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# Best Practices for School-Based Mentoring Programs: A Systematic Review

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## Best Practices for School-Based Mentoring Programs: A Systematic Review

by

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MSW Clinical Research Paper

Presented to the Faculty of the  
School of Social Work  
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The Clinical Research Project is a graduation requirement for MSW students at St. Catherine University – University of St. Thomas School of Social Work in St. Paul, Minnesota and is conducted within a nine-month time frame to demonstrate facility with basic social research methods. Students must independently conceptualize a research problem, formulate a research design that is approved by a research committee and the university Institutional Review Board, implement the project, and publicly present the findings of the study. This project is neither a Master's thesis nor a dissertation.

### Abstract

The latest research indicates that children experience traumatic events more frequently than ever expected. As a result, many youth carry symptoms of their trauma that put them at risk for diminished academic and social success. School-based mentoring programs (SBMPs) are one support that has historically been utilized as an intervention for at-risk youth, but that has not specifically targeted children who have experienced trauma. Unfortunately, the literature available on SBMPs is neither comprehensive nor uniform, which prevents cross-comparison between interventions to determine best practice methods for SBMPs supporting youth who have experienced trauma. This research used a systematic review to determine whether SBMPs are able to address the needs of this population. Findings from this review noted that relational impact, even in the short term, was a significant factor in all types of outcomes, and despite a behavioral focus in the referral process few programs carried behavioral support through program implementation. Implications for practice and further research include: the importance of proactively preventing slow program start-up, improvement of data collection practices to differentiate between influencing variables, and further exploration into specific SBMP interventions that more fully support populations that do not see the same positive effects from SBMPs as their peers.

*Key words:* school-based, mentoring programs, trauma

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## Introduction

Over 850,000 students were enrolled in Minnesota early childhood education through the 12<sup>th</sup> Grade during the 2015-2016 year (Minnesota Dept. of Education [MDE], 2016c). Each of these students lives with their own story. For many, the student experience is rife with challenges. These can originate both inside the school system and as a result of outside influences. Challenges such as homelessness, community violence, and incarceration of parents can create stress in a child's life (Farmer-Hilton & Adams, 2006). Childhood stress can be depicted on a continuum. On one end, typical and predictable stress is necessary for healthy development and for building skills. However, the other end of the stress continuum can cause incredible damage to children. Walkley and Cox (2013) use the term "toxic stress" to define the stress that occurs as a result of exposure to traumatic events. Toxic stress can negatively affect the development and growth of a child.

It is becoming more widely recognized that toxic stress is far more prevalent than first perceived. The Kaiser Adverse Childhood Experience (ACE) study explored events that can trigger toxic stress during childhood. These experiences included: abuse, neglect, household substance abuse, household mental illness, parental separation or divorce, mother treated violently, and incarcerated household member (Centers for Disease Control [CDC], 2016). Of the study participants, 63.9% reported experiencing at least one ACE. Almost one in four participants experienced three or more ACEs in their childhood (CDC, 2016). The ACE study did not consider poverty as an ACE. However, there is growing support for the notion that poverty is a form of trauma (Center for Nonviolence & Social Justice, 2014). This would suggest that the proportion of individuals who have at least one ACE is much higher than suspected.

Children who experience trauma face impairments in many domains of life including, but not limited to, their ability to regulate emotions and behavior, how they attach to others, and their cognition (Cook et al., 2005). The deficits resulting from toxic stress point to an obvious need to create supports for these youth. However, great difficulty lies in the reality that many children never disclose trauma (Felitti, 2009). The school system is one setting professionals have access to children who need support, whether a disclosure has occurred or not. Yet, despite this access school social workers are burdened with the impossible task of reaching many children with few resources.

Many school social workers have turned to a Multi-Tiered System of Supports (MTSS) to address these student needs. MTSS is a framework that maintains the importance of universal screenings and interventions, and the use of evidence based intervention to students who are not effectively served at a universal level (Iowa Dept. of Education, 2017). This approach lends to an intervention continuum that can effectively support children who have undergone a traumatic experience, whether or not they have disclosed. One MTSS intervention, mentoring programs, appears to be particularly suited to address the needs of students who have experienced trauma. School social workers utilize mentoring programs to reach a population of students that requires academic, behavioral, and emotional support. Youth who have experienced trauma often do not have an adult in their life with which they share a supportive, trusting relationship (Jucovy & Garringer, 2007). This presents mentor programs as an ideal intervention for this population.

Mentor programs are generally viewed to be an effective method to address the needs of students who may have experienced trauma. However, there are many influencing barriers that can prevent success with this intervention. Effective evaluation of mentor program outcomes are

essential given the complexity and importance of a mentoring program's purpose to serve struggling youth.

Ineffective programming has been found to result in negative impacts for youth by following practices that are known to damage the mentorship experience, such as early termination of the match (The National Mentoring Partnership, 2015). The literature reveals a startling gap in evidence that suggests there is no uniformity in the evaluation standard for mentor programs across the United States. Scholarly works use differing evaluation methods, analyze unrelated outcomes, and utilize different standards when concluding on a program's effectiveness. This prevents effective cross-comparison of mentor programs to determine best practice standards across the industry. This resulting gap points to the need for a systematic organization of the themes present in mentoring program evaluation across the research literature.

This study consisted of an evaluation of 14 studies on School-Based Mentoring Programs (SBMPs). This research strives to determine if SBMPs are a good fit solution within the framework of MTSS to address the needs of students who have experienced trauma. This was analyzed through a general review of student outcomes along with an evaluation of trauma related components in each program. This study gathered conclusions based on the patterns and themes present through these studies in the design, implementation, and outcome findings. Finally, this research evaluated each SBMP for an acknowledgement of trauma in the referral process, and for the presence of program design components that support youth who have experienced trauma.

Through a literature review readers will be oriented to the current considerations that must be made regarding this topic. A review of research lenses will provide transparency on the

worldviews responsible for shaping this project's development. Methods of the research will be outlined in detail to provide evidence for the reliability and validity of the data collection and analysis. Finally the findings of this research and a discussion of the results will be presented to examine the patterns persistent through current programs, and the level of focus each program places on meeting the needs of youth who have experienced trauma.

## **Literature Review**

Students who experience trauma benefit from intervention, and SBMPs appear to be well suited to this endeavor. However, the literature on program outcomes lacks consistency, which makes it difficult to determine if the realities of program implementation meet this expectation. This literature review will discuss how trauma affects the lives of students in the school setting, school social workers and their task to support a wide base of students with minimal resources, and MTSS as an intervention framework. Mentorship programs will be examined in depth regarding their potential for effectiveness as an intervention method for children who have experienced trauma. Finally, gaps in the current literature and barriers to successful intervention will be discussed to illustrate the great need for a systematic review of the existing literature on SBMP outcomes.

### **Students and Trauma**

Trauma is defined as “an experience that threatens the life or physical integrity of oneself or others and that overwhelms an individual’s capacity to cope” (Deihl, 2005, p. 5). Traumatic experiences for children can occur when they become afraid for the lives of loved ones or themselves, undergo a painful experience, experience a deep loss, along with a multitude of other experiences. Children can, and often do, undergo more than one experience of trauma in their young lifetime (Deihl, 2013). Bath (2008) provides an explanation of the difference between the types of traumatic stress. “[T]ype 1, or acute trauma... results from exposure to a single overwhelming event, and type 2, or complex trauma (a.k.a. developmental or relationship trauma)... results from extended exposure to traumatising situations” (p. 17). Deihl (2013) asserts that acute trauma can result from a wide range of events such as school shootings, car crashes, a painful medical procedure, or the death of a loved one. Chronic traumatic situations

are often associated with complex trauma. These may include community violence, domestic violence, neglect, or ongoing abuse (Deihl, 2013). Living in poverty is also considered by some to be an enduring traumatic experience (Center for Nonviolence & Social Justice, 2014).

Traumatic experiences such as these can hinder a student's ability to succeed socially and academically, and children carry the physical, emotional, and developmental repercussions with them through their young life.

Children who have experienced trauma typically show impairment in one or more of the following seven areas: attachment, biology (development), affect regulation, dissociation, behavior control, cognition, or self-concept (Cook et al., 2005). Brain chemistry and neural pathways are physically altered by the toxic stress brought on by traumatic experiences (Walkley & Cox, 2013). This reaction is due to the repetitive affect of the brain responding to a stressor, which eventually leads to a change in brain structure. The brain of a child who has experienced complex trauma is wired to ensure safety. As a result, the brain prioritizes typical childhood experiences and learning as secondary priorities to ensuring survival. The brain structure changes that ensure safety also promote behaviors such as avoidance, hostility or resistance (Bath, 2008). This can be generalized in terms of an overactive "fight, flight, or freeze" response. These reactions are always turned on in a brain that has adapted to ongoing trauma (Deihl, 2013). Outcomes and symptoms of trauma often align with those associated with the clinical diagnosis of Post Traumatic Stress Disorder. Examples of this can include focusing on traumatic triggers, inability to concentrate, hyper-vigilance, and hyper-arousal (Bath, 2008). Some of these symptoms can be particularly detrimental in a school or in other structured settings. While these behaviors are adaptive and protective in traumatic situations, often these reactions are the cause of problems in other environments.

Many students lack the supports they need to succeed in the school environment. Patterns of consistent frustrations and barriers to resources persist throughout the literature. School professionals, such as school social workers, feel there is a lack of available resources for students and families, lack of sufficient funding to support existing programs, and stressors that occur for students outside of the school setting (Peckover et al., 2013). This can often translate into disciplinary action for students when trauma-induced impairment results in behavior that is unacceptable in the school setting. In 2014-2015 there were 441,743 disciplinary actions, which included out of school suspensions, expulsion, or exclusions in the state of Minnesota alone. (MDE b, 2016). Sadly, the literature shows that these adverse affects do not end in once the child reaches adulthood. Many dangerous habits such as smoking, excessive alcohol consumption, and over-eating are common coping habits developed by individuals who have experienced trauma (Felitti, 2009). It was also found that the more ACEs a child experiences, the greater the intensity of the negative health outcome (CDC, 2016).

Felitti (2009) asserts that some of the most important findings of the ACE study included the evidence that exposure to ACEs is much more prevalent than the professional body has realized. In addition, these experiences often go unnoticed or disguised as somatization during childhood only to reveal themselves later in adulthood through adverse health outcomes. Disclosure is rare, so children are often served because of problems caused by traumatic symptoms through mental health treatments or behavioral intervention (Deihl, 2013). There are many reasons that children choose never to divulge their experience. Youth who do not disclose may never be treated for their trauma and instead are supported through interventions that treat the visible symptoms such as social difficulties, academic issues, and mental health concerns. To put this into perspective, 133,742 were enrolled in Minnesota schools with a recognized

diagnosis including both medical and mental health diagnoses (MDE, 2016a). Given the high prevalence of ACEs and their related symptoms, it is reasonable to conclude that there are likely many children in this category who have experienced trauma. This statistic does not take into account the untold number of students who experience trauma related symptoms at a level that is too low for formal diagnosis. Trauma Informed Practice uses a lens that takes these adaptive behaviors and recognizes an external, injurious, cause (Center for Nonviolence and Social Justice, 2014). This lens allows for a person-centered, strengths based approach when working with children exhibiting behaviors that are detrimental to their success. Trauma Informed Practice is not the assumption that every person has undergone a traumatic experience. Rather, Knight (2015) describes the practice as an approach in which clinicians are “sensitive to the possibility” that a trauma history exists and is informing behavior. This approach encourages positive human interaction as a foundational experience necessary for all children in order to maintain healthy growth. Children who have experienced trauma need adults who can help them to heal. (Bath, 2008).

### **School Social Work**

The school system is one setting helpers and clinicians have access to youth who struggle to cope with a traumatic history. This makes schools the obvious setting to provide supports for these children. The school social work role itself is diverse. Integrating diagnostic considerations, student and family support, collaboration with colleagues, and larger systematic change all require clinical knowledge and practice for effective engagement (Altshuler & Webb, 2009). A clinical perspective is particularly necessary when engaging in students who have experienced trauma. These children often display a unique intertwining of symptoms and

behaviors. The clinical perspective holds notable importance when unraveling these complexities.

The literature exposes numerous barriers for students and the social workers implementing supports in the school setting. Outside systems can affect the school climate and can influence a student's educational experience. An unstable home life, persistent stressors in the larger community, political climate, and classroom and peer dynamics can require unique intervention responses (Richard & Villarreal Sosa, 2014). School social workers are faced with the challenge of providing interventions for students in the school sphere, when they have little control of a child's experience at home or in their community.

Many students lack the supports they need to succeed in the school environment given the variety of challenges they face on a daily basis. The numerous and far-reaching stressors on students illustrate the great need for school social workers to implement support systems that aid students along a continuum of structured interventions and supports. The complexity of supporting students with undisclosed trauma makes wide nets of intervention all the more important. Interventions to support children who have experienced trauma can improve long-term outcomes (Cook et al., 2005), making this a crucial endeavor.

With this responsibility in mind, how can school social workers engage with the many youth in need of support? Persistent barriers to resources like time and funding make the MTSS intervention of mentor programs appealing to many individual support professionals as an intervention capable of reaching many students.

### **Multi-Tiered Systems of Support (MTSS)**

Multi-Tiered Systems of Support is a decision-making framework that provides support universally over the student body and acknowledges the need for multiple systems of support

depending on a student’s need (Iowa Department of Education, 2017). As a result, this model supports all children, including at-risk children or those with undisclosed trauma histories who would otherwise go unnoticed (Deihl, 2013). MTSS provides intervention on three Tiers: Tier 1, wide-scale, standardized tool set; Tier 2, small group or individualized supports; and Tier 3, highly individualized interventions for students who cannot be effectively served with only Tier 1 and 2 supports. The California Department of Education Diagnostic Center (n.d.) provides a graphic illustration of the levels of MTSS supports, and the characteristics of each tier of support (see Figure 1. MTSS Tiers of Intervention).

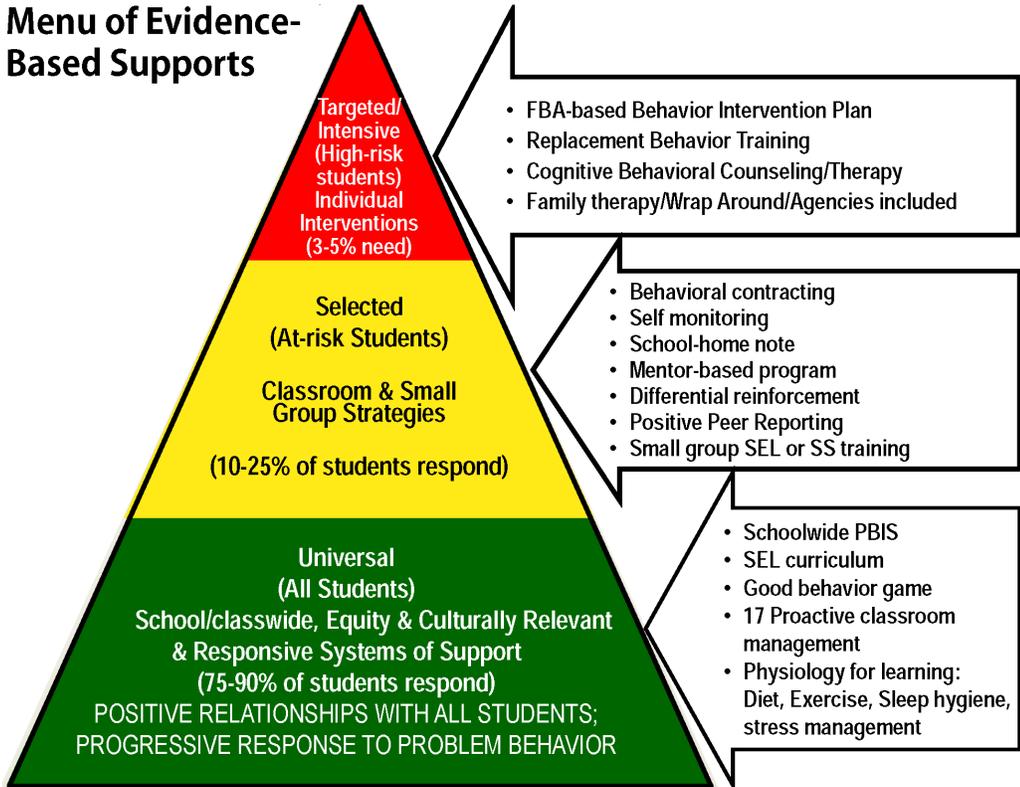


Figure 1. MTSS Tiers of Intervention.

Tier 2 interventions are particularly important when supporting students who have a trauma history. Tier 2 supports specifically targets between 10% and 15% of the student body

(Sugai & Horner, 2006 as cited in Ennis & Swoszowski, 2010). These students require more support than the Tier 1 programming structure and prevention can provide. These youth typically present with behaviors that are disruptive to the learning environment, but are not dangerous in nature (Frank et al., 2009). This type of behavior can often be seen in youth who have experienced trauma. As such, Tier 2 has the potential to serve many individuals with a trauma history, and who are exhibiting survival behaviors that cause conflict in the school setting. Some examples of at-risk students who may benefit from Tier 2 are those with poor social skills, an inability to connect with peers, academic struggles, or are dealing with stressors in their home environments (Lewis & Surgai, 1999 as cited in Ennis & Swoszowski, 2010). Because of the connection between Tier 2 and behaviors, it is also highly likely that students with undisclosed trauma will be referred into a Tier 2 level of support.

Tier 2 framework is well designed to support students with histories of trauma. Tier 2 interventions target children experiencing adjustment issues, poorer outcomes, and behaviors of disengagement (Lewis & Surgai, 1999 as cited in Ennis & Swoszowski, 2010). These students engage in behaviors that put them at risk for diminished academic and social success. As these behaviors can also be symptoms of traumatic history, children who have experienced trauma are often in this group. Of the three tiers, Tier 2 interventions in particular have been the subject of ongoing research identifying the framework's ability to address a wide range of behavioral problems. It is no coincidence that youth who have experienced trauma fall into this category as a result of the behaviors they exhibit due to their trauma history.

### **Mentoring Programs as a Trauma Intervention**

Mentoring programs are a Tier 2 intervention particularly suited to children who have experienced trauma. All children need access to a supportive and affectionate relationship as they

grow. Unfortunately many youth, especially those who have undergone a traumatic experience, do not have an adult in their life with which they share a supportive, trusting relationship (Jucovy & Garringer, 2007). Mentoring is one Tier 2 method that has historically been utilized as an intervention for at-risk youth, but that has not necessarily identified as targeting children who have experienced trauma.

There are many mentoring programs all over the United States. They each serve unique populations of youth, compete for mentors as a resource, and have individualized purposes. Despite these differences, the basic framework of all mentoring programs seems to be a magnet for children who have experienced trauma due to the difficulties they have with the affiliated symptoms in other settings. Mentoring programs may be the ideal intervention to support school social workers. In a survey regarding barriers to effective student support, social workers identified lack of time, large caseload sizes, lack of funding and resources as significant barriers (Teasley, Canfield, Archuleta, Crutchfield, & Chavis, 2012). Teachers are in a position to assist social workers in this support, but many do not have the capacity to support a student on the intensive level that a Tier 2 intervention, such as a mentor program can provide. For instance, Ko et al. (2008) indicates that teachers found themselves with a conflicted purpose to provide education to a classroom of students and to support the additional needs of students coping with toxic stress (as cited in Alisic Bus, Dulack, Pennings, & Splinter, 2012). Mentoring programs can provide schools with an ideal intervention to prevent these youth from slipping through the cracks and losing out on the talent and often times untapped potential they possess. McCluskey, Noller, Lamoureux, & McCluskey, assert (2004) that the “talents unfulfilled” by disengaged youth pose a high cost to society, in addition to the tangible costs such as unemployment and

delinquency. This makes finding a suitable intervention for students who have a trauma history even more important.

Mentoring programs have been shown to result in multiple positive effects, particularly with children in a school setting. Research shows that a positive experience with the school system early on can, in turn, have positive effects on student outcomes. In addition, students who believe in the worth of schooling also have better academic outcomes (Berzin, 2010). Other research has revealed that mentoring programs can improve social skills, increase positive classroom behaviors, encourage academic engagement and school enjoyment, and result in a reduction in office referrals and instances of fighting (Herrera, 2004). Evidence shows mentoring programs typically result in an increase in academic success, reduction in skipped classes, improvement in work quality, reduction in missing assignments, reduced disciplinary action such as suspension or juvenile delinquency, and an increase in overall academic confidence (Jucovy & Garringer, 2007). Farmer-Hilton & Adams (2006), too, note the importance of reinforcing positive messages about a student's ability and potential, which is a key objective of mentor programs. This method has also been found to be successful in creating a stable and reliable relationship between students and their mentors (Martens & Andreen, 2013).

Healing from trauma does not necessarily need to occur with a therapist in a clinical setting (Bath, 2008), nor do professionals need to wait for challenges to accumulate to a level requiring Tier 3 intervention before intervening. Mentoring programs have the ability to provide a connection with a role model and supportive adult while building skills needed to succeed in their environment. It is important these adults and peers provide and reinforce messages of ability and approval (Farmer-Hilton & Adams, 2006). For youth who have experienced trauma, mentors can be a vehicle to teach the skills needed to distinguish between a threat and a safe

adult as an alternative to the automatic belief that all connections are unsafe. Mentors can provide a connection to rewire automatic reactions to more positive emotional responses (Bath, 2008), which can lead to more positive outcomes. Successes of mentoring programs are far reaching and touch on every aspect of a youth's life from academics, to peer interaction, to emotional regulation.

Despite the potential gains, there are many barriers to implementing an effective mentoring program. Several studies have found that role confusion and differing expectations from involved adults such as parents, program directors, teachers, etc., is a barrier to a positive mentor-mentee relationship (Jucovy & Garringer, 2007 and Colley, 2003). In addition, the act of mentoring at-risk youth is in itself challenging, and requires commitment and training (McCluskey et al., 2004). Youth who are difficult to engage with or who present with challenging behaviors can be seen as disheartening and problematic for mentors (McCluskey et al., 2004). This is true particularly of those children who have experienced trauma. These youth will often view personal connections as dangerous and will react by pushing the potential support figure away (Bath, 2008). The duration of a mentor-mentee relationship is a large factor in determining the success of a student. The longer the duration the more likely a positive, lasting connection will be made, and often outcomes are better (Herrera, 2004). It has also been seen that inconsistent contacts with a youth can be damaging to the relationship (Jucovy & Garringer, 2007). This lasting relationship can be challenged by youth who have experienced trauma and have difficulty connecting to their mentor.

From outward appearances, mentoring programs have the capacity to serve as an ideal method for supporting youth who have experienced trauma within the school-based MTSS structure. However, the multiple barriers to an effective program can depend heavily on the

unique design of the program and the implementation of the supports. This uncertainty points to a need for additional research to determine if programs are able to implement practices in a way that supports student outcomes and acknowledges possible hidden trauma.

### **Gaps in the Literature**

Given the potential barriers to a successful mentor program, it is necessary that Tier 2 mentoring program interventions be based on evidence-driven practice. Unfortunately, mentoring programs do not always utilize the literature when creating and maintaining these programs (McCluskey et al., 2004). Evaluation is a crucial piece to creating and improving on an effective program for these youth. However, often the research conducted is not uniform, uses different data collection methods, focuses on different measures, or is simply incomplete. This lack of uniformity results in an inability to easily compare mentoring programs to determine best practice methods of implementation. The resulting gap points to the need for a systematic organization of the themes present in mentoring program evaluation across the research literature. These themes can then be structured into an evaluation standard that can be used to assist programs in improving over time.

McCluskey et al. (2004) points out that concerned adults do not create mentoring programs to do research. The primary motivation is to help children. Evaluation of mentoring programs can be tedious and can take valuable time away from direct support for these youth. There is variation in the identification of important outcomes across the scholarly works evaluating mentor programs. It is difficult to define soft outcomes such as relationship qualities and characteristics like self-esteem. Tangible outcomes such as grades and occurrences of delinquent actions are much easier to measure (McCluskey et al., 2004). Yet these outcomes can be influenced by many variables in the student's system. The literature acknowledges that unless

evaluation compares youth to their peers not in the program and considers pre and post scores it cannot be determined with certainty that mentorship programs directly impact student outcomes. Therefore there is also no certainty that results are driven by cause and effect (Colley, 2003 & Herrera, 2004). Despite this, there is ample evidence describing the correlation between mentor relationships and improved youth outcomes. Yet, the multitude of variables in a child's life system makes it difficult to choose outcomes to measure for correlations to the success of the program. Colley poses the question, "*which* values and attitudes are to be instilled in young people, and *whose* interests?" (2003, p. 528). Her words illustrate the potential for misinformed though well meaning intentions to fix youth in a program system that may not fit with their needs or life circumstance.

Given this clear need for consistent evaluation to inform improvement, the body of literature paints a startling picture of a lack of uniformity in the dissemination of the research of mentor programs. For instance, in an evaluation of an elementary mentoring program the researcher's analysis went in depth on the perceptions of teachers, students, mentors, and families as measures of success, but did not report on the more tangible outcomes such as academic or disciplinary action changes (Ryan, Whittaker, & Pinckney, 2002). In another mentor program evaluation, self-esteem, school, family, and peer connectedness, and engagement in unhealthy behaviors were used as measures to determine the success of the programs (Lee, 1999). The inconsistency of outcome measures can hinder a program's ability to adapt to the needs of the youth. This gap does not readily allow for a determination on whether programs are able to implement best practice standards with their design, and whether mentoring programs are indeed an appropriate intervention for youth who have experienced trauma.

The inconsistencies in the current body of literature point to the need for a review of the patterns that arise in programs that have been implemented in schools. This research strives to determine if SBMPs are indeed a good fit solution to address the needs of students who have experienced trauma within an MTSS framework. This study gathered conclusions based on the patterns and themes present through these studies in the design, implementation, and outcome findings.

### **Research Lenses**

It is important for a researcher to critically examine and discuss the lenses present when developing a research project. By articulating these lenses, the researcher offers transparency in terms of how the worldview of the researcher impacts the development of the project. The ease in which researchers can skew data to reflect a desired outcome makes it crucial to acknowledge each lens that has had influence over the development of the project. Articulating these lenses provides the reader with the information needed to critically examine the research, and increase the credibility of the researcher, particularly with qualitative analysis. The inclusion of the research lenses also provides the researcher with the opportunity to acknowledge where possible bias may arise in the research process, to foresee and avoid possible pitfalls throughout the project, and make plans to prevent the skewing of outcomes in their findings. To do so, I will discuss the theoretical lenses that have influenced my worldview, the professional experience lenses that shaped my understanding of this topic, and my personal lens that influenced the direction this project traveled.

### **Theoretical Lenses**

I entered into this project with a set of theoretical viewpoints that I hold in high importance. These theoretical frameworks are grounded in the literature, but also provide a lens in which I view this project. My adherence to Trauma Theory and Systems Theory shapes my worldview in regards to this project.

**Trauma theory.** At its essence, Trauma Theory proposes that individuals who have experienced trauma will undergo changes in brain chemistry and engage in behaviors that are a direct result of this trauma. Trauma Theory asserts that these individuals are not morally bad in their being, but instead that they are damaged and in need of healing (Center for Nonviolence

and Social Justice, 2014). There is growing evidence supporting these body and brain changes that result from traumatic experience. As such, it is becoming more widely accepted that trauma is the cause of what were once considered maladaptive behaviors.

The literature concurs that trauma can induce physical changes in the body and brain chemistry. Trauma causes higher doses of stress hormones to activate in individuals who have experienced trauma than their non-traumatized peers. These stress hormones stay active long after the threat of danger has passed in individuals who have experienced a trauma. This long-term release of stress hormones can be devastating to long term health outcomes (Van der Kolk, 2015). An overactive fight-flight-freeze response is a key component to trauma theory. Trauma Theory asserts that individuals who have experienced trauma have an oversensitive survival response that can be triggered by minor changes in the individual's environment (Bloom, 1999). The hyperactivity and hyper vigilance of individuals who have experienced a trauma can also be explained by a brain- body response. The high levels of the hormone serotonin cause the amygdala, a key part of the brain's emotional response system, to become hyperaware of possible threats in the environment. Individuals who have experienced a trauma have been shown to have higher levels of serotonin than their counterparts (Van der Kolk, 2015). In these ways Trauma Theory explains the maladaptive and excessive behaviors of children in the school setting.

I fully subscribe to the statements made by Trauma Theory. I agree that every behavior and emotion has an explanation, and that for many children with undisclosed trauma these symptoms are labeled as delinquency. This theory has shaped the development of this project by guiding decisions made around data collection and data analysis tools. For instance, it influenced the decision to focus on youth who exhibit these behavioral symptoms in the project by choosing

gifted and talented mentor programs as an exclusion criterion in data collection. In data analysis, this lens guided me to ask questions about each mentoring program's capacity to support children who have experienced trauma. One such analysis element reviews each mentor program for the six components necessary in traumatic healing. As such, this lens was an important guide in developing this project.

**Systems theory.** Systems Theory asserts that each individual is connected to larger, complex systems that influence that individual behavior and circumstances (Simmons School of Social Work, 2014). Systems can be as small as a family unit and as large as the broader society that each individual connects to (Tropeano, 2015). This lens was important in the development of this project due to a child's inherent dependence on the systems they interact with. Children who have experienced trauma are especially attuned to their environment. The systems they participate in strongly influence their behaviors and reactions due to the body and brain changes that result in constant arousal. A child who has experienced trauma is heavily influenced by the system in which the abuse was, or is occurring. The school environment is a standard system of influence for all children, and for children who have experienced trauma it can be a system of either supporting or degrading influences. The child is also likely to have system influences in the larger community, with immediate family, and with extended family. The child may have systems that include a mentoring program, extracurricular clubs, or a religious community.

By nature of a child's age and inherent vulnerabilities, Systems Theory becomes an important influencing lens when looking at the school system and mentoring programs in addressing the reactions these children have to the systems around them. This lens influenced the development of the initial research question. My adherence to systems theory guided the direction of this project toward the school setting and toward mentoring programs as an

intervention. Schools are a common influencing system for all children and it can be argued that schools have the capacity to heavily shape a child through their system influence. Mentoring programs are not a system that lends to the all-encompassing influence of schools, but rather provides a system connection on a deeper level with the mentor and other members of the program. This lens causes me to view these two systems as heavy influences in a child's life and guided project in that direction.

### **Professional Lenses**

In my professional work I have been in two settings that have influenced my worldview in regards to the research topic of students with trauma and mentor programs as intervention methods. My first professional lens was developed in my experience working in Treatment Foster Care. It is my strong belief that traumatic experiences can do immeasurable damage to children. In this setting I worked exclusively with children in the foster care system that were identified to suffer from intense histories of physical abuse, sexual abuse, and neglect. This experience provided me with the opportunity to witness first hand the staggering effects of the brain and body chemistry changes due to traumatic histories. At the time I knew little about the brain functioning behind the intense behavioral and emotional reactions I witnessed. However, it remained clear that the behaviors these children engaged in pointed to their history of trauma. Each child came into our program with immeasurable damage due to the trauma they had faced.

My second professional lens has developed through my current experience in an elementary school setting. In this setting, I work with a school full of children who would benefit from support. I have seen that this high need cannot be met by just one social worker. It has become my belief that there will never be enough resources to completely heal every child, but that every small act of support can make a difference. This belief has caused me to search for

methods of support that will reach the widest base of children in need of healing. This school has begun its mentor program in an attempt to address the needs of some of these children. As a result, I have had the opportunity to see first hand how a mentoring program may be a solution in my search for interventions that reach large numbers of children.

This experience has influenced the data collection and analysis in this project. As I am in the midst of co-coordinating this mentoring program, it was important to keep thoughts and bias associated with my own experience separate from the programs I systematically reviewed. To protect against this potential bias, the instruments I created were formatted in such a way that the data itself was collected systematically, with little room for personal insight or bias during the data collection phase. This lens has also influenced data analysis. In critically examining these scholarly works, I have had first hand experience with mentoring programs as a method of addressing the needs of many children. This has allowed me the insight to ask analysis questions that may have been overlooked by a researcher who is not familiar with the nuances of implementing a mentoring program. This lens provided an influence that allowed me to go past the theoretical knowledge of analysis and into the practical applications of the research. This influence added to the depth of this research and credibility to the final outcomes.

### **Personal Lenses**

The personal lens that has shaped my view of this project is my belief that with support, children can do amazing things. I have great confidence that all children are morally good and have incredible gifts to share with the world. The behavior exhibited by children who have experienced trauma creates barriers that block these children from reaching their true potential. These barriers may be the behaviors and symptoms themselves, or they may be individuals who see these symptoms and are inclined to believe the child cannot be mended.

It is my belief that simple human connection can be the healing ingredient for children who have experienced trauma. This personal lens played no small part in the choice of the overall research project and the population of concern. This lens led me to develop a project that centered on an intervention, mentoring programs, that is based in the healing power of human connection. This lens also allowed me the insight to develop tools that allowed for examination of the human relationship in the evaluations I reviewed. I recognize this as a lens that has influenced the development of this project and the tools used. Through this acknowledgement, I worked to eliminate bias that may have surfaced due to my belief in the healing power of the human connection.

All of these lenses have influenced the development of this project. Trauma Theory and Systems Theory have provided a theoretical framework upon which my project was developed. My professional experience with children with trauma and participation in a mentoring program has allowed me the ability to ask the questions of the data others without this experience may neglect. Finally, my personal belief that all children have the potential to do amazing things has led me to develop a project that centers on human connection as a method of healing in order to support these children to reach their untapped potential.

### **Method**

While school-based mentoring programs (SBMPs) are plentiful in the United States, the literature shows an absence of a standardized evaluation process to effectively evaluate program efficacy. This research used a systematic review methodology to determine whether SBMPs are appropriate to address the needs of students who have experienced trauma.

A systematic review of the literature is the logical method of choice for this inquiry because evidence on mentoring program evaluation already exists in great volume, and yet this literature lacks a systematic consistency in terms of connecting research conclusions across mentoring programs. Studies use a variety of assessment methods, focus on differing outcome measures, and emphasize a wide range of variables to reach conclusions on program effectiveness. The result is a plethora of data in the literature that has not been analyzed systematically. According Grant and Booth (2009), a systematic review has the capability to “appraise and synthesize research evidence” which is necessary to critically examine the diverse evidence related to mentor programs (p. 95). Specifically, a qualitative systematic review synthesis is appropriate for this research inquiry. Dr. Andy Siddaway (n.d.) points out that the presence of high rates of diversity in research methodology used throughout the literature prevents an effective quantitative measurement of the data making qualitative synthesis the most logical research method. The chosen methodology contains a number of components that are vital to this research process: sampling procedures, instrumentation and data collection, data analysis procedures, and the strengths and limitations of this particular method.

### **Sampling Procedures**

For the purpose of this study, sampling focused on SBMPs that occur during the traditional nine-month school year. General mentoring programs that include variations that

occur outside a school-based setting were excluded. Studies where results could not be matched to an individual program were not considered in the sample for this reason.

Sampling involved searching four relevant databases for studies that met inclusion and exclusion criteria. The databases were screened a second time to ensure that studies were not omitted in error. Articles identified in the initial broad-based search were also screened again to ensure inclusion and exclusion criteria were met. The articles included all peer reviewed, scholarly works published 2005 or later to ensure relevance and timeliness. Publications regarding mentoring programs outside the United States were not included in this sample since a number of variables such as cultural perspectives, religious considerations, and differing governmental policies were beyond the scope of this research.

**Inclusion criteria.** Scholarly works were located through the search engine, EBSCO Host. The literature databases SocINDEX, Child Development and Adolescent Studies, ERIC, and Academic Search Premier within EBSCO were used to locate relevant publications. These databases were chosen as each has the purpose to host literature in one or more of the following areas: human services, social work, sociology, and child related research.

Search terms within these databases were chosen to ensure publications related to the school setting and focused on programs utilizing mentor support. The search terms “school-based,” “mentor program,” “mentorship,” and “mentoring” were used in combinations including full phrases, such as “school-based mentoring” and by using AND as search moderator, for example “school-based AND mentoring.” Each combination was used in the three databases to identify a broad-based collection of relevant research. This wide search produced a large number of irrelevant articles and duplicated articles between databases resulting in 3,354 scholarly

articles (see Table 1: Sampling Results detailed by search results by database and by search term).

Table 1. Sampling Results

	School - based						Total
		AND		AND		AND	
	mentor - ship	mentor - ship	mentor - ing	mentor - ing	mentor program	mentor program	
SocINDEX	2	163	78	651	0	41	935
Child Development and Adolescent Studies	0	0	23	23	0	0	46
Academic Search Premier	5	389	121	1,740	0	41	2296
ERIC	0	4	23	49	0	1	77
Total	7	556	245	2463	0	83	

Final Total:	3354
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**Exclusion criteria.** Exclusion criteria were identified in order to narrow the search. It was necessary to rule out studies that did not link evaluation with a particular mentoring program. Studies that did not include a component of student outcome evaluation were also excluded, as were studies that reviewed peer mentor programs. Since the focus of this study was to determine common results between programs, and since adult mentors are most prolific, excluding other types of mentors (such as peer mentors) was necessary as was excluding mentoring programs that exclusively serve gifted children. Finally, this study excluded studies of mentoring programs that did not consider behaviors and symptoms related to traumatic experiences of students since that is the focus of this research. As a result of applying the exclusion criteria, 14 articles were identified as the sample “participants” in this study.

### **Instrumentation and Data Collection Procedures**

In any kind of qualitative research, the researcher is an instrument of data collection and data analysis (Graham, 2016). Two additional instruments were utilized to address issues of reliability and validity in data collection. Data collection focused on four specific aspects in each study: general data, program information, critical analysis, and trauma related evidence, and each study was systematically reviewed for specific, pre-identified items. An instrument was created to organize this collection of data through a table, which included the data category for each individual study. This tool was used to identify and organize relevant information related to these data categories. To increase rigor only direct quotes, not the researcher's interpreted summary of the data, were used. Using this instrument allowed for consistent data collection across the sample.

The structure and consistency of the data collection process addressed general concern of the subjectivity of qualitative data collection. The data collection tool provided an objective analysis due to the specificity of the data collection categories and the use of block quotes in collection. This also allows for the ability to replicate this data collection if an expansion of this research is required, and improves the reliability of this data collection method.

### **Data Analysis Procedures**

Data analysis was accomplished through a thematic review of the pre-identified data collected using the data collection tool. The researcher's professional experience with children who have experienced trauma allowed for an analysis that was informed on trauma theory in direct practice. This supported the validity of the project by assisting with the accuracy of the analysis. The researcher's adherence to theoretical frameworks and analysis grounded in the trauma theory literature increases the reliability of the conclusions that result.

The validity and reliability of the data analysis procedures was addressed and maintained through adherence to this thematic analysis framework. Data gathered with the data collection tool was coded separately for persistent themes identified through related words, phrases, and concepts.

Data analysis of student outcomes was then evaluated on five outcome components: academics, attendance, behaviors, connectedness (self/others), and mentor relationship. An additional tool was created for this analysis: the Overall Student Outcome Analysis tool. Each outcome finding for every study was categorized as a positive outcome, a negative outcome, or no evidence of impact on the outcome. Once all outcomes were categorized, the total number of outcomes was counted and percentage of positive, negative, and no impact (neutral) outcomes were calculated for each study (see Appendix A for the Overall Student Outcome Analysis tool).

This research analyzed programs for evidence that potential trauma in students was acknowledged in the screening process and addressed in program implementation. First, programs were evaluated for components of their referral process (screening and eligibility standards), which provided evidence to either support or hinder the inclusion of students who have experienced trauma. Data analysis regarding trauma related program implementation components was informed by the literature. This analysis combined the three keys of mentor engagement proposed by Colley (2003) with the six components of healing for youth who have experienced trauma (Cook et al., 2005) (see Figure 2. Criteria for evaluation of trauma related program components). Each article was reviewed for the inclusion of these nine components and compared based on the type of component and the success of student outcomes (positive, negative, neutral) to determine impact.

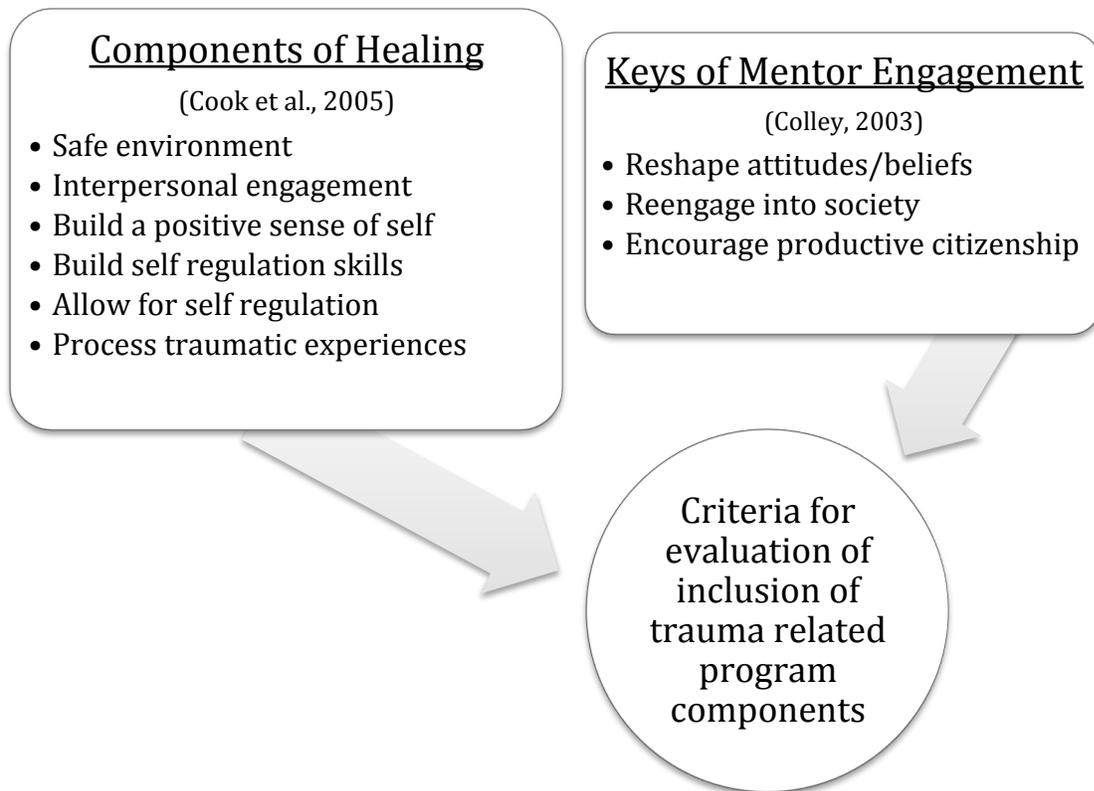


Figure 2. Criteria for evaluation of trauma related program components

### **Strengths and Limitations**

This systematic review provided an opportunity to critically evaluate a body of literature. This synthesis can be used by practitioners and other researchers to inform the implementation of school based mentor programs. Often times, logistics and practicality hinder individual researchers in covering broad populations and environmental variables causing a lack of uniformity between individual studies; yet when reviewed together have the capacity to uncover notable outcome patterns. This systematic review compiled findings from 14 studies to uncover larger patterns in the data that are not visible in the evaluation of individual programs. Systematic reviews are often used to distinguish gaps in current research, and to uncover areas

that have been overlooked in the field. This systematic review provides direction for future research.

There also are limitations to systematic review as a research method. This method runs the risk of making conclusions that may not necessarily align with the body of literature as a whole. The screening and eligibility process for sample data can vary widely and is largely determined by the researcher. Publications that may be relevant to the topic can be inadvertently excluded based on exclusion criteria. Another limitation is that beyond the initial screening process, is there is no method to ensure that sample studies are individually valid and/or reliable. This could skew the overall conclusion of the systematic review. The qualitative systematic review also has a notable limitation when compared to the quantitative review method. While quantitative systematic reviews can assign values and statistics to results, the qualitative method relies heavily on the researcher as the instrument. This reliance creates the potential for skewed conclusions through researcher bias, influence of theoretical perspectives, and variability in the researcher as the measuring instrument.

A systematic review of the studies related to SBMPs allowed for the identification and dissemination of common themes among the studies. In this case, the benefits associated with this method outweigh its risks, making this research method useful in contributing to the knowledge base on this important topic.

## Findings

The findings of this study fell into four distinct categories: patterns related to demographic characteristics, themes in program design, themes among outcomes, and patterns related to trauma informed practice. First, a description of the research sample will be described. Then a detailed account of thematic findings in each of the four identified categories will be presented.

### Description of Participants

This analysis examined 14 studies (participants) that evaluated specific SBMPs, which included students between four and eighteen years of age. Eight of the studies in this sample evaluated independent school-based mentoring programs, two evaluated a small-scale Big Brothers Big Sisters (BBBS) program involving three elementary schools, and an additional four studies reviewed the national BBBS program (see Table 2: The Sample Participants for identifiers, and see Appendix B: Brief Sample Summary for a description of each study).

Table 2: The Sample Participants

<b>Independent Program Evaluations</b>	<b>Big Brothers Big Sisters Program Evaluations</b>
McQuillin et al., 2015	Schwartz et al., 2011 (national study)
Gordon et al., 2013	Herrera et al., 2011 (national study)
Caldarella et al., 2009	Chan et al., 2013 (national study)
Bernstein et al., 2009	Bayer et al., 2015 (national study)
Johnson & Lampley, 2010	Keller & Pryce, 2012a (study of 3 elementary schools)
McQuillin et al., 2011	Keller & Pryce, 2012b (study of 3 elementary schools)
Karcher, 2008	
Coller & Kuo, 2014	

Each study was evaluated for five student outcome components: academics, attendance, behaviors, connectedness (self/others), and mentor relationship. Each outcome for every study

was categorized as either a positive or negative outcome, or as having no impact on outcome. Overall student outcomes for each study were calculated into percentages based on this data, illustrating the proportion of positive, negative, and no impact (or neutral) outcomes reported in for each study. Table 3. SBMP Composite Effect on Student Outcomes presents a summary description of positive, neutral, or negative outcome percentages in each study.

Table 3. SBMP Composite Effect on Student Outcomes

<b>Study</b>	<b>Positive</b>	<b>Neutral</b>	<b>Negative</b>
Keller & Pryce, 2012a*	100%	0%	0%
Gordon et al., 2013	100%	0%	0%
Johnson & Lampley, 2010	100%	0%	0%
Coller & Kuo, 2014	100%	0%	0%
Caldarella et al., 2009	80%	0%	20%
Chan et al., 2013**	67%	33%	0%
Karcher, 2008**	67%	0%	33%
Schwartz et al., 2011**	57%	43%	0%
Bernstein et al., 2009	57%	14%	29%
Herrera et al., 2011**	50%	25%	25%
Keller & Pryce, 2012b*	50%	0%	50%
McQuillin et al., 2015	40%	60%	0%
Karcher, 2008	25%	25%	50%
McQuillin et al., 2011	0%	67%	33%

\* Big Brothers Big Sisters small-scale study

\*\* Big Brothers Big Sisters national program data

### **Demographic Patterns**

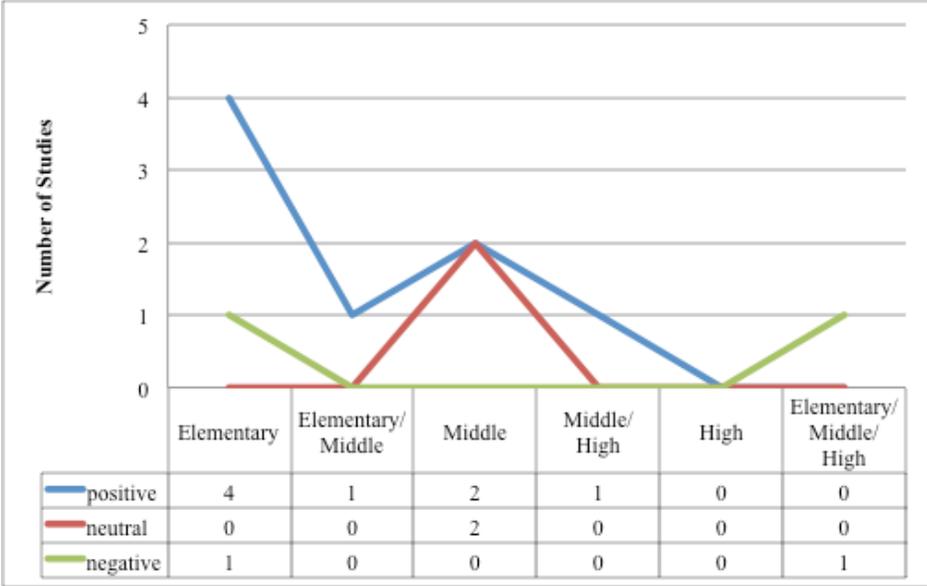
Several patterns became apparent across the 14 articles when demographic patterns and student outcomes were analyzed. The age of the youth, the race of youth and mentors, and socioeconomic status were all factors that impacted student outcomes mentoring programs.

**Age of youth.** Most studies focused on youth in 4<sup>th</sup> through 9<sup>th</sup> grades. Not all studies included detailed age information for the mentees in their program. For instance, Caldarella et al., (2009) indicated only that the students were in elementary school, but no information was provided on the specific grade or age of the youth in the program. Some studies that indicated the

grade of the youth also provided contradictory age ranges. For example, Keller & Pryce (2012a) reported serving 3<sup>rd</sup>-5<sup>th</sup> graders. However, the age range of mentees in the program ranged was reported as eight to fourteen years old; a seven-year age span over only three grade levels. For the purposes of systematic review, grade levels were put into three categories: Elementary School age (5<sup>th</sup> grade and younger), middle school age (6<sup>th</sup> – 9<sup>th</sup> grade), and high school age (10<sup>th</sup> -12<sup>th</sup> grade). Some programs included students in more than one age category, for example some served students in elementary school and middle school.

Findings indicate positive student outcomes peak at the youngest ages. As youth get older, the overall positive outcomes associated with SBMPs decrease. Studies of middle school age students tended to see no evidence of improvement or decline in overall student outcomes, while negative outcomes appear to be concentrated at the youngest and oldest age ranges. Table 4. Composite Outcomes Compared to Age of Student illustrates the number of studies in this systematic review with overall positive, negative, and neutral outcomes at each age range.

Table 4. Composite Outcomes Compared to Age of Student



**Race.** Analysis of the four programs with sufficient data in reporting of race uncovered several trends. Results of this analysis indicated a pattern of high proportions of Caucasian mentors (avg. 89%) when compared to African American mentors (average 6%) and mentors of other races (avg. 6%). In contrast, there appears to be a fairly even participation percentage between Caucasian students and African American students, averaging 43% and 37% respectively between the four studies. Mentees identifying as “Other” races had lower rates of participation (average of 16%).

A pattern emerged when comparing the race of students participating in each individual SBMP and the overall outcome of the study. The three programs with the majority of students identifying as either Caucasian or Other were rated as positive. Programs with the majority of students identifying as African American have notably less positive student outcomes than studies with the majority of students identifying as Caucasian or Other (see Table 5: Student Race Majority Compared to Composite Student Outcomes). No distinguishable pattern was found in the comparison between programs when the same analysis was performed on mentor race majority (see Table 6: Mentor Race Majority Compared to Composite Student Outcomes).

Table 5. Student Race Majority Compared to Composite Student Outcomes

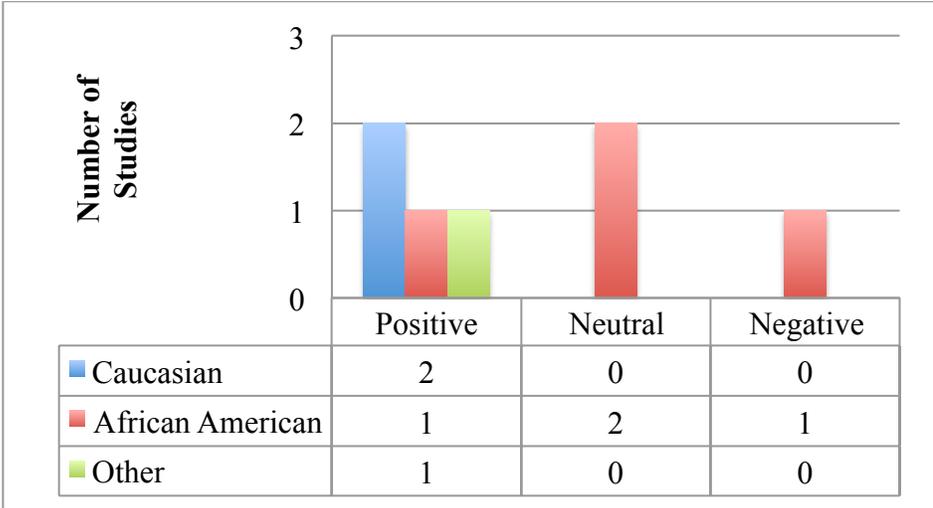
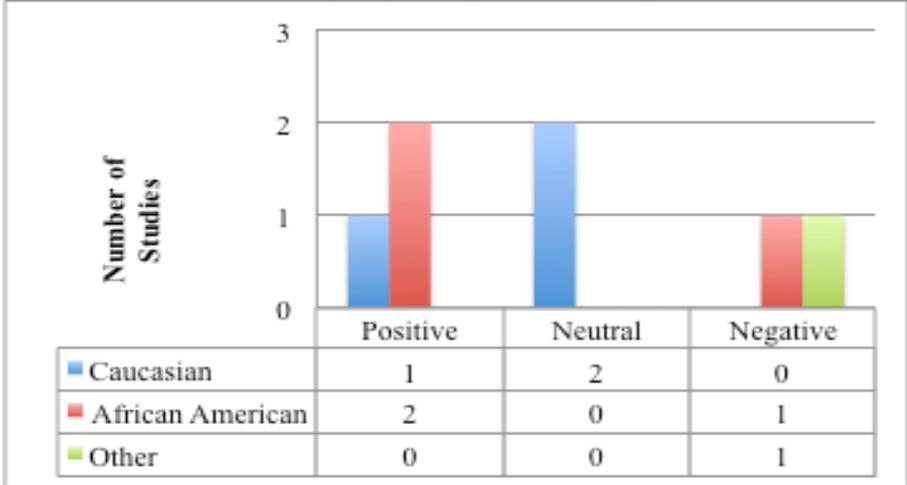


Table 6. Mentor Race Majority Compared to Composite Student Outcomes



**Socioeconomic status.** Most studies used student eligibility for free or reduced lunch as an indicator for low socioeconomic status. Some studies indicated that a proportion of the sample population was *eligible for* free or reduced lunch, and others reported the proportion of students *receiving* free or reduced lunch. For the purposes of this research, both *eligible for* and *receiving* were considered to be comparable terms.

Overall, in studies reporting socioeconomic status, 69% of students were identified as low income. Notably, two of the six programs reported differences between their sample’s eligibility for free or reduced price lunch and the school’s student population in general. For example 81% of mentees were eligible for free or reduced price lunch compared to 53% of the general school population in Caldarella et al. (2009). Similarly, a statistically significant difference was found between eligible students in the SBMP and the general student population in Bernstein et al., 2009. Beyond the findings of these two studies, no other patterns were found to suggest socioeconomic status is related to student outcome measures.

### **Program Patterns**

Though each program was unique in design and implementation, several findings emerged regarding duration of programs, mentor type and training, and successful components and limiting factors of programs.

**Duration and intensity.** Most programs reported duration of less than the nine-month school year. Two programs reported durations of 18 and 24 months. Of the studies that reported duration, 80% revealed an overall positive student outcome impact. The shortest program, McQuillin et al., 2015 lasted two and a half months, almost ten weeks shorter than the program with the next shortest duration. This program reported neutral overall impact on student outcomes. Karcher (2008) the program with the longest duration, barring the two programs lasting longer than a year, reported negative in overall student outcome. As programs with durations surrounding this eight-month program length presented composite findings that were overall positive, no pattern is found in this outcome category.

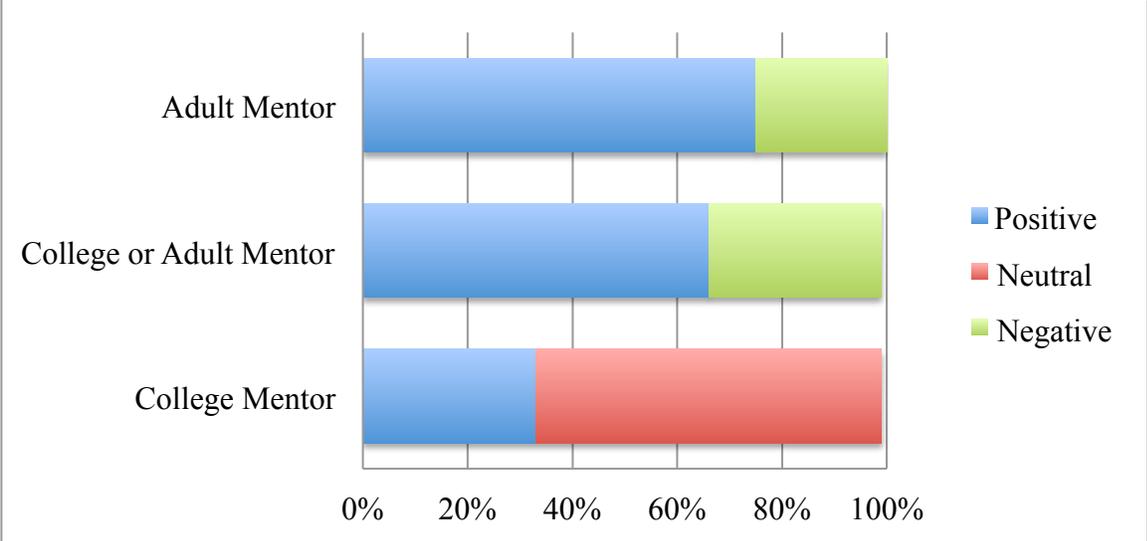
Half of the total studies indicated that the duration and/or the intensity of the program were limitations. Three reported that their programs were limited because they only lasted between five and six months, and three others noted a limitation of intensity in terms of the number of mentor meetings per month. Four studies reported that not all students were matched with a mentor and some received less than the typical number of meetings.

**Mentors.** Mentor type fell into one of four categories: college students (30%), college students and adult mentors (30%), adult mentors (20%), and a combination of high school, college, and adult mentors (20%). Studies using all three mentor types were not included in this analysis, as outcomes could not be tied to specific mentor types in these studies. When mentor

types were compared to overall study outcomes, there was a trend toward more positive outcomes as the age of the mentor increased.

In programs using college mentors, 33% found positive outcomes, while the remaining had neutral outcomes. Studies that reported using both college and adult mentors had a higher percentage of positive outcomes (66%), but also reported some negative outcomes. Programs reporting adult mentors had a 66% rate of positive outcomes, while the remaining 33% were mixed positive and negative outcomes. These findings illuminate a pattern of improved outcomes associated with older mentors (see Table 7: Mentor Type and Composite Outcomes).

Table 7: Mentor Type and Composite Outcomes



Most programs reported available training for mentors. Four programs reported only initial training, 75% of which reported positive student outcomes. The rest presented a composite neutral impact (12.5%) or as having both positive and negative outcomes (12.5%). One program listed only ongoing support for mentors without initial training. This study, Bernstein et al. (2009) had a composite impact on student outcomes that was positive. Four programs outlined both initial training and ongoing access to support for mentors. Of those studies reported a mix of positive impact (50%), neutral impact (25%), and negative impact (25%).

**Successful components and limiting factors.** Data revealed three main components that were associated with mentor program success: relationship, effective program design, and skill building. The majority of studies (70%) noted the importance of a strong relationship between mentor and student. Evidence of this finding included statements remarking on the ability of a *strong relationship* to facilitate student motivation, an *adult role model* to turn to for advice, provide modeling on healthy relationships to improve the student's relationship with others, and specific study findings on improved student outcomes with close dyads.

Half of the studies analyzed noted the importance of an effective program design. Three studies made general statements on the importance of program design, such as one study's warning to *proceed with caution* as design may affect outcome. Another study concluded that *well-designed programs can make a difference*. Other specific comments on program design included meeting often and providing structured support for mentors.

Patterns of identified limitations also emerged in the data. The presence of confounding variables was noted as a limitation in 57% of the studies. The inability to separate relational affects from the dyadic experience was noted as a limitation in five studies, and student uniqueness was mentioned as a confounding variable in three studies. Other variables such as grade level, specific classroom, and the influence of a summer break were noted in three studies, as were limitations related to the youth self-report as the only method of data collection, the age of the students reporting and their ability to provide responses with a range of verbal skill levels, and possible bias in data collection of behaviors by teacher reports.

### **Outcome Patterns**

Though studies reported on many different evaluation measures, most outcomes fell into one of three categories: academic outcomes, behavioral outcomes, and relational outcomes.

**Academic outcomes.** This analysis uncovered a pattern indicating relational context as important to academic outcomes. It was also discovered that youth with close relationships with their mentors see improvements in academic outcomes in the short term. The length of relationship did not appear to affect the possibility for academic outcome improvement, though the quality of the relationship did. Academic outcomes were found to be non-existent if the dyad reported low quality relationship. In addition, it was found that once a match ended, academic outcome improvements also ceased.

Half of the ten studies reporting on student academic outcomes noted findings specific to individual characteristics such as gender, age, relational quality of the dyad, and academic subject. The findings provide evidence of an overall positive impact on academic outcomes for students participating in SBMP.

A high proportion (80%) of the programs evaluated included academic activities in their program plans including: working on homework, reading, and *academic enabler training* (organizational skill building). Other general academic activities such as *talking about academics*, *educationally oriented support*, and *academic related activities* were also included. In this analysis, generally positive impacts were found in mentor programs that did specify academic activities as a part of the program. Of the 8 studies that reported both on academic outcomes and specified academic activities, 63.5% reported generally positive impacts. Two studies (25%) indicated both positive and negative outcomes depending on student characteristics, and one study (13.5%) found no evidence of SBMP impact on academic outcomes.

**Behavioral outcomes.** Of the 12 studies that evaluated behavioral data 67% reported positive effects of the SBMP on behavior and 33% reported negative effects in behavioral

outcomes. Positive impacts reported included general increases in pro-social behavior, decreases in anti-social behavior, and decreases in office discipline referrals. Four studies found that a quality relationship between student and mentor had statistically significant implications on reduced aggression and improved pro-social behaviors. A pattern of impacting variables was uncovered in negative and neutral findings. For instance, in two studies, negative behavior outcomes (self-control, cooperation, pro-social behavior) were dependent on age and gender of youth.

Programs that identified activities related to behavior were analyzed, and only three programs were found to specifically identify activities with a behavioral focus. These programs typically did not identify specific activities and instead made general statements such as *increase personal responsibility... discourage drug and alcohol use, use of weapons, and other delinquency involvement, encourage positive behaviors, and use the mentor relationship to influence youth behaviors*. All of the programs in this identifying behavior oriented activities demonstrated overall positive effects on outcomes for students participating in the program. In addition, 80% of all studies evaluated for behavior indicated a positive impact specifically in behavior outcomes for students who had participated in the SBMP. 20% of the total behavioral outcome in the analysis of all behavioral data showed a negative change for students who had been involved in the SBMP.

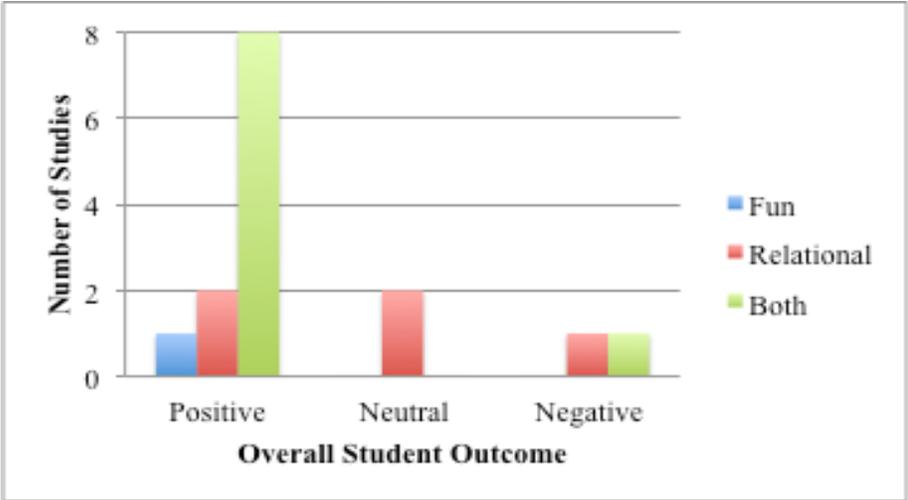
**Relational outcomes.** The area of relational outcomes reviewed connectedness with self and others, and relationship with the mentor. Findings indicated the trend that connectedness to self/others depended on the quality of the relationship between mentor and student. In general, findings agreed that closer relationships yielded more positive student outcomes. This pattern of

close dyadic relationships resulting in positive impact was consistent through the findings; however, contradictory conclusions were present in certain student demographic categories.

Some characteristics were found to have a pattern of influence on the student connectedness to self/others outcome. High school girls tended to improve in their level of connectedness to school and peers, while high school boys who participated in SBMPs consistently showed negative outcomes in school connectedness. Elementary boys were found to increase peer connectedness and self esteem, but like their high school male counterparts, also showed negative outcomes in connectedness to their schools. The age of the student also appeared as an influencing variable with younger students benefiting in outcomes of connectedness more than their older peers.

All of the programs evaluated included some activity component related to building relationships, either through fun and games or relational activities. Overall, the vast majority of programs using both fun and relational activities fall into the positive overall student outcome category. The lone program focusing only on fun activities shows overall positive student outcomes (see Table 8: Relational Activity Types and Composite Student Outcomes for additional data).

Table 8. Relational Activity Types and Composite Student Outcomes



**Trauma Informed Findings**

This research analyzed programs for criteria that would support students who have experienced trauma. Each program's referral process was evaluated for the level at which it acknowledged the possibility of youth who have experienced trauma. Then, the general program components were reviewed for similarities with Colley's three tasks of a successful mentor and the six components of healing outlined by Cook et al. (2005).

**Acknowledgment of trauma in eligibility.** An analysis was completed of the referral process for each of the programs in the study. Findings illuminated components of the eligibility process that either acknowledged the presence of trauma, or would hinder the youth's ability to participate in the program if they had experienced trauma.

Eight programs discussed the referral process used to identify participating students. Of these eight programs, 50% utilized screenings to identifying at-risk students through determination of behavioral or academic needs, or support needed due to other environmental factors in the student's life. Four studies specifically screened out students in Special Education, students experiencing crisis, and students with a psychological disorder. Of the four studies with screenings that recognized environmental challenges or students experiencing crisis, only two allowed for these youth to participate in the program. The other two programs specifically screened out these students. Findings show this was most often rationalized by the program's inability to meet higher need, or because higher need students were already receiving supports.

Six programs noted aspects of the referral process that functioned as barriers to acknowledging the possibility of trauma experiences for youth. All four programs which were found to have a majority of overall negative or neutral student outcomes included one or more barriers to the acknowledgement of possible trauma in their students, such as screening out students with trauma histories.

**Methods of support for trauma youth.** There is a general assumption that within SBMPs there are informal components of a relationship with a caring adult that can support a student in many areas. However, findings indicate that programs often include components (based on the three tasks of a supportive mentor and the six components of healing), which support youth who have experienced trauma beyond the benefit of one to one time with an adult.

All of the programs evaluated address at least one of Colley's three tasks of a successful mentor. Colley's task of *moving a child toward productive citizenship* was addressed within the structure of every program in this study. Of the ten programs, 70% address two of Colley's tasks, but only one program addresses all three. Findings found that three of the six components of healing were not present in any of the evaluated programs. Two of these were related to self-regulation. The third component of healing missing from all programs was the task of processing traumatic experiences. All programs included specific methods to address the healing component of *facilitating interpersonal engagement*. Two of the six healing components addressed in these programs, *creating a safe environment* and *building a positive sense of self* were only specifically addressed on a total of three occasions. There were several studies that noted program components that would likely hinder this healing method. These barriers were most often related to short program duration, limited number of meetings, and mentor attrition (see Table 9: Prevalence of Framework Components in Programs for the frequency of each component).

Table 9. Prevalence of Framework Components in Programs

Component	Framework	Prevalence in Programs
Provide an avenue for each child to move toward productive citizenship	Colley's Tasks of a Mentor	100%
Facilitate interpersonal engagement	Components of Healing	100%
Reengage youth into society	Colley's Tasks of a Mentor	60%
Reshape attitudes and beliefs to allow for youth to adapt behaviors to be better suited to success in the environment	Colley's Tasks of a Mentor	40%
Create a safe environment	Components of Healing	20%
Build a positive sense of self	Components of Healing	10%
Build self regulation skills	Components of Healing	0%
Allow for self regulation	Components of Healing	0%
Process traumatic experiences	Components of Healing	0%

No discernable patterns were found when comparing the use of the nine program components with overall student outcomes. Of the four programs that listed components that would hinder one of the nine methods for supporting students with trauma, only one was found to have negative overall effects on the outcomes of students who participated. In addition, there was no trend between which method was chosen and the overall student outcome. The four programs that were not rated as overall positive in student outcomes averaged a use of 2 of 3 of Colley's tasks (which was equal to the average across all programs), and 1.25 of the 6 healing components (compared to an overall average of 1.3 of the 6 components of healing).

### **Discussion**

This study discovered several findings that were consistent with the literature including the relational impact on student outcome, the high priority on academics, and the importance of program design quality. This systematic review revealed surprising findings in relational and behavioral activities as well as with the impact of program duration on student outcomes. Limitations were present due to inconsistencies in data reporting throughout the sample and because of the presence of many different influencing factors. The findings illuminate implications for social workers, schools, and program coordinators related to patterns of delayed program starts and program design qualities that are mindful of the possibility of students with trauma histories. Further research is needed to fill the gaps left by inconsistent data reporting and on program designs and interventions which might better support populations that were found to have less positive impacts than their peers.

### **Findings Supported by the Literature**

Consistent with the findings of other scholars (DuBois et al., 2002; Rhodes et al., 2006), this study's conclusions indicated relational impact to be a significant factor in all types of outcomes. This review illuminated academic outcomes that tended to increase with a higher quality of relationship between student and mentor. Relationship was also found to be an influential factor on student behavior as well as on a student's ability to connect.

Not surprisingly, academic activities were frequently noted. This pattern suggests a heavy influence from the educational system to imbed the mission to educate within the goals of SBMPs in the MTSS framework. Most SBMPs in this sample trended toward the specific purpose of improving academic outcomes, either due to this systematic influence or because of

academic priority and influence of principals and school staff who allow their students to participate.

Conclusions that the quality of program design was a significant factor to overall success was not surprising given the findings regarding the importance of duration and dosage of the program when looking at student outcomes (Herrera, 2004; The National Mentoring Partnership, 2015). Patterns related to the mentors also rose to the surface in this evaluation. A standard of practice to train mentors in some capacity became apparent. Most (90%) of the programs in the sample provided information on some structure of mentor training, either initial instruction or ongoing availability of support. The single program that did not include this data did not specify whether or not training was included. It is possible that this information was simply omitted from the data. Programs recruiting mentors who were older in age saw more frequent positive outcomes in their students. This is consistent with the literature suggesting that college mentors do not illicit outcomes that are as successful as those associated with adult mentors due to more frequent barriers to a close relationship (The National Mentoring Partnership, 2015). Based on the analysis of mentor training, both initial training and ongoing mentor support appear to be beneficial. As only one study did not provide initial training support, the small sample size makes it difficult to determine how mentor-training types affects the overall student outcome. However, these findings do reveal a standard of practice to provide mentor training in 90% of the programs evaluated.

### **Unexpected Findings**

Despite the shorter than expected program duration, almost 40% of programs reported findings that even short-term relationships could be beneficial depending on the quality of the relationship between mentor and student. These findings did not concur with the general

consensus of the literature that longer relationships are most beneficial (Herrera, 2004). The shortest of the programs studied did report neutral findings. This could suggest that there is a length of time that is too short to either develop a close relationship, or for student outcomes to become visible before affects cease due to termination of the relationship.

All programs evaluated had some element of fun or relational activity. Interestingly, studies that only had relational activities did not fare as well as those that evaluated programs with both relational and fun activities. This suggests that certain components of a relationship, such as an element of amusement, are of great importance to relationship development.

Activities focusing on behavior were rare and often vaguely described. This was surprising, given the focus many studies placed on improving overall behavior and reducing discipline referrals. This relative lack of a behavioral focus in program activities was unexpected due to frequent eligibility criteria related to high behavioral difficulties. This may suggest an implied intention of programs to use naturally occurring benefits of SBMPs and the dyad relationship to address problem behaviors instead of specific skill building activities to develop students in this area.

### **Complexities and Resulting Limitations**

One of the most obvious patterns revealed through this analysis was a general lack of data in comparison groups. Report information was minimal, even in areas such as demographics, which are relatively straightforward. For instance, only about one third of studies provided viable data for comparison purposes in race and gender reporting.

Demographic comparisons were made difficult by gaps in reporting and differences in definitions. Both age of the student and socioeconomic status presented patterns of this limited data. For instance, one study did not report an age or grade range of youth participating in the

program, only a general descriptor of *elementary school*. Socioeconomic status was typically measured by eligibility for free or reduced price lunch. However, even this consistency was mitigated by differences between studies reporting students *eligible for* the program and those *receiving* the benefit. Studies that provided thorough information at times included conflicting data, such as reporting a grade level span of three years, but an age span of seven years. This is concerning to this research analysis, especially given the findings of this review that suggest age of the student matters when reporting student outcomes.

Race and gender findings encountered similar difficulties in limited data. Several programs reported some information on race, but the data was often incomplete. For instance, one study included only the percentage of Caucasian mentors, while another only reported on the majority race of student participants. The analysis of this study was unable to include exploration of the programs that included “Other” populations as a majority for students and mentors, because of a lack of complete data from those studies. This resulted in conclusions from this study that only report on data of Caucasian and African American participation. In addition, even programs that contained enough information to compare majority populations, did not have full reporting available for a racial breakdown of both mentor and student groups. This resulted in virtually no information available on matching between students and mentors. As a result, this study was unable to analyze findings in this area. Lack of data in demographic reporting is relatively surprising given the multitude of literature on matching characteristics of the dyad. The National Mentoring Partnership indicates gender and race matching is recommended by many, but inconclusive (2015). Due to lack of data in this area this research could not provide additional findings to this body of research beyond an ability to confirm the overabundance of

female mentors. As a result, it is likely findings regarding demographic patterns from this study may be inadequate and require further study to ensure validity.

Over all types of outcomes, variables such as age of the student, gender, and relationship quality of the mentorship dyad became evident as influencing factors. Half of all academic findings reported in this analysis aligned with this pattern. Demographic characteristics such as age and gender had a large influence on the success of student relational outcomes. The four separate studies evaluating the BBBS national program found several different student outcomes for the same research. This points to the influence of the different factors of focus in each individual study, and supports conclusions that variables outside the individual program components impact student outcomes.

### **Implications for Practice**

A significant pattern was found in duration of the programs as a limitation of the studies reviewed. Many of the programs reported the intention of providing a program that ran the length of a nine-month school year. Yet only two programs were able to achieve this goal due to logistical barriers in starting up matches. Given this pattern, social workers, schools, and program coordinators should plan for the delays and proactively work to prevent slow program startups at the beginning of the school year. Schools should be mindful of the need for preparation, and would likely benefit from starting the student screening and mentor recruitment process prior to the start of the school year.

Findings regarding the benefits seen in younger students participating in SBMPs point to the importance of beginning students in SBMPs at an early age. This further implies the importance of using SBMPs as an early intervention. School administrators, school social

workers, and program coordinators should be aware of this implication when undergoing the screening and referral process for students.

Programs were most likely to acknowledge the possibility of students who experienced trauma during the referral process, and several programs screened out students with the highest identified needs. This points to the conclusion that SBMPs do not, as a whole, serve students of the highest needs. This is consistent with literature that advises against SBMP participation for youth who have difficulty making connections such as youth with significant abuse histories or psychological disorders (DuBois et al., 2002). It also supports the premise of mentoring programs as a Tier 2 intervention in the Multi-Tiered System of Support in schools (The California Department of Education Diagnostic Center, n.d). This finding is of worthy note to practitioners in the field, as it illuminates the practice of eliminating students indicating high need from the program and solidifies SBMP's position as only a Tier 2 intervention. Social workers, program coordinators, and school staff should be aware of this to ensure the highest need students are not referred to programs that are not designed to meet their individualized needs. Inattention to these considerations may lead to poorer student outcomes due to inappropriate fit, or to liability related to risks associated with using volunteers to supervise youth who require a high level of specialized support.

For the most part, programs that acknowledged the possibility of youth trauma tended to fair more successfully with composite student outcomes. This could be attributed to an increased ability of these programs to serve youth who have experienced trauma due to higher levels of awareness. It is also possible that program designs that are mindful of trauma experiences and related symptoms benefit all students and therefore result in more successful programming overall. This finding appeared as only a minor trend; however, the positive implications of

program designs that acknowledge possible trauma in students suggests practitioners and program coordinators would be prudent to implement such practices.

No trends were found between programs that addressed the nine components of used in evaluation of inclusion of trauma related program elements and those that did not. The facilitation of interpersonal engagement and helping students to find an avenue of productive citizenship were included in every program in this review. This suggests that the basic structure and objectives of all SBMPs likely already tailor to some of the needs of youth who have experienced trauma. Many of the nine methods were omitted from the majority of studies. This suggests that while SBMPs do naturally address some of the needs of youth who have experienced trauma, more can be done in program design and implementation to support these students.

### **Implications for Further Research**

Incomplete data collection during individual program evaluation greatly limited the generalizability of this study, but more importantly points to the need for standards in evaluation, and fidelity in following the best practices laid out in the literature by tracking these elements in the evaluation process whenever possible. The limited number of programs reporting on data regarding race and gender indicates the need to take these particular findings with caution. Future research should put an emphasis on a clear and complete collection of demographic data to ensure the most accurate conclusions regarding the impact these characteristics have on student outcome. Further research should also note complexities and barriers to completing demographic data collection, as this would provide direction for programs looking to compile accurate and complete data during their evaluation.

Two of the six studies (33%) that reported on the socioeconomic status of youth also reported that youth in the SBMP were significantly more likely to be eligible for free or reduced price lunch than peers in the general population. This suggests that there may be a relationship between students who access SBMPs and socioeconomic status. Future research in this area is needed due to the small sample size, as well as because of the possible implications this finding has on the referral process.

Findings support SBMPs as a Tier 2 intervention in schools, which implies the need to screen out students requiring a higher level of support. However, the non-specific nature of the criteria used to screen out students calls into question whether this eligibility process is free of bias. Further research is needed to determine if certain demographic characteristics (race, age, gender) are disproportionately screened out through this process, for instance if certain demographic groups are more often associated with characteristics defined as “high need.”

The findings of this review highlighted several demographic populations that failed to consistently benefit from SBMPs, for instance high school boys. Further research is needed to determine if there are program designs or specific SBMP interventions such as mentor type or activity focus that would support these populations more fully. Additional research in this area could have important implications for programs wishing to tailor their design to a specific subset of the student population.

This research provided a broad overview of the student outcomes associated with SBMPs as a Tier 2 intervention in the MTSS framework. It was outside the scope of this research to delve into specific populations, program designs, and individual interventions. However, further research is needed in all three of these areas to provide a deeper understanding of the implications of each of the many of variables present in SBMPs. Further research on specific

program components is necessary to continue to move in a direction of continued improvement of student outcomes across the span of age, race, socioeconomic status, and gender of students served by SBMPs.

### **Conclusion**

The latest research indicates that the number of youth who have experienced trauma is higher than we had ever imagined. The symptoms of these traumas can become visible as relational difficulties, behavioral challenges, and academic struggles. The Multi-Tiered System of Support (MTSS) Tier 2 intervention of mentoring programs shows promise as a method of support for students who have experienced trauma.

Through its purpose to determine whether SBMPs are appropriate to address the needs of students who have experienced trauma, this systematic review uncovered many patterns within demographic populations, program design, student outcomes, and trauma related program components. Over all types of outcomes, variables such as age of the student, gender, and relationship quality of the mentorship dyad became evident as influencing factors. Despite the confounding impact of specific variables, this study uncovered important consistencies regarding the importance of relationship, the omission of a behavioral focus in program implementation, and the logistical challenges that accompany program initiation.

This study revealed that SBMPs already contain natural components that support youth who have experienced trauma. However, the discovery of the omission of a high proportion of trauma-related program components suggests there is room for improvement. Practitioners in the field should work to proactively plan for barriers related to slow program initiation, and should work to implement practices that acknowledge possible trauma histories as these programs tended to fair more successfully with composite student outcomes. Further research is needed to explore possible interventions that would more fully support populations that did not see positive outcome impacts from their participation in SBMPs. Finally, additional exploration into the specific variables found to have a confounding impact on outcomes will be important in ensuring

that research in this area continues to move forward in improving on best practice methods for SBMPs supporting youth who have experienced trauma.

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Appendix A

Overall Student Outcome Analysis

Study	Student Outcome Measures						Overall Student Outcomes		
	Academic	Absences	Behavior	Connectedness	Mentor Relationship	Positive	Neutral	Negative	
McQuillin et al., 2015	+ -	n	+	n	x	2 (40%)	3 (60%)	0%	
Gordon et al., 2013	x	+	+	+	x	3 (100%)	0%	0%	
Caldarella et al., 2009	+	-	+	+	+	4 (80%)	0%	1 (20%)	
Bernstein et al., 2009	+ -	+ n	-	+	+	4 (57%)	1 (14%)	2 (29%)	
Johnson & Lampley, 2010	+	+	+	x	x	3 (100%)	0%	0%	
McQuillin et al., 2011	-	x	n	n	x	0%	2 (67%)	1 (33%)	
Karcher, 2008	n	x	-	+ -	x	1 (25%)	1 (25%)	2 (50%)	
Coller & Kuo, 2014	x	+	+	x	x	2 (100%)	0%	0%	
Keller & Pryce, 2012a	x	x	+	x	x	1 (100%)	0%	0%	
Keller & Pryce, 2012b	x	x	x	x	+ -	1 (50%)	0%	1 (50%)	
Schwartz et al., 2011	+ n	+ n	p	x	+ n	4 (57%)	3 (43%)	0%	
Herrera et al., 2011	+ -	x	x	+ n	x	2 (50%)	1 (25%)	1 (25%)	
Chan et al., 2013	n	x	+	+	x	2 (67%)	1 (33%)	0%	
Bayer et al., 2015	+	x	x	x	+ -	2 (67%)	0%	1 (33%)	

Legend	
+	= Positive
-	= Negative
n	= Neutral
x	= no finding

## Appendix B

## Brief Sample Summary

Study	Brief Summary
McQuillin et al., 2015	Evaluation of a short (10-week) SBMP for middle school students.
Gordon et al., 2013	Evaluation of student outcomes with focus on student age and student connectedness.
Caldarella et al., 2009	Elementary student mentoring program for youth at risk for Emotional and Behavioral Disorders.
Bernstein et al., 2009	An evaluation of a Federal SBMP on student outcomes.
Johnson & Lampley, 2010	Pre and post-test of SBMP student outcomes for at risk middle school students.
McQuillin et al., 2011	Evaluation of a short (single semester) SBMP with college mentors.
Karcher, 2008	Evaluation of SBMP effects on student outcome with focus on age, gender, and a primarily Latino population.
Coller & Kuo, 2014	A Los Angeles based SBMP serving primarily Latino youth.
Keller & Pryce, 2012a	Analysis of the activity orientation of dyads. Evaluating how mentor-mentee activity orientations relate to relationship quality and student outcomes.
Keller & Pryce, 2012b	Analysis of the relationship trajectory of SBMP dyads. Study of a Big Brothers Big Sisters program in three elementary schools.
Schwartz et al., 2011	Analysis of the effect of student relational pattern on student outcomes. Big Brothers Big Sisters national study. Study of a Big Brothers Big Sisters program in three elementary schools.
Herrera et al., 2011	Evaluation of SBMP on student outcomes. Big Brothers Big Sisters national study.
Chan et al., 2013	Analysis of SBMP on student outcomes with emphasis on student relationships. Big Brothers Big Sisters national study.
Bayer et al., 2015	Evaluation of SBMP with focus on closeness of mentor-student relationship and academic outcomes. Big Brothers Big Sisters national study.