 (1, N = 1218) = 9.34, p = .002$. Estimated marginal means for number of behavioral referrals are illustrated in table eight.

Table 8

Estimated Marginal Means for Number of Behavioral Referrals by Treatment and Control Groups

	Pre/Post	Mean	Standard Error	95% Wald Confidence Interval	
				Lower	Upper
Control	1	3.0798	0.33042	2.4958	3.8005
	2	1.9211	0.31866	1.3878	2.6591
Treatment	1	1.9046	0.16030	1.6150	2.2462
	2	1.5728	0.19387	1.2353	2.0027

Summary

The research questions addressed by the study were: did completion of Breakthrough significantly affect grade point average, attendance and number of behavioral referrals versus noncompletion of the program and was there a significant difference in effects on these variables between grade levels. The interaction between treatment and time was not found to be significant on grade point average. The interaction of treatment, time, and grade level was not found to be significant on grade point average. A significant main effect of time was found on grade point average, and the main effect of treatment was not found to be significant on grade point average.

The interaction between treatment and time was found to be marginally significant on attendance. The interaction between treatment, time, and grade level was found to be significant on attendance. The main effect of time was found to be significant on attendance. The main effect of treatment was not found to be significant on attendance.

The interaction between treatment and time was not found to be significant on number of behavioral referrals. The interaction of treatment, time, and grade level was not found to be significant on number of behavioral referrals. The main effect of treatment was found to be significant on number of behavioral referrals. The main effect of time was found to be significant on number of behavioral referrals.

Overall, the interaction of treatment, time, and grade level was found to be significant only on attendance, and the interaction between treatment and time was found to be marginally significant only for attendance. The main effect of time alone was found to be significant on all three dependent variables. The main effect of treatment alone was found to be significant on number of behavioral referrals. Chapter five will review key interpretations of the findings related to what they contribute to the research on Student Assistance Programs, discuss their relevance to Bronfenbrenner's Ecological Systems Theory, describe the actual limitations of the study, and propose future recommendations for continued research based on the results of the study. Implications for positive social change will also be included in terms of application and implementation.

Chapter 5: Conclusion

Introduction

The purpose of this study was to determine if a specific SAP, called Breakthrough, has a significant effect on grades, behavioral referrals, and attendance of public school students, Grades 9-12 in a suburban Southern California city. The research questions were: does Breakthrough have a significant effect on grade point averages, behavioral referrals, and attendance among students who completed the Breakthrough Student Assistance Program compared to grade point averages, behavioral referrals, and attendance of students who were referred, but did not complete the Breakthrough Student Assistance Program and if so, is there a significant difference in effect by student grade level?

The study used a quasi-experimental nonequivalent control group design. The statistical analyses performed to determine if Breakthrough has a significant effect on the dependent variables were a mixed ANOVA and generalized estimating equation comparing participant data by grade level 60 days prior to completing or being referred to Breakthrough with participant data 60 days after completing or being referred to Breakthrough.

The study was conducted with the hope of highlighting SAPs, specifically Breakthrough, as being viable evidence based interventions for the many barriers to learning children experience today. It was also conducted to add to the small body of research that current exists regarding SAPs on previously understudied variables connected to educational achievement: grades, behavioral referrals, and attendance.

The study found the interaction of treatment, time, and grade level to be significant only on attendance, and the interaction between treatment and time was found to be marginally significant only for attendance. The main effect of time alone was found to be significant on all three dependent variables and the main effect of treatment alone was found to be significant on number of behavioral referrals. While student attendance significantly improved over time with completion of the Breakthrough program for certain grade levels, the interaction between treatment and time alone was only found to be marginally significant. Completion of the Breakthrough program did not have a significant effect over time on the variables of grade point average or number of behavioral referrals and in fact, students who did not complete the program had fewer behavioral referrals over time versus students who did complete the program.

Interpretation of Findings

The current study sought to add to the limited research related to SAPs. Loneck et al. (2010) identified student attendance records, student behavioral referral records, and student academic records as areas that have been inadequately addressed in current SAP research. While the current study added to the gap in research on SAPs regarding these three variables, it did not confirm or disconfirm previous and previous findings yielded by the literature review. Of the two SAPs considered “model programs” by NREPP, the Residential Student Assistance Program (RSAP) and Students Taking a Right Stand Nashville Student Assistance Program, neither addressed school achievement related variables, making their findings in terms of outcome incomparable with the current study.

The theoretical framework for the study was Bronfenbrenner's ecological systems theory which suggests that human development is directly influenced by many different interfamilial and extrafamilial systems of operation that are in concert with one another (Yaoying & Filler, 2008). Corrigan, Videka, Newman, Reed, and Moonan (2010) suggest that all SAP activities are driven by the systems perspective citing cultural sensitivity and employment of resources in the larger community within their intervention techniques. Depending on area of need, students completing the Breakthrough student assistance program may have been referred to resources in the mesosystem, such as the school level, or may have been referred to outside community resources for services such as anger management or substance abuse treatment which exist in the exosystem. The only significant findings in the current study were related to the variable of attendance, with grade point average and number of behavioral referrals not significantly changing after completing Breakthrough.

Regarding ecological systems theory, these findings seem to generate more questions than answers. Each of the dependent variables in the study were related to the mesosystem, yet completing Breakthrough had different levels of effect on each ranging from no significance at all to statistically significant over time depending on grade level. The data on individual referrals made to students completing Breakthrough were not available to the researcher at the time of data collection. If this data were available, it could have been further analyzed to see which interventions were more or less significant to attendance depending on what system they came from. Students receiving a service that improved conditions at home, such as assistance with food, for example, could be

compared with services received within the larger community, such as anger management, to determine which had a larger effect on attendance.

The fact that Breakthrough did not have a significant effect on all three variables could also suggest that a one size fits all approach may not work for certain variables related to the mesosystem. Although referrals to resources were made to several different systems of operation, variables such as grade point average and number of behavioral referrals may span more than one system and may require interventions in more than one system, for example.

Finally, the findings of the study may also suggest that ecological systems theory may be more applicable to research on improving attendance than on improving grade point average and number of behavioral referrals. In other words, approaching attendance through a systems perspective may yield better results than through another perspective

Limitations of the Study

The largest limitation of the study was missing data. The 2013-2014 end of year grade point averages were not available to the researcher, and not included in the analysis, leaving out an entire year. This data could have potentially affected the outcome of the effect of Breakthrough on this dependent variable. This was unknown to the researcher when writing chapter one.

The other limitations of the study remained the same as discussed in chapter one. Extraneous variables such as treatments and supports students participated in outside the program concurrently with Breakthrough were not known or controlled for. Participants may have completed Breakthrough and utilized the resources that were offered while also

seeking out other private intervention options at the same time, such as private tutoring. This data was not collected by the program. Confounding variables such as differences in personal traits may also have made it more or less likely for a student to complete the program affecting the dependent variables, thus limiting the generalizability to a completely random selection of participants. Due to the use of archival data, group assignment was not random for the study and the groups were not equivalent, which may have caused selection bias.

Recommendations

There are several recommendations that can be made after interpreting the findings of the current study. First, complete grade point average data could be analyzed to include all school years to get a more accurate account of Breakthrough's effect on this variable. Of the four years analyzed, the 2013-2014 year was not included for grade point average, which weakened the results. Second, future data could be collected to include what resources students who completed the program utilized in order to compare to each other to see if one had more of an effect than another or had more impact on one variable or another. At this time, it is unknown which resources students who completed the program utilized, hence it is difficult to make any hypotheses about why they worked or did not work. Third, future data collection could include whether or not students were seeking other outside interventions or just participating in Breakthrough. Finally, with regard to ecological systems theory, the type of intervention utilized by students who completed Breakthrough could be collected and coded per system that it belonged to in

order to determine whether interventions within different systems had more or less effect on problems experienced in the mesosystem.

Overall, examination of the same variables, under different conditions and with accompanying data not analyzed in this study, would continue to add to the small body of research on SAP's in the areas of attendance, grade point average, and number of behavioral referrals.

Implications

The goal of the current study was to increase the available research on a particular type of intervention related to barriers to learning, SAPs. Specifically, an SAP called Breakthrough was investigated for its effect on attendance, grade point average, and number of behavioral referrals in hopes of providing evidence that SAP's are a viable and effective intervention for students that can be implemented at an organizational level. While Breakthrough did not have a significant effect on all three study variables, it did have a marginally significant effect on attendance over time, and a significant effect by grade level over time, showing some promise. This information could lead to more formal development of SAP's within school districts for improving attendance by providing a multitude of interventions to students who may not have much at their disposal. With regard to methodology, if data were concisely and intentionally gathered with the intent of determining program expansion, more significant findings could be connected with school achievement related variables such as grade point average and number of behavioral referrals. The increase in available options that remove barriers to learning, or at least mitigate them, can only contribute to positive social change by

allowing students to be more successful in their educational careers, having a ripple effect on each system a student is a part of.

Conclusion

As long as students experience barriers to learning, interventions to help these students will be necessary. Schools are becoming more often a place where students can receive help for non-academic issues that are impeding learning. In many instances, public organizations, such as schools, may only support programs and interventions that are evidence based. In this respect, with the growing number of students experiencing some type of barrier to learning during their educational careers, available interventions provided by schools also need to grow. Student Assistance Programs, or SAP's utilize existing staff and community resources to affordably provide interventions to schools for many different problems they may experience. This study examined Breakthrough and found its effects were mainly on attendance, but could possibly be found more effective with more intentional planning of data collection. More formal research on SAP's could lead to development of model programs reaching many more students than they do today.

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