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Research reports describe original studies that have applied applications. Group designs, single-subject designs, qualitative methods, mixed methods design, and other appropriate strategies are welcome. Review articles provide qualitative and/or quantitative syntheses of published and unpublished research and other information that yields important perspectives about at-risk populations. Such articles should stress applied implications.

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# A Literature Review of Afterschool Mentoring Programs for Children At Risk

Sara McDaniel and Anna-Margaret Yarbrough

**Abstract:** Afterschool programs such as tutoring and school-based or community-based programs have effectively functioned as prevention and intervention programs for children at risk. This literature review focuses on afterschool mentoring programs for children at risk. The purpose of reviewing the literature was to (a) determine the breadth and scope of the literature base, (b) identify program features, and (c) synthesize information to inform practical considerations. A systematic review process yielded 10 articles that met the criteria and were reviewed for (a) mentee characteristics, (b) mentor characteristics, (c) program components, (d) program evaluation procedures, (e) program type, and (f) type of research. Results are discussed in terms of program features and practical implications based on the findings of the review.

Children at risk for negative school and postschool outcomes, such as academic failure, dropout, detention or incarceration, and unemployment, often experience early onsets of problematic behavior and poor choice making (Gruber & Machamer, 2000; Grant et al., 2000; J. J. McWhirter, McWhirter, McWhirter, & McWhirter, 1998). At-risk status is defined in varying ways, but typically includes demographic features, home and community factors, and individual skill deficits. Children at risk for negative outcomes require intense, targeted, structured interventions that both prevent future occurrences of problematic behavior and intervene on specific deficits to ameliorate the common effects of at-risk status. Preventative action should focus on early intervention that promotes the development of protective factors and is inclusive of systematic components surrounding the child, such as the community, schools, and family (Botvin, 1990).

## Demographic and Environmental Indicators of At-Risk Status

Both demographic and environmental factors, such as socioeconomic and minority status, often indicate at-risk status for students. Socioeconomic status (SES) can be discussed in terms of low familial income and communities in which low earning families live. Overall effects of low SES status include increased exposure to stressful events and safety and health risks (Manswell Butty, LaPoint, Thomas, & Thompson, 2001). Without the presence of protective factors (e.g., positive community climate, adequate household income), which promote resiliency, families in poverty experience instability and limited access to resources (Nelson, McClintock, & Perez-Ferguson, 2008). The results of poverty affect children negatively by constraining their ability to thrive academically, socially and emotionally, and physically (Nelson et al.).

Early school failure, issues contributed to poverty, social isolation, and neighborhood influences, as well as the absence of adults all factor into determining children's at-risk status. When minority status is merged with these other factors, the at-risk status for children is intensified (Beck, 1999). The average performance of African American and Hispanic students on the Scholastic Aptitude Test (SAT) is

more than 50 points lower than the average performance of White students (Bates, 1990). African American children often are provided with inequitable educational experiences which limit access to resources needed to counter exposure to risk factors in the home and community (Beck, 1999). Because underfunded schools, lack of economic opportunity, and poor living conditions are associated with being a child of color, minority status is viewed as a risk factor (J. J. McWhirter, McWhirter, McWhirter, & McWhirter, 2007).

Home and community life can also contribute to at-risk status for youth. Low-income communities consisting of multiple families in poverty find access to much needed resources more difficult (Manswell Butty et al., 2001). Community economic hardship is a factor in children's lower academic and social skill outcomes (Hanson et al., 2011).

## Individual Indicators of At-Risk Status

Disruptive and delinquent behavior is an individual indicator of at-risk status. In general, children begin displaying disruptive or defiant behavior at a young age, often leading to more serious behavior and subsequent consequences, such as incarceration (Cavel, Elledge, Malcolm, Faith, & Hughes, 2009; Gur & Miller, 2004). Low-achieving students and students with disabilities, including learning disabilities and attention deficit hyperactivity disorder, are more likely to experience school failure and poor social skills affecting their ability to maintain positive relationships with peers and adults (Glomb, Buckley, Minskoff, & Rogers, 2006). Adolescents with school histories of disruptive behavior and academic failure are considered at risk for school dropout and delinquency (Hernandez Jozefowicz-Simbeni, 2008).

## Best Practices in Afterschool Programming

The number of afterschool programs (ASPs) has spiked in recent years due to the increase of employed mothers, growing concern for academic advancement, and fear of lack of supervision during the high-risk afterschool hours (James-Burdumy, Dynarski, & Deke, 2008). The needs of children placed at risk due to socioeconomic status, minority status, exposure to environmental risk factors, and the development of individual skill deficits are vast and should drive the design of programming intended

to increase protective factors. Specifically, children at risk require increased access to prevention and intervention resources, such as afterschool programming (Lauer et al., 2006). Afterschool programs can decrease the prospect of at-risk behavior and increase school achievement and prosocial behavior, such as following directions, accepting responsibility, and staying on task (Beck, 1999; Shernoff, 2010). ASPs provide supervision to children in the high-risk hours of 2:00 p.m. to 6:00 p.m. and thus help reduce illegal or harmful behavior in the community (Rorie, Gottfredson, Cross, Wilson, & Connell, 2011). Quality ASPs help students develop positive attitudes toward their school and their community while also improving work habits and reducing dropout rates (Huang & Cho, 2009).

There is a growing demand for accountability in ASPs because of the increase of funding at the federal, state, and local areas (Cross, Gottfredson, Wilson, Rorie, & Connell, 2010). There have been both positive and negative results regarding how and if students benefit from afterschool programming (James-Burdumy et al., 2008). Some research shows that participants in ASPs had improvements in bonding with school, positive social behaviors, academic achievement, as well as a decrease in negative behaviors at school (Durlak, Weissberg, & Pachan, 2010). However, other studies have shown that ASPs have no effect on behaviors.

ASPs have been successful in increasing both student academic performances, as well as increasing positive social behaviors. In order for students to benefit, ASPs should have a social skill-building component. Many programs aim to foster social development through connecting with positive adult role models. ASPs can be critical to enhancing young people's socio-emotional development by encouraging their participation in challenging and meaningful activities (Durlak et al., 2010).

### *Instructional Features*

Academic instruction, social skills lessons, and enrichment are three aspects of instructional features in afterschool programming (Huang & Cho, 2009). Certain models have been proven successful in enriching participants' experience in ASPs. Sequenced, active, focused, and explicit programs (SAFE) have had significant positive results (Granger, 2010). Students in SAFE programs have seen improvements in test scores, as well as personal well-being (Durlak et al., 2010). There is also current research on the benefits of strategic academic tutoring. One-to-one tutoring helped with skills, strategies, and content (Hock, Pulvers, Deshler, & Schumaker, 2001). Social skills lessons and enrichment instruction have also proven to be essential for quality ASPs. Programs that teach prevention, personal, and social skills have positive outcomes in adjusting negative behaviors and improving school performance and feelings about school (Durlak, Weissberg, & Pachan, 2010). Finally, mentoring components specifically provide a positive and consistent adult who can help build strong relationships, navigate stressful life conditions, and promote independence (Herrera, Grossman, Kauh, & McMaken, 2011).

### *Afterschool Mentoring*

Mentoring programs have been implemented in community-based settings for centuries (Guetzloe, 1997). In the context of interventions for at-risk students, mentoring is broadly defined as a mentor working directly with a student where the primary goal is to develop a personal connection that aids in improving student outcomes (Converse & Lignugaris-Kraft, 2009). Afterschool mentoring programs originated in communities and have since been extended to school settings for efficiency and convenience (Converse & Lignugaris-Kraft, 2009). With increased financial support and public exposure, mentoring programs in general have become more common, particularly in the school-based mentoring (SBM) context (Herrera et al., 2011). School-based and community-based mentoring (CBM) programs have resulted in improved student outcomes, such as personal competence, academic achievement, and adult relationships (Caldarella, Adams, Valentine, & Young, 2009; Herrera et al., 2011; Karcher, Nakkula, & Harris, 2005; Converse & Lignugaris-Kraft, 2009).

### *Community and School-Based Mentoring*

The two types of mentoring programs, CBM and SBM, have similar foundations with differing embedded components and applications. Community-based mentoring programs tend to employ volunteers from the community directly affecting the lives of the at-risk students being mentored (Jekielek, Moore, & Hair, 2002). The mentor/mentee relationships in CBM programs tend to be stronger than those found in SBM programs due to increased dosage or amount of time spent together (Herrera, 1999). Mentors meet more often in longer meetings with their mentees in CBM programs, and the mentor/mentee relationship tends to last longer in CBM programs. Typically a community-based mentor will meet with their mentee for approximately three to four hours per week (Herrera et al., 2011). The mentors and mentees in CBM programs are often more appropriately matched based on relevant, common characteristics than in SBM programs. In addition to the mentor/mentee relationship, CBM programs focus on relevant social issues: (a) behavior, (b) in-home relations, such as disagreements with parents, (c) dropout, and (d) substance abuse while CBM programs focus on academic skills and social skills specific to the school setting.

Mentors in SBM programs meet approximately once per week, for one hour at the mentee's school, either before or after school (Herrera et al., 2011). Mentors provide academic instruction and may include social skills instruction or other nonacademic activities. In addition to requiring less time of mentors—making it cost-effective—SBM also improves students' relationships in the school setting with other students, teachers, and administrators (Herrera, 1999). Herrera et al. (2011) suggest SBM programs may improve student-teacher relationships because the teacher may have increased focus on the mentee through the mentoring program. Mentees in SBM programs might also experience improved perceptions of school through positive experiences in the SBM program (Herrera et al., 2011).



### *Mentoring and Relationship Building*

The primary focus in mentoring programs is on developing and fostering a positive relationship between mentor and mentee (Karcher et al., 2005). Meaningful relationships are a powerful factor in promoting resilience, specifically for at-risk students (Laursen, 2002). Of particular importance—for young students in kindergarten through fifth grade—social relationships with adults regulate development, specifically competence (i.e., ability, proficiency; Pianta & Walsh, 1998). Students who have developed meaningful relationships with a caring, positive nonparental adult through mentoring have demonstrated improvements in social, emotional, and behavioral domains (Hamre & Pianta, 2001). Habituation (i.e., adapting and orienting) by adult mentors to positive, caring attitudes and behaviors toward students at risk preclude building powerful, meaningful relationships with the at-risk mentee (Laursen, 2002). Conversely, if the mentor does not have such an outlook and approach, this will hinder the development of a positive relationship, which is the crux of the intervention. The importance of relationships between at-risk children or youth and a positive caring adult in promoting resiliency stems from general systems theory in which the child is affected by surrounding systems and the ways in which systems interact and affect each other (Pianta & Walsh, 1998).

The purpose of this review of recent literature was to (a) examine afterschool mentoring programs for at-risk children; (b) describe features of each program in the areas of mentee, program, mentor characteristics, and program evaluation; (c) synthesize available information; and (d) describe implications for future research.

### *Method*

#### *Initial Search*

First, the following keyword search terms were identified (a) afterschool mentoring, (b) after-school mentoring, (c) after school mentoring, (d) community-based mentoring, (e) community based mentoring, (f) school-based mentoring, and (g) school based mentoring. The authors conducted separate initial searches in the ERIC/EBSCO online database. Additional search criteria were that the articles be (a) peer reviewed and (b) published between 1996 and 2011. These dates were selected by the authors so that they could identify all publications within the past 15 years that fit into the remaining search criteria. Articles published prior to 1996 were considered seminal articles and were not included in this review of the recent literature published. The searches yielded a total of 98 articles, with 17 for afterschool, after-school, and after school mentoring; 16 for community-based mentoring and community based mentoring; and 65 for school-based mentoring and school based mentoring. Both authors found the same 98 articles using the search terms, resulting in 100% agreement between separate searches. No further exclusionary criteria were applied to the initial search.

#### *Hand Search*

Next the authors independently did hand searches of the articles resulting from the starting search results

and applied exclusionary criteria. An article was not included if: (a) it was a literature review, descriptive piece, or research-to-practice piece; (b) the mentoring took place during the school day; or (c) the study did not focus on children at risk as determined by membership in one of eight established categories. These separate hand searches resulted in all but 10 articles being excluded. Inter-rater agreement on which articles should remain post-exclusionary criteria between the authors was 76%.

Next, each author classified all 10 articles in nine categories: (a) program type (afterschool, community based, or school-based); (b) at-risk category; (c) intensity; (d) duration; (e) mentor characteristics; (f) location; (g) mentee age; (h) mentor characteristics; (i) location; and (j) miscellaneous program details. Additionally, the authors categorized the type of research conducted. Then authors checked 25% of each individually coded sets for inter-rater agreement, which was 100%. Table 1 summarizes these coding results. Additionally, each of the 10 articles was coded for program evaluation characteristics including: (a) program components, (b) number of student participants, (c) measures, (d) results, and (e) type of article. Each of the 10 articles described an ASP program evaluation. The type of research conducted in the published article was reported as either qualitative, mixed methodology, or quantitative according to the type of data analysis reported. See Table 2 for program evaluation information.

### *Results*

Ten articles met the search criteria for inclusion in the review of the literature for ASPs that serve students at risk. Of these, seven articles reported highly effective results as defined by most, if not all, of the participants experiencing expected positive outcomes; two articles reported mixed results; and one article reported negative results, meaning students did not demonstrate the expected positive outcomes of the program. Of the documented program components, the Big Brothers Big Sisters (BBBS) general components were common across all three studies, but the remaining programs did not document common program components. Family support was also implemented in three of the studies. Most study participants were identified as at risk through minority and/or poverty status and participants ranged in age from 6-18. Four of the 10 programs were identified as providing high intensity services, and duration of those services varied from 3-12 months, with 10-12 months being identified most frequently. The location of mentoring services was identified as either community center or "other" six out of 10 times. School-based mentoring locations were identified in two of the studies. Finally, the most frequently identified mentor type was a university student. Volunteers and peers followed in frequency.

#### *Determination of Literature Base*

This literature review began with a broad search which yielded 98 articles to analyze. Of these, only 10 met the inclusionary criteria of being research articles related to the issue of mentoring for students at risk. While the final field of 10 articles is small, this group does represent the

Table 1

*Literature Review Description*

	At Risk	Age	Intensity	Duration	Location	Mentor	Program Type
Bruening, Dover, & Clark (2009)	Minority	NI	Low	3 months	Community Center	University	CBM
Carswell et al. (2009)	Minority, Urban, Behavior	11-16	High	10-12 months	Community Center	University	CBM
Cavell et al. (2009)	Academic	6-8	High	16 months	Other	University	CBM
Clark & Sheridan (2010)	Minority	11-18	High	10-12 months	Club House (Saturdays)	Volunteer	CBM
Gur & Miller (2004)	Behavior	11-18	NI	4-6 months	Other	NI	CBM
Hanlon et al. (2009)	Urban, Minority	11-13	High	10-12 months	School	Volunteer	SBM
Herrera et al. (2011)	Poverty, Minority, Dropout, Academics, Behavior	6-18	NI	6-12 months	School	Peer, University student	CBM
Huang & Cho (2009)	Poverty	NI	NI	NI	NI	NI	NI
Schwartz et al. (2011)	Poverty, Minority, Academics, Behavior	9-15	Low	10-12 months	Other	Volunteer, Peer, University student	CBM
Spencer & Liang (2009)	Urban	13-17	NI	10-12 months	Community Center	NI	CBM

Note. NI = no information, CBM = community-based mentoring, SBM = school-based mentoring.

Table 2

*Program Evaluation*

	Program Components	Number of Students	Measures	Results	Type of Article
Bruening, Dover, & Clark (2009)	Sports activities	8	Interviews, peer interviews, member checks	Some positive, themes emerged	Qualitative
Carswell et al. (2009)	Family support, community support	109	Questionnaires, interviews	Not positive	Qualitative
Cavell et al. (2009)	Family support	145	Teacher rating scales, Relationship report scales and inventories	More intensive supports were rated higher	Mixed Methodology
Clark & Sheridan (2010)	Video gaming	139	Survey, observation, focus group	Positive perception	Quantitative
Gur & Miller (2004)	Matched mentor, group counseling	79	Demographics, retention	Positive outcomes	Quantitative
Hanlon et al. (2009)	Community support, group mentoring	478	Self-report, behavior checklists, teacher report, school records	Significant effects for GPA and teacher ratings	Quantitative
Herrera et al. (2011)	Big Brothers Big Sisters	1,139	Teacher report, self-report	Academic improvements	Quantitative
Huang & Cho (2009)	Homework help, tutoring	344	Staff, parent surveys, interview, observation	Perceived as positive, positive results	Mixed Methodology
Schwartz, et al. (2011)	Big Brothers Big Sisters	1,139	Demographics, teacher, student, parent, mentor report, student outcomes	Mixed results depending on student relational profile	Quantitative
Spencer & Liang (2009)	Big Brothers Big Sisters	12	Interviews	Themes emerged	Qualitative

current literature base of existing research. The remaining 88 articles either (a) focused on case examples of mentoring programs that did not examine program effectiveness through methodological procedures, or (b) the intervention was not truly a mentoring intervention. For example, several articles described afterschool programs that focused on academic tutoring where an adult was involved, but because the primary focus was not mentoring as defined by the authors—and establishing and building a relationship between the mentor and mentee—such articles were excluded. Likewise, articles that did not present results from experimental research were excluded based on the purpose of this review, which was to review reported outcomes in order to make implications regarding effectiveness for future research and practice. Articles that only described a mentoring program for students at risk, excluding reports of measures, contribute to the literature base, but did not pertain to this review.

### *Identifying Key Program Features*

The second purpose of this literature review was to classify components of the 10 mentoring programs included in the review and, according to reported outcomes and consistency across programs, identify key program features that should be considered requirements for effective mentoring programs for at-risk students. Through evaluating the effectiveness of the 10 studies reviewed, eight features emerged as required components for effective mentoring programs in future research and practice: (a) participant recruitment; (b) mentor training; (c) 1-year mentor commitment; (d) interest-based activities; (e) deficit-area activities; (f) family, community, and school involvement; (g) carefully planned mentoring relationship endings; and (h) program evaluation.

In the area of participant recruitment of the reviewed articles, most described a targeted participant pool, such as second grade students attending the research site (Cavell et al., 2009). This made participation highly encouraged or even required. However, in their highly positive program where students demonstrated overall positive outcomes, Clark and Sheridan (2010) attracted students from a range of areas to the program through promotion efforts. This recruitment strategy may increase mentee buy-in, and ultimately the effectiveness of the program.

The second feature is in the area of mentor training. Many articles reviewed did not describe the training procedures that came before the matching and mentoring procedures (Carswell et al., 2009; Gur & Miller, 2004), but several did, and those articles that described extensive mentor training for the most part reported highly positive results (Cavell et al., 2009; Spencer & Liang, 2009). Extensive mentor training that informs mentors of the specific needs of the target mentee population reduces mentor frustration (Carswell et al., 2009). Mentors in the studies reviewed were equally represented as volunteers and university students. Having mentors who show an interest in the target population does not guarantee that they possess enough knowledge to be successful mentors. Additionally, Cavell et al. (2009) provided matched pairs with a case manager to provide additional support.

The third feature was related to length of mentor commitment. Of the articles reviewed, the ones that reviewed BBBS (Herrera et al., 2011; Schwartz, Rhodes, Chan, & Herrera, 2011; Spencer & Liang, 2009) described a mandatory mentor commitment of one year with the mentee, which increases the quality of the mentoring relationship. Spencer (2007) followed investigated BBBS data that included unsuccessful mentor/mentee matches and found that one of the top reasons for unsuccessful matches was mentor abandonment. Particularly important for students who face complicated risk factors, mentoring relationships should last at least a year. Of the articles in this review, the average duration was 10 months.

The next feature is the importance of including interest-based activities in ASP mentoring programming. Some of the most successful ASPs included interest- or choice-based activities (Cavell et al., 2009; Clark & Sheridan, 2010; Herrera et al., 2011). These programs allowed mentors and mentees to negotiate activities based on shared interests and turn taking. Providing choice and inventorying personal interests are positive strategies to help build and sustain the mentor/mentee relationship. Preferred activities reviewed varied from games to outdoor activities and software design.

The fifth feature identified in this review is the need for deficit-specific instruction. In addition to interest-based activities, activity planning strategies for ASPs that were successful for the reviewed articles also provided needs-based activities (Bruening, Dover, & Clark, 2009; Cavell et al., 2009; Gur & Miller, 2004; Hanlon, Simon, O'Grady, Carswell, & Callaman, 2009; Herrera et al., 2011). Many of the articles reviewed included academic instruction, homework help, or remedial academic instruction. Other articles included group counseling, social skills instruction, and life skills training. Targeted intervention reduces specific risk factors, improving student outcomes.

Next, many articles reviewed included wraparound services in the areas of (a) parental involvement, (b) community support, and (c) school communication (Cavell et al., 2009; Hanlon et al., 2009; Huang & Cho, 2009; Schwartz et al., 2011). The inclusion of outside support correlated with highly positive program results. Parental involvement included parent visitation to the ASP, communication home by the mentor, and home visits. Community support most often was described as connecting mentees and their families with additional community support. School communication included: (a) teachers rating mentees in the context of their school day, (b) mentors communicating academic support needs with teachers, and (c) teachers providing behavioral feedback to the mentor.

The seventh feature identified was the focus on carefully planned endings, such as with the BBBS program (Herrera et al., 2011; Schwartz et al., 2011; Spencer & Liang, 2009). This ASP mentoring component was described as a critical component for the mentees, as it improved mentees' understanding of the conclusion of the pairing. Often, the BBBS provides culminating activities and a celebration toward the end of the year. This planned strategy provides mentors and mentees with positive

strategies to end their relationship rather than the mentee experiencing an abrupt, unexplained ending, which can be damaging.

Finally, afterschool program research is shifting from *if* programs work to determining *why* some programs are more effective than others (Granger, 2010). For afterschool programs to be successful, monitoring student engagement, program management, and staff turnover offers valuable information on the success of the program (Durlak, Weissberg, & Pachan, 2010). As afterschool programs increase in number and public funding, quality of programing will grow in importance. Evaluation and assessment measures in afterschool programs will increasingly provide information to ensure program quality (Huang and Cho, 2009). Just as schools use assessment and evaluation for continual improvement, afterschool programs also need ways to evaluate the effectiveness of their programs. As afterschool programs grow in number and importance, researchers need assessment instruments that can test how the daily environments of programs shape child and youth development (Granger, 2010).

## Discussion

The purpose of this literature review was to establish and categorize the existing relevant research, identify key program features that promoted student outcomes in the research, and synthesize these considerations for future research and practice. Low-achieving, at-risk students require intensive interventions to enhance instruction during the school day. ASPs serve as effective supplements for out-of-school time. ASPs can improve academic performance, prevent disruptive and delinquent behavior, and promote socialization (Lauer et al., 2006). Further, participation in quality ASPs may predict positive academic achievement and prosocial behavior (Shernoff, 2010). Specifically, ASPs that provide mentoring from an adult volunteer mentor alter negative, violent trajectories and reduce rates of contact with juvenile justice systems (Cavell et al., 2009). The current literature review sought to identify and synthesize critical components of afterschool mentoring programs for children at risk across the literature base.

## Evaluation Implications

Several implications arise from the results of establishing the base of literature around the issue and identifying key features for mentoring programs that serve students at risk. The first implication relates to the limited number of published research-based mentoring programs aimed at improving outcomes for at-risk students. Of the 98 articles originally identified, only 10 included programs that measured and evaluated effectiveness. Future research should include component-specific and whole-program research. Component-specific research would help to identify which specific components of the mentoring program are most efficient in promoting student success. For example, future research may examine the issue of dosage, which in this review was classified as intensity and duration. Bruening and colleagues (2009) included minimal intensity with a brief duration in their study, while Cavell

and colleagues (2009) integrated high intensity and long duration dosage in their study. Both studies included university students as mentors and were classified as CBM programs. An experimental study comparing these two dosages would add to the literature base and improve efficiency of resources.

Conversely, future research should also examine programs as a whole in order to examine the multiplicative effect of multiple research-based mentoring program components. This examination would aid in establishing general guidelines for the development and sustainability of mentoring programs as involved, complex interventions. An example of this type of examination from the literature in this review would be to compare the CBM and SBM programs, such as Clark and Sheridan (2010), where volunteers implemented high intensity, long duration mentoring compared to the intervention presented by Hanlon and colleagues (2009), where volunteers implemented mentoring with a similar dosage, but in a school setting rather than a community setting. While specific characteristics that could be isolated in a component-specific study would not be considered in this study, the setting and its effect on the program as a whole could be examined in this whole-program research.

Another implication for future research would be to specifically examine whether particular mentoring program components are most effective for certain groups of at-risk students. For instance, Gur and Miller (2004) identified at-risk students as those who demonstrated consistent challenging behavior, and Hanlon and colleagues (2009) identified their participants as at risk due to their urban community and minority status, yet both mentoring programs that were implemented incorporated group work with either group counseling or group mentoring. An examination of which components of effective mentoring programs for at-risk students are universal, and which are at-risk type specific, would fill a gap in the existing literature since so many definitions of at risk exist, and it is unlikely that all mentoring intervention components are effective for the different student characteristics that deem them at risk.

Considerations for the future practice of implementing mentoring programs for students at risk were also identified from this review. First, as a result of the limited number of published articles with measured and reported student outcomes, practitioners should ensure that efforts to measure and evaluate program effectiveness are in place. This includes confirming that the intervention is being implemented with integrity through treatment integrity measures; that the intervention is socially valid with parent, mentor, and mentee surveys; and by identifying outcome measures that can serve as benchmarks for evaluating program effectiveness such as GPA changes and teacher ratings of behavior, such as those presented by Hanlon and colleagues (2009).

Finally, practitioners should attempt to incorporate all of the eight key features identified in this review: (a) participant recruitment; (b) mentor training; (c) 1-year mentor commitment; (d) interest-based activities; (e) deficit-area activities; (f) family, community, and school involvement;



(g) carefully planned mentoring relationship endings; and (h) program evaluation during the development, maintenance, and sustainability phases of the program. While this list is not exhaustive since additional key features will be identified through future research efforts, existing mentoring programs for at-risk students should gauge the degree to which the identified key features are in place, and modify the mentoring program based on this evaluation. Similarly, mentoring programs that incorporate all of the aforementioned key features should evaluate the feasibility of the comprehensive effort and determine strategies for continued improvement. While this review did not initially classify individual program components in the areas that ultimately became the identified key features, the synthesis of the 10 programs reviewed highlights that none of the programs included effective levels of implementation with each of the eight key features as is suggested. Due to this limitation, the feasibility of the recommended level of implementation is unknown.

In summary, at-risk students require effective, efficient interventions that are sustainable and aim to improve deficit areas. Mentoring programs are commonly used as interventions for at-risk students; however, few program components can be confirmed as research-based and effective due to the limited breadth of existing research literature in the area. Through this review, a portion of this gap is filled by having established the existing literature and its gaps, identifying eight key features of effective mentoring programs for at-risk students, and presenting research and practice considerations which will add to the reviewed literature base.

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# How Did Successful High Schools Improve Their Graduation Rates?

Janna Siegel Robertson, Robert W. Smith, and Jason Rinka

**Abstract:** The researchers surveyed 23 North Carolina high schools that had markedly improved their graduation rates over the past five years. The administrators reported on the dropout prevention practices and programs to which they attributed their improved graduation rates. The majority of schools reported policy changes, especially with suspension. The main interventions that showed positive impact were improvements in academic support, school/classroom climate, and transition from middle to high school. School districts did support their schools, but only 61% gave additional financial support. Several school administrators reported success of specific programs, teachers having engaging lessons and high expectations, close monitoring of students, giving students more chances to succeed, and improved individual/family support as contributors to their improved graduation rates.

Four-year-cohort graduation rates in North Carolina school districts (North Carolina Department of Public Instruction [NCDPI], 2012a) range from a high of 91.7% for students in Elkin City Schools to a low of 21.4% for students in Scotland County Schools. The variability of four-year-cohort graduation rates increases when one examines school level data. Several schools have graduation rates of 100%, but unfortunately the rates do go as low as 21.4% for one school (NCDPI, 2012a). One of the goals of the Race to the Top Grant awarded to North Carolina (NCDPI, 2010) was to increase the graduation rate from 71.5% in 2010 to 86% by 2017. North Carolina has been successful in increasing the overall graduation rate of the state since 2006 to the current 77.9% (NCDPI, 2012b).

Several schools have increased their graduation rates markedly over recent years. Given the priority on increasing school graduation rates, our study asked the following questions: How did schools that markedly improved their graduation rates accomplish their success? Additionally, what can we learn from these schools about the process of school improvement?

## Literature Review

Increasing the high school graduation rate is a top priority for education both locally (Yeboah, Faulkner, & Appiah-Danquah, 2010) and nationally (Bridgeland, Balfanz, Moore, & Friant; 2010; Editorial Projects in Education Research Center, 2010; Heckman & LaFontaine, 2010). Dropping out of school is not only a personal issue for the student but is also a social and economic issue for communities (Bridgeland et al., 2010; Yeboah et al., 2010). The relationship between poverty and dropping out of school has been long established (American Psychological Association, 2012). The following list was adapted from the American Psychological Association to illustrate the economic impact of dropping out and increased likelihood of poverty:

- Approximately 12 million students are predicted to drop out over the next decade or so, costing the U.S. about \$3 trillion.

- In 2009, the average annual income for a high school dropout was \$19,540, compared to \$27,380 for a high school graduate.
- The national unemployment rate as of January 2012 is 8.3%. For individuals without a high school diploma it is 13.1%, compared to 8.4% for high school and 4.2% for college graduates.

While increasing graduation rates is currently a national and state priority, this has not always been the case. For example, although North Carolina's ABC's school reform and accountability model was introduced in 1996-97, it was not until 2006 that the requirement to calculate graduation rates, and to hold schools accountable for their graduation rate, was introduced. Prior to 2006, a primary focus of North Carolina's ABC's was raising standards, including raising requirements for graduation, which likely contributed to an increase in the dropout rate. As Rothstein (2002, p. B8) noted in his article, "Dropout Rate Is Climbing and Likely To Go Higher,"

With so much attention paid to test scores, an equally important gauge of school performance has mostly been overlooked. High school dropout rates seem to have jumped. . . . changes in dropout rates attract little notice, partly because they are difficult to calculate.

North Carolina, along with many other states, previously calculated dropouts on an annual basis—the difference in number of students who started and finished the school year. Consequently, reports of a 5% annual dropout rate did not provoke nearly the same level of concern as a 20% 4-year-cohort dropout rate.

Bloom (2010, p. 89), in his review of dropout prevention policies and programs, stated that

Because of the high individual and social costs of ignoring high school dropouts, the arguments for investing more public funds in services, systems, and research for young people is strong. The paucity of conclusive evidence, however, makes it hard to know how to direct resources.



The National Dropout Prevention Center (NDPC) identifies 15 evidence-based, effective strategies for dropout prevention (NDPC, 2012). However, as Bullmaster (2005) noted in an examination of districtwide high school reform, “How change is put into effect determines how well it fares—the right reforms wrongly implemented will not accomplish intended goals” (p.11). Further, Shore (2003) cautions that “The same remedy will not work in every community . . . to be effective, programs and policies need to identify and address local conditions” (p. 4). Rumberger (2011) after thoroughly reviewing the literature on dropping out of school also recommended that implementation of dropout prevention strategies must be conducted at the district level, taking into consideration capacity, appropriate strategies, technical assistance, and sufficient time to adequately measure student outcomes. In conclusion, while evidence-based, effective strategies exist, the implementation of strategies and local factors need to be taken into consideration.

Heightened interest in reducing dropout rates has also led to expressions of caution. Rumberger (2011) lists several federal grants and media programs that have focused on the dropout crisis in the country. At the same time he cautions not to overgeneralize the findings. Even though students who drop out of school who are from low socioeconomic means generally have poor prognosis of future success, there are multiple examples of individuals who have dropped out of school and have gone on to be highly successful.

Additionally, there are debates over how the numbers of dropouts are calculated. In one diagram in his book, *Dropping Out*, Rumberger demonstrates eight different ways a single cohort of students could have their graduation rate calculated. Depending on which data one includes, the same group of students had graduation rates ranging from 66% to 76% (Rumberger, 2011, p. 71). Increasing the complexity of determining graduation rates, students who graduate with a GED (General Education Development) test are not counted as graduating even though they often can go on to employment or postsecondary opportunities at a higher rate than students who drop out without receiving any diploma (Rumberger, 2011).

Finally, the general literature on school reform offers insights on the process of change and particularly the relationship between educational research and practice. Burney’s (2004) analysis of the obstacles to transforming schools states: “To be sure, educational research has produced a rich body of knowledge, but it is shared only haphazardly among teachers . . . Teachers have come to regard autonomy and creativity—not rigorous shared knowledge—as the badge of professionalism” (p. 526-528). At the same time, Burney (2004) argues that teachers possess important “craft knowledge” but “this knowledge is largely hidden because there are no institutional arrangements for codifying, legitimating and sharing it. Teachers have little sense of belonging to a professional community” (p. 527). Burney goes on to say that “only by recognizing and using both sources of knowledge [research and craft] can

educators truly transform our schools and turn teaching into a true profession” (p. 526).

## Method

We examined high school graduation rates in North Carolina, comparing the 2006 graduation rate with the 2010 graduation rate for each high school. Schools with less than 100 students were excluded. The top 50 high schools that showed the most improvement were sent a link to an online survey. The participants were the identified administrators who were the most responsible for dropout prevention at 23 schools, demonstrating a 46% return rate. The schools and their graduation rates are listed in Table 1. The increases in schools’ graduation rates ranged from 16.7% to 31.3%.

The participants responded to an online survey that was developed by the researchers. Questions were included that addressed the risk factors and best practices as identified by the National Dropout Prevention Center (2012; Hammond, Linton, Smink, & Drew, 2007). A main topic of interest was whether schools had implemented changes that affected the whole school or whether the changes were targeted specifically to students at risk of dropping out. We were also interested in the schools’ policy changes and interventions that the administrators credited with making the most impact on improving the schools’ graduation rates. The role of school districts in relation to the changes implemented by individual schools was also examined.

## Results

### Participants

Twenty-three school leaders responded out of the 50 requests providing a response rate of 46%, which is above the average online survey response rate of 32% (Hamilton, 2003). This response rate is considered an adequate response rate for online surveys (Nulty, 2008). The 23 school leaders were identified as the persons most knowledgeable about dropout prevention at their schools. The participants consisted of 14 principals, three assistant principals, three dropout prevention coordinators, one guidance counselor, one head of student services, and one student support specialist. See Table 1 for a listing of the 23 schools.

### Policies

In response to the question of whether the school implemented policy changes that affected the whole school or just students at risk, 70% of the schools reported having policy changes that impacted their whole school and 96% stated they had policy changes that impacted at-risk students. School leaders were asked to identify which changes in school policy had the largest impact on their school’s improved graduation rate. The school policies addressed included tardies, late work, and suspensions. Changes in suspension policies received the largest support with 66% school leaders in agreement (see Figure 1).

When school leaders were asked to describe policies that impacted their students’ graduation, they listed the following (18 schools commenting, some schools made more than one comment):

Table 1

*North Carolina High Schools With Large Graduation Rate Improvements*

Name	4yr % 2006	4yr % 2010	Difference 2006-2010
Manteo	61.0	92.3	31.3
Northeastern	53.8	82.8	29.0
Northampton High West STEM	65.9	93.9	28.0
Swansboro	62.8	86.9	24.1
Southside	58.3	82.1	23.8
Southern Vance	45.7	68.9	23.2
Ben L. Smith	57.0	80.1	23.1
Mooreville Senior	64.0	86.0	22.0
Jacksonville	65.6	87.1	21.5
White Oak	64.5	85.5	21.0
Northern Vance	51.1	71.5	20.4
Shelby	58.8	79.1	20.3
Polk County	65.9	86.0	20.1
Northside (1)	61.1	80.3	19.2
Franklin	62.4	81.1	18.7
Bunn	61.9	80.6	18.7
Westover	59.7	78.2	18.5
South Brunswick	62.2	80.0	17.8
Richlands	70.8	88.5	17.7
Northside (2)	67.5	85.0	17.5
Statesville	68.0	84.8	16.8
Northern Nash	58.5	75.2	16.7
Northampton East	58.3	75.0	16.7

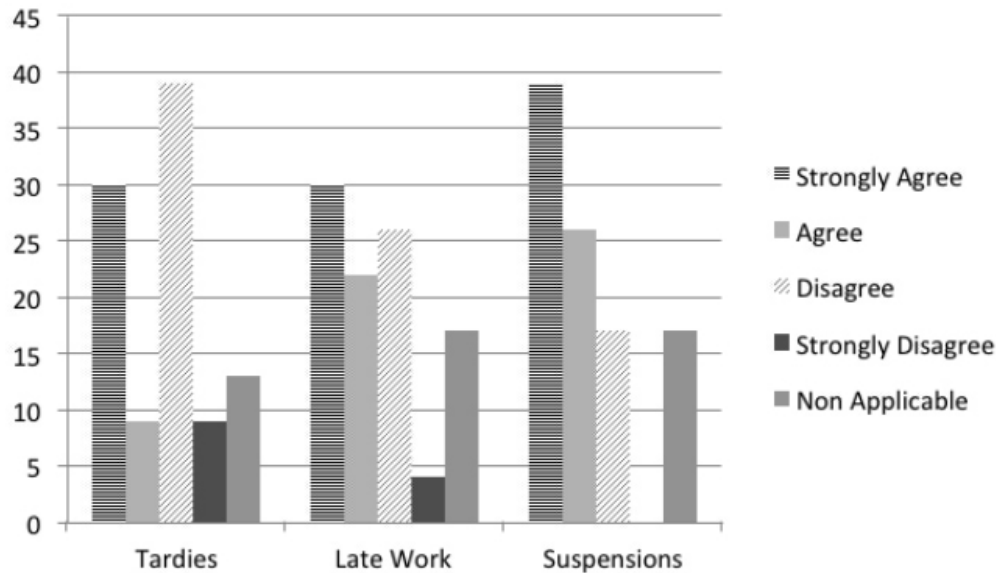


Figure 1. Administrators' (n = 23) perceptions of impact of policy changes on graduation rates.

- Attendance and tardy changed/enforced/monitored (33% of schools).
- Special programs (e.g., AVID, Mentoring, Freshman Academy; 33% of schools).
- Credit recovery (online; 44% of schools).
- In-school suspension (e.g., at a church or on Saturdays; 33% of schools).
- No failure/all work made up/late work (11% of schools).
- Graduation coach/family meetings (11% of schools).
- 20-21 credits option (22% of schools).
- Caring staff, caring school culture (11% of schools).

Policy changes were important, but since the beginning policies varied from school to school, the changes were also tailored to the school and student population.

### Student Characteristics

When asked to identify student characteristics targeted through school initiatives, the top two, receiving 100% support, were low achievement and poor attendance. The next two, receiving 90% support, were student misbehavior and students who are retained. Students with low school commitment, low education expectations, and early parenting also figured prominently. These priorities are very similar to national trends (see Figure 2; NDPC, 2012).

### Evidence-Based Interventions

Many of the evidence-based interventions identified by the National Dropout Prevention Center (2012; Hammond et al., 2007) were used by the 23 schools as reported by the administrators.

The interventions that were implemented for all students were as follows: School/Classroom Environment (91%), Academic Support (87%), Transition From Middle to High School (83%), Afterschool Programs (80%), Behavioral Interventions (71%), and Mentoring (50%). For at-risk students, the four highest scoring interventions implemented were Mentoring (50%), Pregnancy Prevention (46%), Family Engagement (25%), and Life Skills Development (25%; see Figure 3).

When the school leaders were asked, "Identify the four strategies that were most significant in improving your school's dropout rate," the results were somewhat different. In this case the most effective interventions were: Academic Support (91%), School/Class Environment (61%), Transition From Middle to High School (61%); Behavioral Interventions (48%), Afterschool Programs (48%), Family Engagement (43%) and Mentoring (30%; see Figure 4).

However, when asked whether selection of an evidence- or research-based model was a significant factor in improving the school's graduation rate, only 56% agreed. The respondents identified additional interventions that worked at their particular schools (eight schools commenting, some schools made more than one comment):

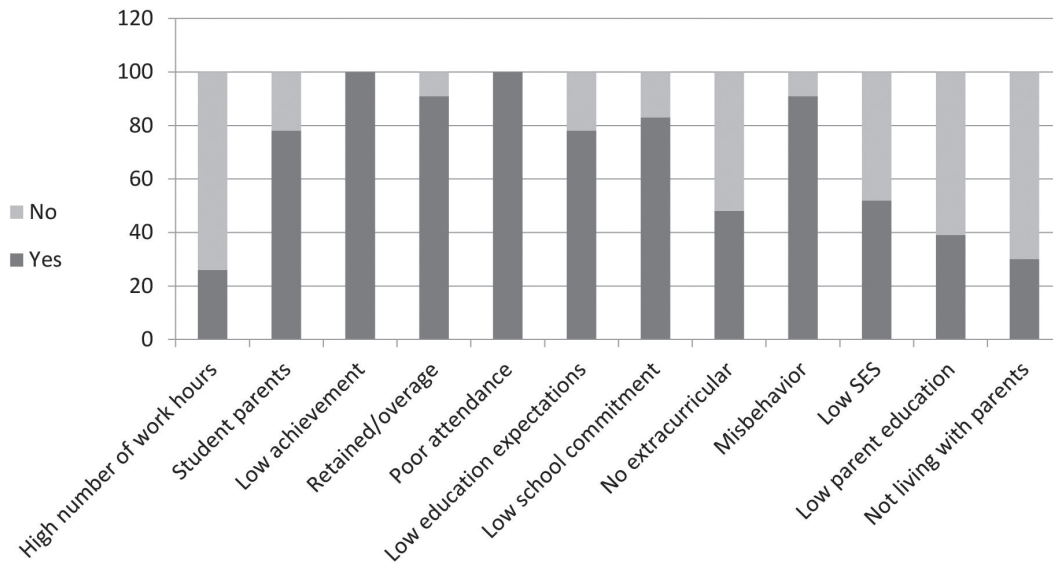


Figure 2. Characteristics of students at risk of dropping out of school targeted through school initiatives (n = 23).

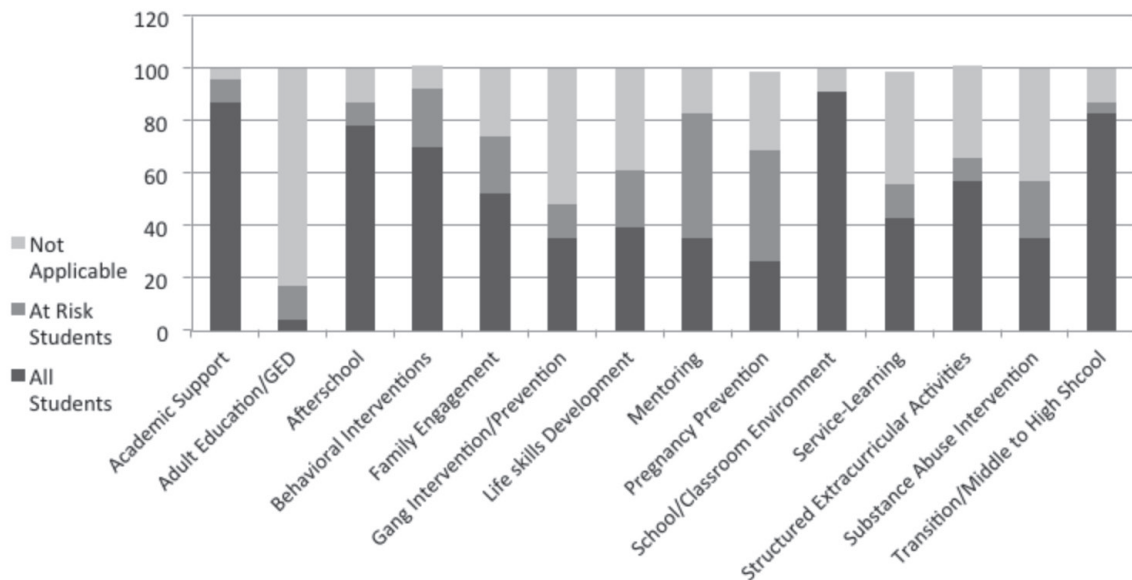


Figure 3. Interventions used to increase graduation rates (n = 23).

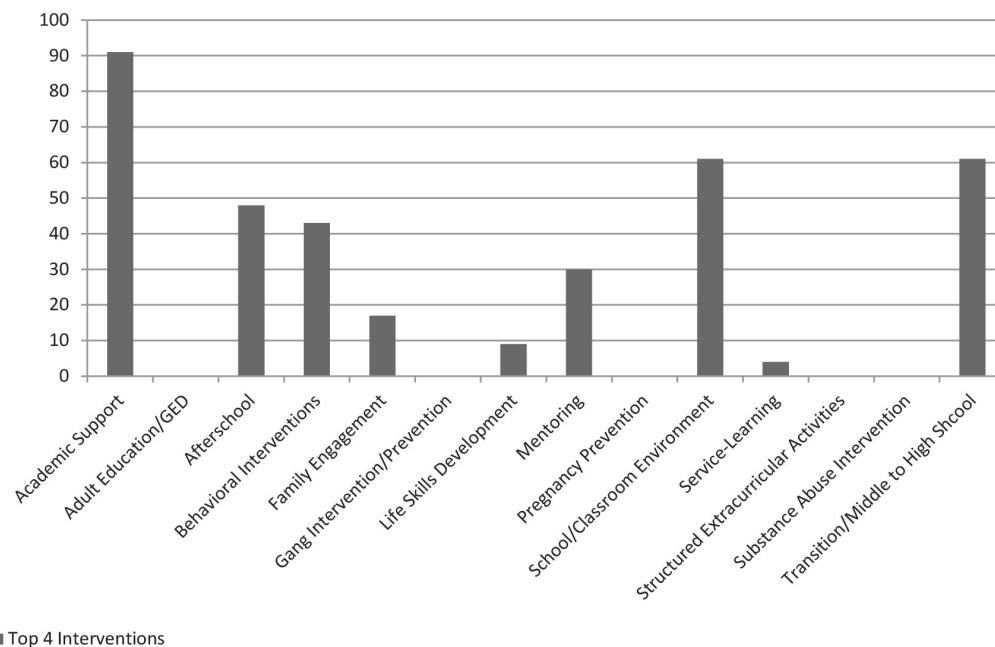


Figure 4. Top four interventions for dropout prevention (n = 23).

- peer and adult tutors, during and after school,
- response to intervention (RTI),
- small learning communities,
- student-led professional learning communities,
- individualized wraparound services,
- freshman academy,
- online instruction/credit recovery,
- college preparatory program, and
- grant-funded partnership with the YMCA.

#### School District Role

Respondents were asked about the role that the school district played in the changes the school had implemented. Only 30% of the respondents stated that the district led their dropout prevention efforts. Though 96% said they had district support for their initiatives, only 61% reported that this support included financial support. The schools described the following as their district support (18 schools commenting, some schools made more than one comment):

- 20-21 credit/computer programs (28% of schools),
- afterschool tutoring and transportation (22% of schools), and
- additional personnel (e.g., graduation coaches, student assistance program coordinators, social workers; 17% of schools).

Other district support mentioned by individual school administrators included professional development (RTI

training), laptop computers, special programs, celebrations, general funds, mentoring, alternative schools, district resources/contacts, and district collaboration.

#### Instruction

The school leaders were asked if there were changes made to the curriculum to make it more relevant to students. Fifty-two percent of the schools reported making the curriculum more relevant to students. When asked if the school districts were hiring more interesting teachers, 78% reported increased efforts to hire more interesting teachers.

#### Overall

The final open-ended question asked the school leaders to describe how they had improved their schools' graduation rates. Twenty-two of the 23 schools responded, and several mentioned more than one way they had improved their school graduation rate. The following is a compilation of the responses.

1. Special programs were implemented in 26% of the schools. The programs were all different from each other and included a tutoring program, a literacy program, a freshman academy, a mentoring program, a college preparatory program, and a life skills program.
2. School culture of "high expectations" was pointed out by 22% of the schools, including one comment about having a "calm" atmosphere.

3. Teachers were mentioned by 22% of the school leaders and were described as caring, having engaging lessons, having high expectations, and being “smart with a heart.”
4. Monitoring students and following up on attendance, achievement, and behavior was identified by 17% of the school leaders.
5. Working with students as individuals including their families was mentioned by 13% of the school leaders.
6. Giving students many chances to succeed was stated by 9% of the school leaders.
7. Additionally, individual school leaders also mentioned reducing credits for graduation and reducing suspensions.

## Discussion

The schools selected in this study had all made significant improvements to their graduation rates ranging from 16.7% to 31.3% increase over a four-year period. There were common initiatives across many of the schools that administrators had implemented to increase their graduation rates. Examples of these included policy changes with regard to tardies, late work, and/or suspensions. In addition, 73% of schools indicated that they had made changes in dropout prevention policies that affected all students. However, there was a distinction between schools that primarily focused on relatively easy changes, most directly tied to reducing the dropout rate, and schools that engaged in more significant changes, affecting the structure or culture of the whole school. Examples of the former included changes in policy to reduce out-of-school suspensions, a reduced 20-21 credit hour graduation option for at-risk students, the hiring of a graduation coach, the use of Nova Net and credit recovery to allow students who had failed a course to repeat it online, and providing buses to enable afterschool tutoring.

More significant changes, typically affecting the whole school, were implemented in a small number of high schools. These changes included creating small learning communities, changing the culture of the school to be more student-centered and caring, the creation of an advisory for all students, and a freshman academy. However, most of the schools that implemented more significant changes also included changes specifically geared to reducing the dropout rate. Further, some of the schools that were primarily implementing changes focused on the dropout rate were also involved in other initiatives. For example, one school described having staff development for teachers “to create engaging lessons,” and another school mentioned “hiring teachers who are smart with a heart.”

The authors were interested to see which programs the administrators believed were the most effective. By listing the four most significant programs, we could see the administrators’ choices often matched the interventions used for the whole school such as School/Classroom Environment, Academic Support, Transition from Middle to High School and Behavioral Interventions. But there

was one major difference of note. Academic Support was a strategy used by 87% of the schools, but it was chosen as one of the top four interventions 91% of the time. School/Classroom Environment and Transition from Middle to High School were also nominated more than 61% of the time. All others were selected less than 50%.

The top interventions were implemented in a variety of ways. Academic Support, which was by far the top intervention, included tutoring, literacy programs, freshman academies, and college preparatory programs. Some academic support programs included study skills and other academic resiliency skills. The other well-rated interventions (61%) included School/Classroom Environment and Transition from Middle to High School. These interventions comprised of life skills curriculums, working with individual students and families, mentoring programs and credit reduction programs. It was mentioned that the schools often made changes that cannot be attributed to a specific program. These changes included high expectations, engaging instruction and a calm atmosphere, which may have been the results of policy changes such as giving students extra chances. Overall, any major school changes involved a lot of dedication and hard work by individuals in the schools who work with students.

As stated earlier, improvement of graduation rates was a local, state, and national priority: It would be difficult to find a high school that did not have a goal of increasing graduation rates. In 2011, North Carolina introduced a new high school accountability model in which graduation rate was one of four measures on which high schools are evaluated. This led to an expansion of credit recovery programs to help students who had dropped out of traditional high school make up their missing credits and still graduate. The credit recovery programs in North Carolina, which are often delivered online, required 20-21 credits (as required by the state) whereas many local districts have higher credit requirements, more in the 27-28 credit range. There was concern that credit recovery programs whether online or delivered in other formats may not be as rigorous as traditional high school classes (Center for Public Education, 2012). The study revealed that a main response widely held among administrators as to reasons for increasing graduation rates included changes in policies regarding suspensions, tardies, and late work. In relation to Burney’s (2004) distinction between “craft knowledge” and “research knowledge,” this main response might be seen as reflective of craft knowledge, i.e., shared practitioner knowledge, or possibly practitioner knowledge shaped by research. Only 56% of respondents indicated that selection of an evidence- or research-based initiative was significant to improving their school’s graduation rate. This response would seem to support Burney’s finding that, “To be sure, educational research has produced a rich body of knowledge, but it is shared only haphazardly among teachers” (p. 527).

While Burney’s focus was on teachers, his observation would appear also to apply to administrators or education professionals. Although the majority of respondents uti-



lized research-based practices, it would appear that many administrators still work in isolation and may not see their connection to a larger professional community (Burney, 2004). This view would also appear to be supported by the finding that 70% of respondents indicated that their school district did not lead the change. Reducing the number of student dropouts appears to be a priority mainly for individual high schools. This image contrasts sharply with the view of school districts as “self-conscious ‘learning organizations,’” that “promote and invest in learning throughout the system—in the central office, in schools, in cross-school teacher networks, in units such as the business office that typically are excluded from professional development focused on instruction” (McLaughlin & Talbert, 2003, p. 25).

## Conclusion

Reducing the dropout rate is a national priority. The study identified changes implemented by high schools to reduce the dropout rate. The study also sought to distinguish between schools that are engaged in incidental change and the much smaller number identified as engaged in fundamental change. Based on multiple reports concerning the low overall proficiency of U.S. students on international comparisons, as well as the large achievement gaps among groups of U.S. students (Darling-Hammond, 2010), more schools should be pursuing fundamental changes. Our study reveals that while half of the schools indicated implementing research-based strategies, the response to the “dropout problem” often appears to be at the level of the individual high school, and in many cases lacks the leadership of a school district. Developing coordinated approaches to school improvement in the way that Burney (2004) and others have called for would appear to be an important next step in achieving more fundamental changes in the way teaching and learning are structured at the high school level.

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# Are Teacher and Principal Candidates Prepared to Address Student Cyberbullying?

Ronald A. Styron Jr., Jessica L. Bonner, Jennifer L. Styron, James Bridgeforth, and Cecelia Martin

**Abstract:** The purpose of this study was to examine the preparation of teacher and principal candidates to address problems created in K-12 settings as a result of cyberbullying. Participants included teacher and principal preparation students. Findings indicated that respondents were familiar with the most common forms of cyberbullying and its impact on students, but only moderately aware of the extent that students initiated acts of cyberbullying and the appropriate responses. Recommendations for policy and practice included additional training regarding the identification of cyberbullying and its impact on students and the creation of modules pertaining to cyberbullying and digital citizenship inserted into courses that address the use of technology.

Technology has become an everyday part of most adolescents' lives. Increased access to cell phones, personal computers, Internet, and wireless devices contributes to the growing number of young people exposed to electronic media. In a study conducted by the Kaiser Foundation of more than 2,000 adolescents from ages 8-18, researchers found that young people were actively engaged in media use of some type 7 hrs, 45 mins per day, 7 days per week (Rideout, Foehr, & Roberts, 2010). When multitasking between mediums was considered, the number increased to roughly 10 hrs, 45 mins per day, with 20% of consumption taking place on some type of mobile or handheld device. Students spent much of this time viewing online media such as YouTube and visiting other social media sites (Rideout et al., 2010). While this increased exposure to Internet-based content provided many new educational opportunities for adolescents, it also presented new and complex problems for students, parents, and educators.

Teacher preparation programs have recognized the need for integration of technology-based instruction in classrooms. The National Council for Accreditation of Teacher Education (NCATE; 2008) fostered this movement. This accrediting organization has standards for teacher education programs that require candidates to be able to use and integrate technology effectively with various pedagogies. Standard 1 necessitates that future educators are "able to appropriately and effectively integrate technology and information literacy in instruction to support student learning" (Knowledge, Skills and Professional Dispositions, para. 1g).

Together with NCATE, the International Society for Technology in Education (ISTE) has developed National Educational Technology Standards (NETS) for teachers and students. One of the key standards of NETS for teachers is promotion and modeling of digital citizenship. NETS outline the teacher's responsibility to instruct students in "digital etiquette and responsible social interactions related to the use of technology" (ISTE, 2008, p.2). Due to these standards, K-12 teacher preparation programs in many colleges and universities have begun to enhance curriculum with technology training for instruction (Stobaugh & Tassell, 2011).

## Purpose of Study

The purpose of this study was to examine the perceived preparation of teacher and principal candidates to address problems created in K-12 settings as a result of cyberbullying. Specifically, this study explored the familiarity of teacher and principal preparation students with various types of cyberbullying, knowledge of the appropriate response to incidents of cyberbullying, perceived level of harm to students from cyberbullying, program effectiveness at preparing teachers to manage cyberbullying incidents, and perceived frequency of victimization and perpetration of cyberbullying among students. Data collected from the study will be used to make recommendations for college administrators when considering appropriate course curriculum to address cyberbullying and K-12 school principals when developing teacher mentoring/induction programs.

## Relevant Literature

This literature review is indicative of the limited body of research regarding the effectiveness of teacher and principal preparation programs to provide their candidates with strategies to address problems associated with student cyberbullying. The insights provided by this research project will serve to inform others of the perceived ability and awareness levels of teacher and principal preparation students to identify acts of cyberbullying and the effectiveness of programs to prepare them to deal with these acts. As such, it is the intent of the researchers who authored this paper to help fill this void through the research project described in this paper.

## Teacher Preparation

Teacher K-12 preparation differs greatly depending upon program design. Traditional programs and alternative certification programs often incorporate subject matter instructional methods courses, subject specific courses, and some form of supervised clinical practice or experience (Wilson, Floden, & Ferrini-Mundy, 2002). Supervised clinical practice involves student teaching opportunities or internships that provide candidates with an intensive and extensive culminating activity. Teacher candidates are

immersed in the learning community and are provided opportunities to develop and demonstrate competence in their professional roles (NCATE, 2008).

According to a 2013 report from the U.S. Department of Education, approximately 728,310 preservice educators were enrolled in state-approved teacher preparation programs with 88% enrolled in traditional track teacher preparation, 6% enrolled in alternative programs at Institutes of Higher Education (IHEs), and another 6% enrolled in alternative programs outside of IHEs. Participation was about the same for traditional and alternative programs based from IHEs (U.S. Department of Education, 2013). However, in the AY 2009-2010, 80% of the individuals who completed all the state-approved requirements for teacher preparation came from traditional programs. A majority of individuals enrolled in teacher preparation programs were White females. Only 11% of candidates were of Hispanic or Latino origin, and African Americans represented 9% of total enrollment (U.S. Department of Education, 2013).

Researchers (Li, 2008; Ryan & Kariuki, 2011; Yilmaz, 2010) have conducted several studies aimed at identifying preservice educators' perceived awareness of and preparedness for incidences of cyberbullying. Li examined the attitudes and perceptions of preservice educators at a Canadian university. He found that preservice educators did not feel qualified (prepared) in the identification or management of cyberbullying. Over 50% disagreed or strongly disagreed that they were confident in identifying cyberbullying activity, and 60% disagreed or strongly disagreed that they were confident in managing cyberbullying activity. While this study found that most of the recipients agreed that cyberbullying "affects children," only a third of respondents thought that it was a problem within the schools. Li indicated that respondents were not aware of the seriousness of cyberbullying due to its covert nature and the ambiguous signs that may accompany it. When asked about their preparation through university education programs, over 80% of individuals disagreed or strongly disagreed that the university was preparing them for cyberbullying management, indicating almost all of the respondents did not think they were being prepared to handle cyberbullying. However, most also wanted to learn more about ways to manage and identify cyberbullying behaviors. Li pointed to the relative newness of the cyberbullying phenomenon as an explanation for the lack of training provided to teacher candidates.

Ryan and Kariuki (2011) sought to compare Canadian preservice teacher perceptions regarding the importance of cyberbullying as an issue and how prepared they perceived themselves to be for dealing with cyberbullying. They compared their results to Li's (2008) research to examine any changes in preservice educator perceptions. They found that while most perceptions remained the same, neutral responses to the questions on perceived preparedness for handling cyberbullying increased. Preparedness would include identifying cyberbullying and knowing how to manage cyberbullying instances. Although more than 50% of respondents thought that their teacher preparation program did not properly prepare them for instances

of cyberbullying, almost half of respondents indicated that cyberbullying was an important topic that should be covered in preservice programs. Ryan and Kariuki (2011) noted that this perceived lack of preparation resulted in respondents also indicating that they were reluctant to act on incidents of cyberbullying, especially when the incidents are considered covert or indirect.

In 2010, Yilmaz replicated Li's (2008) study at seven state universities in Turkey among students in teacher preparation programs. Similar to the Canadian preservice teachers, Turkish students were concerned about the effects of cyberbullying on students. However, unlike Canadian students, Yilmaz found that a majority of recipients strongly agreed that cyberbullying was a problem within schools. Half of the Turkish respondents were confident that they could both identify and manage cyberbullying. This is significantly higher than Li's study results. However, Yilmaz noted that the disparity between awareness of cyberbullying and confidence in handling cyberbullying remained significant. This disparity may be explained by the respondents' attitudes regarding their universities' teacher training programs.

### Cyberbullying

For the purpose of this study, cyberbullying was defined as "being cruel to others by sending or posting harmful material or engaging in other forms of social aggression using the Internet or other digital technologies" (Willard, 2007, p. 1). Cyberbullying involves hostile communication, including pictures or text, remitted through the Internet or to personal wireless devices (cell phones, iPods, tablets, etc.). There are varying opinions on categorization of types or means of cyberbullying. Willard identified seven ways in which cyberbullying may occur: flaming, harassment, cyberstalking, denigration, masquerade, trickery, and exclusion. With the exception of "masquerade," which was termed "impersonation," this study maintained these categories and corresponding definitions.

Willard (2007) also identified harmful social norms adopted by some students in online settings that have fostered the increased frequency and severity of cyberbullying. Adolescents often view online environments as open forums for free speech. Thus, students feel that they have the right to say anything online, despite consequences to others. Furthermore, adolescents also have a "what happens online stays online" norm in online communities. Victims of cyberbullying often feel reluctant to breach this unspoken code fearing further negative attention. In a nationwide study conducted by the National Education Association (NEA) in 2011, a majority of teachers and support staff noted that cyberbullying was the least likely form of bullying to be reported to them (Bradshaw, Waasdorp, O'Brennan, & Gulemetova, 2011). Consequentially, cyberbullying is often problematic to identify and mediate due to the unwillingness of victims to report incidents to authorities.

**Prevalence.** There is conflicting evidence on the prevalence of bullying among adolescents in the United States. Using a representative sample of students in 6th through 10th grades, Nansel et al. (2001) found that almost 30% of students have been bullied (10.6%), initiated acts of bully-

ing (13%), or both (6.3%). The School Crime Supplement conducted by the National Center for Education Statistics for the school year 2008-2009 found that only 6% of respondents identified being bullied online (DeVoe & Bauer, 2011). The Centers for Disease Control and Prevention's Youth Risk Behavior Surveillance Survey (2011) found that 16.2% of high school students in grades 9-12 reported being electronically bullied. The discrepancy in statistical data may be due to different age ranges of respondents and varying definitions of cyberbullying or electronic bullying. Rapidly changing technology and increased adolescent presence online may result in increased exposure to cyberbullying incidents (Englander & Muldowney, 2007). Students' social networks have expanded significantly from face-to-face interaction to participation in a global community (Snakenborg, Van Acker, & Gable, 2011).

**Implications.** Nansel et al. (2001) also found that bullying affected both the aggressor and the victim psychologically and socially in meaningful ways. Victims of bullying had problems adjusting socially and emotionally, citing loneliness and inadequate relationships with peers. Students who self-identified as bullies demonstrated lower academic achievement, increased involvement in troublesome practices such as alcohol and tobacco use, but less difficulty socially. Results indicated that those involved in bullying as either initiator or target shared these characteristics and indicated social, emotional, and academic problems along with problematic behaviors. According to Nansel et al., the emotional effects of bullying may carry over into adulthood. Some students may continue to perceive themselves as having no value due to their experiences during adolescence. Thus, the emotional well-being of the student is negatively impacted.

**Digital citizenship.** Student immersion in technology creates the need for instruction on digital citizenship, online safety, and appropriate online behaviors. Ohler (2011) described this need as "character education for the digital age" (p. 26). As participants in a digital or online community, students need to be taught the implications of actions within that community and the responsibilities that accompany digital citizenship. The Massachusetts Aggression Reduction Center (MARC) recommends that Internet safety education should involve teaching students how what happens in their "cyberlife" affects other areas of their life (Englander & Muldowney, 2007, p.88). Ohler recommended incorporating digital citizenship as an integral part of character education in schools.

**Best practices.** While research regarding best practices for responding to and prevention of cyberbullying are still needed, many sources agree that cyberbullying initiatives should be schoolwide, involve additional teacher training and development, incorporate student education on appropriate online interactions, and include parents and community members in some way (Englander & Muldowney, 2007; Schroeder et al., 2012; Snakenborg et al., 2011). Englander and Muldowney's MARC program in Massachusetts identified several key elements of successful faculty training

emphasizing the importance of encouraging reporting of incidents, updates on new technologies and how students are using these technologies, and inclusion of cyberbullying in Internet safety education. Creating an environment where students feel comfortable reporting cyberbullying is another cornerstone of many prevention and intervention school programs. However, Snakenborg, Van Acker, and Gable (2011) noted that strategies teaching students simply to report incidents must be coupled with increased parental or guardian involvement in order to be effective.

## Methodology

### Research Questions

The study examined the attitudes and perceptions of individuals enrolled in undergraduate and graduate teacher preparation courses and principal preparation courses. The research questions guiding the study included:

- RQ 1: Were students aware of the most common types of cyberbullying?
- RQ 2: Were students aware of the extent that students initiate acts of cyberbullying?
- RQ 3: Were students aware of the impact of cyberbullying on the emotional well-being of students?
- RQ 4: Were students aware of the appropriate response when incidents of cyberbullying have been reported to them?
- RQ 5: What strategies have students been taught to deal with the impact of cyberbullying on K-12 students?

### Setting

Researchers conducted this study at an urban, public, regional, 4-year university located in the southeastern region of the United States. The university professes a commitment to the development of human capital through exemplary practices in teaching, research, and service to the community. The current enrollment is 15,425 with 60% female and 40% male; 67% white, 19% African-American, 3% Asian, 2.5% Hispanic, 3.6%, and 8.5% other. Over 90% of students receive some type of financial assistance with 75% of these students receiving grants and 54% receiving loans.

### Participants

Researchers sent survey instruments to 859 students enrolled in undergraduate and graduate teacher and principal preparation programs. One hundred and twenty students completed their survey for a return rate of approximately 14%. Of those respondents, 90% were female and 10% were male; 76.2% White, 18.2% African-American, .9% Asian, 1.4% Hispanic, and 3.5% other. Ages of respondents ranged from 17-62, with 20% of respondents between ages 15-19, 47.5% ages 20-24, 15.8% 25-29, 5% 30-34, 6.7% 35-39, and 5% over 40 years old. Respondents were also asked to identify year in college. Freshman accounted for 16.7% of respondents; 15% were sophomores; 25.8% were

juniors; 20% were seniors; 21.7% were at master's level; and 0.8% were specialists. Additionally, respondents were asked to specify their preparation program. Traditional program students accounted for 8.5% of respondents, alternative 7.6%, elementary education 47.5%, secondary education 30.5%, and administrative 5.9%.

### Instrumentation

Questions from the *Cyber Savvy Survey*, developed by Nancy Willard (2012) for the Center for Safe and Responsible Internet Use, solicited demographic responses regarding the following types of cyberbullying: flaming, online harassment, cyberstalking, denigration, impersonating, trickery, and excluding. After selection of questions most relevant to teacher and principal preparation issues, they were modified through wordsmithing to assess the familiarity, potential harm and frequency of each type of cyberbullying, the appropriate intervention if reported, and the preparation of their course of study to deliver the intervention. Researchers electronically disseminated the instrument to student email addresses via the university's electronic online evaluation system. It included both Likert and open-ended questions. Reliability of the instrument was not deemed critical by the author.

According to Willard (2013),

It is probable that students will be more inclined to answer the norms and strategies questions in a manner that is more "socially desirable." Because the responses to these questions are being used in a manner that intends to encourage abiding by these positive norms, issues related to reliability are not as salient. (p. 12)

### Data Collection and Analysis

Data were entered into the statistical analysis program, SPSS. For research question one, frequencies reported for items associated with the question "Are you familiar with this form [insert type of cyberbullying] of cyberbullying?" were reported. Similarly, frequencies reported for items associated with the question "How often do you think students initiate acts of [insert type of cyberbullying]?" were associated with research question two. To answer research question three, frequencies reported for items associated with the question "How harmful is [insert type of cyberbullying]?" were reported. For research question four, frequencies reported for items associated with the question "Are you aware of the appropriate action to take if [insert type of cyberbullying] is reported to you?" were reported. To answer research question five, frequencies reported for items associated with the question "Has your program of study helped prepare you to deal with [insert form of cyberbullying]?" were reported. Since there are seven types of cyberbullying, seven frequencies will be reported for each question.

### Findings

Definitions of the terms associated with cyberbullying were provided on the instrument immediately preceding corresponding questions. They were:

- Flaming—sending angry, rude, vulgar messages about a person to an online group or to that person via email or other text messages.
- Online Harassment—repeatedly sending offensive messages via email or other text messaging to a person.
- Cyberstalking—online harassment that includes threats of harm or is excessively intimidating.
- Denigration—sending harmful, untrue, or cruel statements about a person to other people or posting such materials online.
- Impersonating—pretending to be someone else and sending or posting materials that makes that person look bad.
- Trickery—sending or posting materials about a person that contain sensitive, private, or embarrassing information; including forwarding private messages and images.
- Exclusion—cruelly excluding someone from an online group.

As seen in Table 1, results indicated that 99.2% of respondents were familiar with online harassment, 94% with impersonating, 92.5% with cyberstalking, 89.2% with denigration, 84.2% with flaming, 83.2% with trickery, and 73.1% with exclusion.

As indicated by Table 2, respondents were asked how often they thought students initiated each type of cyberbullying using a Likert scale ranging from 1-5 with 1 being "never" and 5 being "often." Mean responses for perceived initiation of denigration were 4.08, 3.96 for online harassment, 3.79 for trickery, 3.78 for exclusion, 3.63 for flaming, 3.57 for cyberstalking, and 3.46 for impersonation.

Respondents were asked how harmful they thought each type of cyberbullying was using a Likert scale ranging from 1-5 with 1 being "not at all" and 5 being "very." As indicated in Table 3, mean responses for perceived harmfulness were 4.75 for online harassment, 4.72 for cyberstalking, 4.7 for trickery, 4.66 for denigration, 4.64 for flaming, 4.6 for impersonation, and 4.16 for exclusion.

Respondents were asked to rate their perceived awareness of the appropriate action to take for reported incidents of each type of cyberbullying using a Likert scale ranging from 1-5 with 1 being "not at all" and 5 being "very." As indicated in Table 4, mean responses for perceived awareness of appropriate actions were 3.41 for cyberstalking, 3.29 for denigration, 3.32 for online harassment, 3.23 for trickery, 3.28 for exclusion, 3.21 for impersonation, and 3.06 for flaming.



Table 1

*Familiarity With Forms of Cyberbullying*

Are you familiar with this form of bullying?	n	Yes	No
Item 3.7 Online Harassment	119	99.2%	0.8%
Item 3.25 Impersonating	117	94.0%	6.0%
Item 3.13 Cyberstalking	120	92.5%	7.5%
Item 3.19 Denigration	120	89.2%	10.8%
Item 3.1 Flaming	119	84.2%	15.8%
Item 3.31 Trickery	119	83.2%	16.8%
Item 3.37 Exclusion	119	73.1%	26.9%

Table 2

*Perceived Initiation of Cyberbullying*

	n	Mean	SD
Item 3.24 How often do you think students initiate acts of denigration?	120	4.08	1.05
Item 3.12 How often do you think students initiate acts of online harassment?	119	3.79	1.01
Item 3.36 How often do you think students initiate acts of trickery?	117	3.79	1.07
Item 3.42 How often do you think students initiate acts of exclusion?	118	3.78	1.09
Item 3.6 How often do you think students initiate acts of flaming?	119	3.63	.95
Item 3.18 How often do you think students initiate acts of cyberstalking?	120	3.57	1.11
Item 3.30 How often do you think students initiate acts of impersonating?	117	3.46	1.18

Table 3

*Perceived Harmfulness of Cyberbullying*

How harmful is . . . ?	n	Mean	SD
Item 3.9 Online Harassment	119	4.75	0.56
Item 3.15 Cyberstalking	111	4.72	0.54
Item 3.33 Trickery	99	4.70	0.52
Item 3.21 Denigration	107	4.66	0.57
Item 3.3 Flaming	101	4.64	0.64
Item 3.27 Impersonating	111	4.60	0.65
Item 3.30 Exclusion	87	4.16	1.00

Table 4

*Perceived Awareness of Appropriate Action*

Are you aware of the appropriate action to take if _____ is reported to you?	n	Mean	SD
Item 3.14 Cyberstalking	111	3.41	1.27
Item 3.8 Online Harassment	119	3.32	1.33
Item 3.20 Denigration	107	3.29	1.27
Item 3.38 Exclusion	86	3.28	1.33
Item 3.32 Trickery	99	3.23	1.34
Item 3.26 Impersonating	112	3.21	1.33
Item 3.2 Flaming	101	3.06	1.36

As indicated in Table 5, respondents were asked how their program of study has helped them prepare to deal with each type of cyberbullying using a Likert scale ranging from 1-5 with 1 being “not at all” and 5 being “very.” Mean responses for program preparedness were 2.67 for denigration, 2.64 for exclusion, 2.61 for online harassment, 2.56 for cyberstalking, 2.53 for trickery, 2.52 for flaming, and 2.49 for impersonation.

Table 6 indicates that when asked if they needed additional training to adequately identify and address cyberbullying, 68.1% of respondents indicated that they needed further training.

Respondents were asked in which ways they thought issues with cyberbullying should be addressed. As indicated in Table 7, 40.8% of respondents thought cyberbullying should be addressed through zero-tolerance policies, 24.2% through cyberbullying specific policies, 20% through bullying policies, and only 15% thought it should be addressed on a situation-by-situation circumstance.

## Discussion

Respondents were familiar with the most common forms of cyberbullying (73.1%-99.2%) and aware of the impact of cyberbullying on students (mean scores: 4.16-4.75 /5.0). But respondents were only moderately aware of the extent that students initiated acts of cyberbullying (mean scores: 3.46-4.08 /5.0), and the appropriate responses to cyberbullying (mean scores: 3.06-3.41 /5.0). This indicated that familiarity did not mean respondents were confident intervening or managing cyberbullying situations. This conclusion is similar to those of related studies conducted by Li (2008), Ryan and Kariuki (2011), and Yilmaz (2010). Li found that although preservice teachers were aware of cyberbullying and concerned about its impact on students, most did not feel convinced of their ability to handle incidents of cyberbullying. They did not know how to manage the problem when it occurred. Ryan and Kariuki found that preservice teachers were concerned about cyberbullying and aware of the impact it had on students. Nonetheless, even though they considered cyberbullying as important as any topic addressed in their preparation program, they did not feel as prepared to cope with it as with other disciplinary matters. Likewise, Yilmaz found preservice teachers aware of cyberbullying and cognizant of its effects, and found they felt insecure about their ability to manage these behaviors in a classroom setting or respond appropriately to the situation.

Furthermore, respondents indicated additional preservice training was necessary to deal with the impact of cyberbullying (mean scores: 2.49-2.67/5.0), and the identification of cyberbullying (68.1%). These findings were consistent with those of Li (2008) who discovered that only 13.1% of preservice teachers believed they could identify cyberbullying with merely 11.1% reporting that they would be able to manage a cyberbullying incident. Later studies conducted by Ryan and Kariuki (2011) and (2010) indicated that preservice teachers thought their programs

of study did not prepare them to manage these behaviors. Craig, Bell, and Leschield (2011) also discovered that teachers who had received violence prevention training, including addressing cyberbullying, were more confident in their ability to identify and manage cyberbullying than those without the training.

## Conclusions

Low levels of perceived preparedness to manage incidences of cyberbullying indicated the need for modules pertaining to cyberbullying to be developed and added to required courses found within teacher and principal preparation programs, possibly those connected to technology. These modules could include information regarding the most common types of cyberbullying and their impact, as well as applicable school district policies and laws. Content from these modules could be drawn from digital citizenship programs found in most K-12 schools. Strategies for teachers and principals to deal with the impact and identification of cyberbullying should also be included in these modules along with techniques aimed at correcting the dispositions of students who often feel cyberbullying is nothing more than an unfriendly exchange between peers. Students must be helped to understand that it is an often violent and cruel phenomenon that can lead to life changing events, even death.

It should be noted that respondents felt the most effective way to deal with incidents of cyberbullying was through the use of zero-tolerance policies. This response signals a potential lack of understanding of methods proven to be effective as Martinez (2009) and Roberge (2012) found zero-tolerance policies to be ineffective in addressing cyberbullying behaviors. Modules should include research-based strategies for dealing with the impact of cyberbullying found to be effective. For instance, Kraft and Wang (2009) found the restriction of Internet, cell phone, and computer an effective way to discourage cyberbullying behaviors. Parents, schools, and social networks also have to work together if cyberbullying is to be prevented (Ybarra & Mitchell, 2007).

As found in the National Center for Education Statistics' (NCES) report (2011), teacher preparation and support could be crucial factors in teacher attrition, especially within the first year of teaching. NCES also reported that 10% of all first-year teachers who began teaching in 2007 or 2008 were no longer teaching just one year later in 2008-09. That number rose to 12% by the next AY 2009-2010. Likewise, during the 2008-09 school year, 17% of public school principals and 14% of private school principals left the principalship (Institute of Education Sciences, 2010). Working under a negative school climate resulting from inappropriate student behavior, such as cyberbullying, is a major factor in low morale and resulting retention (Baldacci, 2006; Ilakkuvan, 2012; Kopkowski, 2008; Randall, 2010). As a result, better preparation to deal with cyberbullying may result in extending the careers of many teachers and principals.

Table 5

*Perceived Program of Study Preparation*

Has your program of studies helped you to deal with . . . ?	n	Mean	SD
Item 3.22 Denigration	107	2.67	1.34
Item 3.40 Exclusion	87	2.64	1.28
Item 3.10 Online Harassment	119	2.61	1.27
Item 3.16 Cyberstalking	110	2.56	1.25
Item 3.34 Trickery	99	2.53	1.30
Item 3.4 Flaming	101	2.52	1.24
Item 3.28 Impersonating	112	2.49	1.30

Table 6

*Need for Additional Training*

	n	Yes	No
Item 4.1 Do you think you need additional training to adequately identify and address cyberbullying?	119	68.1%	31.9%

Table 7

*Addressing Cyberbullying*

Item 4.2 Do you believe this issue should be addressed?	n	Percentage
Through zero tolerance policies	120	40.8%
Through cyberbullying specific policies	120	24.2%
Through bullying policies	120	20.0%
On a situation-by-situation circumstance	120	15.0%



### Limitations of the Study

This study had certain limitations, including a small sample size. While disappointing, low return rates for electronic surveys are not all that uncommon. In a study of undergraduate students from 2004 to 2010, Perkins (2011) reported that the average response rate was 14% and without private institutions, the response rate fell to 11.3%. In a meta-analysis of 199 electronic studies, Hamilton (2009), an online survey analyst, found the total response rate to be only 13.35%. Also, in Yilmaz's (2010) electronic study of preservice teachers' perception of cyberbullying, only 19% of the 840 solicited for the study participated. Today's youth may be turning away from e-mail and less likely to return electronic surveys delivered in that medium in favor of new technologies such as texting, chatting, and instant messaging (Richtel, 2010).

Ninety percent of respondents were female, but 42% of secondary school teachers are male (MenTeach, 2011). As well, the majority of respondents, 47.5%, were in elementary preservice teacher education programs. Because cyberbullying's prevalence may peak in grades 6-10 (Nansel et al., 2001), a sample of more secondary education majors and male teacher candidates may be beneficial to extending the findings of this study.

### Recommendations for Future Research

Due to the increased incidences of cyberbullying among students and the rapid increase of technology usage, further studies may need to be conducted regarding teacher preparation in managing these behaviors. The administration of the questionnaire, including appropriate modifications, to first-year teachers in other regions is recommended. Moreover, further research into how changing technologies affect teacher preparation to handle cyberbullying could be conducted by creating a survey instrument to include questions pertaining to the awareness of various technologies utilized by students (social media, Internet, etc.).

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# Extension of Positive Behavioral Interventions and Supports From the School to the Bus: A Case Study

James C. Collins and Joseph B. Ryan

**Abstract:** Positive Behavioral Interventions and Supports (PBIS) is an evidence-based practice that has been shown to prevent and remediate challenging student behaviors, while concurrently improving academic outcomes. While the implementation of PBIS is a schoolwide process which involves multiple intensive trainings for all instructional and support staff, the vast majority of studies to date have focused on problem behaviors occurring within the school house, in either structured (e.g., classroom) or unstructured (e.g., playground) settings. This study extended the provision of common PBIS strategies and training components to bus drivers, with the goal of reducing challenging student behaviors during times of transit to and from school. Results revealed a substantial reduction of bus discipline referrals at the middle school level, while receiving high levels of satisfaction from both the bus drivers and school administrators. Additional findings and suggestions for future implementation are provided.

Student misbehavior is a common challenge that teachers and school staff have had to contend with for many years. In fact, behavioral issues are among the most common problems that teachers encounter throughout their careers (Onderi & Odera, 2012). Unfortunately, many of the more traditional punitive approaches implemented by schools to manage problem behaviors are ineffective given they (a) are reactive in nature and only implemented after the behavior occurs, (b) fail to teach appropriate alternative behaviors to students, (c) inadvertently reinforce a problem behavior, or (d) remove students who frequently misbehave from school (George, 2012). An alternative to using such ineffective strategies involves the implementation of Positive Behavioral Interventions and Supports (PBIS), which provides a framework to proactively layer behavioral supports at school for all students, with an emphasis on intervening prior to problem behaviors escalating.

## Positive Behavioral Interventions and Supports

PBIS is based on the principles of applied behavior analysis, emphasizing the promotion of positive behaviors as an alternative to punitive type interventions (Solomon, Klein, Hintze, Cressey, & Peller, 2011). The effectiveness of PBIS is well documented among researchers in the field of education (Bradshaw, Reinke, Brown, Bevans, & Leaf, 2008; Horner et al., 2009; Horner, Sugai, Todd, & Lewis-Palmer, 2005). The application of PBIS is associated with improved academic and behavioral outcomes and consists of three tiers of supports, including primary, secondary, and tertiary level interventions.

**Primary prevention.** Primary tier interventions are implemented across all settings, staff, and students at a school. Interventions consist of defining and teaching behavioral expectations for students, developing and implementing a schoolwide incentive system for reinforcing appropriate student behavior, teaching socially acceptable

replacement behaviors, and the use of informed decision making that is linked to the collection of data related to student discipline (Lewis, Jones, Horner, & Sugai, 2010; Sugai, 2013).

**Secondary tier.** The second tier of intervention consists of targeted instruction and intervention strategies for students who fail to respond to primary level prevention interventions. Traditionally, the older the student body, the more students there are that require secondary level interventions. Estimates suggest that approximately 11% of elementary, 26% of middle, and 29% of high school students are considered to be at risk for poor behavioral outcomes, and require secondary level supports (Horner, 2007; Sugai, 2013). These interventions may include strategies such as social skills instruction in small group settings; increased time spent reviewing expectations; check-in check-out procedures; and the development of function-based support options, such as providing contingent access to adult attention or peer attention, opportunities to avoid nonpreferred activities, and providing students choices (Lewis et al., 2010; Sugai, 2013).

**Tertiary tier.** The tertiary tier of intervention is designed for students who require the most intensive level of supports available. Students within this tier entail approximately 1% to 5% of the school's population and represent those individuals who have not responded to either primary or secondary level interventions. Instruction and intervention efforts are directly related to the student's needs and supports and may include the development of a functional behavioral assessment, behavior intervention plan, and the provision of wraparound services (Lewis et al., 2010; Sugai, 2013).

## Efficacy of PBIS in Schools

For the past several decades PBIS has established itself as an effective evidence-based intervention for reducing maladaptive behaviors and is currently being implemented in over 16,000 schools nationwide (Sugai & Simonsen,

2012). While the school day tends to involve a highly structured experience for students in which instruction is the primary emphasis, a large proportion of problem behaviors take place outside the classroom, in common areas that are relatively unstructured such as the playground and hallway, which can make problem behaviors more likely (Newcomer, Colvin, & Lewis, 2009).

While the implementation of PBIS is a school-wide process which involves multiple intensive trainings for all instructional and support staff, the vast majority of studies to date have focused on problem behaviors occurring within the school house, in either structured (e.g., classroom) or unstructured (e.g., lunchroom) settings. This study extended the provision of common PBIS strategies and training components to bus drivers, with the goal of reducing challenging student behaviors during times of transit. This research was conducted to evaluate the effectiveness of extending common elements from a PBIS framework to school buses at a middle school that historically had above average rates of bus referrals.

## Method

### *Participants and Setting*

Bus discipline referrals were collected at a rural middle school located in a large district in the Southeastern United States. The school was classified as a Title I Priority School, which placed it in the lowest 5% of student achievement among all Title I schools in the state. It served approximately 500 students, whose demographics consisted of an equal distribution of males and females—35% Caucasian, 34% African American, 30% Hispanic, and 1% of students from other ethnicities. The school also employed 39 teachers and seven bus drivers.

### *Research Design*

An A-B-A-B reversal design was used for this study, which is a rigorous experimental design that includes an initial baseline phase, an intervention phase, a withdrawal phase, and a reintroduction of the intervention phase (Barlow, Nock, & Hersen, 2009). During the baseline phase, school administrators and bus drivers engaged in traditional disciplinary practices which entailed suspending students from the bus, use of afterschool detention, providing a warning, or contacting the student's parent. The intervention phase consisted of a treatment package that included (a) bus driver and administrator trainings, (b) development and communication of expectations to students, (c) an interdependent group contingency reward, and (d) contingency contracting for nonresponders. The following section provides details pertaining to each of these components.

**Bus driver and administrator trainings.** To promote the use of positive behavioral practices on school buses, drivers received a sequence of 8 one-hour trainings over the course of 8 weeks that presented concepts common to PBIS implementation at the school level. School administrators attended four of these sessions. Content of the trainings included (a) teaching drivers how to acknowledge

appropriate behavior, (b) the importance of using positive reinforcement immediately following the occurrence of a desirable behavior, (c) teaching drivers how to establish clear expectations for all students, (d) the proper ratio (4 to 1) of positive to negative interactions, (e) teaching drivers about student perspectives and challenges that they may encounter, (f) reviewing how to effectively respond to challenging behavior, and (g) providing examples of how to make personal and professional connections with students. At the conclusion of the aforementioned training, drivers participated in monthly small-group meetings, which included a researcher from this project and a school administrator, to discuss progress and to develop strategies to address specific student behaviors.

### **Development and communication of expectations.**

Bus drivers were provided with a basic behavior expectation framework that mirrored rules from the student handbook (e.g., always prioritize safety, be respectful towards others, and use self-control). Drivers were then asked to creatively and collaboratively adapt the expectations to best meet their needs. After expectations were finalized, they were shared with students by posting visual displays inside of all buses, and in the area of the school where students entered and exited buses (see Figure 1). For the first week of intervention implementation, and prior to departing from school each afternoon, bus drivers reviewed expectations with students on a daily basis. For the second week, expectations were reviewed on three days (Monday, Wednesday, and Friday). For the third and subsequent weeks, expectations were reviewed once per week on the first day of the week.



Figure 1. Displayed expectations on the school bus.



**Interdependent group contingency.** An interdependent group contingency was used in this research, which is defined as a system of reinforcement that requires all members of a group to meet a certain criterion before any member earns a reward (Lewis, Powers, Kelk, & Newcomer, 2002). Hence, students on each bus worked as a team to earn points for their bus. Buses could earn 2 points per day, or one point for every trip to or from school when the driver did not issue a discipline referral to a student for inappropriate behavior. Once a bus accumulated 20 points, a celebration occurred in which all students and drivers on that bus were rewarded for their accomplishment. School administrators selected the reward based on student requests and feedback. Rewards included numerous desirable activities, such as pizza parties, dress-down days (i.e., student uniforms were replaced with appropriate traditional attire), and a live DJ who played music for students in the gym. Additionally, a separate celebration occurred once per month for the two buses that received the most points each month; this celebration often consisted of a frozen yogurt party in the cafeteria. Bus drivers were permitted and encouraged to participate in all celebrations with their students. The accumulation of points that each bus earned at the school was graphically depicted, placed at a prominent location within the school, and updated on a daily basis.

**Contingency contract.** Students who exceeded two bus referrals in a 9-week grading period were placed on an individual contingency contract. This contract represented a formal “good behavior” agreement between the student and principal and was signed after a meeting with the student to discuss behavioral expectations, rewards for appropriate behavior, and consequences for continued misbehavior. Students on individual contracts were excluded from the interdependent group contingency, and their behavior did not prevent the bus from obtaining a point for any given ride. Students needed to complete four weeks without a bus discipline referral to exit from the contingency contract.

### *Withdrawal Phase*

The withdrawal phase was conducted to evaluate if behavior changes were related to the intervention, rather than an unknown or uncontrolled confounding variable. During this phase, noncontingent reinforcement was provided to all students on all buses (e.g., every bus earned points, even if one or more students received a bus referral). This form of reinforcement was provided, instead of an absolute withdrawal in which the incentive system was removed entirely, due to fears that removing the incentive system would be disruptive for students and may result in an influx of bus discipline problems. Moreover, use of noncontingent reinforcement in this manner is acceptable and has been documented in other studies when complete withdrawal was not practical or appropriate (Barlow et al., 2009).

### *Dependent Measures*

During all phases, data were collected on bus discipline referrals for all students at the school. Bus discipline

referrals were collected during eight months of the school year and were analyzed by calculating an average daily number of bus discipline referrals per week at the school. Calculations were made by dividing the number of referrals received during the week by the number of days in that week. One week was defined as a standard school week (e.g., Monday through Friday) that comprised at least three full days.

### *Social Validity*

Driver and school administrator satisfaction was evaluated at the end of the study using two separate questionnaires. Drivers were asked questions related to their satisfaction of the trainings and the effectiveness of positive behavioral strategies that were provided using a 5-point Likert scale, ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). School administrators were asked questions related to the effectiveness and utility of the trainings and intervention strategies. Satisfaction across drivers and administrators was calculated by averaging the numerical scores that they provided in response to each question on the questionnaire.

### *Procedural Fidelity*

Procedural fidelity refers to the extent to which the intervention is implemented as it was designed (Cooper, Heron, & Heward, 2007). Throughout the intervention phase of this study, data related to procedural fidelity were collected on 25 occasions (comprising 20% of all school days, which resulted in 108 unique records) by a research assistant on the following components: (a) incentive system implementation, (b) visual display updated on a daily basis, (c) school administrator providing positive feedback about student behavior on buses to students and drivers at least once per week, (d) drivers reviewing expectations with students, (e) drivers answering questions from students about expectations, and (f) drivers using a positive and supportive tone and language when discussing expectations and answering questions from students. Procedural fidelity was calculated by dividing the number of correctly implemented components by the sum of correctly and incorrectly implemented components, and then multiplying that value by 100. Overall procedural fidelity for this study was 93.5%.

## *Results*

### *Bus Discipline Referrals*

Overall, the implementation of PBIS on the district school buses resulted in a dramatic reduction in the number of disciplinary referrals in respect to the change in level, mean, variability, and effect size. A change in level refers to the shift or discontinuity of performance from the end of one phase to the beginning of the next. Figure 2, which illustrates the average number of daily referrals per week, shows that following each respective shift from the baseline to intervention phase, there was an immediate and large corresponding decrease in the number of discipline referrals. When the intervention was first introduced there was an immediate reduction of 0.7 discipline referrals, which was followed by a slightly larger reduction (0.8) when

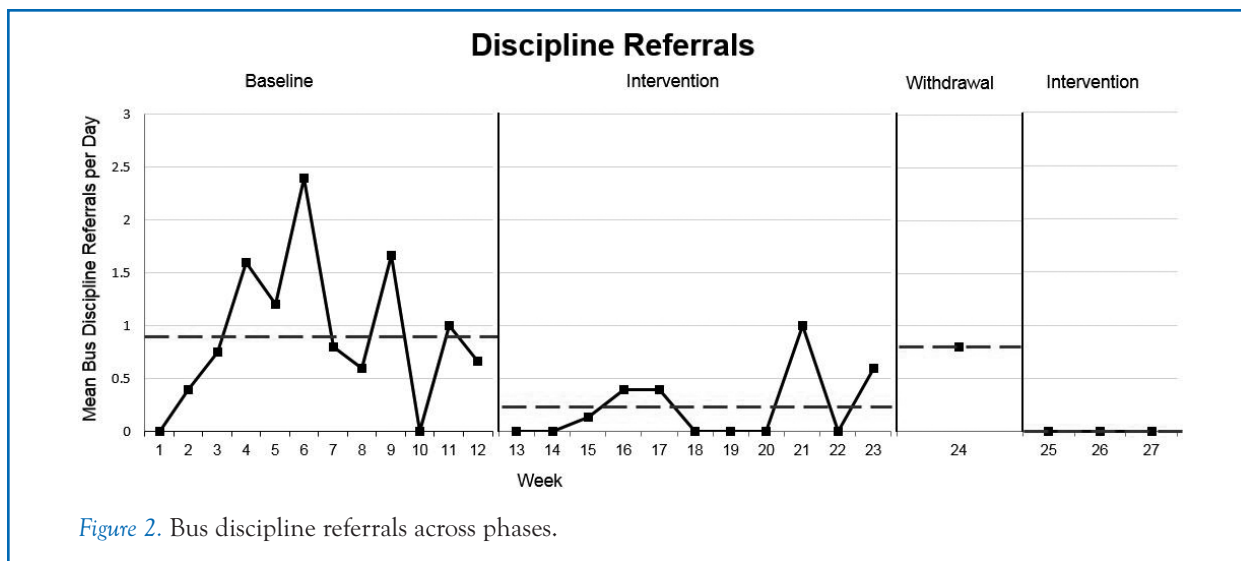


Figure 2. Bus discipline referrals across phases.

the intervention was implemented again for the second time. In addition, there was a substantial reduction in the average number of discipline referrals across phases. The mean number of daily disciplinary referrals was effectively reduced from 0.9 to 0.2 referrals per day during the first intervention phase, and then from 0.8 to none (0) the second time it was introduced. There was also a reduction in the variability of disciplinary referrals between the baseline and intervention phases. The range of disciplinary referrals was much greater (0 – 2.5) during the baseline phase than during the intervention phase (0 – 1). Last, effect size was calculated using points exceeding the median (PEM) which measures the percentage of data points exceeding the median of the baseline phase. PEM scores range from 0 to 1.0, with a score of 0.9 or higher indicating a highly effective intervention, 0.7 – 0.89 represents a moderate or fair effect, 0.5 – 0.69 indicates a mild or questionable effect, and anything less than 0.5 is considered to be an ineffective intervention (Ma, 2006). PEM calculations across the intervention phases were 0.91, and 1.0 respectively, indicating PBIS was a highly effective intervention for reducing disciplinary referrals on school buses.

### Social Validity

Consumer satisfaction surveys completed at the conclusion of the study showed bus drivers found PBIS interventions were (a) very helpful, (b) easy to implement, (c) something they would continue using in the future, and (d) something they would likely recommend to other colleagues. Specific comments from the drivers were very positive, with one driver remarking, “I like very much when we get together at the school and discuss solutions to what we face each day. The help has been greatly appreciated and I have learned a lot.” Similarly, the school administrators reported PBIS provided several tangible benefits, including (a) being very beneficial to the bus drivers, (b) increasing positive student behaviors, and (c) enabling the bus drivers

to become more involved with school community. One principal stated:

I believed the best part of this program was the professional development for the drivers. Drivers are the first and last person to see our students and they need to be involved in contributing to the school’s climate. Many of the drivers were very appreciative of the trainings that were offered and I observed them using the strategies.

It is worth mentioning, however, that the administrators did report the intervention was not easy to initially implement.

### Discussion

Previous research has established PBIS as an evidence-based practice that has been shown to prevent and remediate challenging student behaviors, while concurrently improving academic outcomes. This research extended the provision of common PBIS strategies and training components to bus drivers with the goal of reducing challenging student behaviors during bus transits before and after school. Results supported the use of PBIS in reducing disciplinary referrals outside of a traditional educational setting.

### Limitations and Future Research

Study results should be interpreted with the understanding of limitations. This study was performed with only one school in the Southeastern United States. Because of the small sample size, results should not be assumed to generalize to all schools. External validity could be increased through research with additional schools. It is also recommended that future studies continue to investigate the efficacy of PBIS in other types of educational settings outside the classroom (e.g., before- and afterschool programs).

## Conclusion

Overall, this study showed that PBIS training provided immediate and substantial reductions in discipline referrals aboard school buses. Large effect size gains combined with high levels of consumer satisfaction indicate PBIS is a promising intervention for managing problem behaviors outside of the traditional school setting. One of the principle benefits of implementing PBIS on school buses is to reduce challenging behaviors and to preemptively improve appropriate behaviors during times of transit for students at school. Students engaging in challenging behavior often receive discipline referrals, which may lead to temporary suspensions from the bus and limited opportunities to attend school if the families do not have alternative methods of transportation available. Accordingly, promoting positive behavior in the bus setting is paramount, especially for those students at risk of school failure.

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# Exploring School- and Home-Related Protective Factors for Economically Disadvantaged Middle School Students

Nathern S. A. Okilwa

**Abstract:** This study explored the experiences of middle school students, particularly focusing on the academic achievement of economically disadvantaged students. For low SES middle school students, the known cumulative effects of poverty coupled with school transition and early adolescence development heighten the potential risks for school failure. By utilizing the nationally representative Early Childhood Longitudinal Study–Kindergarten (ECLS-K) 1998/99 longitudinal data, this study explored parent involvement and school belonging as potential protective factors. The findings for this study showed that when parent involvement and school belonging were considered together, parent involvement emerged not to be significant while school belonging consistently emerged as a significant predictor of achievement. However, while school belonging emerged as a significant predictor, prior achievement was the single strongly significant factor explaining achievement.

Middle school in the United States (predominantly grades 6 to 8 or ages 11 to 14) is a critical stage in students' academic trajectories, and yet, it is also a very risky stage in their academic and social development. Many middle school students often experience significant life course changes that include developmental or maturational change and contextual (or school) transition (Black, 2009; Cook, MacCoun, Muschkin, & Vigdor, 2008; Wigfield, Lutz, & Wagner, 2005). The literature has identified a number of psychological, social, and academic challenges associated with developmental and contextual transitions among middle school students (Hill & Tyson, 2009). For economically disadvantaged students, the challenges of developmental and contextual changes only aid to complicate the students' already vulnerable lives. The negative effects of developmental changes and school transition compounded with the known effects of poverty create cumulative risk factors that often undermine school success for a number of middle school students (Jozefowicz-Simbeni & Allen-Meares, 2002). Therefore, in acknowledging the collective role that the institutions of family and school play in socializing and educating children, the purpose of this current study was to examine parental involvement and a sense of school belonging as potential protective factors for economically disadvantaged middle school students. This is consistent with the vast work of psychologist Urie Bronfenbrenner (1979) and sociologist Joyce Epstein (2001), who have extensively demonstrated the interconnectedness of the various aspects of family and school contexts. Parental involvement and school belongingness are two family and school factors, respectively, which the literature has linked to positive student academic outcomes (e.g., Goodenow & Grady, 1993; Juvonen, Le, Kaganoff, Augustine, & Constant, 2004; Osterman, 2000). They have the potential to create a support network to facilitate successful middle school experiences for economically disadvantaged students.

The discussion presented in this paper begins with a review of risk factors associated with the multifaceted tran-

sitional processes that are compounded with the negative effects of poverty for middle school students. Also, parent involvement and school belonging, as potential protective factors, are examined from the perspectives of nested connections and overlapping spheres of influence. Further, a quantitative analysis, using data from the Early Childhood Longitudinal Study–Kindergarten (ECLS-K), Class of 1998/99, examines parent involvement and school belonging as independent variables and eighth-grade achievement as the dependent variable. This study took advantage of the large-scale and nationally representative nature of ECLS-K dataset and the ability to test for synergetic relationships of variables using multiple regression analysis.

## Examining Risk Factors Challenges Associated With Developmental and Contextual Changes

Across the research, developmental changes are associated with shifting societal demands, conflicting role demands, increasingly complex societal relations, new educational expectations, and at times a mismatch between social, psychological, cognitive, and physical development (Newman & Newman, 2014). The stresses of these new realities usually trigger a search for self-identity; disengagement; and changes in motivation, attitudes, and self-esteem; which may impact academic performance (Black, 2009; Cook et al., 2008; Gutman & Midgley, 2000). These challenges are potential *risk factors* (i.e., individual or environmental characteristics, or behaviors), especially when coupled with the long-lasting effects of poverty that have significant implications on students' educational and life outcomes (Akos & Galassi, 2004; Barber & Olsen, 2004; Black, 2009; Centers for Disease Control and Prevention [CDC], 2009; Wigfield et al., 2005).

Furthermore, while in the midst of developmental changes, early adolescents are forced to transition into a middle school setting that presents unique expectations and responsibilities. Middle schools are characterized by



frequent movement from one teacher to another; learning with several different groups of students; independently handling locker units; an emphasis on self-discipline and academics; a larger, more impersonal institution that is usually farther away from home; and fewer opportunities for teacher-student relationship building (Carnegie Council on Adolescent Development, 1989; Juvonen et al., 2004; Reddy, Rhodes, & Mulhall, 2003). The organizational structure of middle schools presents another level of challenge, especially for students already exposed to adverse conditions of poverty.

### *Middle School Risk and Economically Disadvantaged Students*

In addition to challenges occasioned by contextual and developmental changes, students in poverty are exposed to multiple risks, also known as cumulative risk (Jozefowicz-Simbeni & Allen-Meares, 2002), that can further challenge their academic success along multiple dimensions (Wright, Masten, & Narayan, 2013). Children in poverty are more likely than their middle class peers to be raised by a working single parent, often with the mother as the head of the household (Sawhill, 2006). Such home environments may result in unstructured free time that often creates opportunities for children to engage in risky behaviors (Perry-Jenkins & Wadsworth, 2013). In the case of parents with limited educational experiences, time, and resources, they have limited participation in school-relevant activities (e.g., supporting homework completion, advocating for their child, etc.) that are associated with academic success (Perkins et al., 2013; Sawhill, 2006).

For students in poverty, exposure to risk extends to the communities they live in as well as the schools they attend. Many are likely to reside in impoverished and segregated neighborhoods that offer limited amenities, resources, and social structures that facilitate school success (Johnson, 2010; Lareau, 2003; Leventhal & Brooks-Gunn, 2004). Also, these students are likely to attend high-poverty and low-performing neighborhood schools, many of which are characterized by dilapidated physical facilities, inadequate educational resources such as technology and books, large class sizes, low academic expectations, high turnover of personnel, and higher percentages of novice teachers (Darling-Hammond, 2000, 2010; Jacob, 2007; Jozefowicz-Simbeni & Allen-Meares, 2002). Moreover, classrooms in high-poverty schools are likely to be less desirable learning environments due to being overcrowded, structured around teacher control, dominated by competitive rather than cooperative academic tasks, and orchestrated by teachers who feel disempowered and removed from school policy formulation processes (Darling-Hammond, 2010; Nye, Konstantopoulos, & Hedges, 2004). Consequently, the cumulative risk associated with poverty poses a great risk to school success.

### *The Role of Protective Factors*

Amidst the significant risks associated with poverty, changes in school environment, and individual developmental processes, there are students who reach late adolescence

and who are able to achieve academic success (Anderson, Jacobs, Schramm, & Splittgerber, 2000; Wigfield et al., 2005). Masten and Wright (1998) define protective factors as a “correlate of resilience that may reflect preventive or ameliorative influences: a positive moderator of risk or adversity” (p. 10). Protective factors include psychosocial characteristics such as social and academic competence; problem solving; autonomy; and sense of purpose (Secombe, 2002) as well as environmental factors that originate from the student’s family (e.g., parenting, high expectations, etc.); school (e.g., positive teacher-student relationships, caring school environment, etc.); and community (Hauser & Allen, 2006; Southwick, Morgan, Vythilingam, & Charney, 2006). Therefore, given the challenges students face in the middle school years, it is important to conceptualize an approach to schooling that provides for the success of preventive and ameliorative influences.

### *Theoretical Framework*

The ecological theory of nested connections (Bronfenbrenner, 1979) and Epstein’s theory of overlapping spheres of influence (Epstein, 1995, 2001) provide conceptual frameworks for understanding the role of protective factors in the context of cumulative risk. The two theories advance the idea that school and family contexts are inevitably interconnected. In essence, school, home, and community settings exist in a symbiotic relationship. Furthermore, Epstein’s model of overlapping spheres of influence suggests that school, family, and community interact and directly influence student learning, development, and socialization (1995, 2001). The interaction between the settings, for instance between school and family, create what Epstein (1995) referred to as family-like schools and school-like families—evidence of a symbiotic relationship. Therefore, the interconnectedness posited by these two theories provide the basis for considering school belonging and parental involvement collectively, thus addressing the gap in the research that usually examined these factors separately, especially at the middle school level. Bronfenbrenner (1979) and Epstein (1995, 2001) provide an important perspective regarding student relationships to the nested networks that can support or hinder their achievement. Therefore, given that the intent of the study is to test the synergetic relationship between parent involvement and school belonging and eighth-grade academic outcomes, it is important to better define the variables in this nested supportive network and their possible linkages.

**Parental involvement as protective factor.** Parental involvement is broadly defined as “the various activities that allow parents to participate in the educational process at school and at home” (Christenson, Rounds, & Gorney, 1992, p. 192). In school-like families and family-like schools in which schools sustain positive partnerships with parents, parent involvement has been shown to be an important protective factor (Christenson et al., 1992; Epstein, 1995, 2001). The extant literature indicates that parental involvement highly correlates with a wide range of positive student outcomes, including motivation, self-efficacy, internal locus of control, prosocial and on-task behavior, and academic

achievement (Epstein, 2001; Hill & Tyson, 2009). However, much of the research examining the effects of parental involvement on student outcomes has been conducted in the elementary grades, with significantly less conducted at the middle school level (Christenson et al., 1992; Juvonen et al., 2004). The studies that exist at the middle school level tend to focus, in part, on the things parents do at home to support the education of their children, such as helping their children with homework (e.g., Van Voorhis, 2003). However, the effect of some aspects of parental involvement on student outcome remains questionable and inconclusive (Driessen, Smit, & Slegers, 2005; Froiland, Peterson, & Davison, 2012; Gutman & Midgley, 2000; Hill & Tyson, 2009).

Furthermore, there is evidence to show that parental involvement significantly diminishes in middle school grades; particularly, parental involvement is less among low socioeconomic status (SES) families (Hill & Tyson, 2009; Lareau, 2000, 2003). Juvonen and colleagues (2004) blame middle schools for contributing to the decline in parental involvement. Many middle schools, when compared to elementary schools, are less inviting to parents, a situation exemplified by fewer parental school engagement activities (Epstein et al., 2009). Furthermore, parents with limited education and those who are of lower SES may lack the sociocultural capital necessary to navigate a school system that predominantly reflects middle class cultural values, organizational patterns, and forms of communication (Lareau, 2000, 2003). Therefore, differential interactions among family, social class, and school point to limited school-relevant parental participation among low SES parents and consequently potential insignificant influence on their children's school outcomes.

**School community as a protective factor.** With the understanding that school has the potential to facilitate a family-like school environment, school as a community for learning is critically important. This is particularly true for students who may be considered at risk, such as those situated in poverty conditions, cultural and linguistic minorities, special education, new immigrants, students exhibiting signs of academic and socio-emotional problems, and those experiencing major school environment changes during the middle school transition (Hill & Tyson, 2009; Ma, 2003; Osterman, 2000). The concept of school community, which implies the ability of the school to satisfy the psychosocial needs of its members, is predominantly presented in the literature in terms of student perceptions on school belonging (Goodenow, 1993), membership (Williams & Downing, 1998), relatedness (Conchas, 2001), connectedness (CDC, 2009), and identification (Voelkl, 1997). These different variations of school community are all associated with a number of positive psychosocial and academic outcomes such as motivation, engagement, commitment, positive interpersonal relationships, and self-esteem.

For the purpose of this study, school community was examined through the lens of students' sense of school belonging. Some literature defines school belonging as the extent to which students "feel personally accepted, respected, included, and supported by others—especially

teachers" (Goodenow & Grady, 1993, p. 61). Furthermore, school belonging has a lot to do with students' perceptions of the quality of teacher-student relationships (Fredricks, Blumenfeld, & Paris, 2004). Therefore, teacher-student relationships in and out of the classroom largely contribute to students' sense of school belonging. Consequently, teachers are uniquely situated to facilitate family-like schools due to their direct interaction with students on a daily basis. Teachers have opportunities to engage in this direct interaction through their nurturing care of students' psychosocial and academic needs. For instance, positive teacher-student relationships, which are characterized by caring communication, recognition of student effort, and acknowledgment of students' challenges and interests, are increasingly critical to middle school age students who often seek support from adults outside the home (Woolley & Bowen, 2007). Unfortunately, at the middle school, teacher-student relationships decline; this could be attributed to the organization, structure, and the sheer size of most middle schools (Cook et al., 2008; Mizelle, 2005). The decline in teacher-student relationships impacts the building of the much needed support networks for disadvantaged students (Reddy et al., 2003).

Additionally, given that early adolescents are at the pinnacle of peer allegiance, peer relationships provide important support networks when positive adult relationships are missing (Fredricks et al., 2004; Osterman, 2000). Positive peer support is associated with motivational outcomes such as intrinsic value, self-concept, and pursuit of academic and personal goals (Furrer & Skinner, 2003). Personal friendships can also pose a unique dilemma for some students whose friends may subscribe to antiacademic norm, particularly among racial minority student groups. For example, in some minority settings, students who strive for academic success may be chastised by their peers and branded as nerds, teacher's pet, weird, and acting White (Fryer & Torelli, 2010; Murray, Neal-Barnett, Demmings, & Stadulis, 2012).

Therefore, this study proceeded with the understanding that parent involvement and a sense of school belonging hold the promise to mitigate the cumulative negative effects emerging from developmental and contextual changes coupled with poverty. Also, the extensive nature of cumulative effects on students in poverty warrants a collective support system.

**Current study.** In acknowledging the increasing number of economically disadvantaged students in schools today and their associated risk for school failure (OECD, 2012), the goal of the current study is to explore if parental involvement and school belonging can moderate risk compounded by developmental changes, school transition, and economic disadvantage. To achieve this goal, three research questions guide the study: (a) What are the associations between parental involvement and academic achievement for economically disadvantaged eighth-grade students? (b) What are the associations between school belonging and academic achievement for economically disadvantaged eighth-grade students? (c) Do the relations between parent involvement, school belonging, and eighth-

grade achievement vary as a function of prior achievement and middle school?

## Methods

Data from the Early Childhood Longitudinal Study, Kindergarten Class of 1998-99 (ECLS-K) were used for this study. The purpose of the ECLS-K study was to collect information on children's characteristics at initial school matriculation, their transition into school, and their progression through eighth grade. The information collected included students' educational, socioemotional, and physical development as well as teaching practices, school environment, family background, and community resources. The ECLS-K study followed the same students from kindergarten through eighth grade. Data were collected from students, parents, teachers, and school administrators in seven waves between 1998 Fall Kindergarten and 2007 Spring Eighth Grade. The baseline sample included 21,260 students (see Tourangeau et al., 2009, for a detailed description of the sample).

The data included in the present study were from 12,026 students in the fifth-grade wave (2004 Spring) and eighth-grade wave (2007 Spring) who completed cognitive assessments in both collection waves and were assigned valid sampling weights. It is acknowledged that the eighth-grade sample was not freshened (introducing additional participants to sample), as was the case with the first-grade sample; thus, all estimates from ECLS-K eighth-grade data are representative of the 1998/99 kindergarten cohort and not necessarily all eighth-grade student population in the 2006/07 school year. The eighth-grade sample used in the data analysis included 84% high SES students and 16% low SES students. Fifty-one percent of the students were male, and 49% were female. The racial and ethnic composition of the sample for analysis included 63% White, 10% Black, 17% Hispanic, and 11% Other (which includes Asian, Native Hawaiian/Pacific Islander, American Indian, and Multiracial).

## Measures

Table 1 provides a list of variables and the selected ECLS-K items that were used to measure those variables.

**Achievement.** Grade 8 achievement as a dependent variable is a computed average score between reading and math scores (calculated range 0 – 198) as provided in the ECLS-K data. The ECLS-K data reported item response theory (IRT) scale scores for reading (weighted  $M = 167.24$ ;  $SD = 28.03$ ; Range = 0 to 212) and for mathematics (weighted  $M = 139.28$ ;  $SD = 23.10$ ; Range = 0 – 174).

**Parent involvement.** This variable measures parent activities at school and home that support student learning (Christenson et al., 1992). Guided by existing research, items were selected from round seven (eighth-grade year) of the ECLS-K data and categorized in three dimensions—school participation, home discussion, and home routine. The parent involvement items were standardized, due to variability in response scales, to z-scores. Confirmatory factor analysis was conducted for a cluster of items in each of the dimensions to determine if the items cohere around the

dimensions. A principle component method with an eigenvalue greater than 1 applying Varimax rotation and a test of internal consistency (Cronbach's alpha test) determined the inclusion of the items for each of the three dimensions. School participation was a seven-part question in the parent involvement survey that asked parents to indicate whether or not they participated in various school-related activities. After the confirmatory factor analysis the seven items generated an eigenvalue of 2.79 and explained 40% of the variance with internal item consistency (reliability) of .68 (i.e., Cronbach's alpha value) and an average factor loading of .62. Home discussion—four items were retained after conducting a confirmatory factor analysis, which generated an eigenvalue of 2.14 and explained 53% of the variance with internal consistency (reliability) of .70 (i.e., Cronbach's alpha value) and an average factor loading of .70. Home routine constituted of four items that were retained after conducting a confirmatory factor analysis, which generated an eigenvalue of 1.68 and explained 42% of the variance with internal consistency (reliability) of .51 and an average factor loading of .65.

**School belonging.** School belonging is a measure of students' perceptions of acceptance, respect, inclusion, and support within the school context (Goodenow & Grady, 1993). Based on prior research (e.g., Goodenow & Grady, 1993; Osterman, 2000), five items were selected from a five-part question in round seven of the ECLS-K student file that asked eighth-grade students to rate their belonging perceptions about school. The five items were subjected to a confirmatory factor analysis to figure out how they cohere together. A principle component method with an eigenvalue greater than 1 applying Varimax rotation and a test of internal consistency (Cronbach's alpha test) determined the inclusion of all five items. The items generated an eigenvalue of 2.3 and explained 54% of the variance. The internal consistency (reliability) of the items was .71 with an average factor loading of .68.

## Control Variables

The control variables included were: Family SES; prior academic achievement (i.e., fifth-grade math and reading IRT scores); middle school; and student demographics such as gender, race, and disability status (see Table 1 for more details). There is research to show, for instance, that students often receive differential treatment in school based on "race, gender, class, ability, and appearance, and that [such] differentiation begins early in the school career and increases as students progress through school" (Osterman, 2000, p. 351). Therefore, it is important to account for these factors.

**SES indicator.** The ECLS-K data provided a poverty status variable (W8POVRTY). This poverty indicator was derived from a number of questions from a parent survey including: Total household income more/less than 25k (P7HILOW), household income category (P7NCCAT), imputed household income category (W8INCCAT), total members in household (P7HTOTAL), and lastly the 2007 census defined poverty thresholds. For this current study, SES is used as a poverty indicator, which is divided into low

Table 1

*Selected ECLS-K Items for Variables in Current Study*

Variable	ECLS-K Data Items
Achievement	Computed average score of 8th grade reading (coded C7R4RSCL) and math (coded C7R4MSCL) Item Response Theory (IRT) scale scores from the ECLS-K data with reading (weighted M = 167.24; SD = 28.03; Range = 0 to 212) and mathematics (weighted M = 139.28; SD = 23.10; Range = 0 - 174)
Parent Involvement	<p><i>School participation</i> (from round 7 parent file):            Since the beginning of this school year have you or the other adults in your household:            Attended an open house or back-to-school night? Attended a meeting of a PTA or PTO?            Attended parent-teacher conference or meeting with teacher? Attended a school or class event?            Volunteered at the school or served on a committee? Participated in fundraising?            Contacted teacher or school? (all items coded 0 = no, 1 = yes)</p> <p><i>Home Discussion</i> (from round 7 parent file):            How often do you: Discuss report card? Talk about day at school? Talk about grades? Talk about school activities? (coded, 1 = not at all to 4 = every day)</p> <p><i>Home Routine</i> (from round 7 parent file):            Are there family rules about: Watching TV? Maintaining a certain GPA? Doing homework? Time on the computer or playing video games? (coded, 0 = no, 1 = yes)</p>
School Belonging	<p>From round 7 student file:            How often did you: Feel you fit in at school? Feel close to classmates? Feel close to teachers at your school? Enjoy being at school? Feel safe at school? (coded, 1 = never to 4 = always)</p>
Prior Achievement	Computed average score of 5th grade reading (coded C6R4RSCL) and math (coded C6R4MSCL) Item Response Theory (IRT) scale scores
Race/Ethnicity	Two indicators provided the child race composite (RACE and W8RACETH). Coded 1 = White, 2 = Black, 3 = Hispanic, 4 = Other. Also dummy coded 0 = White, 1 = Minorities.
Gender	Child composite gender (GENDER). Coded 0 = male, 1 = female
Special Ed Status	Child with disability (P7DISABL), coded 0 = no, 1 = yes
Middle School	Derived from two indicators: Lowest grade at the school (S7LOWGRD) and the highest grade the school (S7HIGGRD). Coded 0 = "not middle school only," 1 = middle school only
SES	SES level (W8POVRTY, coded 0 = High SES, 1 = low SES) derived from total household income more/less than 25k (P7HILOW), household income category (P7INCCAT), imputed household income category (W8INCCAT), total members in household (P7HTOTAL), and 2007 census defined poverty thresholds.



SES and high SES based on 2007 (year data was collected) federal poverty thresholds.

**Middle school.** For this study, the middle school variable (referring to stand-alone grades 6-8) was generated from two indicators in the ECLS-K data that were reported by the school administrator. These include the lowest grade at the school (S7LOWGRD) and highest grade at the school (S7HIGGRD). Creating the stand-alone middle school variable was necessary because in the ECLS-K data schools were not reported as elementary or middle school or K-8. Also, a stand-alone middle school was pertinent to this study because transition into middle was an important component. The middle school variable was named MSONLY and dummy coded 0 = "non-middle school only," 1 = "middle school only."

**Prior achievement.** Research suggests that a student's prior academic skills have the potential to predict future academic outcomes hence can serve either as a protective or risk factor (Keith, 2006; Tourangeau, Nord, Lê, Sorongon, & Najarian, 2009). Thus, for this study, a computed average score of fifth-grade reading and math IRT scale scores is used with calculated range of 0-143. ECLS-K data reports IRT scale scores, with values ranging from 0 to 212, weighted mean of 148.67, and a standard deviation of 26.85 for reading (C6R4RSCL); range of 0-174, mean of 122.94; a standard deviation of 25.15 for mathematics (C6R4MSCL); and range of 0-111, mean of 63.72, and standard deviation of 15.73 for science (C6SR2SSCL).

**Student gender and ethnicity.** The ECLS-K data reported the gender variable (GENDER or C7GENDER) as derived from three different data sources: The parent interview (INQ.016), child report (AIQ.050), and the Field Management System (FMS). For this study, gender (GENDER) is Coded 0 = male, 1 = female. With regard to the race/ethnicity variable, ECLS-K data provided two indicators (RACE and W8RACETH) as collected from parent interview data and the FMS). For this current study, the race composite variable was coded 1 = White, 2 = Black, 3 = Hispanic, and 4 = Other and also dummy coded 0 = White, 1 = Minorities.

**Disability status.** The ECLS-K data reported the students' disability status from parent interviews (P7DISABL) and the fall eighth-grade FMS file (F7SPCS). For this current study, the disability status variable was dummy coded 0 = no (without disability) and 1 = yes (with disability).

## Analysis

All analyses were conducted using Stata 12 statistical software; all analyses account for the clustered nature of the ECLS-K survey design. Multiple regression analyses were conducted: First, control variables model was estimated to the sample as a way to estimate their contributing effects on eighth-grade achievement. Second, main effects regression model was estimated to the eighth-grade student sample. Lastly, multiplicative interaction terms were introduced to the model. Interaction terms were created as a product of the two main independent variables and selected control variables; that is, prior achievement, stand-alone middle

school, and SES. The goal of the interaction terms was to examine if parental involvement and school belonging were moderated by prior achievement which was assessed at fifth grade, stand-alone middle school, and SES: (a) parental involvement by school belonging, (b) parental involvement by prior achievement, (c) parental involvement by middle school, (d) parental involvement by SES, (e) school belonging by prior achievement, (f) school belonging by middle school, and (g) school belonging by SES.

## Results

Table 2 presents correlation coefficients between all variables in the model. In general, the table shows weak correlations between variables in the study. Group means and standard deviations for low SES and full sample of eighth-grade students are provided in Table 3.

## Main Effects

Before estimating the main effects model, achievement was regressed on control variables (see Model 1 in Table 4) to establish their effect. These variables explained .765 of the variance in eighth-grade performance. All control variables, but middle school (stand-alone grades 6-8), were statistically significant. As expected, race, disability status, and SES were negatively related to achievement. Prior achievement (fifth-grade achievement) emerged as the single most strongly related control variable to eighth-grade achievement. Model 2 (see Table 4), eighth-grade achievement was regressed on the three parental involvement dimensions (school participation, home discussion, and home routine) and school belonging accounting for SES, prior achievement, gender, race, middle school, and disability status. This model explained .772 of the variance in eighth-grade achievement, a .007 difference in the variance explained between Models 1 and 2. The slight increase, although statistically significant, in the variance explained was contributed by a sense of school belonging. School belonging was significant ( $b = .033$ ,  $t(2183) = 3.22$ ,  $p = .001$ ); however, none of the three parental involvement dimensions was statistically significant when adjusting for the other variables in the model, implying that students feeling connected to their school are more likely to perform well academically. Other significant variables in Model 2 included SES, prior achievement, gender, race, and disability, but SES status, race, and disability status were inversely related to achievement. In other words, students from low SES, racial minorities, and students with disabilities are likely to perform lower than their peers. Also, female students are likely to perform better than their male counterparts. Furthermore, prior achievement was the single strongest variable [ $b = .863$ ,  $t(2183) = 76.80$ ,  $p < .001$ ] associated with eighth-grade achievement controlling for other variables in the model. In other words, eighth-grade students who entered middle school with better academic skills (such as math and reading) are more likely to maintain academic through middle school. The overall model itself (i.e., Model 2) was statistically significant [ $F(10, 2183) = 814$ ,  $p < .001$ ].

Table 2

*Measured Variable Correlations*

Variable	1	2	3	4	5	6	7	8	9	10	11
1. 8 <sup>th</sup> grade achieve	1.00										
2. School participate	-.09***	1.00									
3. Home discussion	-.02*	-.10***	1.00								
4. Home routine	.08***	.10***	-.19***	1.00							
5. School belonging	.16***	-.09***	.02	.01	1.00						
6. Prior achieve	.87***	-.09***	-.01	.05***	.13***	1.00					
7. Gender	.02	-.01	.00	.07***	.09***	-.02*	1.00				
8. Race	-.20***	.03***	-.07***	-.05***	-.05***	-.21***	.01	1.00			
9. MS (grades 6-8)	-.06***	.18***	-.03**	.00	-.06***	-.03**	.00	.03**	1.00		
10. Disability	.22***	-.00	-.04***	.00	.13***	.21***	.09***	.05***	-.03**	1.00	
11. SES	-.36***	.14***	-.08***	.03**	-.09***	-.37***	.02	.25***	.05***	-.05***	1.00

Note. Level of significance at \* $p \leq .05$ , \*\* $p \leq .01$ , \*\*\* $p \leq .001$ .



Table 3

*Descriptive Statistics by SES*

		Means (SD)	
		Low SES n = 1,445 (16%)	High SES n = 7,364 (84%)
Individual student characteristics			
	Gender (% female)	51.28 (50.00)	48.94 (50.00)
	White	28.07 <sup>a</sup> (44.95)	69.39 <sup>a</sup> (46.09)
	African Americans/Black (%)	22.11 <sup>a</sup> (41.51)	7.09 <sup>a</sup> (25.68)
	Hispanic (%)	33.40 <sup>a</sup> (47.18)	13.85 <sup>a</sup> (34.54)
	Other (%)	16.42 <sup>a</sup> (37.06)	9.67 <sup>a</sup> (29.55)
	Special Education (% yes)	20.00 <sup>a</sup> (40.00)	15.00 <sup>a</sup> (35.00)
Cognitive achievement			
	Math achievement: 5th grade	126.94 <sup>a</sup> (23.91)	146.06 <sup>a</sup> (19.99)
	Reading achievement: 5th grade	149.82 <sup>a</sup> (29.59)	176.16 <sup>a</sup> (24.75)
	Math achievement: 8th grade	107.49 <sup>a</sup> (25.84)	129.53 <sup>a</sup> (22.38)
	Reading achievement: 8th grade	131.35 <sup>a</sup> (26.63)	156.82 <sup>a</sup> (23.89)
Parent Involvement			
	School participation <sup>1</sup>	-.58 <sup>a</sup> (1.11)	.10 <sup>a</sup> (.94)
	Home discussion <sup>1</sup>	-.17 <sup>a</sup> (1.23)	.03 <sup>a</sup> (.94)
	Home routine <sup>1</sup>	-.08 <sup>a</sup> (1.10)	.01 <sup>a</sup> (.97)
School belonging <sup>1</sup>		-.21 <sup>a</sup> (1.09)	.04 <sup>a</sup> (.97)
Middle school only (%)		81 <sup>a</sup> (39)	74 <sup>a</sup> (44)

Note. <sup>1</sup>Overall Mean = 0 and Standard Deviation = 1; original items were standardized to z-scores due to differentiated scales. Means with the same superscript within each row are significantly different at  $\alpha = .05$ .

Table 4

*Predicting Average Achievement for 8th-Grade Students*

Variables	Full sample					
	Model 1		Model 2		Model 3	
	$\beta$	SE	$\beta$	SE	$\beta$	SE
School participation			-.01	.01	-.02	.02
Home discussion			.01	.01	-.06*	.02
Home routine			.00	.01	.03	.02
School belonging			.03***	.01	.07**	.02
Prior achievement	.87***	.01	.86***	.01	.86***	.01
Gender	.10***	.02	.09***	.02	.08***	.09
Race	-.06**	.02	-.06**	.02	-.06*	.02
Middle school	-.01	.02	-.02	.02	-.02	.02
Disability status	-.09**	.03	-.08**	.03	-.08**	.03
SES	-.08**	.03	-.08*	.04	-.09*	.04
SP x Belonging					.00	.01
HD x Belonging					.01	.01
HR x Belonging					.01	.01
SP x Prior achievement					.01	.01
HD x Prior achievement					.00	.01
HR x Prior achievement					.00	.01
SP x Middle school					.01	.02
HD x Middle school					.06**	.02
HR x Middle school					-.02	.02
Belonging x PA					-.01	.01
Belonging x Middle school					-.04	.02
Belonging x SES					-.01	.03
SP x SES					.03	.04
HD x SES					.05	.04
HR x SES					-.05	.04
R <sup>2</sup>	.765		.772		.774	

Note.  $\beta$  = standardized coefficients, SE = standard error. High SES was the reference category for the SES variable, male was the reference category for gender, White was the reference category for race, without disability was the reference category for disability, and nonmiddle school was the reference category for the middle school (grades 6-8). Level of significance: \* $p \leq .05$ , \*\* $p \leq .01$ , \*\*\* $p \leq .001$ .

### Interactive Relationships

The eighth-grade achievement model (see Table 4, Model 3) indicated that the only significant interaction was home discussion by middle school [ $b = -.06$ ,  $t(2168) = 2.89$ ,  $p < .05$ ] which indicated a negative effect on achievement. All other interactions were nonsignificant. The overall model was significant [ $F(25, 2168) = 358$ ,  $p < .001$ ], explaining 77.4% ( $R^2 = .774$ ) of the variance in achievement. However, the significant interaction contributed a very small (or negligible) increase (.004) in the variance explained. In order to interpret the significant interaction, home discussion by middle school, graphing following Dawson and Richter (2006) procedure was employed (see Figure 1). Figure 1 seems to suggest that the relationship between home discussion and school depends on or varies by whether the school is a stand-alone middle school or not as well as the level of home conversations (less or more) related to school, but with a negative effect on eighth-grade student achievement. Particularly, Figure 1 suggests that less home conversations related to school would be preferable for students in non-stand-alone middle school settings while more school-related conversation at home could eventually benefit students in stand-alone middle schools. However, it is worth noting that this relationship registered minuscule significance which implies minuscule practical significance.

### Discussion, Limitations, and Conclusion

#### Discussion

This study examined how parental involvement and school belonging are synergistically associated with academic achievement of economically disadvantaged eighth-grade students. This study further sought to understand

if the relationship between parental involvement, school belonging, and academic achievement vary as a function of prior achievement and middle school. The core finding of this study was that when parent involvement and school belonging were considered together, there was no significant relationship between parent involvement and student achievement while school belonging consistently emerged as a significant predictor of achievement. In other words, generally when eighth-grade students feel a sense of school belonging they are likely to experience higher academic achievement. This finding is consistent with the argument that early adolescents are at an age whereby they often seek autonomy from home and pursue relationships and support outside the home (Woolley & Bowen, 2007). Therefore, school provides the setting for important new relationships. Although a strong relationship between a sense of belonging and achievement was not unique to economically disadvantaged students, all forms of support are particularly critical for these students due to the compounding nature of the risks they often face.

From a policy standpoint, since schools may not directly influence the kinds of family and home conditions that encourage positive student outcomes, school policy can regulate and elicit school-based factors favorable for academic success for all students. Utilizing Goodenow and Grady's (1993) definition of school belonging, school belonging is largely predicated on relationships within the school. It is within the purview of teachers and school leadership to provide a supportive school environment that can facilitate a school community of success. First, teacher-student interactions in particular, both inside and outside the classroom, are a critical component in shaping students' overall school experiences and outcomes. During middle school years, in particular, student-teacher

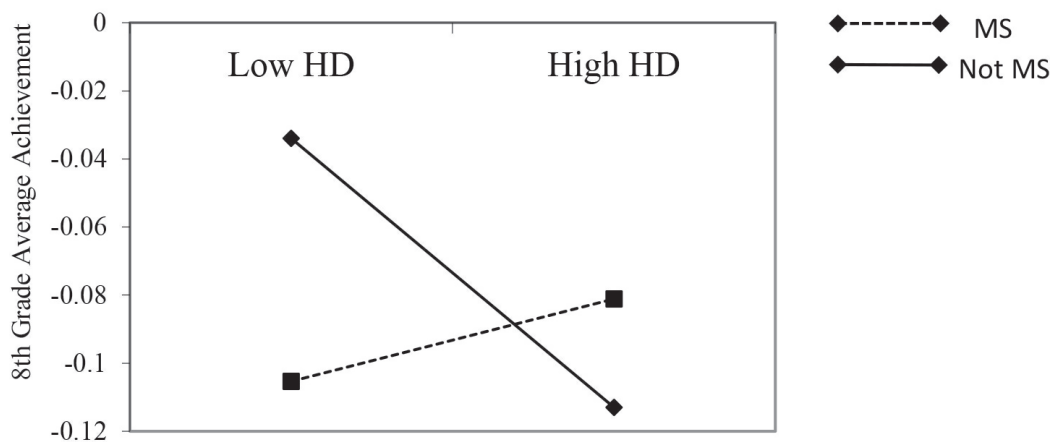


Figure 1. Interaction between home discussion (HD) and middle school (MS) predicting eighth-grade achievement.

relationships are increasingly critical as most early adolescents look for role models and support from nonparental adults. This may be particularly true for students who may lack adequate school-home supports (Perry-Jenkins & Wadsworth, 2013; Seccombe, 2002). However, there is evidence that disadvantaged students are likely not to experience the full benefits of positive teacher-student relationships and support, in part, because these students often do not fit the mold of model students. Therefore, they are likely to experience differential teacher treatment based on students' "race, gender, class, ability, and appearance, and that [such] differentiation begins early in the school career and increases as students progress through school" (Osterman, 2000, p. 351). Unfavorable treatment produces further disengagement, withdrawal, alienation, and aggression (Valenzuela, 1999).

Second, school administrators have an obligation to facilitate a school climate whereby at-risk students can feel welcome, respected, included, and supported, which then can translate into school engagement and academic success. Schools that serve economically disadvantaged students require school administrators who are driven by one goal—to improve student achievement (Leithwood, Louis, Anderson, & Wahlstrom, 2004). Administrators can take a number of actions to include leveraging their hiring power and their leadership in professional development to assemble a cohort of teachers who are willing and equipped to meet the needs of diverse students (Weiner, 2000). Also, the principal's strategic presence or visibility in the school and community goes a long way in building relationships with students as well as parents. For instance, some principals engage in activities such as directing traffic flow during student drop-off and pick-up and in the event initiating informal conversations with parents and their children during this time (Habegger, 2008). Other principals habitually greet students as they go into the school building or as they pass by in the hallways and therefore play a role in establishing relationships with students. Moreover, Rieg (2007) suggested that principals need to take the initiative to visit classrooms more often and participate in learning activities with the students. Further, Rieg noted that outside of the school setting, the principal attending after-school or community events reinforces to students that the principal cares about both their academic success and nonacademic interests. These are activities that have the potential to bring to students a sense of belonging.

### Limitations

The findings from this study should be interpreted in light of various limitations. One limitation is the measures used to conceptualize the very complex nature of parent involvement. For example, home-based parental involvement in this study was confined to the family rules guiding parental expectations of their children in relation to school and also home discussion was limited to conversations about school. This is simplistic given the complex nature of family processes as they relate to the academic and life trajectories of children. However, this is not a specific problem of this

study, but one that is general to the nature of social science research. It is difficult to capture the complexity of family processes and how they eventually influence children's academic and life outcomes. More so, it remains a challenge to isolate the specific aspects of family processes that are truly significant in changing the academic trajectories of children.

Furthermore, this study provides only a snapshot (i.e., Grade 8), as is the case with most studies, of the relationship between parental involvement, sense of school belonging, and school outcomes. Therefore, it may be meaningful to examine parental involvement and school belonging from a longitudinal perspective such as K-8. Taking a longitudinal approach could identify changes in parent involvement across the grades and its effect on achievement, particularly as a potential protective factor. In addition, a longitudinal study would allow for the analysis of how various components of parental involvement change over time, and to what extent these changes could explain discrepancies in achievement between low SES and high SES.

### Conclusion

According to this study, school belonging emerged as a significantly important factor related to positive school outcomes for middle school students. In other words, when early adolescents feel a sense of belonging (i.e., feeling accepted, respected, included, and supported) in their school, they are more likely to perform well academically. Fortunately, it is within the purview of teachers and school leaders to facilitate a climate of belonging that will allow middle school students, particularly those exposed to adverse conditions, to succeed.

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## *The Journal of At-Risk Issues*

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Manuscripts should be original works not previously published nor concurrently submitted for publication to other journals. Manuscripts should be written clearly and concisely for a diverse audience, especially educational professionals in K-12 and higher education. Topics appropriate for *The Journal of At-Risk Issues* include, but are not limited to, research and practice, dropout prevention strategies, school restructuring, social and cultural reform, family issues, tracking, youth in at-risk situations, literacy, school violence, alternative education, cooperative learning, learning styles, community involvement in education, and dropout recovery.

Research reports describe original studies that have applied applications. Group designs, single-subject designs, qualitative methods, mixed methods design, and other appropriate strategies are welcome. Review articles provide qualitative and/or quantitative syntheses of published and unpublished research and other information that yields important perspectives about at-risk populations. Such articles should stress applied implications.

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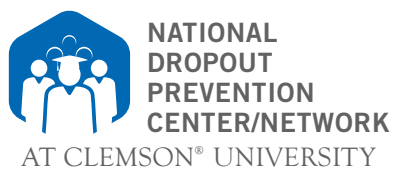
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